

# The emergence of Scots: Clues from Germanic \*a reflexes<sup>1</sup>

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## 1 Introduction

This paper is concerned with the phonological origins of the linguistic variety known today as Scots. We begin with a review of traditional and more recent scholarship on this topic before describing the particular research project from which this paper arises. In Section 2 we examine the circumstances in which the nascent Scots language emerged, noting in particular how contact between multiple Germanic varieties complicates the identification of its most likely progenitor(s). Such complications lead us to consider the problem of origin from the perspective of one particular segment, that of Germanic \*a. In Section 3 we, first, introduce this particular case study, then trace the development of the vowel in each relevant daughter variety. On the basis of our findings, we reconstruct the most likely developments of Germanic \*a in Scots. An evaluation of the candidate scenarios follows in Section 4, where we conclude that the particular development of Germanic \*a in Scots sits at the crossroads of contact-induced and internally-motivated change.

### 1.1 Background

There is no contemporaneous linguistic evidence for the emergence of the language known today as Scots. While it is generally accepted that it evolved from the northern variety of Old English known as Old Northumbrian (McClure 1994, Macafee and Aitken 2002) the latter is itself poorly documented. Nevertheless sufficient Old Northumbrian materials survive to show that by c.1100 the Old English of the north was already recognizably different from that of the south. The earliest substantial evidence for Scots

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dates to 1375, by which time it was flourishing as a national language in Lowland Scotland.

One of the most striking aspects of the earliest materials written in Scots (and indeed medieval writing systems in general) is the number of variant spellings for what are single words with fixed spellings in present-day Standard English: EARL for example, often appears with an unetymological <i> or <y> immediately after the <r>, sometimes with two <l>s rather than one, frequently with a final <e>, and occasionally with an initial <h>, thus: <eril, erile, erill, erl, erll, erlle, eryl, eryll, erylle, heryll>. It is not until a national written standard began to emerge in the sixteenth century that spellings in Scots became relatively fixed.

Studies of the relationship between written and spoken language, especially with reference to Middle English, have shown that a good deal of variation in spelling can be attributed to phonetic or phonological variation and change (e.g. Laing and Lass 2003, Lass and Laing 2009, Lass, Laing et al. 2013). The sporadic early Middle English forms <rit(e)> ‘right’ and <nit(e)> ‘night’ (< Old English *riht, niht*), for example, can be attributed to the loss of the post-vocalic fricative, while early Middle English <alf(e)> ‘half’ and <euene> ‘heaven’ (< Old English *half, healf* and *heofan* respectively) provide good evidence of initial [h]-dropping.<sup>2</sup>

The regional and temporal spelling variation found in pre-Modern Scots texts is chronicled in the historical dictionaries, especially the *Dictionary of the Scottish Language* and to some extent the *Oxford English Dictionary* and *Middle English Dictionary*; it is displayed, as individual scribal profiles and in feature maps, in *A Linguistic Atlas of Older Scots* (LAOS, Williamson 2008). Historical English grammars describe some of the widespread sound changes behind this diversity, while characteristic developments, particularly those that help distinguish Scots from English, are described in handbooks and individual studies (e.g. Aitken 1971, Johnston 1997, Aitken and Macafee 2002, Macafee 2003).

Aitken and Macafee (2002) is the first history of Scots phonology to attempt to bridge the gap in the evidential record. It surveys the development of the stressed vowels in particular, with an emphasis on *characteristic*

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<sup>2</sup> Medieval English spelling systems are further complicated by idiosyncratic sound-spelling correspondences which evolve freely and naturally in the absence of a regulating standard. These invented spelling systems are very much like those produced by pre-literate children, in that their inventors have “no preconceptions of how the word ought to be spelled nor any expectation that there is a “right” or a “wrong” way to do it. [Instead] he spells creatively, according to some combination of what he perceives and what he considers to be worthy of representation” (Chomsky 1971: 500).

developments, i.e. those not occurring also in contemporary southern varieties of English. Aitken begins with a set of vowel sounds that may be regarded as the inputs to the vowels of c.1375 Scots – mainly those of late Old English (where possible Old Northumbrian), Old Norse and Old French – and reconstructs their ‘regular’ development to an idealised system for c.1375, c.1500 and c.1600 Scots and for Modern Scots as well. While this authoritative handbook provides the most definitive account of early Scots phonology to date, it is far from complete. There is, for example, some uncertainty about its treatment of short vowels (Aitken and Macafee 2002: 151, Editor’s Comment). Moreover, it deliberately leaves unexplored: (a) the significance of spellings that do not lie within the expected range of regular developments; (b) the history of the consonants; and (c) the history of unstressed vowels.

## **1.2 FITS: Aims and methods**

The FITS project aims are: (i) to reconstruct the phonic substance underlying each variant spelling attested in LAOS, a corpus of some 1,250 texts written in Scots between 1380 and 1500; (ii) to trace the development of each variant from a set of hypothesised input inventories dating to c.1100. Our goals are thus similar to those of Aitken and Macafee (2002) in that we are concerned with developments in Scots phonology up to c.1500 (although not beyond) but unlike Aitken our project is not limited in scope to any particular subset of segments or developments other than those that occur in Germanic roots.<sup>3</sup> By reconstructing the underlying phonologies of *all* variant forms in our data, we expect FITS to account systematically for the variation and detail that Aitken was compelled to simplify and condense.

Key to our methodology is the taxonomic notion of *littera*, which has a long history in pre-structuralist discourse and has been (re-)adopted more recently in the tradition of the disciplines to which our project belongs. A *littera* in medieval terms has three aspects: *nomen* (its name); *figura* (its physical manifestation on the page); and *potestas* (its sound value). However, to make our analyses transparent to those interested in non-standard writing systems in general, we prefer to use the terms ‘grapheme’, ‘name’, ‘allograph’ and ‘sound value’, respectively, instead. We place graphemes within angled brackets, e.g. <þ>, and sound values as IPA symbols inside square brackets,

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<sup>3</sup> A doctoral studentship funded through the project is separately investigating written forms of covered inflectional vowels attested in LAOS. This particular set of unstressed vowels is identified by Aitken and Macafee (2002: 72) as ripe for detailed research.

e.g. [θ]. Where the shape of the grapheme is relevant to our analyses, we place allographs in doubled angled brackets, e.g. <<y>>.

Our methodology thus involves the triangulation of early Scots graphemes, their corresponding sound values, and the sound values of the linguistic varieties which were the immediate inputs to Scots. We proceed form-by-form on the basis that although some graphemes map to a single sound value, e.g. early Scots <b> → [b] (where ‘→’ means ‘maps to’), some map to many, e.g. early Scots <s> → [s, z, ʃ]; conversely, early Scots [d] → <d> (one-to-one mapping) but [θ] → <þ, y, th> (one-to-many). As is usual in historical studies, our sound values may be taken to be partially typological and, on the surface, as ‘poorly-resolved, broad phonetic realisations’ (Laing and Lass 2003: 268). In other words, what is represented in the square brackets is not simply a formal placeholder or an abstract element in a purported system of oppositions, but represents a likely range of phonetic realisations, which play a role in the language’s synchronic and diachronic sound system (cf. Lass and Laing 2013: §2.4.2). Our graphemic analyses also incorporate a rich set of metadata. For example, we record the document(s), word(s) (including linguistic origins), and frequencies in which each spelling occurs to help with questions about the temporal, regional and lexical distribution of sound-spelling correspondences and the significance of variation within individual texts. We also capture extensive phonotactic and morpho-phonological information for each form to facilitate research on positional constraints on variant spellings.

Whereas Aitken and Macafee (2002) draw evidence from the language of literature and poetry, FITS is concerned with the language of the 1,250 local, mainly legal, texts that make up the LAOS corpus. These materials are ideal for our purposes for several reasons. First, almost all of the texts are dated (to a particular year) and localised (to one of 28 historical Scottish counties), enabling us to place each spelling variant extraordinarily precisely in both time and space. Second, each text has been diplomatically transcribed from the original manuscript (or facsimile thereof) so we have access to all potentially important features of spelling, punctuation, and abbreviation. Third, the materials are lexico-grammatically tagged, which helps us identify all forms of the same words regardless of spelling. This is especially helpful as the LAOS corpus amounts to some 400,000 words of running prose. Fourth, the corpus consists of the earliest materials of its type, and all date to the period in which Scots was flourishing as the language of the Kingdom of Scotland.

### **1.3 Project outputs**

The FITS project is funded for four years to April 2018. By then we aim to have published a freely-available, fully-searchable, online database containing all of our spelling analyses. The database will be designed to generate answers to user-defined questions such as: *what does <ui> represent? how did [v]-deletion progress? which aspects of fifteenth-century Scots are not of Old English origin?* Digital maps and timelines will additionally display answers temporo-spatially.

Accompanying the FITS database will be an associated online Corpus of Changes, documenting each of the sound and/or spelling developments referred to in our form histories. Our analyses of each grapheme will define its evolutionary pathway in terms of these changes in a completely transparent way. For example, we may trace the spelling of the root vowel of early Scots <guid> ‘good’ from Old English [o:] > [ø:] via Northern Fronting. Northern Fronting will be documented in the Corpus of Changes and, as the database will be fully searchable, users will be able to retrieve every other example of this (and any other) development in our form histories.

## **2 The question of origins of Older Scots**

### **2.1 First attestations and the Bernician element**

There is evidence for the presence of speakers of a West Germanic language in Lowland Scotland stretching back to the earliest Anglo-Saxon migrations in the fifth and sixth centuries (Proudfoot and Aliaga-Kelly 1996). However, the relevant Anglian dialects of Old English are only attested in a small assortment of riddles, poems and glosses to Latin texts (i.e. the Durham Ritual and the Lindisfarne and Rushworth Gospels) belonging to the ninth- and tenth-century Kingdom of Northumbria, the northernmost Anglo-Saxon territory. Stretching from the Humber to the Firth of Forth, the kingdom eventually became surrounded by the kings of Alba to the north and the Danelaw to the south. By the late tenth century, this led to the cession of Northumbria’s most northerly province – the ancient kingdom of Bernicia, including the Lothians – to Alba (Barrow 1973: 150).

Importantly for the development of Scots, there is practically no direct evidence for the descendants of Old English north of the border between the second half of the tenth century and the final years of the fourteenth (the main exception being the mid-fourteenth century Scone Glosses, cf. Smith 2012: 75-79). Following this 400-year gap, we find the first major literary work – John Barbour’s *Brus* (1375) – as well as the earliest burgh records written in Scots. In traditional accounts (e.g. Skeat 1911, Craigie 1924), this language

emerges as a straightforward continuation of the Bernician dialect. According to such theories, the distinct character of Medieval Scots (as compared to contemporary and later Southern varieties of English) is attributed to differences already present in the Anglian dialects and to internal development at the periphery of the Old English dialect continuum. The term *Inglis*, used as the only label for Scots until the late fifteenth century (McClure 1981: 52), reflects the recognition of a close relationship with contemporary English dialects.

The assumption of a direct line of descent crucially overlooks the complex population dynamics involved in the formation of the Scottish burghs and the rise of Scots therein. The early burghs brought together speakers of several different languages and dialects: the most conspicuous perhaps being Gaelic – referred to then as *Iriscche* or *Ersche* (cf. McClure 1981: 55) – which was the language of the kings of Alba.<sup>4</sup> Although Northumbria had expanded to the north beyond the Forth into Pictish territory, and westwards into Cumbric lands during the seventh and eighth centuries, the Viking invaders weakened their influence, to the point of the Bernician cession (Barrow 1973, Macafee and Aitken 2002). The result was the effective establishment of a Gaelic-speaking overlordship upon the Anglian speakers of Bernicia. In this context, it is somewhat surprising that the language of the late medieval Scottish lowlands was ultimately of Germanic stock, with very little trace of Celtic. The reasons behind this switch are related to the rise of feudalism, the burghs and the interaction of the other languages at play in the pre-Scots period.

## **2.2 Norman influence**

Although Scotland was never invaded by the Normans, its cultural, religious and government institutions were progressively Normanised after Malcolm Canmore submitted to William I's hegemony. During Malcolm's reign (1058-1093) the Scottish court saw the arrival of 'a trickle' of Norman men (Barrow 2002: 87), but the key figure in Scotland's Normanisation was David I (r. 1124-1153), Malcolm's youngest son. David spent much of his youth in England and Normandy and, once enthroned, awarded lands and positions to large numbers of Anglo-Normans, many from his lands in the north of

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<sup>4</sup> While there would have undoubtedly been some P-Celtic presence at the time of the formation of the first Scottish burghs in the former Pictish and Cumbric regions, these are unlikely to have left enough of an influence on Scots or its predecessors in order to be of any significance. Some P-Celtic loanwords common to Old English and Scots are pointed out by Macafee (1997) however.

England and the East Midlands. The provenance of this Norman contingent is particularly important not so much for their particular variety of French, but rather for the varieties of English they and their followers brought to the emergent Scottish burghs.

Like his mother before him, David encouraged continental monastic communities in Scotland, giving the Scottish Church a Norman seal. It was from the ranks of this new clergy, and from the incoming Anglo-Norman settlers, that David drew many of his administrators, who in turn helped him establish a fully functional feudal state. Finally, and in line with this new system, David established burghs – towns with special trading privileges – across most of his territories. These urban centres became magnets for the old and new nobility, and for the peasants, traders and craftsfolk who followed them from the Anglian territories (to the south) and from Gaelic areas further north and west. Fortune-seekers came too, from the north of England and even the Low Countries (Barrow 1980, 2003). Contact with the latter group is evidenced by Middle Dutch lexis in Scots, attested from the middle of the fifteenth century onwards (Murison 1971, Toorians 1996, Macafee and Anderson 1997).

Although Norman French continued to be used as a family language amongst the nobility (Barrow 1999), the written administration of twelfth- to fourteenth-century Scotland took place overwhelmingly in Latin. As for day-to-day spoken interactions in the nascent burghs, we can assume there was linguistic heterogeneity, with the varieties originating in Old English – in their local Bernician and their Northern and Southern English forms – constituting an important proportion (MacQueen 1997). Assuming a model of New Dialect Formation (cf. Trudgill 2004), it is conceivable that within two or three generations this heterogeneity would have settled to a common, homogenised variety founded on elements of its Germanic inputs. Such a variety might then increasingly come to be the preferred medium for commerce and governance (Duncan 2002). North of the Forth, where the share of Gaelic speakers was larger, replacement of Gaelic by Scots presumably took longer, with the Northernmost dialects acquiring a small number of features from Gaelic in the manner of a substrate language (see map in MacAulay 1992a, Macafee and Ó Baoill 1997, Millar 2009). Regardless of the precise mechanisms of its birth, from the linguistic melting-pot of the mediaeval Scottish burghs emerged a new dialect, Scots, “the language of business, [which] gradually ousted the languages of the aristocrat, French, and the peasant, Gaelic” (Duncan 2002: 105).

### **2.3 Scandinavian influences**

One further element of early medieval Scotland to reckon with is Scandinavian. Viking raiders and – later – settlers from present-day Norway and Denmark arrived in Britain and Ireland between the eighth and eleventh centuries, bringing with them their North Germanic varieties. Direct evidence of their language, termed *Viking Age Norse* in this paper (see Townend 2002), does not survive, however, other than in isolated runic inscriptions. In the far northern mainland of Scotland, the Northern and Western Isles and parts of Ireland, the incomers were largely of West Scandinavian origin, while Danish invaders spread across the eastern seaboard of Anglo-Saxon England. Continuing raids and later settlements between 790 and 886 finally resulted in the establishment of the Danelaw, which effectively placed a large strip of England under Danish rule. And so emerged the Great Scandinavian Belt, an area of intense contact between Scandinavian and Old English dialects, ‘stretching from Cumberland and Westmorland in the west to the north and East Ridings of Yorkshire in the east, often including parts of Lincolnshire but excluding the old kingdom of Bernicia in Durham and Northumberland’ (Samuels 1985: 269).

It was from this very area that many of Scotland’s immigrant Anglo-Norman nobles and their retinues came, bringing with them their particular, Scandinavian-influenced, variety of English. Indeed, it is a key claim of recent historical accounts of Scots that its main source dialect was this English of the Danelaw, which is believed either to have superseded Bernician Anglian or to have been a parallel input to Scots (cf. Aitken 1985, Macafee and Aitken 2002, Corbett and Stuart-Smith 2012). Direct Viking influx into eastern Scotland seems to have yielded few permanent settlements, as evidenced by the lack of burial sites south of the Moray Firth (Wilson 2002), although place-name evidence suggests at least some presence, especially in the southern Lothians, where the Norsemen were perhaps tolerated or even encouraged by the Scots as a buffer against Northumbria (Taylor 1995, 2004). The situation is much the same for Galloway, where the Kingdom of Strathclyde appears to have repelled the Western invasions most effectively.

Cumberland and Westmoreland, just south of the western end of the Scottish-English border, show important evidence for Scandinavian settlement, both from place-names and archaeological remains (Crawford 1987). This is not altogether surprising if we accept that this area represents the northerly reach of the Great Scandinavian Belt (Kries 2003, 2007). Kries has shown that a number of loanwords in Scots from core semantic domains



come from either East or West Scandinavian and have earlier or exclusive attestations (either in form or semantics) in local documents of south-west Scotland. Kries suggests that these words represent a layer of direct influence of Scandinavian upon the Anglian dialects of Scotland around the turn of the millennium. As far as we can tell, however, this transfer remained at the lexical level.

#### **2.4 Assessing linguistic influence**

As we have seen, Scots arose from the *lingua franca* of the early Scottish burghs of the twelfth to fourteenth centuries. Unattested in writing, it emerged from interactions between speakers of Bernician Anglian, Norman French, Gaelic, Danelaw English, Southern Early Middle English, Middle Dutch and perhaps even by a small contingent of actual Scandinavian speakers in south-west Scotland as well. Although undoubtedly these languages did not influence the emerging Scots dialects equally, the result is ultimately a West Germanic language that is closely related to English. The influence of individual Germanic dialects in the formation of Scots is particularly difficult to tease apart, largely due to the amount of overlap in core phonology, morphology and lexis, but also because some of it, namely that of Scandinavian, was indirect. In the following section we consider this ‘confusion’ of Germanic influences further. Since our Scots data come from the period 1380–1500, with the vast majority dated 1400 or later, we will refer to the language of these materials as *fifteenth-century Scots*, or more conveniently *C15 Scots*.<sup>5</sup> Where we do not want to generalize beyond our corpus in particular, we will simply talk of *the LAOS data*.

### **3 From Germanic to fifteenth-century Scots: The case of \*a**

In what follows, the relationships between the potential Germanic sources of Scots – i.e. the different varieties of Old English and Scandinavian – and the

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<sup>5</sup> The traditional periodization of Scots (Aitken 1985: xiii) has been contested on extralinguistic and language-internal grounds (Kopaczyk 2013). Our materials fall largely under the *Middle Scots* label in Kopaczyk’s revised periodization, but the LAOS termination date of 1500 does not coincide with any specific period boundary (with the advantage that LAOS allows us to examine this crucial transition period in the language). For this reason we employ a dating term that is neutral as to linguistic periodisation to describe the type(s) of Scots attested in our corpus.

varieties of language attested in LAOS are examined to explore the degree to which the FITS database can shed light on the origins of the phonological inventory of Scots. As a case study, we focus on reflexes of Germanic \*a, that is, on words whose stressed vowel we reconstruct as short, low and unrounded for the Germanic period. Although, following the most common convention in Germanic philology, we use a symbol that in the IPA represents a front vowel, we mean to convey a typological, rather than phonetic category, and we make no claim as to its specification as either back [ɑ] or front [a].

### **3.1 Why go back to Germanic?**

From a methodological standpoint it is not immediately obvious what the best way to approach the task of tracing the phonological origins of Scots might be. Several options suggest themselves:

Option 1: *by spelling*. Problem: the lack of a one-to-one correspondence between graphemes and sound values combined with changes in mapping conventions conspire to obscure the relationship between fifteenth-century Scots and its sources.

Option 2: *by phonetic value*. Problem: there is non-trivial uncertainty regarding these values. It is unclear, for example, whether the <i> of <maid> ‘made’ indicates a long vowel, a raised one or something altogether different (see Kopaczyk 2012 for a review), or whether a given token of <ng> represents [ŋ] (as in Modern Scots) or (earlier) [ŋg]. Category changes present further complications. Splits place sounds with the same origin into separate categories, while mergers place sounds with different origins into a single category. Consequently, the origins of a given sound may belong to multiple categories, and the reflexes of those previous categories may not be exclusive to any particular daughter language. The potential for such a proliferation of categories is a significant methodological obstacle.

Option 3: *by best-attested source*: Problem: this approach is unlikely to capture actual historical developments. Late West Saxon is the best attested Old English dialect, and often proves to be a perfectly valid source from which to extrapolate C15 Scots forms (as we find, overwhelmingly, in Aitken & Macafee, 2002). However, sound changes exclusive to the Anglian dialects may provide a more plausible source, even if attestations are relatively sparse. In other cases the ‘best’ source may even be Scandinavian, as attested in Old Norse (in particular, Old Icelandic) a few centuries after the Viking invasions.

Option 4: *by the common Germanic source*: By working from a common origin we can trace the development of a particular sound in each relevant daughter variety and assess each outcome in terms of its proximity to the form in C15 Scots. This is ultimately a twenty-first century corpus take on the time-tested comparative method, where languages are evaluated in the search for general patterns of co-occurrence and lexically-specific behaviours. This is the method we adopt.

Our chosen approach is not devoid of its own set of difficulties. For example, we are naturally compelled to rely on reconstructions of the Proto-Germanic ancestors of the target sounds, and here we have depended most heavily on those found in the *Oxford English Dictionary* and in Ringe (2006) and Ringe and Taylor (2014). There are also challenges in how to interpret the possible influence on Scots of features shared by two or more closely-related varieties. But with these caveats in mind we now move on to motivate our particular choice of segment.

### **3.2 Why Germanic \*a?**

While the history of a single sound cannot possibly explain the complex relations between a particular variety and its sources, it can be informative. Our choice of Germanic \*a for our case study follows from an interesting disconnect between its reflexes in the Anglian dialects (where it surfaces as <a>, <æ>, <e> or <o>) and in the LAOS data (where it is predominantly <a>). This misalignment raises questions about the traditional notion of Scots as a direct descendant of Bernician (cf. §2.1), and suggests a need to consider other potential sources as well as the possibility of endogenous developments. The relative consistency of spellings for Germanic \*a words in LAOS is another reason to focus on this vowel, as it contrasts with the notorious variability we find for other sounds (cf. §1.1).

The range of spellings for Germanic \*a attested in West Saxon and Anglian reflects the outcome of multiple changes, evidence for which is conspicuously absent in our C15 Scots data. The vowel appears to have been relatively stable in the East and West Scandinavian varieties also, with spellings implying either no change from the Germanic or the effect of pan-Germanic phonological processes such as *i*-umlaut (see further below).<sup>6</sup> In

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<sup>6</sup> Although attestations for Viking Age Norse are sparse, later sources suggest that via a harmonic process, namely labial umlaut, \*a > [ɔ] (<ɔ>) where [u] or [w] appeared in the following syllable. Since the loanwords in English never surface with the rounded variant (cf. Old English *lagu* ‘law’), it is assumed that the change was not complete in either West

this context, a review of the changes affecting Germanic \*a in the Old English dialects is in order to help identify the nearest outcomes to that attested in the LAOS materials, and to assess the likelihood of their direct influence upon Scots.

The discussion below presents some of the key changes affecting Germanic \*a in the dialects of Old English. They are presented more or less in chronological order:<sup>7</sup>

- *i-umlaut*: This form of vowel harmony, also known as *i*-mutation, took place independently across Germanic, so appears in both West and North Germanic. Fronting of the root vowel was triggered by a following high front vowel or glide, which, in the case of Germanic \*a, yielded [e] (as did West Saxon [æ], another \*a-reflex via First Fronting – see next point). Although there are exceptions (mainly when the vowel precedes non-nasal clusters and in pre-nasal contexts generally), the change is evident in each of the Germanic varieties of interest to us, e.g. DWELL: Germanic \*dwaljana<sup>8</sup> > West Saxon *dwell*-, Anglian *duell*-, Scandinavian *dvel*-.
- *First Fronting*: Within the West Germanic subfamily, first fronting (also known as Anglo-Frisian Brightening) distinguishes Old English and Frisian from the rest. It involved the fronting and raising of Germanic \*a > [æ] in all stressed syllables except before nasals. The change is visible in all dialects of Old English, e.g. BACK: Germanic \*baka > West Saxon *bæc*, Anglian *bæcg*. North Germanic languages do not exhibit this change, so we consistently find <a>-spellings in the relevant contexts, cf. Old Icelandic *bak*.
- *"Restoration of [ɑ]"*:<sup>9</sup> In open syllables and preceding a back vowel, Pre-Old English [æ] (from Germanic \*a via first fronting) backed and lowered to [ɑ]. This accounts for alternations such as West Saxon *dæg* DAY (NOM/ACC SG) ~ *dagas* (NOM/ACC PL).

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or East Scandinavian and any alternation was most likely still allophonic: hence LAW: Viking Age Norse *lagu* ~ *lǫgu* > Old Icelandic *lǫg* (see Benediktsson 1963, Townend 2002: 35-36).

<sup>7</sup> For a more detailed description of these changes, see the relevant entries in CoNE's Corpus of Changes (Lass, Laing et al. 2013) and references therein. We note, however, that where we use the more generally used, unspecified symbol for the low vowel in Germanic (i.e. \*a), CoNE uses an IPA symbol which specifically entails backness (i.e. \*ɑ).

<sup>8</sup> We draw reconstructed Germanic examples from Ringe (2006) and Ringe and Taylor (2014) and – for reconstructions of unlisted forms – rely on the principles outlined therein.

<sup>9</sup> See footnote 7.

- *Breaking*: This Pre-Old English change, which affected the West Saxon dialect only, produced new diphthongs out of front vowels before \*x, \*w, \*rC and \*lC, purportedly via [u]-epenthesis with subsequent height harmonization of the [u] element, thus Pre-Old English [æ] (< Germanic \*a via first fronting) > West Saxon [æɑ] (<ea>) presumably via \*[æu], e.g. HALL: Germanic \*hallą > West Saxon [hæalle] *healle*.<sup>10</sup>
- *Anglian Retraction*: In northern and midland dialects of Old English, [æ] (via first fronting) > [ɑ] in the context of consonantal sequences beginning with a liquid<sup>11</sup> These are very similar environments to those discussed for West Saxon breaking, and produce a south-north split in Old English dialects for pairs like West Saxon *eald*, Anglian *ald* ‘old’. North Germanic (both East and West) appear to have [a] or [ɑ] in cognate words.
- *Pre-nasal Rounding*: In Anglian Old English, Germanic \*a > [o] before nasals, whereas in southern dialects there is alternation between [o] and [ɑ] in pre-nasal environments (cf. Toon 1983), e.g. LAND: Germanic \*landą > West Saxon *land* ~ *lond*, Anglian *lond*. Again, North Germanic (both East and West) retain [a] or [ɑ] in these environments.

Against the background of these changes, the lack of variation in LAOS in spellings for Germanic \*a requires further investigation. We therefore turn to the FITS database for more information about the LAOS spellings.

### 3.3 Identifying reflexes of Germanic \*a in LAOS

As a first step we identified every root morpheme in LAOS with a vocalism originating in Germanic \*a. This itself was a complex process which began by selecting all lexical items with a monosyllabic Germanic root, before isolating those which *potentially* contain a reflex of Germanic \*a. We identified these potential reflexes by reference to three different criteria:

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<sup>10</sup> The phonetic detail of breaking and of the short diphthongs are matters of debate (cf. Lass 1994: 45, fn. 13, White 2004). In any case, if the value of <a> elsewhere in the system is [a], then the transition from the outcome of breaking – potentially [æa] – to [a] is a predictable process of monophthongisation, to which ‘short’ diphthongs would be particularly amenable, both for metrical and phonetic reasons. This is potentially relevant to our understanding of the influence of West Saxon in the formation of Scots as we note in the following section.

<sup>11</sup> As with “Restoration of [ɑ]”, the phonetic realisation of the vowel here may be central, even if a phonological analysis might expect it to fall in with the back vowels.

1. Spelled with a simplex <a> in at least one token.
2. Aitken's reconstructions of the 'principal sources' for Older Scots vowels (Aitken and Macafee 2002: 85-86, 89-95). Initially we did not consider the quality or quantity of Scots <a>, thus we did not exclude items which could have been subject to pre-Scots lengthening processes, most notably Open Syllable Lengthening (cf. Aitken and Macafee 2002: 11-16). This set of <a>-spellings thus generated was largely synonymous with roots containing Aitken's Vowel 17 /a/.
3. Attestation at least once in a form that could answer to any of the changes listed in the previous section, e.g. roots containing <e> (Aitken's Vowel 16 /ɛ/) as a result of *i*-umlaut (cf. SELL: Germanic \*saljaną > LAOS <sell>) or potentially representing [æ] via first fronting, since <æ> spellings are absent in LAOS (cf. BATH: Germanic \*baþą > West Saxon *bæþ* ~ *bep*). We also included roots with Aitken's Vowel 18 /ɔ/ before a nasal, i.e. those potentially arising from pre-nasal rounding.

We thus deliberately cast the net rather wide to avoid missing any forms ultimately going back to Germanic \*a, whose spelling may have been obscured on the way to Scots.<sup>12</sup> We also did not want to omit any lexical items whose vocalism is traceable more plausibly to Scandinavian dialects, even though we placed emphasis on developments in West Germanic and (later) in Old English (see §3.2). As explained earlier, our particular focus was driven by the extent of variation in Old English spellings for Germanic \*a in comparison to that found in the Scandinavian dialects. So while our list of monosyllabic roots potentially containing a reflex of Germanic \*a included Scandinavian *cognates*, it excluded obvious lexical *borrowings* on the basis that borrowings, including e.g. CAST (Old Norse *kasta*), may have been subject to Scandinavian-only sound changes. Thus we arrived at an inventory of forms which *may* descend from Old English but for which an Old Norse origin (in part at least) cannot (yet) be ruled out.

We next checked each item on this list and eliminated those that do not in fact answer to Germanic \*a. For instance, WEST has <a> spellings in LAOS (<vast, wast>, alongside <vest, west, wost, wyst>) and is attested in

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<sup>12</sup> As the FITS project is ongoing, we expect that any items we missed will be treated in the final version of the database. Further insights may then emerge, especially once disyllabic roots are included, e.g. forms of AFTER, HALLOW, etc.

West Saxon as <uest, uuest, wæst, weast> (Oxford English Dictionary). However, WEST derives from Germanic \*west- so we excluded this item in all its forms from our case study. Etymologies were established using information in the Oxford English Dictionary, the Dictionary of the Scottish Language and CoNE (Lass, Laing et al. 2013), and in other historical dictionaries and handbooks. Where the reference material was lacking, we reconstructed plausible trajectories of change on the basis of analogy with other structurally compatible forms (as in HASP or AXE by analogy to forms such as MAST or FAST, where the root vowel goes back to Germanic \*a and precedes a cluster ending in a stop).

Our final list of roots in LAOS containing a reflex of Germanic \*a consisted of 65 items (see Table 1), found in 1,039 different forms (including inflected variants) and 11,432 individual attestations (about 3% of the overall LAOS word-count). We annotated each root with information relating to the class and morphological structure of the words in which they are attested in LAOS, the phonotactic context of the vowel, and all attested spellings retrieved from the database.

### **3.4 Matches and mismatches across Germanic cognates**

Through further dictionary work we established cognates for each of the 65 roots in the relevant dialects of Old English (West Saxon and, where available, Anglian) and Scandinavian (usually on the basis of Old Icelandic material). Where the dictionaries and handbooks provided more than one spelling, especially for Old English, we added each variant to our database. We then aligned the LAOS forms with their cognates before, finally, conducting a comparative analysis of root vowel spellings.

The results are summarized in Table 1, in which the 65 roots are grouped according to how their vowel evolved from Germanic \*a in the relevant Old English varieties.<sup>13</sup> For each group, we select one illustrative item and trace its development within each variety identified as potentially involved in the formation of Scots: from the Germanic form at T<sub>1</sub> (i.e. time period 1), through forms attested for West Saxon, Anglian and Scandinavian at T<sub>2</sub>, and finally to the forms attested in LAOS, i.e. at T<sub>3</sub>.

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<sup>13</sup> We identify the 65 roots by their ModE equivalent.

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|   | T <sub>1</sub> |                      | T <sub>2</sub>    |                    |              | T <sub>3</sub>          |
|---|----------------|----------------------|-------------------|--------------------|--------------|-------------------------|
| <b>Roots (in PDE) attested in Early Scots</b>   | <b>Gmc</b>     | <b>Change</b>        | <b>West Saxon</b> | <b>Angl.</b>       | <b>Scand</b> | <b>C15 Scots (LAOS)</b> |
| DWELL, KEN, LAND (V.), MERISK, SARK, SEND, SEAR, SELL, TELL, WEAR, WED  | *dwal-         | i-umlaut             | dwel-             | duell-             | dvęł-        | duel(l)                 |
| BACK, BATH, BLACK, CRAFT, FAST, FLAT, GLAD, HAT, LAST, LATE, MAST, SLACK, STAFF, TAP                                    | *bak-          | First Fronting       | bæc               | bæcg               | bak          | bak                     |
| BAND, GANG, HANG, LAMB, LAND, LONG, MAN, RAM, SAND  | *land-         | Pre-nasal Rounding   | land ~ lond       | lond               | land         | land                    |
| ARM, CALF, CALL, COLD, DARE, EIGHT, FALL, FOLD, HALF, HALL, HARD, HARM, HOLD, MALT, OLD, SALT, SHARP, STALL, WARD, YARD | *salt-         | Breaking             | sealt             | salt <sup>14</sup> | salt         | salt                    |
| AXE, CRAB, DAY (PL), EIGHT, GATE (PL), HALL, HOLD, KNAVE, SHAPE, WARE, WARN   | *hald-         | "Restoration of [a]" | hald-             | hald-              | hald-        | ha(u)(l)d               |

**Table 1 – Cognates containing reflexes of Germanic \*a, by relevant sound changes**

The matches and mismatches between spellings for Germanic \*a in LAOS on the one hand and its earlier cognate languages on the other prompt a few preliminary observations.

<sup>14</sup> Via Anglian retraction.



1. In *i*-umlaut contexts, the LAOS spellings align perfectly with each of the potential source languages, which is neither surprising nor particularly informative given the wide scope of this process across Germanic.
2. In first fronting contexts, the LAOS spellings align best with the North Germanic varieties – a point to which we return in the following section. It is important to note, however, that in relevant environments, "Restoration of [a]" undid the effects of first fronting, bringing the Old English dialects back in line with the rest of the Germanic family. Thus e.g. Germanic \*hald- continues with a low vowel in *all* the potential input languages for Scots (see the final row of Table 1).
3. There is no evidence for pre-nasal rounding in LAOS. It is difficult to say whether northern English dialects adopted the unrounded variant under the influence of Viking Age Norse (note Scandinavian *land*, Anglian *lond*), and transmitted it to the emerging Scots, or whether emerging Scots initially acquired the native rounded variant only to subsequently undergo comprehensive unrounding.<sup>15</sup> The gap in textual evidence for the crucial period prevents direct conclusions but later we suggest how this difficulty may be overcome, at least partially.
4. The effect of breaking in West Saxon illustrates why taking the West Saxon dialect as the 'standard' or idealized version of Old English is problematic when assessing the origins of the Scots vowels.<sup>16</sup>

Overall, the reflexes of Germanic \*a in the LAOS data appear to align more closely with their Scandinavian counterparts than with Old English. It is especially striking that the affinity with Anglian is rather patchy: where Anglian has <æ>-spellings (via first fronting) and <o>-spellings (via pre-nasal rounding), the LAOS data consistently has <a>. While it is possible that C15 Scots 'a' might represent a front [æ]-like vowel, it is rather unlikely (a)

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<sup>15</sup> Interestingly, unrounding – pre-nasal or otherwise – seems only to occur with reflexes of Germanic \*a. Note, for instance, that words like MOON with pre-nasal rounding (in Pre-Old English) of Germanic \*ē (cf. \*mēnō > Old English *mōna*) do not exhibit unrounding in Old English or in Scots (cf. LAOS <moneth> 'month'; <mononday> 'Monday'). Pre-nasal <o> in French loans does not unround either (cf. LAOS <bondage> 'bondage', <mone> 'money'). Both facts argue against an internal source for the unrounding of Germanic \*a.

<sup>16</sup> As mentioned in fn.10, monophthongisation of [æɑ] > [ɑ] would eliminate the difference between West Saxon <ea> and C15 Scots <a> in breaking contexts. This possibility cannot be ruled out, especially as the precise quality of <ea> is unclear, and also because the value of <a> may have been closer to [a] than [ɑ].

because <a> is also used in contexts *not* associated with first fronting and (b) because ‘first-fronted’ words in LAOS are, with very few exceptions, spelled with <a>, i.e. with no suggestion of fronting (i.e. no <ai>, <ae>, <ea>, <e> spellings).<sup>17</sup> Likewise, a reading of Scots <a> as [ɔ] is equally unconvincing since <a> is also used in contexts not associated with pre-nasal rounding.

One way of gaining a better understanding of this apparent affinity between Scots and Scandinavian is to compare LAOS forms with those of other varieties of West Germanic that are known to show substantial influence from Viking Age Norse (cf. §2.3). For that reason we next consider reflexes of Germanic \*a in Middle English.

### **3.5 Further clues from Middle English dialects**

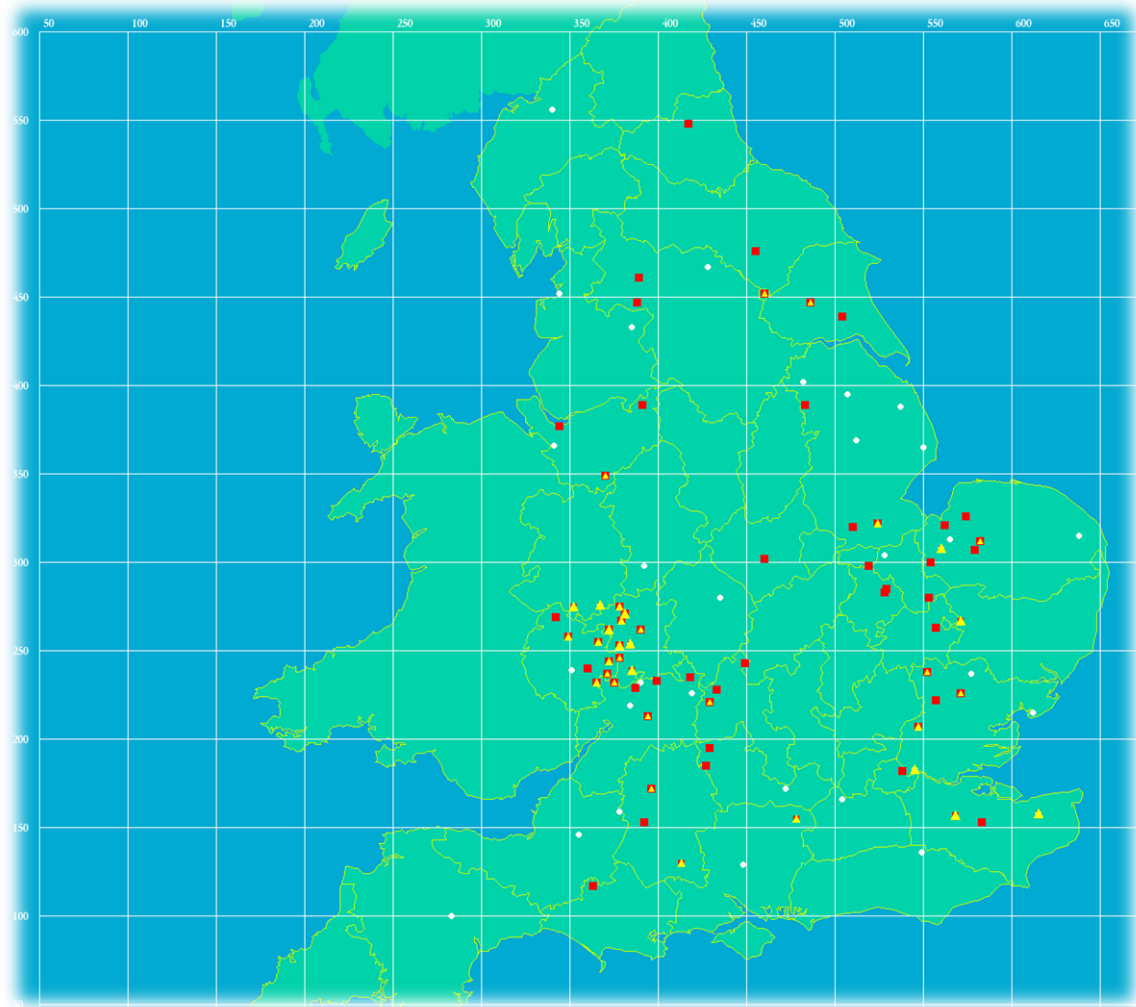
In this section, we employ two historical atlases of Middle English to aid our investigations: *A Linguistic Atlas of Early Middle English* (LAEME, 1150-1325, Laing (2013) which covers a period preceding that of LAOS, and the (electronic) *Linguistic Atlas of Late Medieval English* (eLALME, 1350-1450, Benskin, Laing et al. (2013), which supplies evidence for developments more or less contemporary with the earliest materials of LAOS. We concentrate specifically on Middle English spellings in contexts where Scots seems to align more with Scandinavian than with (northern) dialects of Old English, namely, first-fronting and pre-nasal rounding environments. Unfortunately many of our BACK and LAND type words are not attested in one or both of these Middle English corpora: where necessary we work with suitable alternatives.

The words used to investigate spellings in first-fronting contexts in LAEME were: BACK, BATH, BLACK, CRAFT, FAST, FLAT, GLAD, HAT, LAST (adj. and v.), LATE, MAST, STAFF, SLACK, and TAP. Map 1 shows the location of non-front spellings (i.e. those in <a>, indicated by red squares) to be widely scattered but present in the north, which provides a good match for the later Scots spellings. Front spellings (indicated by yellow triangles), on the other hand, form pockets in the West Midlands and the east.<sup>18</sup>

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<sup>17</sup> There are two apparent exceptions. Each behaves in a rather idiosyncratic way, so they should not really distort the overall pattern. GRASS has metathesis and high front vowels: <gerss, gris, gyrß>, etc. PATH appears only once in the corpus, and in the form <peth>, so does not provide strong counter-evidence either.

<sup>18</sup> It is important to note that the symbols reflect the presence of a given form without regard to its frequency. The two yellow triangles in Yorkshire stand for 3 attestations of <e>-spellings: 2x <fest> FAST and 1x <lest> LAST (v), compared to 98 and 80 <e>-attestations respectively below the Humber.



**Map 1. First Fronting reflexes in LAEME**  
(<a>-forms in red, <e, æ, ea>-forms in yellow)

The situation depicted in Map 1 must, however, be interpreted in the light of a later change affecting [æ], i.e. the outcome of first fronting. It is generally agreed that in late Old English or early Middle English [æ] fell in with [ɑ] (see CoNE: æ-Merger (ÆM)), although the exact workings of this change are difficult to recover, mostly because the grapheme <æ> became vanishingly rare in early Middle English. In West Mercian, [æ] instead raised to <e> (via second fronting), which is reflected in early Middle English <e, ea, (æ)> spellings. Interestingly, these same spellings are found for the same items all

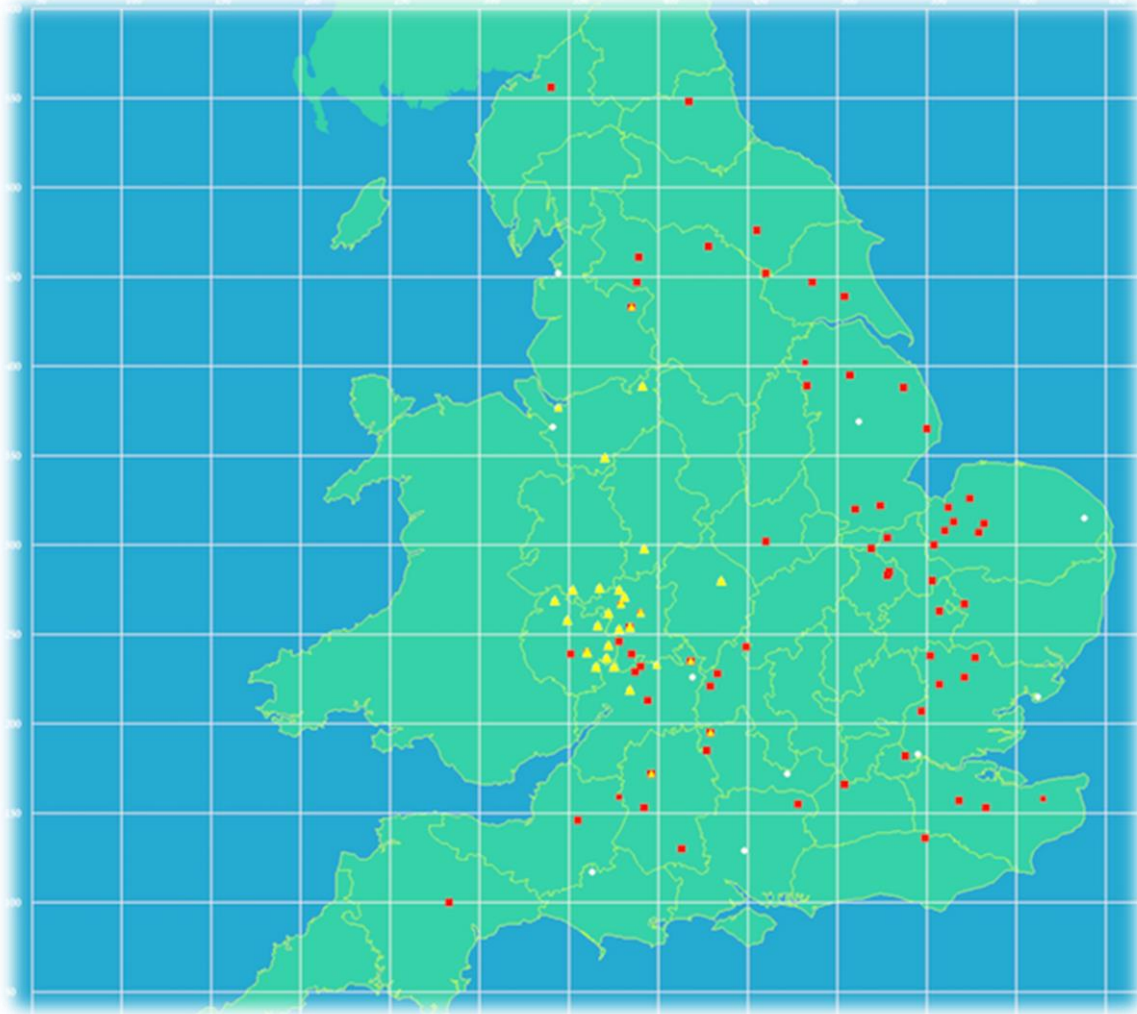
around the south but are conspicuously absent in the north. This suggests that by early Middle English the merger of [æ] and [ɑ] had completed in the north (where we find only spellings in <a>) but not in the south (where there is alternation between <a> and front spellings in <e, ea, (æ)> in areas where the merger was not circumvented by second-fronting). The LAOS data align rather neatly with this depiction of early Northern Middle English,<sup>19</sup> so it would seem that this particular feature – i.e. <a> spellings in first-fronting contexts – may very well originate in the Scandinavian-influenced dialects of Mercia and southern Northumbria.

For evidence of pre-nasal rounding in LAEME we looked only at forms of MAN and RAM, since all other attested pre-nasal reflexes of Germanic \*a (i.e. GANG, HAND, HANG, LAND, LONG, LAMB, STAND and SAND) are likely candidates for late Old English/early Middle English homorganic lengthening, potentially followed by (southern) rounding and raising of the lengthened vowel (see CoNE: HL and ARR). Consequently an <a> spelling in any of these words could represent either [ɑ] or [ɑ:], while an <o> spelling could represent either [o] (via pre-nasal rounding of [ɑ]) or [ɔ:] (via rounding and raising of [ɑ:]). In MAN and RAM, by contrast, only pre-nasal rounding can account for forms in <o>. As shown in Table 1, of the potential sources of Scots, Anglian Old English alone consistently exhibits <o> spellings for reflexes of Germanic \*a before nasals,<sup>20</sup> while other Old English dialects show it only sporadically. Map 2 shows that in early Middle English the rounded variant (indicated by yellow triangles) proliferates in the SW Midlands. To the north and east, the non-rounded <a>-spellings (indicated by red squares) prevail, as they do several decades later in the LAOS materials.

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<sup>19</sup> Unfortunately we were unable to find any items with first fronting contexts in eLALME, so we do not provide late ME parallels.

<sup>20</sup> This applied to labial, alveolar and velar nasals across the board, the only important exceptions being the past sg of strong verbs of Class III, e.g. BIND <band> and DRINK <dranc>, where we find <a> (cf. Campbell 1959: 51, fn 2).

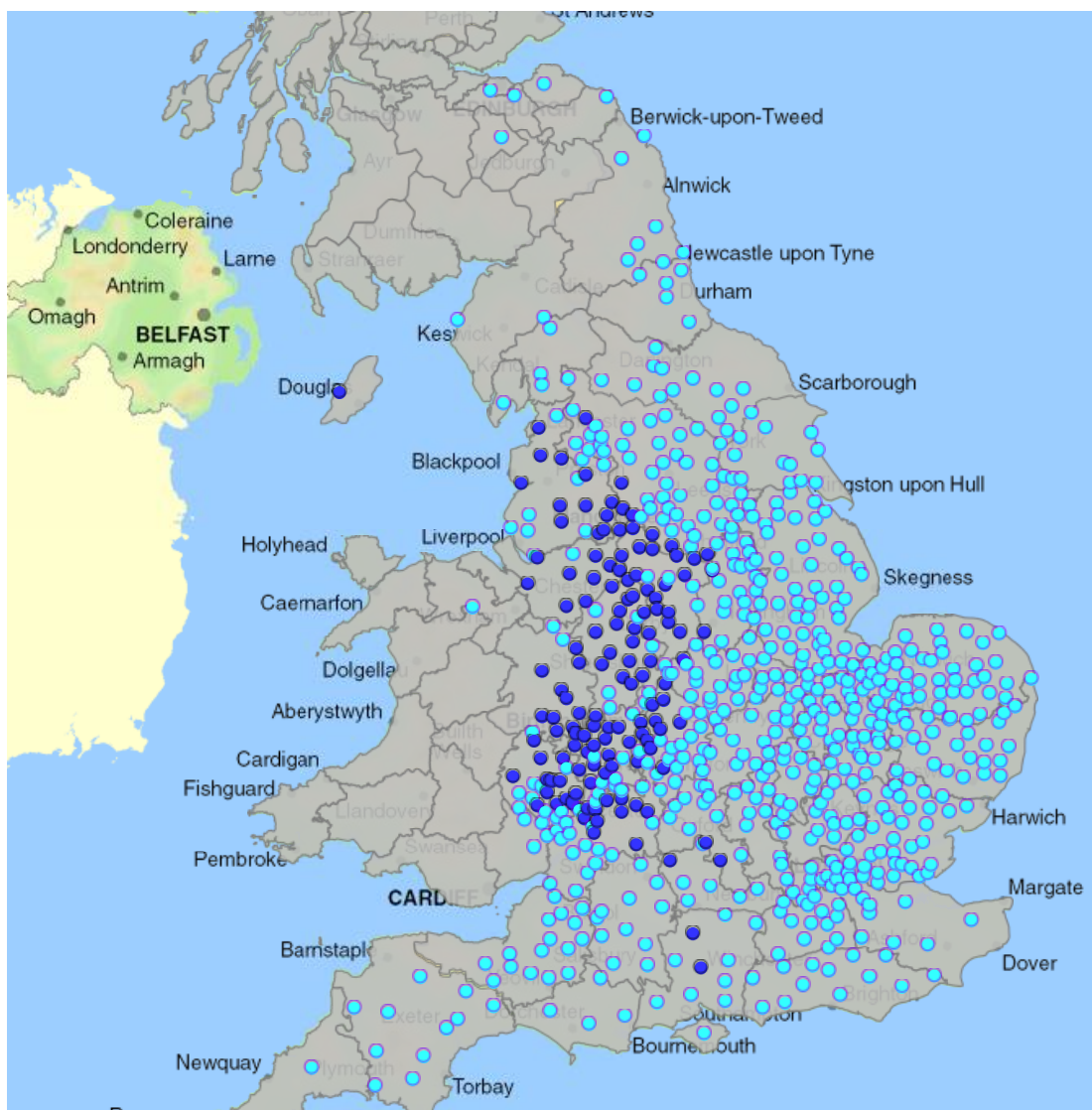


**Map 2. Pre-Nasal Rounding reflexes in LAEME**  
(MAN and RAM – <a>-forms in red, <o>-forms in yellow)

Our comparative analysis in §3.4 draws attention to the fact that <a>-spellings are also characteristic of the Scandinavian dialects which arrived in the north of England and Midlands in the ninth and tenth centuries. So the clear prevalence of <a> before nasals in East Midlands and Northern Middle English may be attributable to contact with Scandinavian. For the Scottish Lowlands, there is no extant evidence of the continuation of ‘un-Scandinavianised’ Anglian. However once the texts do appear, an alignment with contemporary northern English dialects – which carry the potential Scandinavian element in their phonology – can be easily seen.

The origins of the <a> spellings in the southern regions of Map 2 are best seen in relation to what we know about the distribution of pre-nasal <o> and <a> in Old English. In early Old English, south-eastern and Kentish texts displayed substantial variation between <a> and <o> pre-nasally. However, by the tenth century, the <a> variant evidently overtook <o>, just as the opposite distribution was consolidating in Mercia and Northumbria (cf. Campbell 1959: 51 fn.2, Toon 1983, Hogg 1992a: 77-78). This suggests that the pre-eminence of <a> spellings in the South are not the result of an active unrounding process, but rather of the adoption of <a> variants across a broader geographical area (which Toon (1983) associates to centres of political and cultural power). Although this would explain the pattern of southern Middle English <a> on the basis of its Old English input, it fails to account for the emergence of northern Middle English <a> from Anglian <o>, unless it emerged from some unattested <a>-lect(s) of Merc. and Nhb, into which the southern majority form had spread. It seems, however, more likely that northern Middle English <a> arose via contact with Scandinavian. After all, Viking Age Norse is likely to have been so closely related to Anglian as to belong on a dialect continuum with it (cf. Townend 2002 and §4, below).

Map 3 presents the eLALME data for spellings of MAN, the only pre-nasal reflex of Germanic \*a in the Atlas which is not potentially subject to homorganic lengthening. This item is particularly well attested and the distribution of its <a> spellings (the light blue dots) shows a very clear correspondence with the area of the Danelaw. LALME's Linguistic Profiles for Lowland Scotland (few as they may be) reveal that this trend extends beyond the present-day Scottish border.



**Map 3. Pre-Nasal Rounding reflexes in eLALME**  
(MAN – <a>-forms in light blue, <o>-forms in dark blue)

If we populated this map with contemporaneous data from LAOS, the extent of <a>-spellings for Germanic \*a before nasals in the north would be even more striking.

#### **4 Conclusions**

We have examined in detail the development of Germanic \*a in each of the three varieties in which Scots may have originated. We identified five relevant developmental pathways. We have shown that two of these pathways

– those involving *i*-umlaut and "Restoration of [ɑ]" – produce the same outcome in C15 Scots as in West Saxon, Anglian and Scandinavian, while the pathway involving breaking followed by Anglian retraction yields two different vowels, one being exclusive to West Saxon. In contexts of first fronting and pre-nasal rounding, however, C15 Scots shares its vowel only with Scandinavian (although there is some evidence of non-rounded forms in West Saxon).

Although we could easily derive the reflexes of Germanic \*a attested in LAOS directly from North Germanic forms, i.e. with no input from English, to do so would utterly belie the complex contact situation in the pre-Scots period. The key characteristic of this situation is precisely the large degree of overlap between the Germanic sources, not only in the realisation of Germanic \*a, but in the phonology, grammar and lexis of these sources as a whole. These overlaps, in turn, make it exceptionally difficult to decide whether any given form was transferred directly from one particular source or whether it developed language-internally instead. This is, of course, very similar to the situation of English *vis-à-vis* Scandinavian, where there is some agreement that the incoming variety pushed forward a number of incipient changes (cf. Dance 2012, Miller 2012 for reviews).

As we saw in §2, Scots evolved as a result of language and dialect contact in the Lowland burghs of the twelfth and thirteenth centuries. Beyond the local Celtic and Bernician element, the historical evidence points to a sizeable influx of Anglo-Normans from the Midlands, who brought with them both Norman French and Scandinavian-influenced English. Although there would have doubtless been some migration from the South of England as well, these arrivals can only have been a minority, a fact that falls in neatly with the evidence from Germanic \*a, which shows West Saxon to display the least overlap with the data in LAOS. Furthermore, the evidence from LAEME – which covers the period closest to that in which the Scottish burghs were established – shows that the *distinctive* Scots reflexes of Germanic \*a, i.e. those found in first-fronting and pre-nasal contexts, are already features of northern – but not south-western – early Middle English (Maps 1 and 2). In other words, the changes leading to the distinctive C15 Scots forms had already taken place before the introduction of Scandinavian-influenced dialects to Scotland.

The fact that <a> spellings are not found in Anglian (and so, presumably, Bernician) in first-fronting and pre-nasal contexts strongly suggests this feature reached Scots via varieties originating in the Great Scandinavian Belt, where it is attested in early Middle English (Maps 1 and



2). The alternative, i.e. that C15 Scots <a> in first-fronting and pre-nasal contexts was transferred directly from Viking Age Norse, is far less compelling since any direct influence of Scandinavian would probably have been restricted to the south-west (see §2.3) at a time for which there is no direct evidence.

Our findings reinforce the view that “up to the fifteenth century these two language labels [i.e. Scots and northern Middle English] are used to distinguish geopolitically what is perceived to have been a common speech area” (Williamson 2002: 253). In other words, our analysis of Germanic \*a in C15 Scots bolsters claims of a dialectal continuum between the Scottish Lowlands and the North of England and Midlands, aptly reflected in fourteenth-century Lowland writers’ use of *Inglis* for their own vernacular. Our analysis ties in also with other well-known correspondences between Scandinavian, early Scots and northern Middle English in opposition to southern Middle English, including: non-palatalised velars (e.g. *kirk*, *birk*, *kist*, *brecks*, *meikel*, *rig*, *brig*, cf. McClure (1994: 57), (Johnston 1997: 54); present participles in *-and(e)* (Lass 1992a: 145-46); early loss of V2 (Trips 2002); and abundant Scandinavian borrowings, both lexical and functional (Burnley 1992: 414-423, Kastovsky 1992: 320-336, Milroy 1992: 174-176).

Although the question of Scandinavian influence on English has been extensively studied, the specific developments addressed here have received little attention. This may be due to an implicit assumption that the changes leading from Anglian first-fronted [æ] and pre-nasal rounded [o] to early Middle English/C15 Scots [a] (i.e. Aitken and Macafee’s (2002) vowel 17) are phonetically too trivial to require a contact explanation. It is certainly true that both [æ] and [o] appear to be prone to instability and change. Indeed the vowel space between early Middle English [a] and [æ] has been described as a ‘zone of indeterminacy’ (CoNE: æ-merger (ÆM)), while the transition between [a] and [o] is said to ‘inhabit a natural change-space in Germanic’ (CoNE: Pre-Nasal Rounding (PNRO)). Against this background, it is perfectly conceivable that some relatively small phonetic change – say between Anglian [æ] and northern Middle English [a] – could have resulted from independent developments in the Midlands dialects, creating the Scandinavian pattern by accident, as it were. That this change also happened in southern England, to an extent, is further evidence that this may be the explanation. However, although an endogenous development may well be claimed for the transition of <æ> to <a> (where the latter vowel may have been closer to [a] than to [æ], cf. fn. 9 and Lass (1992: 44-45)), the transition from [o] to [a] – involving a change in both height and lip setting – is not as

easily chalked up to mere proximity and likelihood (though spread of the <a> variant from elsewhere is conceivable, cf. §3.5).<sup>21</sup> In any case, put together, the overall feasibility of a fortuitous yet consistent mirroring of the Scandinavian pattern for both contexts – at precisely the time of most intense contact – is somewhat less convincing as a sole explanation.

Since direct lexical borrowings tend not to align neatly with a single phonological feature, it is unlikely that all Germanic \*a reflexes in first fronting and pre-nasal contexts can be attributed to Viking Age Norse borrowings. A better way to bridge the gap between Old English, Viking Age Norse and Middle English/C15 Scots may be to postulate a process of new dialect formation (Trudgill 2004). New dialects are known to arise in the aftermath of substantial population movements, so the framework is applicable both to contact between Scandinavian-influenced northern Middle English and Lowlands Bernician in the incipient burghs, and to the direct contact between Viking Age Norse and Old English under the Danelaw. Although we tend to think of the second of these contact situations as involving two distinct languages, there is good reason to believe that in the ninth and tenth century there was still a high degree of mutual intelligibility between Viking Age Norse and Anglian (cf. Townend 2002). Key to new dialect formation is the process of levelling, whereby first adults and later – and more thoroughly – children abandon demographically minor variants in favour of majority variants, and privilege typologically unmarked forms as well. Although the process of new dialect formation can create temporary inter-dialectal forms, it ultimately brings about a shared variety with norms and relative stability (Trudgill 2004: 84-ff). The developments we have described for the reflexes of Germanic \*a in northern Middle English and C15 Scots could fit convincingly into such a framework.

To sum up, this paper has looked into the range of Old English vowels descendant from Germanic \*a, in several environments and dialects, and has compared them to C15 Scots cognates. The argumentation has shown that Scots <a> forms cannot be accounted for by internal developments exclusive to Scots. Rather, it seems that either Scandinavian influence in northern England, or the adoption of wider English dialectal patterns must underlie

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<sup>21</sup> A more functional reason supporting the Scandinavian-influence argument is that Viking Age Norse probably would have had non-phonemic rounding of [a] to [ɔ] in u-umlaut contexts (cf. Benediktsson 1963 and fn. 7). As this would have been true for a number of plurals (cf. Old Icelandic *land* SG ~ *lǫndu* PL), the rounded variant might have been dispreferred as an alternative for the Midland dialects, since such forms would have confusingly carried the implication of plurality amongst the Viking Age Norse-speaking population.

such changes. Importantly, if the Scandinavian account is accurate, then it is doubtless a northern English phenomenon which later spread into Scotland. Furthermore, the relevant features – if Scandinavian in origin – are more likely attributable to dialect contact change, than to direct borrowing. On the other hand, the traditional, language-internal explanation works out easily only for part of the contexts. For changes from <æ> to <a> (as well as from West Saxon <ea> to <a>), the likely phonetic and perceptual distance is minimal, but for the transition from <o> to <a> it is not. For the latter, we need to rely on <a> variants winning out over <o> ones by spreading from unattested or geographically distant dialects in the 11th-12th centuries. Although the ultimate answer for the source of this feature cannot be fully determined, we have specified the two most likely scenarios for this development, and indeed suggest that a combination of them is quite possible.

Evidently, a single feature such as the one we have described in this paper is insufficient in order to characterise the sources of Scots as a whole, or even to explain the influence of Scandinavian alone. The strength of a Scandinavian-influence account of this individual feature will of course depend on the extent to which other features of Scots can be attributed to contact. We expect that the FITS database should shed further light on this matter. Nevertheless, this study does fall in with a more general body of literature on the interaction between the descendants of Old English and Scandinavian, where changes do not randomly spread from one language to another, but take hold where the system is already in flux, creating a new system of a more stable nature.

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