

On the Integration of Scandinavian Loan Verbs into Medieval English

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Frontmatter

Abstract

The research programme presented in this cumulative dissertation investigates how the argument structural integration of Norse-derived verbs (e.g., *call*, *take*) into medieval English is conditioned by the factors of genealogical closeness between the languages in contact. Combining dictionary-based and corpus-based approaches and employing both qualitative and quantitative methods, the research programme examines individual lexical copies, as well as verb classes, argument structure constructions and alternations affected by lexical copying from Old Norse in 5 contributions. Bringing together novel approaches to the transmission of argument structure (Barðdal & Eythórsson, 2020; Percillier et al., 2024) in the hereto unstudied subject of Norse-derived verbs' structural integration, it contributes to the field of historical contact linguistics by illuminating the structural outcomes of a contact situation between closely related languages. The research programme offers insights into the mechanisms of structural stability under these contact conditions (cf. Köhl & Braunmüller, 2014; van Coetsem, 2000) and provides a methodological framework for investigating lexical and structural copying in similar historical and modern contact situations that emphasises the interplay of linguistic closeness and the communicative accommodation strategies of receptive multilingualism in shaping contact outcomes (cf. Braunmüller, 2002; Gooskens, 2019, 2024; inter alia). Abstracting from the results of individual contributions A–E, three factors were identified that determined argument structure assignment to verb copies: (i) the high lexical and typological closeness of the languages as the source of speaker-perceived equivalence positions on all levels of the linguistic system; (ii) the varying material and semantic identifiability of existing lexical cognacy relations by speakers as the condition for analogical assignment of argument structure from native cognates; and (iii) the speakers' communicative mode of receptive bilingualism, conditioned by the level of mutual intelligibility between the languages (Townend, 2002), as enabling speakers to fully exploit and reproduce existing and perceived equivalences between the languages, like identifiable lexical cognacy and argument structural code matches for semantically equivalent verbs, during lexical copying and integration of Norse-derived verbs. Individual case study findings revealed that assignment of cognate argument structures is pervasive both for cognate and non-cognate Norse-derived copies. Argument structures are assigned to copies based on analogy to their native equivalent verbs (cf. Hall et al., 2009). The nature of this analogy might be lexical,

in the case of identifiable cognates, or semantic, in the case of non-cognates and cognates not co-identifiable with their native counterparts. In the Anglos-Scandinavian contact, cognate argument structure patterns are available in the native basic code with both kinds of equivalents. Overall, the high degree of lexical cognacy and linguistic closeness between the languages facilitated integration of verb copies without significant structural integration conflicts. This also means that there is no pressure on speakers of Old English to globally copy Norse-derived verbs including their model code argument structure. Rather, cognate patterns are assigned to both cognate and non-cognate Norse-derived copies by analogy during integration, resulting in selective and mixed copying of Norse-derived lexical verbs. Regarding the outcome of the Anglo-Scandinavian contact situation, the research programme concludes that copying of Norse-derived verbs in this way upheld and reinforced the stability of the medieval English argument structural system, rather than causing extensive restructuring. This stabilising force results from the exploitation of existing interlingual equivalences during communicative accommodation (cf. Trudgill, 1986; Braunmüller, 2002; Köhl & Braunmüller, 2014) and loan verb integration, thus reinforcing cognate argument structures through mixed and selective copying of Norse-derived lexis. Consequently, the dissertation supports the following theses: (1) The assignment of argument structure to any Norse-derived copy in medieval English is conditioned by the existence and identifiability of cognacy relations and semantic analogy to native lexis. (2) The linguistic closeness between the languages in contact and the receptive multilingualism of speakers facilitated conflict-free integration of Norse-derived verbs. (3) Cognate argument structures are pervasive in the Anglo-Scandinavian contact situation both with cognate and non-cognate Norse-derived verbs. Finally, (4) Copying of Norse-derived verbs is a source of stability rather than change in the medieval English verb argument structure system.

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List of acronyms and abbreviations

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Abbreviation/acronym	Expansion
B	Basic code
BASICS	<i>Borrowing of Argument Structure in Contact Situations</i> (a project funded by the <i>Deutsche Forschungsgemeinschaft</i> , 2015–2022)
BTASD	<i>Bosworth-Toller Anglo-Saxon Dictionary</i>
IcePaHC	<i>The Icelandic Parsed Historical Corpus</i>
L1	First language
L2	Second language
M	Model code
ME	Middle English
MED	<i>Middle English Dictionary</i>
OE	Old English
OED	<i>Oxford English Dictionary</i>
ON	Old Norse
ONP	<i>Dictionary of Old Norse Prose</i>
PCMEP	<i>Parsed Corpus of Middle English Poetry</i>
PDE	Present-Day English
PLAEME	<i>The Parsed Linguistic Atlas of Early Middle English</i>
PPCME2	<i>The Penn Parsed Corpus of Middle English</i>
RL	Recipient Language
SL	Source Language
V _B	Verb in basic code
V _M	Verb in model code

List of publications

Note: The five articles are presented in the order of conceptualisation as they will appear in the collection, not chronologically with regard to the publication date, to ensure coherence.

A:

Elter, W. Juliane. (2023a). Integration of Cognate Loan Verbs in Contact Between Closely Related Languages Effecting Valency Changes. In B. Lewandowska-Tomaszczyk & M. Trojszczak (Eds.), *Language in Educational and Cultural Perspectives* (pp. 237–258). Springer, Cham. https://doi.org/10.1007/978-3-031-38778-4_12

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B:

Elter, W. Juliane. (2024). Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns. *Etudes Médiévales Anglaises: A French Journal of English Medieval Studies*, 103(1), 217–253. L'Association des Médiévistes Anglicistes de l'Enseignement Supérieur (AMAES).

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C:

Elter, W. Juliane. (submitted). 'Busked hem redy boun' – Achieving the Structural Integration of Norse derived 'busken' as a Mixed Copy into the class of 'prepare' verbs in Medieval English. (Submitted version). Submitted for Publication in *North-Western European Language Evolution. NOWELE*.

The author is the sole author of the paper. A revised version of this work has since been accepted for publication in 'North-Western European Language Evolution'.

D:

Elter, W. Juliane. (accepted). 'The Morphosyntactic and Argument Structural Integration of Norse-derived verbs in the Ormulum'. (Submitted version). In S. M. Pons Sanz, B. Méndez-Naya, A. Cooper, & M. Cole (Eds.), *The Language of the Ormulum*. Studies in the Early Middle Ages. Brepols.

The author is the sole author of the paper. A substantially revised version of this work has since been accepted for publication in S. M. Pons Sanz, B. Méndez-Naya, A. Cooper, & M. Cole (Eds.), 'The Language of the Ormulum'. Studies in the Early Middle Ages. Brepols.

E:

Elter, W. Juliane, & Shaw, Marlieke. (2025). Loan verb accommodation: a comparison of Old Norse and French in Middle English. *English Language and Linguistics*, 29(1), 35–58. <https://doi.org/10.1017/S1360674324000029>

The author is the corresponding first author of the paper. The author was solely responsible for data extraction and annotation. Other main contributions include data visualisation and the operationalisation of independent and confounding variables in the corpus analysis. The co-authors equally contributed to the data analysis and interpretation of results as well as the original conceptualisation of the comparative work, which is based on Marlieke Shaw's (2022) approach. All text sections were jointly written and edited by both authors.

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Part I – Theoretical considerations and prior research

1. Introduction

"Inheritance and code-copying generate similarities that reflect a certain historical interrelationship between the languages concerned, either through common ancestorship or through language contact. Therefore, the distinction between copies and cognates is of particular interest to the comparative historical linguist, who studies languages with connected histories" (Johanson & Robbeets, 2012, p. 4).

Two such languages with connected histories which have come into prolonged and intense contact, are Old English (OE) and Old Norse (ON).¹ The Anglo-Scandinavian contact situation, by its linguistic and sociolinguistic characteristics, represents an area of both intriguing implications as to its impact on the English language and methodological challenges in investigating this impact.

While much research has been done on the Norse-derived lexis "borrowed" into English and the phonological and morphological influences of this contact on English (Durkin, 2014 for an overview; Dance, 2003, 2011, 2012, 2013, 2019; Dance, Pons-Sanz & Schorn, 2019; Pons-Sanz, 2013; Thomason & Kaufman, 1988; Townend, 2002; *inter alia*), the extent of the impact of this contact on the morphosyntax and syntax of English remains a topic of spirited debate and contradicting analyses (Allen, 1997; Cole, 2018; Cole & Pons-Sanz, 2023; Kroch et al., 2000; Morse-Gagné, 2003; Samuels, 1985; Trips, 2002; Walkden, in press; see Walkden et al., 2023 for an overview).

¹ The name *Old Norse* is used to refer to the varieties of North Germanic spoken by Scandinavians who came to England during the Viking Age. Likewise, the term *Old English* is used to refer to any and all varieties of Old English spoken during contact. Naturally, both speaker groups spoke a range of varieties across the area and timespan of contact, which are subsumed under these terms in the present work for the sake of its focus on argument structure. Where terms like *Scandinavianised* are employed in the discussion of *accommodation*, *code-mixing* and *convergence* between these languages in contact, this should not be taken to refer to a single focussed contact variety unless explicitly stated in terms of dialect genesis or *koinéisation* (Siegel, 1985). Citation forms of ON lexical items are given as listed in the *Dictionary of Old Norse Prose* (ONP) (Sigurðardóttir, 2021), lexical items from OE are given as listed in the *Bosworth-Toller Anglo-Saxon Dictionary* (BTASD) (Bosworth et al., 2014) unless otherwise indicated, and lexical items from Middle English (ME) are given as per the itemised lemmas as in the *Middle English Dictionary* (MED) (Schaffner et al., 2018). Present-Day English verbs are referenced from the *Oxford English Dictionary* (OED) (Proffitt, 2019). This is done for the sake of referencability and I acknowledge that the lemma forms listed in any and all of these respective historical dictionaries may encompass a number of dialectal and diachronic variants each and are not necessarily the forms speakers involved in Anglo-Scandinavian contact would have encountered.

One aspect that is so far utterly under-researched is the argument structural impact of Norse-derived lexical verbs in English. In the field of contact linguistic research into the Anglo-Scandinavian contact, not even highly advanced lexicographic studies of Norse-derived lexis in the medieval English lexicon systematically include assessments of the argument structural properties of argument-taking items, like verbs, they consider to be *copies*.²

As Trips (2020a) notes, the *copying* of verbs and specifically their argument structure has long been a gap in contact linguistic study and theories of borrowability. This is due to the traditionally assumed separation between lexical copying and structural copying, which is increasingly questioned by modern contact linguistic research (Percillier, et al., 2024; Trips, 2020a). This is why this work takes up the task of illuminating an area of the lexicon, the lexicalised properties of which are integral to syntax, and which is often bracketed together with less grammatical parts of speech when investigating this language contact situation: verbs. Where treated as a lexical category in borrowing hierarchies (Field, 2002; Matras, 2007, 2009), the transfer and integration of verbs have been argued to be constrained due to its morphosyntactic complexity (Matras, 2009, p. 175, Winford, 2003, p. 52). Consequently, most traditional models of language contact treat verbs as somewhat of a hot potato-category. Research on loan integration has focussed mainly on lexical **or** functional categories proposedly closer to the respective endpoints of borrowability hierarchies rather than on the middling categories and structures that combine content and function (cf. Thomason & Kaufman, 1988, p. 74–76; see also Field, 2002).

Of course, for copied verbs to become usable in their *replica language*, they must be grammatically integrated into the language's system like any other lexical or functional category (Poplack, Sankoff & Miller, 1988, p. 62; see also Eisenberg, 2001, 2011; Muysken, 2000; Poplack, 2018). In their nature as argument-taking units, this concerns of course the morphosyntactic properties of the verb itself but also how the semantic and syntactic relations between the verb and its arguments are encoded in the language, i.e., the verb's argument structure and its morphosyntactic realisation. Since the original assertion of the borrowability of verbs being constrained by their morphosyntactic complexity, their

² This work follows Johanson's *Code-copying Framework* (1999, 2002, 2008a, b). See Section 3 for details and definitions. I use its terminology of *copying* and the framing of *model code* and *basic code* over traditional terminologies' framing of *borrowing* as the contact-induced transfer of words from a *model* or *source language* to a *recipient* or *replica language* as *loans* (Haugen, 1950; van Coetsem, 2000; Weinreich, 1953; Winford, 2003; *inter alia*). Where appropriate, this work uses both sets of terms as synonyms in their general senses for increased readability.

morphosyntactic integration has been systematically investigated and modelled (Wohlgemuth, 2009). However, the study of loan verbs' argument structural integration and possible contact-effects on the argument structures of the *basic code* has, until recently, been avoided by contact linguistic research.

Research on loan verb integration into German (Holler, 2015; Holler & Scherer, 2010; Wolff, 2009) and Icelandic (Barðdal, 1999a, b, 2012) have identified factors and strategies at work in how copied verbs are assigned argument structure in the "replicating" basic code. A recent research programme on the argument structural effects of the post-conquest contact between Middle English (ME) and French has developed a novel framework for modelling the structural integration of loan verbs' argument structure and its possible conflicts and outcomes (Percillier et al., 2024).

The present research programme is the first to apply this new perspective on contact-effects in the area of verb argument structure to the Anglo-Scandinavian contact situation. The close genealogical relationship characterising this language pairing poses new challenges to this line of inquiry. It "[...] complicates the researcher's task of distinguishing between what is inherited as cognate from a common ancestor and what is transferred during contact" (Contribution C, p. 2). As Johanson and Robbeets assert, in the investigation of contact situations between related languages "contact linguistics and genealogical linguistics complement each other" (Johanson & Robbeets, 2012, p. 4). It follows that the pairing of languages in contact and the linguistic units investigated as impacted by lexical and structural copying must be examined from a vantage point that considers both horizontal transmission (i.e., copying) and vertical transmission (i.e., inheritance) as potential processes and does not discount even their possible intermingling in such contacts. Specifically, work in the fields of comparative reconstructive and (historical) contact linguistics has produced a set of strategies they have identified as being employed for the assignment of argument structure of new verbs (Barðdal & Eythórsson, 2020, p. 216; cf. Barðdal, 1999a, b, 2001, 2008, 2012). While these strategies are not specifically proposed to model the integration of copied verbs, they can be applied in the contact linguistic investigation of verb argument structure. Due to their genesis from contact research and diachronic comparative work, they manage to capture factors of both *cognacy* (Trask, 1996) and language contact.

While the fine-grained interactions of cognacy and copying have been included in recent lexicographic studies of Norse-derived lexis in the medieval English lexicon (Dance, 2003, 2011, 2012, 2013, 2019; Dance, Pons-Sanz & Schorn 2019; Pons-Sanz, 2007, 2010,

2013, 2024; *inter alia*), they do not systematically include assessments of the argument structure of copied verbs and whether the combinational properties of these argument-taking items are native, possibly cognate, or copied. Inheritance, cognacy and the possible transfer of lexical items are assessed in these works on the levels of morphophonological material and lexical semantics, as per the traditional definition of cognacy on the word level (Trask, 1996, p. 78; see Sections 3.3 & 5.4). Consequently, investigating the Anglo-Scandinavian contact regarding the origin of argument structural properties of copied verb lexis is a novel undertaking. It contributes greatly to our understanding of the hitherto understudied argument structural outcomes of lexical transfer in contact situations between closely related languages in *mutually intelligible* contact.³ Additionally, it rounds out our lexicographic knowledge of Norse-derived verbal copies on the argument structural side.

The guiding questions of the research programme laid out in this volume are how Norse-derived verbs are argument-structurally integrated into medieval English and whether their integration causes changes in the argument structural system of the replica language. Generally, three abstract situations seem possible for the argument structural integration of copied verbs: (i) If the basic code and *model code* argument realisation patterns for the copied verb's argument structure type are sufficiently congruent to those of a native equivalent cognate lexeme, other native equivalent or even the whole semantic verb class, the integration of a lexical verb should be possible without structural conflict. If the argument structures and their realisation patterns do not sufficiently match between the codes, (ii) argument structure may be assigned to the copied verb from the inventory of the basic code in multiple ways, e.g., as modelled on native equivalents, or (iii) the etymon's model code argument structure can be copied into the basic code as a chunk with the lexeme (Johanson, 1999, p. 43; cf. Holler, 2015; Holler & Scherer, 2010; Trips, 2020a, b; Percillier et al., 2024). How the linguistic and extralinguistic features of the Anglo-Scandinavian contact situation influence which of these scenarios come to bear during the integration of Norse-derived verbs in Middle English is one *explanandum* of the present work. Beyond the structural integration of individual lexical verb copies, possible contact-effects on a language's morphosyntax may also be rooted in the copying of lexical verbs and their argument structural integration due to verbs being at the core of the structure of predication underlying the clause structure (Percillier et al., 2024; cf. Pinker 1989, p. 4).

³ See section 3.2 for definition of *mutual intelligibility* and related concepts in language contact between closely related languages.

The contributions in this collection address the questions posed above by synthesising the existing body of work on the Scandinavian element in the English verb lexicon and combining it with the representative corpus-based, qualitative investigation of the argument structures realised by Norse-derived verbs in medieval English.⁴ The corpus analyses in Contributions A–C set the argument structure of Norse-derived verbs into both cross-linguistic and diachronic relation to the argument structures realised by their Old Norse etyma in Old Norse and those realised by their native West Germanic cognates and near-synonyms in Old and Middle English. The investigation of individual lexical items and their associated verb classes illuminates which of the possible integrational scenarios best describes the structural integration of Norse-derived loan verbs. In combination, these contributions also approach loan verb integration and resulting contact-induced changes in argument structure on increasingly abstract layers of linguistic description of argument structure – the individual lemma, verb classes, and finally constructions and alternations – and cover a broad range of possible cognacy relationships between native and copied lexis. Additionally, the progression of the morphosyntactic integration of Norse-derived verbs in English is evaluated in the quantitative analysis of the collaborative Contribution E. Both perspectives are combined in a full text study on the *Ormulum* in Contribution D. Integrating the factors of lexical and structural cognate relationships between the languages as independent variables into the research programme reveals whether its existence and identifiability impacts how copied verbs are structurally integrated into the basic code.

The research program presented in this work foremost contributes to the research on historical contact linguistics in the area of code-copying of verbs and their argument structure. By this, it combines current research on argument structural integration of copied elements and contact-induced language change with the investigation of a historical contact situation that is represented by an abundance of research on its linguistic, genealogical and cultural closeness and the lexical copying resulting from this contact. Moreover, under the assumption of the *Uniformitarian Principle* (cf. Walkden, 2019, p. 11), the historical setting of this work provides a concluded-process case study on how contact situations between

⁴ In the study of Norse-derived lexis in English, the so-called *Scandinavian element*, early works like Brate (1885), Egge (1887), and Björkman (1900–02) are foundational. These contributions and more modern work in this field, briefly reviewed in Section 5.4.1, have since shaped and refined our knowledge about the influence of Old Norse on the lexicon of English.

mutually intelligible, closely related languages can shape long-term argument structural development.⁵

The remainder of this volume is structured as follows. The following sections of Part I situate the collection of contributions presented in Part II in the theoretical framework of argument structure and historical contact linguistic research. As some of this overlaps with and between the individual contributions in this collection, Sections 2 through 5 focus on providing relevant higher-level information not covered in detail in Contributions A–E. However, in the course of this some basic concepts and assumptions bear repeating for the sake of clarity of conceptualisation. I ask that readers forgive their recurrence in multiple parts of this work for this purpose. Section 2 reviews the conceptualisation of argument structure and the phenomenon of alternations assumed in this work. Section 3 lays out the models of language contact and code-copying underlying the present work. Here, research on the structural integration of copied verbs is reviewed and current models for assessing loan verb integration on the levels of morphosyntax and argument structure are adopted. Section 4 motivates the present approach to investigating argument structure under the contact hypothesis from these prior considerations. Section 5 presents the relevant linguistic and extra-linguistic realities of the Anglo-Scandinavian contact situation in detail. I also present the implications I draw about the nature and processes of this language contact by situating the facts of this contact situation in the theoretical frameworks priorly introduced in Sections 2–4.

Part II presents the collection of contributions representing this research programme and synthesises conclusions from their combined results. Starting with the research objectives, Section 6 also provides critical information on the data sources, method and operationalisation of the overall research programme. Section 7 presents the collection of contributions, starting with individual summaries of all publications and short discussion of their connections and followed by the contributions in full. Section 8 provides a general discussion of these contributions' results and implications, starting with the subject-material and methodological development and connections between Contributions A–E. Section 8.1 discusses the limitations of the present research programme. Section 8.2 abstracts how the factors of cognacy, mutual intelligibility and bilingualism affect the modelling of structural

⁵ Uniformitarianism has been formulated for linguistics in multiple ways. The *Uniformitarian Principle* is taken here to mean *methodological "actualism"* as Walkden (2019, p.11, his emphasis) discusses it. See Walkden (2019) for an overview and discussion of how definitions vary and for suggestions on improving current usage of the concept(s).

outcomes of verb copying. Section 8.3 discusses the implications of this work regarding contact-induced argument structural stability and the development of the English language. Finally, Section 9 explores the conclusions arising from this programme of work.

2 Verb argument structure

Verbs occupy a unique position in the set of lexical categories. As argument-taking lexical units which carry denotational meaning about an event they encompass properties of both function words and content words. By this, their study is positioned at the interface of semantics and syntax. This becomes apparent in the conceptualisation of verb argument structure. Following Levin's (2018) definition, argument structure is the "lexical representation of argument-taking items, typically verbs [...] that specifies sufficient information about these items' arguments to allow their syntactic realization to be determined" (Levin, 2018, p. 1). As such the argument structure of a verb will define the number of arguments and their semantic relation to the lexicalised event, and their morphosyntactic expression.

Argument structure is generally conceptualised as having three components: First, the thematic relations required as arguments by the semantic function of the lexical-conceptual structure (LCS) of the verb for it to be satisfied; second, the syntactic relations of a verb's arguments to be expressed on the surface by a language's morphosyntax; and third, linking rules mapping the first two component onto one another.

While the semantic properties of the lexical verb, i.e., its LCS, determines the thematic relations required by the predication as its arguments, they are in principle taken to be a separate level of lexical representation from the verb's predicate-argument structure (Jackendoff, 1976, 1983, 1990; Pinker, 1989, p. 71; see also Myers-Scotton 2002; Myers-Scotton & Jake 1995, p. 981f.). Similarly, the morphosyntactic expression of the argument's syntactic relations, e.g., by their relative position in the syntagma, morphological case marking, adpositional marking or clausal subordination, is taken to be a separate level of representation. The patterns possible at this level are constrained by the language's morphosyntactic combinational properties and their realisation is determined by the level of predicate-argument structure mapping between this syntactic level and the semantic level of LCS.

In this work, the semantic properties of lexical verbs are modelled following Jackendoff's (1976, 1983, 1990) predicate decomposition approach. Jackendoff's lexicalist

approach associates argument structure with the LCS of verbs and assumes a verb-meaning driven mapping of argument structures from semantic roles onto morphosyntactic realisation. The predicate decomposition approach thus bases its explanation of argument structural mappings and constraints in a language on the notion of an internal compositional structure of lexical predicates, the existence of verb classes defined by these semantic structures, and the concept of lexical inheritance.

Lexical-conceptual structures compose verb meaning from a set of building blocks. First, cognitively relevant primitive predicates like BE, CAUSE, and ACT; and second, a semantic root of a defined set of cognitively relevant ontological types, like STATE, MANNER, THING, which encodes the idiosyncratic meaning component of the lexical verb. As primitive predicates are taken to be argument-taking functions themselves, they define variable slots for their arguments in the composition of the verb's LCS (Jackendoff, 1990). The type of semantic relations that can fill a specific variable position in the LCS is semantically specified by the primitive predicate governing it. These properties are what is projected to argument structure as the semantic relation between arguments and the predication. Traditionally, the notion of thematic roles formalises these semantic requirements for participants in argument structure.

This work conceptualised thematic roles following Dowty's proto-role approach (1991) and developments of it (e.g., Primus, 1999). Thematic roles are taken to be clusters of more basic thematic concepts such as CONTROL, CAUSATION, SENTIENCE, VOLITION, ACTIVITY, and AFFECTEDNESS. These properties are entailments on the argument variables in the LCS of verbs and determined by it. Whether a specific thematic role realised in an event description is part of the verb's obligatory core participants or an optional peripheral role in the argument structure depends on the theoretical frameworks of semantics and syntax to which the theory of argument structure is made subject. The question of status of a thematic role in any specific event is discussed only where relevant for the discussion of argument structure patterns and alternation behaviours in individual contributions of this collection.

On the level of semantics, the phenomenon of *polysemy* also comes into play in verbs' argument structure (Bréal, 1897, p. 144ff.). Polysemy is a semantic ambiguity, i.e., the existence of two or more related meanings for the same morpheme (Ullmann, 1962,

p. 159ff.; cf. Lyons, 1977).⁶ From a diachronic perspective, polysemy is the synchronic result of semantic changes and the layering of earlier and later meanings (Trips, 2009, p. 208). As Lyons (1977, p. 552) points out, the relatedness of ambiguous meanings is a matter of degree. Depending on the nature and closeness of this semantic relation between multiple meanings, this implies that multiple LCS may be associated with a single verb lexeme (see below & cf. Rappaport Hovav & Levin, 1991, 1998, p. 107; Jackendoff, 1990). Generally, such multiple LCS may vary in the composing primitive predicates and their number, the number and nature of the governed argument slots, the idiosyncratic semantic root of the predication or the LCS general internal compositional structure. While some relations are compositionally close and systematic (cf. Jackendoff, 1990, p. 20), e.g., the causative 'cause sth. to become ready' and non-causative 'become ready' meanings of ME *busken* (cf. Contribution C; see below for details on alternations), others reflect processes of semantic change like specification, broadening or conceptual domain shift of meanings by metonymy or metaphor. Such semantic differences may be slight and appear rather systematically across the members of a semantic verb class, i.e., what Levin and Rapoport (1988) call *extended meanings* and what Apresjan (1973) calls *regular polysemy*, like the closely related 'dress' meanings of ME *busken* related to its 'become ready' senses as a specified act which share the overall event structure composition of resultative change of state verbs but differ in the idiosyncratic STATE root. However, such semantic differences may also reflect more significant compositional differences in the event type lexicalised, e.g., in the conceptually more distantly related 'hurry' senses of ME *busken* lexicalising a change of location in a hurried manner rather than a change of state as historically derived from the 'be, dwell' sense of the root morpheme of the verb (cf. Contribution C). The diachronic connections between such event structurally contrasting senses and their semantic development are often synchronically intransparent. The present research programme accounts for such varyingly close semantic relations between multiple meanings of polysemous verbs by distinguishing related meanings with congruent and systematically related event structures on the one hand and meanings with conceptually and compositionally significantly different LCS on the other hand.⁷ Overall, I pose that the

⁶ Polysemy, i.e., *complementary ambiguity* (Weinreich, 1964), is traditionally defined in contrast to *homonymy*, i.e., the *contrastive* semantic ambiguity arising from two or more unrelated meanings associated with identical material forms, e.g. PDE *seal* referring either to the animal or a piece of wax or other material sealing an envelope or container (Ullmann, 1962, p. 159).

⁷ See Section 6.1 for categorisation and operationalisation of verb polysemy in this research programme.

latter show less closely related semantic relationships of polysemy than the former and are nearing the realm of appearing as homonyms from a purely synchronic perspective.

Concerning the syntactic relations of a verb's arguments and their morphosyntactic realisation, the present work takes a purely descriptive perspective. The syntactic relations of an argument are described using only the general categories of subject, direct object, indirect object, obliques, complement clauses, secondary predicates and adjuncts. As their morphosyntactic realisation and structural properties are language specific, further structural definitions are given only where necessary in individual contributions of the collection. In parallel, arguments' realisation as noun phrases, adpositional phrases or clauses and the morphological or structural marking of their syntactic relation is described largely independently of any specific syntactic theory and theoretical notes are made only where necessary for individual analyses.

Because of its position at the syntax-semantics interface, the conception of argument structure varies with the theoretical framework to which it is made subject (Levin & Rappaport Hovav, 2005; see also Levin, 2018). The present research programme is focussed on the transfer of argument structure through language contact. Consequently, neither the discussion of the universal cognitive concepts underlying event conceptualisation nor the discussion of syntactic theory is taken up in this work. Rather, I will focus on defining and describing the copying of lexical verbs with the semantic and structural properties of predicate-argument structure in mind, so that its assignment to verb copies in the basic code can be modelled adequately.

The approaches to the argument structural integration of copied verbs that are laid out in Section 3.3 below vary widely in their theoretical assumptions about the nature of syntax. The present work takes on only the model of verb integration and the strategies of argument structure assignment that are abstracted from their results. As these concern the psycholinguistic realities of language contact and the available intra- and interlinguistic sources for assigning argument structure to new verbs, many theoretical issues remain outside the scope of the present work. In the assumptions about the structural nature of the language capacity in general and specifically the mental lexicon presupposed by the model of argument structure laid out above, the present collection follows recent research on the argument structural integration of copied verbs (cf. Percillier et al., 2024; cf. Sections 3.2–3.4). The individual contributions in the present collection lay out any theoretical assumptions made about underlying argument structures or semantic and syntactic transformations like causativisation, passivisation and reflexivisation where necessary.

Similarly, whether a specific constituent is syntactically a complement or an adjunct is discussed for the argument structures of individual verbs and verb classes in the respective contributions where required. This is especially relevant where adpositional phrases, secondary predication and clauses expressing core semantic participants of a lexicalised eventuality are concerned.

Finally, the present work necessitates a definition of argument structure alternations. The systematic alternation of individual lexical verbs' and verb classes' between more than one morphosyntactic realisation pattern for what on the surface seems to be the same eventuality is the linguistic problem originating the study of argument structure: Baker (1979) formulates the learnability paradox regarding such alternations. Discussing this problem of acquisition and the factors determining verbs' participation in them, Pinker (1989) lays out an explicit theory of morphosyntactic alternations as reflecting distinct verb meanings. I follow Pinker in the assumption "that every distinct set of grammatical functions that a verb can appear with is licensed by a different, fully formed argument structure associated with that verb" (Pinker, 1989, p. 71). I follow meaning-driven analyses of argument structure alternations (Rappaport Hovav & Levin, 1998, p. 107) in assuming that differences in the LCS project these different argument structures.⁸ As noted above, this covers some of the more systematic polysemies of verbs (cf. Jackendoff, 1990, p. 20). Additionally, whether and how these argument structures and the LCSs projecting them are conceptually related via processes of analogy, derivation, transformation or reanalysis is a question of careful language-specific and comparative investigation of individual alternations that will not be attempted here. The present work draws on Levin's (1993) overview of the argument structure alternations of Modern English and combines her work and that of the references therein with recent historical and diachronic analyses of the alternation behaviour of earlier stages of English (e.g., van Gelderen, 2011, 2018; *inter alia*) as well as historical grammars (Visser, 1966). Studies on specific alternations relevant to individual case studies are referenced in the respective contributions of this collection. Overall, these concepts are taken up in the present work where the number or nature of the

⁸ I recognise, in line with both lexicalist and constructivist research into the variant choice behaviour of well-researched alternations such as the *Causative Alternation* and *Dative Alternation*, that not only the lexical semantic factor influences alternations (Rappaport Hovav & Levin, 2008 on the Dative Alternation), but that multiple other factors such as information structure, weight and morpho-phonological considerations have also been argued to affect variant choice (cf. Levin, 2018, p. 18–22).

argument structures associated with a specific lexical verb or verb class changes and these changes may be affected or indeed caused by code-copying.

3 Language contact and language change

Language contact can be defined as two or more linguistic systems coming into contact in any situation of social interaction between the speaker communities. Such contacts can result in the horizontal transfer, i.e., copying, of linguistic entities or phenomena from a language M to a language B.⁹ The agents of this transfer are of course the speakers of the respective languages. Generally, models of language contact presuppose bilingualism of these speakers, but many do not define the degree and language profile of this bilingualism and its implications in any detail.¹⁰ The linguistic outcomes of contact depend on a range of extralinguistic and linguistic properties of this contact, including the nature and extent of bilingualism. For the present research programme, it is necessary to model language contact and the resulting phenomena of linguistic transfer and change from a range of perspectives.

Section 3.1 first introduces Johanson's *Code-copying Framework* (1999, 2002, 2008a, b) which is the model of linguistic copying utilised in the present research programme and revisits the historically postulated separation between lexical and structural copying as it relates to verb argument structure. Johanson's model is utilised to describe linguistic units, their copying between a model and basic code and assessing the nature and extent of cognacy between multiple linguistic units from related languages. Second, the model of language contact adopted to describe contact between closely related languages in the present research programme is laid out in Section 3.2. The present research programme combines Johanson's notions of socio-economic dominance dynamics with van Coetsem's (2000) notions of psycholinguistic dominance in bilinguals, agentivity and linguistic stability in contact. Moreover, it draws on Weinreich's (1953, p. 56, 92) and Trudgill's (1986, p. 1) insights into contact between dialects and closely related languages as well as Braunmüller's (2002a, b, 2009) and Gooskens' (2019, 2024; *inter alia*) results

⁹ See footnote 2 above and the current section for details on the usage of language M(odel) and language B(asic) as referencing Johanson's (1999, *inter alia*) concepts of model code and basic code.

¹⁰ Van Coetsem's (2000) and Myers-Scotton's (2002) models being notable exceptions. Both include the (im)balance of speaker's bilingualism as central to the possible effects of contact. See Section 3.2 for details on the varying status of bilingualism of speakers and its implications in the study of code-copying. The likely status of bilingualism between OE and ON in the Anglo-Scandinavian contact is discussed in detail in Section 5.

regarding communicative *accommodation* in contact situations involving mutually intelligible languages.¹¹

This forms the conceptual basis from which the relevant linguistic and extra-linguistic factors of language contact and their impact in linguistic transfer processes are identified. These factors are then discussed from a perspective of system stability under contact. The likely status of bilingualism and the outcomes of language contact are modelled as conditioned by these factors. Third, I review models for the structural integration of copied units into the replica language in Section 3.3. The present programme combines Johanson's notion of copying with Eisenberg's (2001, 2011) notion of integration and integrational adaptation. Wohlgemuth's (2009) typology of morphosyntactic accommodation of loan verbs and Barðdal's (1999a, 2001, 2008, 2012) strategies for argument structure assignment to new verbs (cf. Barðdal & Eythórsson, 2020, p. 216) are applied to this concept of integration and adaptation to model the structural integration of copied verbs. By this combination, the present research programme can adapt prior approaches to the structural integration of verbs and argument structure (Holler, 2015; Trips, 2020a) to the contact situation under investigation and follow in the footsteps of recent research into how verb copying may cause argument structural changes (Percillier et al., 2024; *inter alia*) as Section 3.4 lays out.

3.1 Copying of linguistic units and types of copies

This work follows Johanson's Code-copying Framework (1999, 2002, 2008a, b) to describe the so-called transfer of linguistic units between languages in contact. Departing from traditional terminologies, Johanson generally frames this transfer of linguistic units from a model code as copying and the resulting linguistic units in the copying basic code as copies. Johanson describes linguistic units as sets of material, semantic, combinational and frequential properties (Johanson 2002, p. 292).¹² Following from this segmental definition of linguistic units, the present research programme takes polysemous lexemes, i.e., networks of meaning relations (cf. Nerlich & Clarke, 2011, p. 3), to be complex linguistic units, encompassing a network of multiple relations between a single set of material

¹¹ See Sections 3.2 – 3.3 and footnote 18 for definitions of *accommodation* as both a sociolinguistic tendency (Giles et al., 1973; Trudgill, 1986; Braunmüller, 2002a; *inter alia*) and a structural loan word integration process (Wohlgemuth, 2009; *inter alia*) and see footnote 21 for notes on the differential usage of this terminology in the present work.

¹² See Contribution A (p. 240) for an example description of a lexical unit's property set.

properties and multiple sets of semantic properties (cf. Section 2). Taken together with the combinational and frequential properties associated with each of these multiple property pairings, polysemous lexical units are linguistic units in the lexicon that represent clusters of materially and semantically related subordinate linguistic units at a more fine-grained level of cognitive linguistic description (cf. Nerlich & Clarke, 2011; cf. Section 6.1 for operationalisation).

As early taxonomies of loan words already capture for lexical copies (cf. Haugen, 1950, p. 212ff., 1972; Weinreich, 1953), during language contact, linguistic units may be copied between languages in varying degrees of completeness. Johanson (2002, p. 291) coins cases where a linguistic unit is copied from a model code into a basic code with its full set of properties as *global copying*. Copies which include only one of the properties of a model code unit are termed the result of *selective copying* (Johanson, 2002, p. 292). This includes subtypes like *semantic loans* (Haugen, 1950) as in the 'become aware' sense of the Modern German verb *realisieren* that has been selectively borrowed from Present-Day English onto the existing (originally French-derived) verb *realisieren* which formerly only had 'make happen, make true' senses in German (cf. DWDS, *realisieren*). Copying which combines these strategies is called *mixed copying*. It "combines both techniques, thus yielding selective – typically combinational or frequential – copies that comprise at least one global copy." (Johanson, 2002, p. 292).

Regarding lexical units, Johanson refers the reader to Haugen's (1972) *loanblend* as a congruent concept to mixed copies. Whereas *loanblend* refers to lexical units in which at least one morpheme is copied from the model code while at least one other is substituted by a basic code equivalent morpheme in the copy, Johanson's mixed copying may show such combinations of copied and substituted properties on all levels of the segmental description of linguistic units, i.e., not just in the form-meaning combinations of morphemes but also in frequential and combinational properties. Consequently, the present work takes the concept of *mixed copy* to cover all kinds of combinations of multiple copied and some native properties in a given linguistic unit. This becomes especially relevant in describing the lexical copying of verbs wherever multiple subsets of properties are naturally occurring, specifically multiple semantic event structures of a polysemous verb which by extension may also have multiple combinational argument structure patterns associated with them or multiple argument structure patterns between which the verb may alternate combinationally (cf. Section 2). For example, a polysemous lexical verb like ON *kalla* 'shout, summon, say, order, name' may be copied into the basic code as ME *callen* with the

material properties of its stem and its semantic properties including multiple senses as LCSs but with only the model code combinational argument structure pattern for one or some of its senses while assigning native basic code patterns for the argument structure realisation of other copied senses (cf. Contribution B & references therein). All such combinations of copying and assignment of native properties would be mixed copies on the level of the lexeme. However, as Johanson models copying of linguistic units not just for the lexicon, mixed copying may also affect the larger and more complex linguistic units, such as phrases and constructions as well as their compositional parts and their respective properties. Johanson (1999, p. 45) proposes that, indeed, mixed copies often combine the selective copying of combinational or frequential properties of a more complex linguistic unit with global copying of a unit that is a typical component of the complex unit. For example, a specific argument structural combination pattern may be selectively copied with the global copy of a lexical verb typically realising this pattern in the model code. This complex of a global lexical verb copy and a selective morphosyntactic combinational copy would also comprise a mixed copy on the level of constructions. This potential for fine-grained description of the property combinations of complex predicative structures **and** the predicators composing them makes mixed copying a useful concept in modelling the copying and integration of morphosyntactically and semantically complex linguistic units like verbs.

By framing the copying of linguistic units independently of their lexical or functional category, Johanson's segmental approach overcomes the long-held strict separation of lexical versus *structural borrowing* (Johanson, 2002, p. 291; Percillier et al., 2024, p. 2; Stein et al., 2019, p. 219). As Stein et al. (2019, p. 219) criticise, following Winford (2003, p. 61f.), that this separation is not useful when investigating language contact on the level of argument structure. Following Johanson (1999, p. 51f.), we can integrate what has more traditionally been labelled *grammatical replication* (Heine & Kuteva, 2005, 2008, p. 59; cf. Weinreich, 1953) or structural borrowing (Thomason & Kaufman, 1988, ch. 4) as the selective copying of combinational patterns at the level of the phrase, predication or even clause. Thus, the Code-copying Framework serves well in the analysis of code-copying of verb argument structure, as it can conceptualise both the lexical and the structural properties of verbs. Following this conceptualisation of code-copying and the theory of argument structure set out in Section 2 above, lexical verbs' semantic and word-external combinational properties construct their argument structures (cf. Johanson, 2002, p. 292f.). The argument structures themselves represent the possible combinational

patterns of superordinate, more abstract linguistic units – predication – at the level of the clause. According to Johanson, the copying of "[m]odel code predicates may trigger copying of their valency patterns for basic code equivalents" (Johanson 2008b, p. 499).

Naturally, properties of a linguistic unit which are not copied from the model code need to be substituted by native(-like) properties in the basic code. Which properties of a linguistic unit are copied from the model code and which ones are replaced by basic code properties upon integration directly impacts the integrational adaptation necessary for the copy to become a functioning linguistic unit in the basic code. Generally, any copy will need to be somewhat adapted to the system of the basic code to undergo its internal processes (Johanson, 2002, p. 296; Poplack, Sankoff & Miller, 1988, p. 62; see also Eisenberg, 2001, 2011; Muysken, 2000). How these integrational processes affect the linguistic unit and how they may lead to language change will be laid out below in Sections 3.3 and 3.4. Yet, before I expand this theoretical basis to integrational and contact-induced change, Section 3.2 lays out the factors defining language contact situations and their impact on its outcomes.

3.2 The linguistic and extra-linguistic factors defining language contact

Most terminology used to describe linguistic contact frames the transfer processes and the languages involved in them in terms of the direction of transfer (Haugen, 1950, 1972; van Coetsem, 2000; Weinreich, 1953; Winford, 2003; *inter alia*; cf. footnote 2 above). Departing from this perspective, the present work follows Johanson's framework (1999, 2002), as laid out above, in his use of model code and basic code, but refers to concepts defined by earlier works by their original terminology.¹³ Johanson's framework reflects the directionality of copying processes in contact as dependent on the sociolinguistic dominance dynamics between speaker groups. While he arrives at describing the directional outcomes of *adoption*, *imposition* and *shift* somewhat in parallel to traditional taxonomies of language contact, Johanson models the superordinate process of copying with a focus on the dynamics of contact situations, the possible bi-directionality of transfer processes and the segmental nature of linguistic units. In addition to the dynamics of speaker groups regarding their relative socioeconomic and political status (Johanson, 1999, 2002, 20008a, b), the duration and intensity of the contact situations have also been shown to influence

¹³ E.g., referencing van Coetsem's (2000) concepts of source language (SL) and recipient language (RL) *agentivity* by these original terms.

the outcomes of language contact (Thomason & Kaufman, 1988; Matras, 2009). These are the main extra-linguistic factors of language contact as they impact copying.

A different perspective on the directionality of copying is presented by van Coetsem (2000). His account of *agentivity* of copying reflects the varying psycholinguistic dominance status of languages for individual bilingual speakers (van Coetsem, 2000). If we assume, that linguistic transfer in contact situations is performed by bilingual speakers, it may in principle occur in either direction between a speaker's multiple languages. However, unless an individual is a truly balanced bilingual, one of the languages will be psycholinguistically dominant for the speaker at any point in time (cf. van Coetsem, 2000, p. 83f.).¹⁴ As the psycholinguistic dominant language will often be the bilingual speaker's first language (L1), language transfer phenomena may also be distinguished in terms of the nativeness of the languages to the speaker (cf. Lucas, 2012, p. 278; Weinreich, 1953, p. 75ff.). Van Coetsem (2000) models how a speakers' psycholinguistic dominance as well as the stability of a language's components determine which kinds of linguistic units are transferred in contact. First, speakers' psycholinguistic dominance is reflected in the directional agentivity of transfer. Speakers dominant in language A over language B can transfer linguistic units from their less dominant language B into their dominant language A. This is *recipient language* (RL) agentivity. They can also transfer units from their dominant language A to their less dominant language B. This is *source language* (SL) agentivity. According to van Coetsem (2000, p. 60), RL agentive transfer will generally affect the less stable components of a language, like lexis, while SL agentive transfer may result in transfer of more stable components of the language. If we associate these relations with the speaker's language proficiency in their first (L1) and second language (L2), RL agentive transfer is what has traditionally been termed *borrowing* and SL agentive transfer is what is traditionally known as *imposition*, and *interference* specifically in "imperfect" L2 acquisition (cf. Stein et al., 2019, p. 218).

¹⁴ One should not fully conflate psycholinguistic dominance of one of a speaker's multiple languages with the speaker's proficiency in this language. While proficiency and dominance interact closely (van Coetsem, 2000, p. 84; cf. Myers-Scotton, 2002, 2010, p. 295f.), they are both subject to variation conditioned by third factors, including the sociolinguistic dominance relations of multiple languages in a speaker's environment. Current psycholinguistic tools for assessing bilingualism of individuals like the *Bilingual Language Profile* (Birdsong et al., 2012; Gertken et al., 2014) include measures of productive and receptive proficiency as well as social and psychological factors like age of acquisition, duration and relative intensity of exposure in the environment and individual language usage, and social identification with a language. Consequently, both the degree of an individual's bilingual language proficiencies as well as the psycholinguistic dominance between their languages must be defined when we investigate language contact and code-copying.

Both the sociolinguistic and psycholinguistic perspectives are relevant to accurately define the reality of contact situations on the linguistic and extra-linguistic level and will be taken up in Section 5 to describe the Anglo-Scandinavian contact.

Second, van Coetsem's (2000) account describes copying as being influenced by *stability*. Stability is defined in this context as the "transferability of language material from one language to another" (van Coetsem, 2000, p. 32). Van Coetsem connects the speaker-internal psycholinguistic dynamics of a specific language contact situation with this notion of stability by differentiating the *inherent stability* of a language system and the *subsidiary stability* of the languages during contact. The latter is, among other things, "determined by [...] the affinity between the SL and RL and the attitude of speaker[s]" (van Coetsem, 2000, p. 58), while the former concerns the internal structuredness of the language system. Van Coetsem's (2000, p. 113ff.) inherent stability might somewhat remind the reader of traditional hierarchies of borrowability which propose that some categories and structures of language are inherently less susceptible to contact influence (cf. as proposed for example by Haugen, 1950; Muysken, 2000, p. 74; see also Field, 2002; Matras, 2007).¹⁵ The discussion of such implicational hierarchies and the specifics of van Coetsem's notion of inherent stability are not taken up by this work. Let it suffice to say that the present work recognises that the copying of lexical verbs and the combinational copying of argument structures reasonably require higher integrative effort than morphosyntactically and structurally less complex linguistic units. Moreover, the distinction between inherent and subsidiary stability of languages under the contact hypothesis is a useful one, as we may relate these notions as being influenced by the linguistic and extra-linguistic factors of the contact situation respectively.

Overall, I take the stability of a language under contact to be the synthesised result of the linguistic and extralinguistic factors of the contact situation. In other words, as regards linguistic factors, the linguistic closeness of the languages in contact influences how susceptible linguistic elements are to being replaced through copying. Closely related languages in contact are more susceptible to change through contact on all levels of the linguistic system in which they are highly similar to each other (cf. van Coetsem, 2000, p. 123). Consequently, contact between linguistically more similar, often related, languages may affect areas of the system which are argued to be otherwise inherently more stable than contact between linguistically less similar, unrelated languages. The factor of subsidiary

¹⁵ See Trips (2020a) and Matras (2007, 2009) for a discussion of borrowing scales and hierarchies.

stability involves many variables, including speakers' language consciousness, their attitudes towards the respective languages and the closeness (or *affinity* in van Coetsem's terms) between languages' structures and materials as it reflects on their possible mutual intelligibility. Note that inherent stability is affected by language internal linguistic properties and subsidiary stability is affected by the inter-linguistic affinity of linguistic properties of the languages as well as extra-linguistic properties like prestige and social dominance which will impact language consciousness and attitudes (van Coetsem, 2000).

To summarise, the inherent stability of linguistic systems interplays with the subsidiary stability of linguistic systems in contact with each other. Together they determine what kinds of linguistic units are susceptible to copying. High similarity between the linguistic systems in contact, linguistic closeness, is argued to facilitate the copying of linguistic units and their properties (Johanson, 1999, p. 44f., 49, 2002, p. 292, 306; cf. Meillet, 1921; Moravcsik, 1975; Winford, 2003, p. 51ff.;). Johanson grounds this assertion in two principles. First, as copies are made and inserted on the basis of subjectively identified *equivalence positions* (Johanson, 2002, p. 294, 2008, p. 63) between the languages in contact, a higher similarity between these languages will result in a wealth of such equivalences at which copies may be made and inserted on all levels on which the languages are similar (Johanson, 1999, p. 53, 2002, p. 306; cf. van Coetsem, 2000 for arguments on high *affinity*).¹⁶ Second, the more similar the languages are, the less adaptation and *restructuring* of copied units is necessary for them to become functioning linguistic units of the basic code (cf. Johanson, 2002, p. 297). Thus, the more structures are shared between codes, the more freely speakers may make copies of varying type and complexity (Muysken, 2000; cf. Myers-Scotton, 2002). Contact between closely related languages or dialects would therefore likely enable speakers to identify material, conceptual and structural parallels between the languages that allow for RL agentive copying of the *insertion* type (Muysken, 2000). In line with Muysken (2000, p. 9–10) and in light of Gooskens' (2024) results (discussed below), I propose that code-copying of the *congruent lexicalisation* type (Muysken, 2000, p. 4 – 9) might have also become available to speakers of closely related languages at positions of overt and salient equivalence

¹⁶ This similarity can be the result of genealogic relatedness of the languages in contact, convergence due to ongoing contact and accumulating code-copying or indeed by chance (Lass, 1997; see also Bower, 2013; Johanson, 1999, 2002). This difference in the origin of similarity and equivalence positions between the codes in contact is not categorically relevant to Johanson's model of code-copying. See also Muysken (2000, p. 28) on grammatical constraints on and shared structures as the prerequisite for *insertion*, *alternation* and *congruent lexicalisation*.

between the codes depending on the level of mutual intelligibility between codes and speakers' status of bilingualism (cf. Section 3.3.2, footnote 24 & Section 5).

The linguistic and extra-linguistic features of any contact situation laid out above interact to condition the need of speakers for individual bilingualism. Specifically, this need may change over time during a contact if the extra-linguistic, political and cultural, and sociolinguistic realities of the contact change.¹⁷ However, the need for individual bilingualism is also conditioned by the linguistic factor of closeness of the languages in contact, specifically by the degree of mutual intelligibility. At its most basic level mutual intelligibility can be defined as the ability of speakers of two dialects or languages to communicate successfully while speaking only one of the languages (Gay, 2014, p. 9; Townend, 2002; Wolff, 1959). Contact between adequately mutually intelligible languages, like that between the modern Scandinavian languages (Braunmüller, 2002a; Haugen, 1966), seems to discourage balanced individual bilingualism, as interlingual communication can be achieved through some active accommodation in the production of one's own L1 (cf. Trudgill, 1986) and the purely receptive bilingualism inherent to the status of mutual intelligibility between the languages. This communicative mode has been originally termed *semi-communication* (Haugen, 1966).¹⁸ More recent work on such contacts has modelled the strategies of productive accommodation (e.g., exploiting existing *convergences* and producing more of them, *code-switching*, *shift*) available to speakers in these situations as ranging along the scale of how intelligible the languages in contact are, i.e., how prototypical this semi-communication is (Braunmüller, 2002a, p. 7ff.; cf. Trudgill, 1986, p. 21ff.). Recent research into mutual intelligibility between closely related

¹⁷ Theoretically it is possible for prolonged contact situations to result in language convergence or divergence to a degree of gained or lost mutual intelligibility. In such cases, the linguistic properties of the languages in contact are changed so extensively that the need for bilingualism also changes (cf. Johanson, 1999, p. 58 on the Volga-Kama area). Such scenarios are, however, not the subject of this work and the interested reader is referred, among others, to Braunmüller (2002a, 2009).

¹⁸ Haugen (1966) coins the term *semi-communication* for such asymmetric inter-lingual communication between mutually intelligible Scandinavian languages. See Braunmüller (2002a, p. 3–4) for a discussion of the origin and somewhat misleading composition of this term. Still, Braunmüller (2002a) sticks with this terminology while expanding on the need for explaining such situations and the processes involved in a framework of *accommodation theory* (Giles et al., 1973, Giles & Ogay, 2007; *inter alia*). This is in line with Trudgill's (1986) assessment of accommodation in dialect contact. Gooskens (2019, 2024) uses *receptive multilingualism* to describe the communicative strategy of receptively bilinguals' tolerance for variation and willingness to identify inter-lingual correspondences in contact with speakers of a mutually intelligible language while keeping to their own language in production. However, unlike Braunmüller, Gooskens (2019, 2024, p. 213) distinguishes between the strategies of receptive multilingualism and speakers' tendency to productively accommodate (Giles & Ogay, 2007) to enable communication. See ten Thije (2018) for discussion of terminology and conceptual comparisons in the field of receptive multilingualism and mutual intelligibility.

languages (Gooskens, 2019, 2024) discusses the communicative strategies described as nearer the *prototypical semi-communication* side of Braunmüller's (2002a, p. 9) scale in terms of *receptive multilingualism* but asserts that "[a] level of mutual intelligibility sufficient for successful communication does not automatically imply that speakers of the involved languages actually engage in receptive multilingualism" (Gooskens, 2024, p. 214).¹⁹ Indeed, as laid out above, whether speakers engage in this communication mode or employ L2 learning to become productively somewhat proficient bilinguals who can then code-switch or code-shift depends on a range of linguistic, sociolinguistic as well as extralinguistic factors of which the degree of mutual intelligibility is only one (Trudgill, 1986, p. 21–23; cf. Gooskens, 2024). In reference to Trudgill (1986, p. 20–23), Gooskens (2024, p. 200) also relates her results to the diachronic processes of levelling and language shift through accommodation between mutually intelligible languages in contact. Conceptually, this still means that more balanced individual bilingualism might be the exception rather than the norm in prolonged and intense contact situations between closely related and mutually intelligible languages, depending on whether the communicative and sociolinguistic needs of the speaker communities can be met without it (Braunmüller, 2002a; cf. Gooskens, 2019, 2024). This is especially likely considering Gooskens' (2024) results on the impact of length and intensity of exposure to a code as increasing mutual intelligibility between the codes.

Following Weinreich (1953, p. 56, 92), Trudgill (1986, p. 1), Winford (2010) and research on modern contact between dialects and closely related languages (Braunmüller, 2002a, 2006, 2009; Kühl & Braunmüller, 2014; *inter alia*), the present work assumes that linguistic transfer is not limited to bilinguals who show an adequate productive proficiency in both codes and consequently that it is also achieved by monolinguals, or rather *receptively bilingual* speakers, in mutually intelligible language contact via the processes of *ad hoc* accommodation, like levelling and simplification (Trudgill, 1986), and RL agentive copying (van Coetsem, 2000). In line with Kühl and Braunmüller's (2014, p. 30) assertion that semi-communication via receptive bilingualism and accommodation is available to speakers in such contact situations, it follows that speakers' need to

¹⁹ Gooskens (2024, p. 221) asserts that psycholinguistic research on the receptively multilingual processing of mutually intelligible languages is lacking (cf. Declerck & Philipp, 2015). Consequently, research on how speakers' comprehensive processing of a language that is somewhat mutually intelligible with their L1 may effect linguistic transfer between these languages during contact also lags far behind the recently advancing study of the effects of language contact typically involving productively bilingual individuals (e.g., Myers-Scotton, 2002; Percillier et al., 2024).

permanently accommodate, i.e., code-mix or even code shift, is low (cf. Braunmüller, 2002a). Moreover, in such situations, as Section 5 will exemplify for the longest phases of the Anglo-Scandinavian contact, individual L2 learning is not strictly necessary and receptively bilingual but productively monolingual speakers of mutually intelligible languages are the main drivers of RL agentive copying.²⁰

To summarise, this work follows van Coetsem's (2000) model of language agentivity in contact, to capture the psycholinguistic realities of speakers. Van Coetsem's assertions about the interaction of dominance and stability in language contact is combined with Gooskens (2019, 2024) and Braunmüller's (2002a, 2009) notions on the varying need for speakers to accommodate in contact situations involving mutually intelligible languages and the processes they may employ for this purpose (Braunmüller, 2002a, 2009; see also Trudgill, 1986). Together I use these insights to describe the need for and status of bilingualism for individual speakers in a contact situation precisely. Johanson's Code-copying Framework (1999, 2002, 2008a, b) serves as the basis for describing the processes of copying and integration of linguistic units and to capture the socio-linguistic dominance relation between speaker groups. I draw on van Coetsem's conceptualisation of stability of languages in contact to contextualise Johanson's assertions on linguistic closeness between the languages in contact as facilitating certain kinds of code-copying.

Finally, all of the factors discussed in this section of course also interact to determine the diachronic, long-term outcome of language contact. Possible outcome scenarios range from situations of language genesis through contact, e.g., *creolisation*, to situations of language death through contact, e.g., shift to another language and the resulting catastrophic disruption of language transmission through the generations. Specifically in contact between related and mutually intelligible languages, *koinéisation*, the genesis of a mixed or convergent intermediate language as a *lingua franca*, has been proposed (Kerswill, 2002; Trudgill, 1986;). Depending on the realities of individual contact situations, an unknown number of intermediate outcome scenarios is possible, which shall not be reviewed here.

As evident from this non-exhaustive list of possible scenarios, the outcomes of language contact have long been framed with a focus on change. The flipside of this coin

²⁰ This of course does not exclude the possibility of individual more or less balanced bilinguals existing and actively employing both SL and RL agentive copying, depending on their individual psycholinguistic dominance in these languages. Their numbers are simply proposed to be far less in such contacts and most likely too small to result in the conventionalisation of their innovations.

is the traditional historical linguists' definition of *diachronic stability* as the absence of change (Backus, 2004, p. 180; cf. Köhl & Braunmüller, 2014). As Stein et al. (2019, p. 216f.) point out in their review, stability in language change under the contact hypothesis may more usefully be defined following Heine and Kuteva (2005) and Parkvall (2008) as a predictive measure of "the likelihood for a feature to be transferred from one language to another" (Stein et al., 2019, p. 116). While differing in approaches, Parkvall's (2008) general typological assessment of stability is partly in line with van Coetsem's (2000) definition of inherent stability of a language's structures. However, as van Coetsem (2000, p. 119, 122f.) makes clear, his overall notion of stability in contact is idiosyncratic to each language contact situation. Both notions of stability are useful and necessary in the present investigation of code-copying of lexical verbs and their argument structure during the Anglo-Scandinavian contact situation.

3.3 Integrational adaptation of copies

As asserted above, copied linguistic units must necessarily be integrated into the copying language's linguistic subsystems to become functioning elements in it (Eisenberg, 2001, 2011; Johanson, 1999, 2002; Poplack, Sankoff & Miller, 1988). Such integrational processes often involve adaptation of the copied element's model code properties to the set of available native properties of the respective basic code subsystem (Johanson, 2002, p. 296f.). Consequently, selective, mixed, and even global copies are never identical to their originals in the model code (Johanson, 1999, p.41, 2002, p. 296). Initial adaptations are made at the time of insertion by the individual speaker copying a word from a model to a basic code (Johanson, 1999, p. 47, 2002, p. 295ff., 298ff.; cf. Poplack, 2018) to satisfy the necessary grammatical parameters of the basic code (Johanson, 2002, p. 295f.; cf. Eisenberg, 2001, 2011) and "limit[s] structural conflicts between the codes" (Johanson, 2002, p. 296). Other adaptations concerning the material, semantic, combinational and frequential properties of the copy, like restructuring of copied elements or substitution by basic code elements, are structurally motivated by whether the copied model code properties in question are perceived as possible in the basic code system or not (Johanson, 2002, p. 296f.). For example, copied material forms including phones or prosodic and syllabic patterns that are not part of the repertoire of the basic code may be adapted to the articulatorily most similar existing basic code phoneme or allowed prosodic or syllabic pattern so that it conforms to the basic code's phonological processes and rules.

Similar processes of adaption to the basic code systems will affect the morphological and morphosyntactic properties of copied units.

Adaptation processes can affect all properties of a linguistic units or only select properties. How extensive the adaptation of an individual copy is and which of the properties of the copy are affected, depends among other things on the linguistic closeness between the languages in contact regarding the linguistic units and structures at the *equivalence position* at which the copy is inserted, and the type of copy made (cf. Johanson, 2002). Adaptation to the basic code thus exists on a spectrum of more and less integrated copies (Johanson, 2002, p. 296, 298). The degree of adaptation may increase over time as a copy is nativized, albeit this is not always necessary (Johanson, 2002, p. 297, 298f.). As the focus of the present work is the structural integration of verb copies and their argument structure, this section lays out how the integration of verb copies specifically affects their combinational properties in the basic code. The integrational adaptation of copies on the levels of morphosyntax and argument structure takes precedence in this overview over their material, semantic and frequential adaptation.

3.3.1 Morphosyntactic integration

Copies of morphosyntactically complex argument-taking linguistic units, like lexical verbs, need to assume grammatical morphology functionally consistent with the basic code for them to function as predicators (Johanson, 2002, p. 295ff.). This includes two aspects: first, the word-internal material and combinational properties for the expression of the basic code's functional categories of the verb, like TAM (tense, aspect, mood) marking and agreement, and second, the word-external combinational patterns of argument expression (cf. Johanson, 2002, p. 292, 295f.). For a lexical verb like Norse-derived ME *skerren* 'scare' the former entails the conjugation of this verb in the weak inflectional paradigm of the basic code and entering the basic code's periphrastic verb constructions for tense, aspect, voice and mood expression as well as combining with basic code person and number inflectional affixes in subject-agreement. The latter involves the association of ME *skerren* with the [subject(nominative)-STIMULUS; direct object(objective)-EXPERIENCER] pattern of *amuse*-type psych verbs in ME (Contribution D).

However, most models of borrowability (e.g., Matras, 2009; Thomason & Kaufman, 1988) focus on the formal and semantic implications of the integration of lexical copies over the structural implications of the integration of more complex lexical categories like verbs (Contribution E, p. 3). Still, a categorical distinction between lexical and structural copying is implicit in these works (Trips, 2020a, p. 412). Winford provides his

reasoning for the decreased borrowability of verbs and presents the predicating properties and morphosyntactic complexity of verbs as constraints on their lexical copying (Winford, 2003, p. 51ff). Matras also refers to this morphosyntactic complexity as making the adaptation and accommodation of verb copies "more cumbersome" (Matras, 2009, p. 175). A typology of the morphosyntactic accommodation of verbs focussing on this exactly has been proposed by Wohlgemuth (2009).²¹ Following his assessment, verb accommodation may be achieved by *direct insertion* of the copied verb into the basic code verb morphosyntax or by using word formation devices like verbalising affixation in *indirect insertion*, or a *light verb strategy* (Wohlgemuth, 2009, p. 87, 94, 102). The verb may also be copied including its model code inflectional paradigm and continue carrying them in the basic code in *paradigm insertion* (Wohlgemuth, 2009, p. 118f.). Following Wohlgemuth's (2009) seminal typological work, the choice of adaption strategy of verb copies for integration into the basic code in a specific contact situation is not taken to be discrete and to depend on a range of factors. Wohlgemuth (2009) discusses the impact of the semantic and cognitive properties of the lexical category of verbs, the verb-morphological and some typological properties of the basic code as well as the extra-linguistic and socio-linguistic factors of contact on the use of these strategies. Overall, Wohlgemuth identifies direct insertion as the most frequent strategy cross-linguistically (Wohlgemuth, 2009, p. 87ff., 291; Contribution E, p. 3) and as requiring the least integrational effort from speakers. On this basis, Wohlgemuth (2009, p. 285) also suggests an overall hierarchy of these strategies with the light verb strategy requiring most integrational effort, followed by indirect insertion, direct insertion and, under a range of conditions, by paradigm insertion. Another relevant concrete result of Wohlgemuth's work is his assessment of direct insertion as the most prominent strategy of loan verb accommodation into English in the Anglo-Scandinavian contact (Wohlgemuth, 2009, p. 338).

Recent research has shown that the morphosyntactic adaptation of verb copies, especially concerning the morphological marking of grammatical usage categories, appears as diachronically gradual in a speaker community (cf. Shaw, 2022; Contribution E).

²¹ Wohlgemuth's use of the term *accommodation* describes the integrational morphosyntactic adaptation of copied verbs that enables these lexical units to function as predicates in the basic code's grammatical system. Thus, it contrasts with Trudgill's (1986, 2011) and Braunmüller's (2002, 2009) sociolinguistic uses of this terminology of accommodation theory (Giles et al., 1973, *inter alia*) and the linguistic processes of *adaptation*, *levelling* and *simplification* associated with their definition(s). This section of the present text and Contribution E use Wohlgemuth's terminology in describing the morphosyntactic integration and adaptation of loan verbs, while elsewhere accommodation is defined as a sociolinguistic tendency in (dialect) contact.

Consequently, copied verbs may show effects of post-integrational bias towards less complex forms and structures before being integrated and conventionalised well enough to behave like native elements would (Shaw, 2022; see also De Smet & Shaw, 2024; Shaw & De Smet, 2022; Contribution E). This is not unexpected if we carefully distinguish between these effects of integration and adaptation on the level of the individual speaker and the psycho-linguistic and socio-linguistic processes of habituation and conventionalisation of a copy and its adapted properties across a speaker community (cf. Johanson, 2002, p. 300).

3.3.2 Argument structural integration

Turning to the argument structural integration of lexical verb copies, we can note that it has not yet been systematically investigated cross-linguistically. However, recent research in the fields of contact linguistics and historical linguistics alike has made advances in this area. As the contact situation investigated in the present research programme concerns the historical contact between two closely related languages, insights from both fields and their intersections are highly relevant.

Current contact linguistic studies on loan verb integration and argument structure copying have concerned themselves with the structural integration of copied verbs into Modern German (Eisenberg, 2001, 2011; Holler, 2015; Holler & Scherer, 2010; Wolff, 2009), Middle and Modern Icelandic (Barðdal, 1999a, b, 2001) and the argument structural outcomes of code-copying between Old French and Middle English (Percillier et al., 2024; Trips, 2020a, b; Trips & Stein, 2019). These works bring evidence from the argument structural integration of verbs into different basic codes and via various contact situations to Eisenberg's (2001, 2011) conclusion that the integration of copies is symmetrical (Holler, 2015, p. 400). Symmetry in the integrational process describes the way that a copied unit is somewhat adapted to the properties of the basic code upon integration, but also vice versa that the model code properties of the copied unit influence the basic code's properties at the point in the system at which it is integrated, forming a functional subsystem in the basic code (Eisenberg, 2001, 2011). Holler (2015, p. 412) terms the outcome of this symmetrical adaptation of copies' argument structure to the patterns of the basic code and the changes in the basic code patterns on the model of copied verbs' combinational properties as cases of *partial integration* of copied verbs' argument structure. She proposes that it is the main scenario of integration for Modern German loan verbs rather than *full isolation* (i.e., the global copying of model code argument structure with the lexical verb) or *full integration* (i.e., assignment of argument structure to the copy fully in line with the basic code's linking

rules and argument structure patterns) (Holler, 2015, p. 412; cf. Holler & Scherer, 2010). Wolff's (2009) thesis on the argument structural integration of another sample of loan verbs in Modern German yields similar results and discusses several material and semantic factors which influence the assignment of argument structure via analogy between the copied verb and a native verb (or verbs) in the basic code.²²

The research project *Borrowing of Argument Structure in Contact Situations* (BASICS) takes up Holler's (2015) concept of *integration conflicts* in its investigation of the argument structural outcomes of code-copying of between French and Middle English (Percillier et al., 2024).²³ The BASICS project follows Johanson's (2002) model of code-copying and Eisenberg's more detailed (2001, 2011) notion of integration. In line with this, they assume the possibility of both integrational adaptation of the copies to the basic code and of the restructuring of the basic code through the code-copying of verbs with their predicate-argument structure (Percillier et al., 2024; cf. Johanson, 2002, p. 301) in line with Eisenberg's symmetrical integration.

Percillier et al. (2024) also assume the integration of copies via speakers' subjective establishment of equivalences (or *congruencies* in Myers-Scotton's (2002) terms) between the model code and basic code units, as laid out conceptually in Section 3 above. Such equivalence may be established by bilingual speakers on the basis of semantic closeness of linguistic units (Trips, 2020a, p. 419; cf. Holler, 2015; Wolff, 2009). However, the BASICS project goes deeper than assessing equivalence by near-synonymy and comparing their integration by establishing and comparing case and thematic hierarchies. Percillier et al. (2024, ch. 5) adapt Myers-Scotton's (2002) *Abstract Level Model* to represent the details of speakers' establishment of equivalence and copying processes on the levels of lexical semantics and its mapping to morphosyntactic realisations through predicate-argument structure. They model equivalence as being dependent on congruency between units on at least one of the levels of the Abstract Level Model: lexical- conceptual structure, predicate-argument structure, or morphosyntactic realisation patterns (Percillier et al., 2024, p. 283).

²² While Wolff's (2009) Magister thesis pre-dates the publications of Holler and Scherer (2010) and Holler (2015), its idea and approach are based on a conference presentation of the preliminary results of Holler and Scherer's (2010) study and aimed to replicate and test their results on a different sample of loan verbs in Modern German.

²³ See section 3.4 for definition and details on the concept of *integration conflict*. The BASICS project was funded from 2015 to 2022 by the *Deutsche Forschungsgemeinschaft* (DFG), see <https://gepris.dfg.de/gepris/projekt/265711632?language=en>. The author of the present work was briefly employed as a student assistant in this project and her thesis (Master of Arts) was written in affiliation with this project (Elter, 2020).

The integration of copies and any resulting restructuring of associated units and patterns in the basic code are consequently taken to be determined by the match or mismatch of the model and basic code properties on these three levels of the copied linguistic unit and its basic code equivalents. Percillier et al. (2024) propose that verb copying is global, including predicate-argument structure. Further, they frame integrational effects leading to the restructuring of the basic code as convergences resulting from composite code-switching by bilinguals (Percillier et al., 2024, p. 283, 260; cf. Section 3.4). The current contact-linguistic research by Holler (2015) and especially Percillier et al. (2024) serves as the basis for modelling how speakers may establish equivalences between model and basic code units and to describe integrational matches and conflicts in loan verb integration for the present research programme.²⁴

The connecting piece between these models of verb integration from contact linguistic research (Holler, 2015; Percillier et al., 2024; Wolff, 2009) and the work on syntactic reconstruction of verb argument structure (Barðdal & Eythórsson, 2012, 2020) are the parallels between the strategies proposed for the assignment of argument structure to new verbs by researchers of both endeavours. From Holler's (2015) and Wolff's (2009) discussions, a set of generalised strategies of assigning argument structure to copied verbs can be abstracted that is somewhat parallel to the set of four strategies proposed as the synthesis of Barðdal's work (1999a, 2001, 2008, 2012) in Barðdal and Eythórsson (2020, p. 216).²⁵ These four strategies proposed for the assignment of argument structure to new

²⁴ Percillier et al.'s (2024) application of Myers-Scotton's (2002) model of bilingual processing and production requires the assumption of productively bilingual individual speakers as the agents of code-copying (albeit of varying psycholinguistic dominance (cf. van Coetsem, 2002). Due to the linguistic and extra-linguistic properties of the language contact situation investigated in the present work (cf. Section 5), this same assumption cannot be made for the first three phases of the Anglo-Scandinavian contact and only to a limited degree for the fourth "shift" phase (cf. Section 5.1 for definition). Consequently, the present work does not attempt to model lexical copying as code-switching made by bilinguals with a high degree of conceptual access to the L2 so that it could function as the *matrix language* (Myers-Scotton, 2002; *inter alia*). The present work contents itself with asserting that the linguistic closeness between the languages in contact would have enabled **productively monolingual but receptively bilingual** speakers in mutually intelligible communication to identify material, conceptual and structural parallels between the languages. As suggested in Section 3.2 above, I propose that this enabled code-copying of the *insertion* type, but possibly also evolving into the *congruent lexicalisation* type (Muysken, 2000, p. 10). Congruent lexicalisation might have been available during the most intense and prolonged phases of contact as result of speakers' established awareness of the extensive equivalences between the codes. I investigate the argument structural integration of verb copies by qualitative assessment of the most likely strategy of argument structure assignment as they would have been available to these speakers.

²⁵ The author notes that these researchers differ fundamentally in their theoretical approaches to syntax and argument structure. While the issue of constructivist versus generative syntax is highly relevant to the conceptualisation of argument structure, this work will not subscribe to a specific view at this point. What is shared by these approaches despite their opposing theoretical views are indeed the proposed possible sources

verbs in a language serve to model the argument structural integration of verb copies in the present work. As these strategies stem from both contact linguistic research (Barðdal, 1999a, b; Holler, 2015; Percillier et al., 2024) and historical comparative and reconstructivist work (Barðdal & Eythórsson, 2012, 2020), they are not being proposed as specific to copied verbs, but as pathways for the assignment of argument structure to any new verb in a language, be it copied as a verb from another language or derived language-internally from a native or indeed copied root of a different lexical category. According to Barðdal and Eythórsson (2020, p. 216), argument structure can be assigned to new verbs in the basic code (i) *as copied from the model code along with the lexical verb*, (ii) *by default from the inventory of patterns of the basic code*, (iii) *by inheritance via the identification of the copied verb with a native cognate verb in the basic code*, (iv) *by analogy between a copied verb and native non-cognate synonymous verb(s) in the basic code*.

As I propose in Section 3.1, argument structure is part of a lexical verb's word-external combinational properties as determined by its semantic event structural properties. Consequently, argument structure that is copied with the lexical verb from the model code, i.e., strategy (i), can enter the basic code as part of a global copy of a lexical verb, or as a selective copy of a combinational pattern of valency and argument expression of a model code verb that is innovatively associated with a lexical verb in the basic code. Either type may also occur as part of a mixed copy of a larger linguistic unit (cf. Johanson, 1999, p. 45).

This set of strategies of course includes three pathways for the assignment of these combinational properties in the basic code via different kinds of equivalence relations to basic code units. These three strategies, namely (ii)–(iv), define what Johanson more generally calls restructuring of the copied linguistic unit by "substituting patterns of the model code for those of the basic code" (Johanson, 2002, p. 297) in the area of combinational properties of a copied lexical verb. While Johanson's Code-copying Framework of course focusses on defining the copying of a linguistic unit's properties, i.e., strategy (i), and generalises over strategies in which a property is not copied from the model code, the strategies collected in Barðdal and Eythórsson (2020, p. 216) aim to identify all possible sources of the combinational properties of a new verb from a perspective that is reconstructivist rather than contact-linguistic. Nevertheless, these approaches are highly compatible. Thus, their combination serves the present research programme well for the

of argument structures of new (copied) verbs both as assignable via various analogical connections drawn to the basic code and as copiable from the model code with the lexical verb or as abstract combinational patterns.

detailed modelling of verb copying and argument structure assignment, especially for verbal copies that may not be global.

Overall, the speaker's choice between the restructuring strategies (ii)–(iv) depends on a number of factors. For strategy (iii), assignment on the model of a native cognate, to be possible, three conditions need to be met. First, a native cognate of the copied verb must first exist in the basic code. Second, the existing cognate verb must be materially and semantically close enough to the copy to be identifiable as a fitting model for argument structure assignment by the speaker making the copy. And third, the existing and identifiable cognate also needs to be a lexical verb, i.e., even have argument structural properties, for argument structure to be assigned to a copy on its model.

Strategy (iv), assignment on the basis of analogy drawn between the copy and one or multiple native non-cognate synonymous verb(s) in the basic code, depends on the semantic properties of the copied verb and the existence of one or more native near-synonymous verbs. In the absence of material cues for a cognacy relation, speakers are likely to associate a new verb with a native translation equivalent (cf. Hall et al., 2009). Depending on the denotational and connotational meaning of the copy and the lexical wealth of the lexical field it enters in the basic code, this native equivalent may be a single unit or a set of near-synonyms. This strategy is not available for copies filling a *bonafide* lexical-conceptual gap in the basic code lexicon.

For these verbs strategy (ii), assignment of the basic code's default pattern of argument realisation, may indeed be the most useful strategy of argument structure assignment. For such copies, neither a native cognate verb nor a lexical (non-phrasal, non-periphrastic) translation equivalent would exist as a possible native model for their argument structure. If the argument structure pattern of the model code is too incompatible with the grammatical and morphosyntactic system of the basic code to be copied globally with the verb, default assignment in the basic code will take effect. One may assume this strategy to be the **failsafe-strategy** of integrational restructuring of verbs' combinational properties. Still, following from the theory of argument structure laid out in Section 2, I argue that the default argument structure assigned in such cases will still partly depend on more abstract parallels of valency and thematic roles of arguments in the event structure to be drawn between the semantic properties of the copied verb and those of native verbs with similar thematic relations and valency. Consequently, strategies (ii)–(iv) overlap partially in which material and semantic cues and analogies speaker's may exploit during verb copying. Their differentiation is nevertheless useful because it reflects the differences in

existence and accessibility of these cues and models for analogy to individual lexical verbs that speakers encounter during copying.

3.3.3 Investigating loan verb integration at the interface of historical language contact and syntactic reconstruction

However, it is somewhat opaque to historical language contact studies how exactly speakers choose their model for substitution of argument structural properties from the model code in the integrational restructuring of verb copies' argument structure in cases in which it is not copied. Determining which strategy is most likely employed in historical cases of code-copying can only take us as far as the empirically viable application of the comparative method can. In the study of historical contact situations, answering these questions may soon have the researcher entering the field of syntactic reconstruction. Assessing how much of material and structure is shared as potential equivalences between the languages in contact and how much restructuring is even necessary to integrate copied verbs' argument structure is made difficult by the poverty of extant written records of both the model and basic codes before they come into language contact.²⁶

Whether the reconstruction of syntactic units using the comparative method is a valid undertaking is widely debated (Watkins, 1964, 1976; Lightfoot, 2002a, b; Harris, 2008; Barðdal & Eythórsson, 2012, 2020; Walkden, 2013; Barðdal, 2013; *inter alia*). Overall, the phylogenetic signal in syntax has been shown to be weak (Hartmann & Walkden, 2024). Because the present work does not take a phylogenetic or reconstructive perspective on morphosyntax and argument structure, I will call to mind only the most overarching issue of this field, the *correspondence problem* (Lightfoot, 2002a, p. 119, 2002b, p. 625, 2006, p. 167–179).²⁷ It challenges the claim that correspondence sets can be constructed for syntax just as they can be for phonology. Walkden (2013) asserts that, when comparing linguistic units for the purpose of reconstructing a possibly shared ancestral state, the comparative method stipulates that cognacy of the context in which these linguistic units occur must be ensured. This is termed the *Double Cognacy Condition* (Walkden, 2013, p. 101). The context of syntactic structures to be established as a correspondence set for comparison is the sentence. Under the consensus that sentences are neither stored as units in speakers' mental language capacity nor transmitted vertically across generations like lexical units are, proposing cognacy of sentences, in the traditional

²⁶ See Section 6.2 for discussion of data poverty in the present research.

²⁷ See Walkden (2013, p. 101) for references to earlier statements of this issue.

sense of cognacy (Trask, 1996, p. 78), is not possible (cf. Walkden, 2013, p. 103ff.). In summary, establishing differences and equivalences between the argument structures of the model and basic codes for the purpose of investigating the argument structural integration of verb copies requires us to assert at least a direct synchronic comparability of morphosyntax and argument structures between the language systems via our choice of data and operationalisation (cf. Sections 6.1 & 6.2). Where the investigation of historical language contact enters the reconstructivists realm, one must be extremely careful in establishing correspondences between the codes in contact for the study of structural integration of copies. Barðdal and Eythórsson's (2012, 2020) work does this in a way that is appropriate for the present research programme and the following Sections 4 and 5.4 expand on how this is achieved in the present investigation of the Anglo-Scandinavian contact.

Moreover, in the investigation of historical language contact between closely related languages the direct comparative investigation of copies' structural integration using historical text sources synchronous or temporally adjacent to the language contact is soon complicated by the wealth of structures and patterns shared by the languages. What the exact extent and origin of this overlap is, is not easily answered, as the establishment of cognacy of structures is validly restricted by the correspondence problem.

Consequently, identifying the source of argument structure assignment of a new verb copied as the result of historical language contact between related languages necessitates careful consideration of two perspectives under consideration of the Double Cognacy Condition: First, systematic and careful comparison of copy's argument structure to that of the model code linguistic unit being copied and the argument structure(s) of native equivalent verbs in the basic code. Second, the careful typological and possibly genealogical assessment of how much of the argument structural inventory of the languages in contact is shared even before the time of contact and which patterns indeed diverge and contrast.

In light of the strict methodological requirement of correspondence and cognacy in the investigation of historical code-copying, we might still summarise the following: strategy (i) should be possible wherever the model code argument structure is not in such a conflict with the morphosyntactic system of the basic code that its copying would result in ungrammatical structures in the basic code. Employment of strategies (iii) and (iv) can only be differentiated by the (non-)existence of native cognate verbs and their formal and functional identifiability in the basic code. The hypothesis that assignment of argument

structure from a native cognate verb (iv) might be preferred over assignment from a non-cognate synonymous verb (iii) is founded in the assumption that a cognate would be the linguistic unit that shows the highest degree of similarity to the copied element, both formally and semantically. If this holds true may only be investigated for a copy entering a verb class that shows both kinds of lexical verbs in the basic code. Strategy (ii) may be the failsafe strategy of assignment where no basic code equivalent can be identified by speakers and where the argument structure of the model code unit and the possible structures of the basic code are in conflict. If this conflict excludes the copying of the model code argument structure as being ungrammatical in the basic code and no native basic code equivalent is available as a model, the basic code's default pattern can be assigned.

3.4 Code-copying as a source of argument structural change

All of the strategies presented above for the morphosyntactic and argument structural integration of verb copies reflect speakers' processes at the friction point between innovative and effective language use in contact situations and the avoidance or indeed resolution of arising conflicts between innovative units and the parameters and restrictions of the linguistic code they are using them in. But what are such argument structural conflicts arising in the integration of copied verbs and how are they resolved?

Holler (2015, p. 401) follows Eisenberg (2001, 2011) in identifying "problems" or integration conflicts in verb integration regarding the grammatical regularities of the model and basic code. She identifies these conflicts wherever copied verbs do not behave like equivalent native verbs in their realisation of the argument structure, i.e., they do not seem to follow the linking rules of the basic code (cf. Holler, 2015, p. 412). Like Eisenberg (2001, 2011) Holler (2015) takes such differences in combinational behaviour of copied verbs as diagnostic of their degree of argument structural integration.²⁸ As Trips (2020a) already notes, Holler (cf. 2015, p. 412) goes only so far as to suggest that these integration conflicts may "be due to the provenance of the Model Code [...] but [...] does not further elaborate this point" (Trips 2020a, p. 418). Trips (2020a, p. 418) abstracts the hypothesis that integration conflicts may arise where model and basic codes structurally differ in their respective morphosyntactic marking of thematic relations from Holler (2015) and tests it

²⁸ The present approach takes such a measure of integratedness of argument structure regarding a verb's word-external combinational properties to be a reasonable parallel to the integrational morphosyntactic biases identified on the level of word-internal combinational properties by recent work on the morphosyntactic integration of loan verbs in ME (Shaw, 2022; Contribution E).

on the case of Old French psych verbs being integrated into Middle English. Trips indeed identifies an integration conflict manifested in these verb copies, as their marking of EXPERIENCERS by use of *prepositional dative* in the ME basic code is not a language internal development in Middle English (Trips 2020a, p. 420f.). Trips (2020a) finds that this pattern does not occur with native equivalent verbs previous to contact but that it becomes established with copied verbs in ME and even extends to native verbs at least transiently as a short-term effect of code-copying. Like the earlier results of the BASICS project (Trips & Stein, 2019, Trips, 2020a), Percillier et al. (2024) reveal that copied verbs indeed show integrational effects on the basic code's morphosyntax that go beyond their individual lexical predicate-argument structure. Percillier et al. (2024) argue that, depending on the sociolinguistic dynamics of the contact and the psycholinguistic realities of speakers, linguistic copying of verb argument structure effects changes in the more abstract structural properties of the basic code on the levels of predicate-argument structure and morphosyntactic realisation. As laid out above (cf. Section 3.3.2, footnote 24), they analyse these changes as the outcomes of composite code-switching (cf. Myers-Scotton, 2002), which occurs in the global copying of lexical verbs and through the selective copying of combinational patterns of predicate-argument structure by bilingual speakers (cf. Percillier et al., 2024, p. 283, 260). The present work takes up their approach to the analysis of integration conflicts in predicate-argument structure and applies this line of inquiry to a historical contact situation previously not investigated from this perspective.

In line with Percillier et al. (2024), I propose that the copying of linguistic units as the outcome of language contact can result in effects on the linguistic system of the basic code that reach beyond the unit itself if the psycholinguistic and typological realities of the contact situation allow for code-development via copying (cf. Johanson, 2002, p. 301). Such effects come about as the individual and cumulative results of the integration of copied units and their argument structural properties into all subsystems of the language they affect. For lexical verbs, their integration of course affects the lexical-semantic structures of the lexical items, but also the morphosyntactic realisation patterns and the linking rules of predicate-argument structure mapping one onto the other. As Percillier et al. (2024) have shown, the code-copying of lexical verbs can result in the restructuring of the basic code's available patterns of morphosyntactic realisation for the predicate-argument structure they lexicalise. This restructuring may lead to innovation or reinterpretation of the basic code's overall patterns of realisation of the predicate-argument structure on the model of the word-external combinational properties copied from the

model code as part of the global copying of lexical units (Percillier et al., 2024). Such types of code-copying are taken to be one of the possible initiation points of contact-induced structural change.

In summary, the argument structural integration of copied verbs may manifest itself in multiple ways. One of these cases is integration conflict, where the word-external combinational properties of the copy differ from what may be expected for a native equivalent verb in the basic code.²⁹

Integration conflicts are a possible source of innovation in the basic code both regarding the properties of the copied units in the basic code, but also beyond. However, as Holler (2015) proposes and Percillier et al. (2024) show for the French-Middle English contact, the argument structural subsystems established by verb copies may also partially follow common pathways of language internal change (Holler, 2015, p. 410f.) and sometimes seem to catalyse changes that are already underway language-internally prior to language contact (cf. Percillier et al., 2024, p. 232, 241).

For the present research programme, these results seem to stipulate that copying of argument structure with the lexical verb (strategy (i) as proposed in Section 3.3.2 above) may only be proposed as the active strategy if an integration conflict of the following nature becomes apparent in the data: The Norse-derived verb realises at least one morphosyntactic pattern of argument structure in the ME basic code that is previously unattested for its native cognate or non-cognate synonymous verbs in the basic code but which is attested for the ON etymon in the model code. Any such findings must additionally be appraised with Heine's (2009) diagnostics of contact-induced syntactic change in mind, especially as regards the genetic and typological relationship between the languages and properties in question (especially diagnostics D2 & D3). As Trips asserts for argument structure patterns of the copied verb matching between the model and basic code systems, "[i]t is not clear whether the [...] structures were copied as a foreign structure or whether the verb [...] was integrated into [...] structure of the native system" (Trips, 2020a, p. 421). Only the fact that they do not produce a conflict at the level of syntax can be documented. Section 5.4 and

²⁹ Framed in the three scenarios of full isolation, full integration, and partial integration as proposed by Holler (2015) both full isolation and partial integration can result in *integration conflict* patterns in the basic code. I take integration conflicts in a scenario of materially and structurally visibly foreign, full isolation of a copy in the basic code to be unlikely. Following both Eisenberg (2011) and Johanson (2002) in the assertion that all copies will be adapted to the basic code as necessitated by its subsystem properties, such a scenario of full isolation would imply that the combinational properties of the copy are not adapted to the basic code in any way. This would be most likely in a case where model and basic code properties are adequately congruent or even match and would therefore not represent an overt integration conflict scenario.

the discussion in Section 8 will expand on the special status of pattern matches in the present research programme.

4 Implications regarding the investigation of argument structural effects of verb copying

As a result of the considerations laid out above, a multi-layered approach to the investigation of argument structural integration of copied verbs is adopted. In this, the present work follows the approach of Percillier et al. (2024) and concurs with their assertion that lexical and structural borrowing should not be considered separately or indeed as opposites (Percillier et al., 2024, p. 2). Especially when investigating lexical verbs entering a language via contact, we must consider both the lexical and the structural outcomes of their copying. In their role as argument-taking lexical items, verbs carry semantic properties which define the structure of a sentence (cf. Section 2). Consequently, when lexical verbs are copied, we should not be surprised to find that they are not copied simply as pairings of lexical meaning and material form but as complex units also including the word-external combinational properties of predicate-argument structure. As Sections 3.3 and 3.4 have laid out, copying of lexical verbs between languages may affect the grammar of the basic code (Johanson, 1999, p. 44–45; Percillier et al., 2024). Moreover, the selective or mixed copying of argument structures as combinational patterns may change the overall set of syntactic constructions commonly realising verb argument structure in the basic code and possibly any occurring alternations between them.

Overall, the present collection expands our understanding of lexical copying of verbs in the Anglo-Scandinavian contact situation. To examine the argument structural integration of Norse-derived verbs in medieval English as comprehensively as possible, the perspective on argument structure will increase in abstraction throughout the research presented below from the investigation of individual lemmas in item-oriented studies of verb integration to the investigation of their semantic verb classes and finally to syntactic constructions and alternations the copied verbs realise in the basic code, as visualised in Figure 1. In this, I partly follow the approach established by Percillier et al. (cf. Percillier et al., 2024, p. 4).

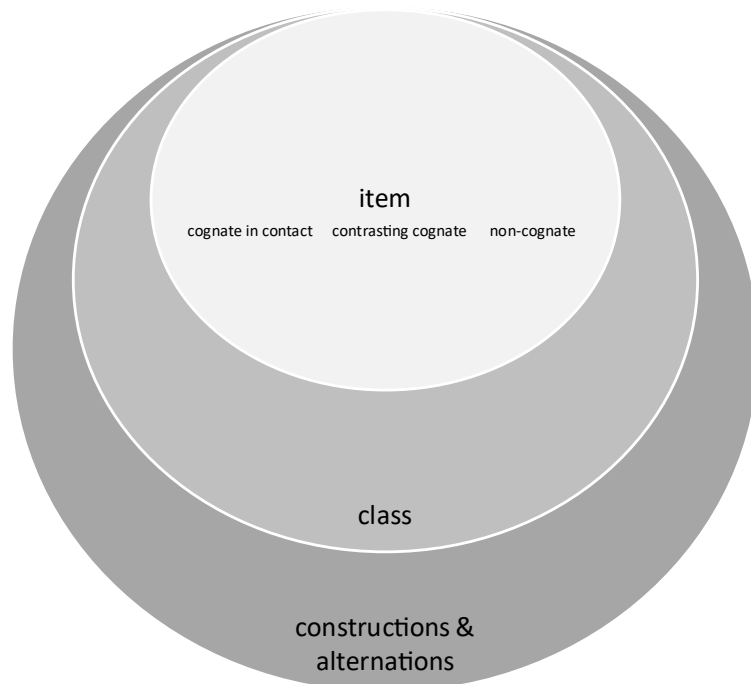


Figure 1: Levels of abstraction of the perspective on predicate-argument structure of Norse-derived verbs focussed in the present collection. See Section 6.1 for expansion and Section 8 for mapping of individual contributions in this context.

While exploring the lexicographic resources and the item-oriented data, some ME verb classes prominently showed expansion by multiple Norse-derived copies. These verb classes are especially interesting regarding the possible cumulative effects of verb copying on argument structure. Additionally, some developing basic code constructions and alternations prominently co-occurred with multiple Norse-derived verbs. For these constructions and alternations, one may ask the question whether their development is influenced by contact with Old Norse. The verb class-oriented and the construction- and alternation-oriented studies motivated by these early findings widen the perspective on the argument structural effects of language contact from the integrational outcomes of individually copied lemmas in different cognacy status groups to how the English system of morphosyntactic realisation of verb argument structure is affected by these lexical copies. A brief overview of the items, classes and phenomena under scrutiny is given here:

- **Labilisation of *-ja*-causative verbs:** A number of verbs originally derived from a strong unaccusative base verb by *-ja*-causativisation in early Germanic show varying degrees of cognate influence from ON or copying of a Norse-derived

cognate lexeme (e.g., PDE *raise*, *bait*, *burn*, *run*). Prominently, causative verbs of this and other derivations have been argued to increasingly labilise in ME (Visser, 1966, §132; cf. McMillion, 2006; van Gelderen, 2011, 2018). Two item-oriented studies (Contribution A and Contribution D's case study on ME *brennen*) in this collection investigate whether the closeness and (non-)identifiability of the cognacy relations between the Norse-derived *-ja*-causative verbs ME *reisen* and ME *brennen* and their native cognate verbs influence whether these verbs alternate in the *Causative Alternation* in ME. The results motivated an exploratory class- and alternation-oriented study on a larger set *-ja*-derived verbs which resulted in a conference paper delivered at the 26th *International Conference on Historical Linguistics* (Elter, 2023b, September 7). It assesses whether contact with ON cognate verb sets has influenced the labilisation (*burn*, *run*) or indeed resistance to labilisation (*raise*, *bait*) of the *-ja*-causativised verbs in ME. This study did not yield conclusive results regarding contact-effects on the labilisation of *-ja*-causatives.

- **dub verbs:** Verbs of naming like *call* and *name* lexicalise resultative change of state constructions with a subordinated state predication e.g., *She named her cat Paula* (cf. Sánchez Sánchez, 2023, p.12; see also Matushansky, 2008). However, if and how the REFERENCE role, as an argument of this result state predication, is overtly realised varies both in OE and ON. While both codes allow dative REFERENCE cognate objects, they vary in the case assignment for the predicative naming relation and in the availability of oblique patterns of secondary predication in line with the systematic divergences between the codes. Contribution B traces the diachronic development of the argument structure of this class and illustrates whether the cognate patterns in contact diverge or stay stable in ME following the copying of Norse-derived cognate and non-cognate verbs like ME *nevenen* and *callen*.
- **prepare verbs:** These lexical verbs in ME are a semantically defined subclass of *verbs of preparation and creation* (cf. Levin, 1993). They lexicalise resultative (caused) change of state events and show lexical expansion by a number of Norse-derived copies (*busk* v.1, *boun*) and influence between a number of contrasting and non-contrasting cognate pairs in ME. As Contribution C shows, the verbs of this class participate in a number of constructions and alternations in ME due to derivationally unmarked transformations in their lexical-conceptual structures. Among them are labile behaviour in the *Causative Alternation* and participation of some verbs in the early forms of the *Benefactive Alternation*. One must ask whether the developments in the alternation behaviour of this class correlate with code-copying of verbs from Old Norse.
- **Reflexive constructions:** While Old Norse and Old English can both express reflexive meanings in intransitive constructions, ON regularly marks such reflexives inflectionally with *-sk*; OE does not but can non-canonically omit its regular reflexivity-marking object pronoun for some verbs. Such OE verbs alternate in the *Understood Reflexive Object Alternation* (cf. Levin, 1993), which ON does not show. Concerning the copying of *-sk* reflexivised Old Norse verbs into ME (e.g., ME *busken* 'prepare'), Contribution C asks how speakers deal with the differences

in reflexivity marking between the languages in contact in the argument structural integration of reflexive verbs.

Moreover, the present approach investigates how cognacy of lexical units and their predicate-argument structure and possible cognacy of the morphosyntactic realisation patterns between the languages in contact impacts the structural outcomes of code-copying on these three granularity levels. This focus is necessitated by the unique genetic and typological closeness of the languages in contact, as Section 5.4 below will lay out. The factors of the contact situation also curtail how applicable Percillier et al.'s (2024) psycholinguistic modelling of copying of verb argument structure is in this investigation, as Sections 5.2 and 5.3 will make clear.

5 The Anglo-Scandinavian contact situation

To set the scene for a new application of the approach described above, the following section lays out the details of the Anglo-Scandinavian contact situation. Starting with the historical facts and linguistic properties of this contact situation, common hypotheses on the outcome of this contact and prior research on the Scandinavian element in English, specifically the lexicon, are briefly reviewed, as relevant to the present work.

5.1 The history of contact between English-speakers and speakers of Old Norse

Language contact between speakers of Old English and Old Norse can be said to have been ongoing between the late 8th and the first half of the 11th century. This contact situation cannot be investigated as monolith regarding its varying intensity, socio-economic dynamics, and geographic reach, but involved a range of contact scenarios conditioned by these extralinguistic as well as linguistic factors. For brevity's sake, the present work only sketches the general historical facts here. Following historical accounts of this contact situation (Keynes, 2001), Pons-Sanz proposes three phases of linguistic contact between Old English and Old Norse (Pons-Sanz, 2013, p. 6–7). First, a *hit-and-run phase* lasting from the late 8th century to the middle of the 9th century during which Viking raiding parties invaded the east coast of England. This resulted in brief but violent contact between speaker groups. During this initial phase language contact was most probably limited to a few northern and eastern coastal settlements affected by prior trade relations and later raids and did not spread beyond direct interactions (Pons-Sanz, 2013, p. 6; Townend, 2002, p. 31). Eventually, between 865 CE and 955 CE Scandinavian settlers arrived and stayed. During

this second *settlement phase*, the Scandinavian influence spread to occupy large parts of northern and eastern England, with Scandinavian settlers co-inhabiting in these areas with the original inhabitants, which were brought under Scandinavian rule in the Danelaw. However, territorial and dynastic conflicts resulted in a resurgence of raids. The third phase, also termed *conquest phase*, is defined by these raids, led by Sweyn Forkbeard, and the subsequent rule over England by his son Cnut (1016–1035 CE) and his descendants until 1042 CE (Pons-Sanz, 2013, p. 7; Walkden, in press, p. 19). During this third phase of Anglo-Scandinavian contact, ON speakers were not only found in the settled areas in the North and East, but also in the South-West Midlands and the South-East, in which the presence of ON speakers had previously been insignificant (Pons-Sanz, 2013, p. 7). Direct language contact as well as Danish claims to the English throne were **mostly** put an end to by the succession of Edward the Confessor (1042–1066 CE) by William I (the Conqueror) after the Norman Conquest in 1066 CE.³⁰ Walkden proposes to add a *shift phase* as the fourth phase of contact to Pons-Sanz's model to represent the time between 1042 CE up until the death of Old Norse as a spoken language in England (Walkden, in press, p. 20; see also Timofeeva, 2016, p. 87). However, the timeframe and geographic progression of this last phase is debatable (Thomason & Kaufman, 1988, p. 282; Townend, 2002, p. 204).³¹ Still, the fact that Old Norse in England did die out during the ME period is undisputed (Parsons, 2001; Walkden, in press, p. 20).³²

From the contact linguist's perspective, the extralinguistic development of the contact situation suggest that the socioeconomic and sociolinguistic dynamics between speakers of Old Norse and Old English varied over time and space (Pons-Sanz, 2013, p. 7). Townend (2002, p. 204) and, following him, Trudgill (2011, p. 52f.) among others (Hansen, 1984, p. 68, 78; Hock, 1986, p. 410–411) assert that Old Norse and Old English were mostly

³⁰ Research on the survival of Old Norse varieties in England (Parsons, 2001) suggests that direct language contact may have continued in some areas after the Norman Conquest, albeit to a much more limited extent. Especially notable in this discussion are the religious connections of the Cult of Cnut, e.g., between Evesham and Odense in Denmark (cf. Gazzoli, 2013, p. 72) which attest ongoing cultural and linguistic exchange at least until the end of the century, and post-Conquest runic inscription stones possibly evidencing new influx of Scandinavian from areas like the Isle of Man, "where the language persisted at least until the twelfth century" (Page, 1971, p. 174).

³¹ See for example Pons-Sanz' (2016, cf. 2013, p. 253–257) suggestion that the nature of the Norse-derived lexis in the Aldredian multiple glosses to the Lindisfarne Gospel from the mid-10th century "point towards the close interaction between speakers of Old English and Old Norse and, perhaps, towards language shift by Old Norse speakers, as these loans might be the result of imposition rather than borrowing" (Pons-Sanz, 2016, p. 207). Language shift might thus have occurred earlier in some areas than others. I thank Sara Pons-Sanz for her personal correspondence on these issues.

³² See Page (1971) for an overview discussion and Parsons (2001) for a more recent account of Old Norse language death in England.

equal in status.³³ Mapping this onto the four phases described above, such an adstratal status seems most likely during the settlement phase in areas of intense and prolonged contact. While Old Norse must surely have enjoyed considerable prestige during the conquest phase, it could only have had very little by the late stages of the shift phase (Walkden, *in press*, p. 20; cf. Dance, 2012, p. 1727; Miller, 2012, p. 97f.; Pons-Sanz, 2013, p. 274-276;). These changing dynamics influence how we might model the linguistic transfer in terms of SL or RL agentivity (see Section 3.2).

Furthermore, the mechanisms and effects of language contact also depend on linguistic factors. Matras (2009, p. 154, 175f.) proposes that the morphological complexity of the copyable categories influences contact outcomes and many argue that closeness between languages facilitates copying (Winford, 2003, p. 51ff.; cf. Johanson, 2002, p. 306; McMahon, 1994, p. 210). Most relevantly to the Anglo-Scandinavian contact, the linguistic closeness of the languages in contact co-determines how speakers handle communication across the linguistic divide and which types of linguistic transfer are available to them (Muysken, 2000; Trudgill, 1986). As Section 3.2 has laid out, copying of linguistic units can happen under SL or RL agentivity (van Coetsem, 2000). Which type might be arguably responsible for any specific copy depends among other things on the psycholinguistic dominance and bilingual proficiency of the speakers making the copies (van Coetsem, 2000; Winford, 2003). The degree to which individuals become bilingual and which communicative strategies they employ under language contact is influenced by the factors laid out in Section 3.2., linguistic closeness and mutual intelligibility between the languages among them. As Townend (2002, p. 181–185) convincingly argues, Old English and Old Norse were **adequately** mutually intelligible during contact.³⁴

This entails that speakers of both groups would have encountered communicative situations in which receptive multilingualism (cf. Gooskens, 2019, 2024) sufficed for successful basic interactions and individual second language learning was not strictly necessary.³⁵ The present work follows the detailed account of Townend (2002, p. 60, 189; 2006, p. 70) and agrees with Walkden (*in press*, p. 18, 21) among many others in

³³ See Thomason and Kaufman (1988, p. 303) and Lutz (2012, 2013) for an opposing view.

³⁴ Björkman (1900–02, p.8), among others, already comes to a similar conclusion, albeit phrasing it differently (Warner, 2017, p. 375f.). For supporting evidence on lexical closeness, see Keller (2020). See Sections 5.2 – 5.3 for discussion of what this entails regarding contact effects and outcomes.

³⁵ See Section 3.2 for discussion of this concept in language contact studies and footnote 18 for references to earlier terminology of semi-communication and what kinds of contact outcomes these modern situations actually entail (Haugen, 1966; see Braunmüller, 2002a for discussion).

concluding that a situation of societal bilingualism rather than widespread individual bilingualism for the Anglo-Scandinavian contact situation overall is suggested by this status of mutual intelligibility between OE and ON and by the results of modern research on similar contacts between closely related languages (Braunmüller, 2002a, 2009; Gooskens, 2007, 2024; Gooskens & Swarte, 2017, Gooskens et al., 2015; *inter alia*). The resultant communicative situation during the longest phases of Anglo-Scandinavian contact would have been one of receptive multilingualism (Gooskens, 2019; 2024) between extremely imbalanced, mostly receptively bilingual speakers (cf. Section 3.2 & footnote 10 above on speakers' degree of bilingualism as it relates to linguistic closeness of codes). This would have included speakers' usage of accommodation processes characteristic for somewhat proto-typical semi-communication (Haugen, 1966, Braunmüller, 2002a, p. 8ff.). Only the final shift phase "is likely to be characterized by second language learning" (Walkden, in press, p. 21) of English by ON speakers (see also Warner, 2017, p. 375, 377). Because the imperfect second language acquisition of adults is argued to be the locus of simplification and SL agentive copying (Warner, 2017, p. 372; cf. van Coetsem, 2000; Trudgill, 2011, ch. 2), imposition transfer to OE and simplifying restructuring of English as a result of adult bilingualism can only have occurred in this final phase. Consequently, the contact influences of the prolonged second and third phases of Anglo-Scandinavian contact are most likely characterised by RL agentive copying, i.e., borrowing (Trudgill, 2011; Walkden, in press, p. 21). Under the assumption that lexical copying is not restricted to highly proficient, productively bilingual individuals in such contact situations as laid out in Section 3.2 above, I argue in line with Townend (2002, p. 60, 183ff., 203) that receptively bilingual speakers of either language would have employed code-copying as part of the communicative strategy of a so-called *switching-code* during communication with speakers of a mutually intelligible language. The strategy of a switching-code includes code-copying as well various processes of face-to-face accommodation (Townend, 2002; cf. Trudgill, 1986, p. 20–23).³⁶ Townend (2002) describes this strategy as speakers' establishing and exploiting a set of inter-lingual material, lexical and structural correspondences to achieve communication, a strategy that he develops from what is originally proposed by Hockett (1987). As a generalisation over the speaker community, I will assume both copying via an Anglo-Scandinavian switching-code strategy, or receptive multilingualism (Gooskens,

³⁶ See Warner (2017) and Dawson (2003) for a congruent analysis of koinéisation as being the primary process characterising the structural outcomes of Anglo-Scandinavian contact.

2019, 2024), and copying through code-switching by individual bilinguals to be RL agentive during the second and third phase of contact (cf. Townend 2002, p. 203). During the final shift phase, second language acquisition of English by speakers of Old Norse likely expanded the available pathways of linguistic transfer into English to more prominently include SL agentive transfer. Moreover, all of these pathways depend on the identification of inter-lingual equivalences between ON and OE by speakers of the OE basic code (Contribution D, p. 11f.).³⁷ These will have been extensive and permeating all areas of the language system as a result of the languages close genealogical relationship.

5.2 Contact between closely related languages

The mutual intelligibility of OE and ON during contact is the most obvious reflex of the language pair's close genealogical relationship. The varieties of OE and ON coming into contact in North-East England jointly descend from Early Germanic and divergently develop in relative isolation from each other for only around 200–250 years (cf. Townend, 2002, p. 41). Old English descends from the North-Sea West Germanic (Ingveonic) branch of Germanic and Old Norse is descendant of North-Germanic varieties of the Germanic dialect continuum. These two dialect groups show significant overlap, both as close geographical neighbours and by their populations connected through shared demographic developments & migration processes and trade connections (cf. Townend, 2002, p. 20–26; Braunmüller, 2002b).

As expected, the close genealogical connection between the languages in contact is reflected in a high lexical closeness and significant structural similarities (Morse-Gagné, 2003, p. 282ff.; see also Dance, 2012; Keller, 2020; Townend, 2002).³⁸ As research on contacts between modern Germanic languages has shown, lexical closeness operationalised as lexical cognacy is the factor best predicting mutual intelligibility (Gooskens & Swarte, 2017, p. 139; cf. Gooskens et al., 2017; Gooskens, 2024).³⁹ Lexical closeness has most

³⁷ See Section 3 and references therein, especially Johanson (2002, p. 294).

³⁸ This connection between genealogical and lexical closeness is further supported by research on lexical substitution in language genealogy. See Pagel et al. (2007) and Pagel (2009) for lexical replacement rates of cognates by non-cognates as being 50% every 2,000 – 2,500 years.

³⁹ Lexical cognacy is defined in these studies as the identifiable synchronous cross-linguistic correspondence between form-meaning pairings. These form-meaning pairings, or lexemes, may be jointly inherited by both languages, but also include well-integrated copies resulting from earlier contact between the languages (cf. Gooskens, 2024). As Gooskens (2024, p. 109) discusses, the operationalisation of lexical inventories on which lexical closeness is assessed often varies between historical and modern contact linguistics. While historical linguistics often employ basic vocabulary list based on the Swadesh list (Swadesh, 1952) or Leipzig-Jakarta list (Tadmor et al., 2010), modern studies increasingly use frequency-based sets of lexemes to represent the vocabularies of modern languages.

recently been shown by Keller (2020) to support Townend's (2002) evidence for Anglo-Norse mutual intelligibility.

The phonological divergence between the West- and North-Germanic varieties is largely systematic at this time depth (cf. Fulk, 2018). As Gooskens (2024) discusses, high systematicity of phonological differences facilitates identification of cognates and correspondences between the codes, especially as exposure to a code increases.

Additionally, syntactic comparison of OE and ON implies a high structural and morphosyntactic overlap between the languages (cf. Davis, 2006; March, 1873). At the relatively short time span of their divergence (cf. Townend, 2002, p. 25), this is in line with assessments of diachronic inherent stability of morphosyntax both language-internally for each of these codes and of subsidiary stability under contact between them (van Coetsem, 2000; cf. Parkvall, 2008).

Still, Townend himself (2002) discusses in his detailed comparative work that a fully conclusive assessment of the status of mutual intelligibility in historical language contacts is difficult as the documentation of factors identified to be relevant indicators (e.g., Gooskens, 2019, 2024) is often lacking and testing the extant data for them in line with modern studies (e.g., Gooskens & Swarte, 2017; Gooskens, 2024) is impossible due to its amount and imbalanced nature.⁴⁰ From the perspective of mutual intelligibility between closely related modern languages in contact, Gooskens (2024, p. 213) agrees that receptive multilingualism should be taken to be the active mode of communication in medieval trade-related, political and migration contacts between closely related languages (cf. Braunmüller, 2002b, 2007). This would include the Anglo-Scandinavian contact.

In summary, it is very likely that, due to the high degree of phonological similarity and lexical overlap, speakers of OE and ON would have been able to communicate effectively on a basic level while each speaking only their own language. These two factors have been shown to closely correlate with mutual intelligibility in spoken language tests on modern Germanic languages of varying close relationships (Gooskens & Swarte, 2017). Consequently, the present work assumes mutual intelligibility to have been high enough to trigger accommodation processes in a communicative mode of receptive multilingualism (Gooskens, 2019, 2024) over extensive second language learning. Townend (2002) terms this communicative mode of the Anglo-Scandinavian contact as the employment of a

⁴⁰ See Section 6.2 for general notes on the data, Sections 8.2 and 8.3 for discussion of mutual intelligibility as a factor in the argument structural outcomes of the Anglo-Scandinavian contact and Section 9 for an outlook.

switching-code. As has been laid out above, the mutual intelligibility between OE and ON would have resulted in the formation of a bilingual society using receptive multilingualism as a communicative mode during the settlement phase and early conquest phase in which social groups would consist of members of either language group (Townend, 2002, p. 185; Pons-Sanz, 2013, p. 6–9). Whether this situation was facilitating or rather hindering linguistic change is debatable. Models of linguistic stability and change in language contact lay out arguments for both positions on the grounds of psycholinguistic, sociolinguistic as well as system-linguistic insights.

As discussed above, the low communicative barrier for speakers of mutually intelligible languages in contact means that there is low to no pressure to become productively proficient in both languages (cf. Walkden, *in press*, p. 18; Braunmüller, 2002a, 2009). Such a lack of a history of second language acquisition by adults, or indeed of childhood bilingualism (cf. Trudgill, 2011; Warner, 2017; Section 5.3), means that the processes of change through interference resulting from imperfect learning might not have been applicable in the first three phases of this contact situation. Consequently, contact-induced changes in inherently stable linguistic areas, which are prototypically most perceptive to change by SL agentive interference (van Coetsem, 2000), might not have occurred as extensively as in contacts where widespread individual bilingualism at a high productive proficiency level was necessary to achieve communication.

What is more, the linguistic closeness between the languages in contact would have been reflected in a high level of naturally existing congruence between them. As Section 8.4 will discuss in light of the results of the present work, these congruencies would have been exploited in communicative accommodation and many existing differences would have been minimised by levelling and simplification (cf. Trudgill, 1986; Braunmüller, 2002a, 2009). Change, either in the form of convergence or divergence between the systems, would have only become necessary where the systems diverged meaningfully in the combination of form and structure on the one side and the fulfilled semantic or grammatical function on the other at otherwise perceivably congruent equivalence positions (cf. Johanson, 1999, p. 49f. on frame changing developments). Moreover, divergent properties of the two languages may have been kept in order to retain the contrast and distinction between the languages for sociolinguistic reasons (cf. Gooskens, 2019, p. 150; Townend, 2002, p. 182; Trudgill, 1986).

However, these same factors can also be argued to facilitate language change via dialect convergence or divergence, depending on the extra-linguistic factors of the contact

situation (cf. Braunmüller, 2009; Braunmüller et al., 2014; Höder, 2014). As Section 3.2 above discusses, linguistic closeness between codes has been argued to facilitate copying, especially of more complex units (Johanson, 1999, 2002; Matras, 2007, 2009; Winford, 2003). This assertion is based on the increased number of objectively available possible equivalence positions between the languages. Unlike in lexically and typologically very different languages in contact, equivalence positions on the lexical, structural, and conceptual levels of the linguistic system can be easily identified by speakers in contacts between closely related languages because of existing parallels on all levels of the codes. While the perceptive strategies of receptively multilingual speakers for the identification of linguistic equivalences cannot exploit the full range of translation equivalencies between non-cognates available to bilingual individuals (cf. Gooskens, 2019; 2024, p. 8, 81, 98), they can draw on the wealth of identifiable cognate lexis and structures between the languages (Gooskens, 2024, p.77; cf. Section 5.4). The latter strategy is available to bilinguals and monolingual speakers alike. Additionally, both the identification of cognates and also receptive understanding of non-cognates has been shown to improve with increasing exposure to the foreign language (Gooskens, 2024, p. 81). Further, as psycholinguistic research on cognate recognition and loan integration in multilinguals (Hall et al., 2009; Lijewska, 2020) has shown, cognate identification is possible using cognates in familiar third languages as a *bridge* and also partly possible even where forms, meanings or functions have started to diverge but are still subjectively identifiably related (Gooskens, 2024, p. 83, 116 & references therein).

This increased wealth of perceivable equivalence positions at which copying of linguistic units may occur (cf. Section 3.2) has been argued to facilitate copying, especially selective copying of combinational properties (cf. Johanson, 1999, 2002, p. 292). Such copies could in turn facilitate restructuring of the basic code (Johanson, 1999, 2002; cf. Braunmüller, 2009; Kühl & Braunmüller, 2014). Taking lexical closeness into account, one might also expect that selective copying of cognate lexical units would be particularly pervasive (Contribution B, p. 222).

The present work does not attempt to answer this question overall but refers the interested reader to the literature referenced here. The research programme laid out in part II will follow Johanson (1999, 2002, 2008) in assuming that increased closeness indeed increases the available places in the language system at which copying may occur. Indeed, illuminating whether the copying of Norse-derived verbs into English results in change or

stability of the argument structure of the English verb lexicon is a *desideratum* of this work which is discussed in Section 8.3.

To summarise, the phonological inventories, lexicons and morphosyntax of OE and ON are parallel enough to propose a pragmatic mutual intelligibility between them, but distinct enough for speakers to recognise this difference and actively accommodate during communication (cf. Braunmüller, 2002a, 2002b; Trudgill, 1986; Contribution A, p. 245). This means that speakers "utilis[ed] a 'switching-code' [...] to successfully communicate details and complex issues required for prolonged and intense cohabitation of [Danelaw] areas (Townend, 2002, p. 182)" (Contribution A, p. 245). Depending on the level of mutual intelligibility and the extent of individual bilingualism we want to assert for the Anglo-Scandinavian contact, the need for speakers to accommodate, code-mix, or shift between languages has been interpreted differently in past research. This differing analysis of the contact effects is reflected in the variety of proposed contact outcome scenarios. Section 5.3 briefly reviews the most discussed ones.

5.3 The end and outcome of Anglo-Scandinavian language contact

Regarding the contact outcome scenarios proposed for the Anglo-Scandinavian contact, some analyses of this contact situation propose that ME indeed should be conceptualized as a North-Germanic language resulting from the creolisation of OE under the superstrate influence of ON (Poussa, 1982) or as "Anglicised Norse" (Emonds & Faarlund, 2014, 2024).⁴¹ However, such hypotheses are highly controversial and this work agrees with the critics of this creolisation hypothesis (Bech & Walkden, 2016; McWhorter, 2016; Stenbrenden, 2016), based on the discussed linguistic features of early ME as well as on the linguistic and extralinguistic characteristics of the contact situation.⁴² This work shares the opinion that the roughly adstratal dynamics of linguistic prestige and socioeconomics of this contact situation simply does not necessitate such drastic long-term accommodation processes as a scenario interpreting ME as a Scandinavian *creole* would suggest (cf. Hock, 1986, p. 410; Miller, 2012, p. 97; Walkden, in press; Walkden & Morrison, 2017, p. 188; Walkden et al., 2023; Warner, 2017; Townend, 2002, p. 204; Trudgill, 1986, 2011, p. 53).

⁴¹ See Görlach (1986), Mitchell (1994, pp. 163–170), Bech and Walkden (2016) and Stenbrenden (2016) for criticism of these analyses.

⁴² See Emonds and Faarlund (2024) for a renewed and extended discussion of their position.

More in line with current scientific consensus, Dawson (2003) and Warner (2017), among others, argue for koinéisation as the main process and outcome of this contact.⁴³ Warner, in line with Siegel (1985) and Trudgill (1986, p. 126), defines the process of koinéisation as involving the processes of mixing, levelling and simplification (Warner, 2017, p. 378). Trudgill (1986, p.107) ascribes koinéisation processes a key role in the formation of new dialects, *koinés*, in situations of dialect contact. In line with this, koinéisation is defined here as the long-term code-mixing or integration of related varieties via accommodation processes in contacts between closely related languages (cf. Warner 2017, p. 377-9).⁴⁴ This is congruent with Braunmüller's (2002b) analysis of Anglo-Scandinavian contact involving both *interdialectal convergence* and restructuring and resulting in "non-focused forms of a dialect-based Anglo-Saxon creoloid" (Braunmüller, 2002b, p. 1032).⁴⁵ The sociolinguistic and linguistic idiosyncrasies of the Anglo-Scandinavian contact fit a scenario of possible koinéisation under the assumption that it is possible in dialect contact which does not necessarily result in individual bilingualism (Trudgill, 1986, p. 1; Warner, 2017, p. 375). Especially where the existing degree of mutual intelligibility suffices for successful communication (cf. Trudgill, 1986, p. 21), individual second language acquisition is not a prerequisite for contact influence (cf. Trudgill, 1986, p.1; Walkden, in press, p. 17-18). Warner (2017) asserts exactly this status of contact between monolingual speakers of OE and ON as mutually intelligibly adstrates as being prime conditions for koinéisation over a scenario of language shift.⁴⁶

Language shift on the other hand, as Townend (2002), and earlier Hansen (1984), argue for as the outcome of Anglo-Scandinavian contact, requires extensive second

⁴³ See Fischer (2013) and Millar (2016) for accounts of Anglo-Scandinavian contact also involving processes of koinéisation.

⁴⁴ See Braunmüller (2002a; 2009) on accommodation processes being employed in modern semi-communication situations in modern contacts between closely related languages in Scandinavia.

⁴⁵ See Warner (2017, p. 379) for distinction between koinéisation and creolisation. Braunmüller's (2002b) use of *creoloid* already suggests the critical distancing from stereotypical creolisation as a possible outcome for this contact. Similarly, Millar (2000) originally distinguished between a **true** northern koiné being formed in the areas of intense contact and the less Scandinavianised koinéoid(s) spreading outside of the Danelaw area via dialect contact between the koiné and other Anglo-Saxon dialect. Millar (2016, p. 157) asserts that both stages of this outcome are adequately described under the term koiné. Similar reasoning of gradualness seems applicable to Braunmüller's (2002b) distinct use of *creoloid*, as being less prototypical in its defining characteristics than a creole, in the context of the Anglo-Scandinavian contact. As discussed in 5.3 above and in Section 8.3 below, the present work rejects the description of contact varieties resulting from Anglo-Scandinavian contact as a creole or even creoloid. Comparison of similarities between differing analyses serve only to illustrate the overall progression of research on the issue.

⁴⁶ Because, unlike language shift, it does not require pervasive individual adult bilingualism and childhood bilingualism to result in contact effects. According to Warner, the former was unnecessary in this situation of contact between mutually intelligible languages and the latter was subsidiary and transient (Warner, 2017, p. 375, 377).

language learning and thus also presupposes a necessity for speakers to become bilingual for communicative purposes. As Section 5.1 lays out, this would most likely only have been the case in the shift phase (Walkden, in press, p. 21; cf. Warner, 2017, p. 375, 377). Additionally, individual language shift is arguably the most intense form of accommodation between closely related languages (Braunmüller, 2002a, p. 8–9) and would thus predominantly occur in contact situations of significant linguistic differences and steeper social divides between the languages in contact. As Warner discusses for individual linguistic changes of simplification and complexification, processes of koinéisation may have preceded those of shift, but impact of both is possible throughout this long and dynamic contact situation (Warner, 2017, p. 393, 394).

Townend (2002) indeed also proposes that speakers' employed a switching-code for active accommodation during communication (cf. Sections 5.1 & 5.2), but does not assert that this code represented a stable interdialectal variety in line with the definition of a koiné. Rather, the ongoing societal bilingualism of two mutually intelligible languages and the relatively equal social status and prestige of both would have resulted in OE taking on a number of characteristics and lexical items from ON, especially during the linguistic shift of ON speakers to OE after the end of direct contact (Townend, 2002). This would have involved copying both as RL agentive borrowing by OE speakers and SL agentive imposition of ON speakers (cf. Townend, 2002, p. 201). Rather than proposing only copying to have preceded the shift and shift-concomitant lexical and structural impositions of ON on OE, Warner (2017, p. 377) congruently argues that the closeness of the languages enabled integration, or code-mixing, of the ON and OE varieties in contact long before shift, constituting koinéisation. As Braunmüller (2002a, p. 7-9) models for modern contacts, the more mutually intelligible two varieties in contact are, the less such drastic accommodation processes like code-switching and language shift are necessary for successful communication. Consequently, existing linguistic convergence will be exploited and additional convergences produced in contact between highly intelligible varieties first, before code-switching and language shift are employed as strategies of accommodation in semi-communication situations (Braunmüller, 2002a, p. 8-9). Under this hypothesis, the contact outcomes of koinéisation versus language shift exist on a spectrum of the possible long-term results of the active accommodation processes in contact between these closely related languages (cf. Braunmüller, 2002a, p. 9; Warner, 2017, p. 386). How intensely and extensively speakers needed to accommodate, both short and long term, depends,

linguistically, on the level of mutual intelligibility one wants to assert for the Anglo-Scandinavian contact.

This work does not attempt a new assessment of this and, consequently, does not assume either outcome over the other absolutely. Rather it argues for a more nuanced view of contact outcomes. I propose that where the ON and OE codes diverged linguistically, the communicative need for speakers to actively accommodate between the systems was increased. Speakers achieved communication in such areas by active face-to-face accommodation, employing processes of levelling, simplification, and even code-switching (Dawson, 2003; Warner, 2017; cf. Trudgill, 1986, p. 127). These strategies are the processes of both immediate and long-term active accommodation. In the short term, they achieve communication (cf. Braunmüller, 2002a, 2009) and in the long term they can lead to koinéisation over multiple generations (Kerswill, 2002, p. 670, 680, 694; cf. Trudgill, 1986, p. 1-4, 11-38). Thus, over time, OE and ON speakers' active accommodation might have led to some degree of koinéisation in the settlement and conquest phases of the contact, especially in highly Scandinavianised areas (Danelaw) (cf. Dawson, 2003, p. 47; Warner, 2017, p. 351). If, like Dawson (2003) and Warner (2017), one assumes these accommodation processes to have resulted in a shared *lingua franca*, one might reasonably call this a koiné following Siegel's (1985, p. 363) definition. However, the general poverty of textual evidence representing or referencing such an oral code as a distinct, somewhat focussed variety makes it difficult to propose any level of universal currency for it in communication between speaker groups (Dawson, 2003, p. 46). Consequently, the present research programme works under the assumption that speakers actively accommodated between codes for the longest time of this contact situation. These accommodations will have the identification and active communicative exploitation of inter-lingual equivalences and close correspondences up to the production of more of them where they originally did not exist via code-copying. I do not propose that the cumulation of these processes over time resulted in one focussed convergent variety, but I do not reject that local unfocussed convergent varieties might have existed in areas of prolonged and intense contact during the settlement and conquest phases. However, when the social dynamics changed after 1042 CE and ON ceased to have adstratal status in England, this work does indeed agree with Townend (2002, p. 201ff.) that speakers of ON and any existing convergent varieties alike would have shifted from employing the convergence-rich strategy of using a switching-code to employing L2 learning of OE as the most drastic form of accommodation (Townend, 2002, p. 192ff.; cf. Hansen, 1984). While usage of ON and any such convergent

or even mixed codes likely survived longest in highly Scandinavianised areas, overall, this language shift resulted in the language death of ON varieties in England (Miller, 2012, p. 101; cf. Page, 1971; Parsons, 2001; Townend, 2002).

To summarise, a number of different contact outcome scenarios have been discussed for the Anglo-Scandinavian contact, but some degree of koinésation of mutually intelligible ON and OE in the second and third phases of contact and the late shift of ON speakers to OE and subsequent loss of ON as a native language in England post 1042 CE, are a reasonable interpretations of this contact outcome considering the evidence.

5.4 Cognates all the way down?

Finally, the idiosyncratic linguistic properties of the contact situation laid out in Section 5.2 reflect on how closely the contact impact of ON on OE can be traced. This specifically pertains to the factor of cognacy and how we can model its role in contact-induced change in argument structure.

The term cognate is traditionally used in reference to lexical words or content morphemes as descendant "from a single common ancestor in the common ancestral language" (Trask, 1996, p. 78). However, its inheritance relation and the possibility for comparative reconstruction from it have since also been applied in the contexts of sounds (Harris & Campbell, 1995, p. 345; Harrison, 2003, p. 221), bound morphemes (Johanson & Robbeets, 2012, p. 3) and, most importantly to this work, in morphosyntax (Walkden, 2013) especially concerning verb argument structure (Barðdal & Eythórsson, 2012, p. 9; Barðdal & Eythórsson, 2020). Before we turn to review the possibility of and caveats to the reconstruction of cognates in syntax and how this reflects on the investigation of the Anglo-Scandinavian contact, lexical cognacy and its implications as it pertains to the lexical outcomes of this contact will be reviewed.

5.4.1 Cognacy and the Scandinavian element in the English lexicon

Historical linguists have long excelled at comparing the lexical and phonological inventories of proposedly related languages and the reconstruction of earlier, shared properties and units from these comparisons – in short: the identification of cognacy and reconstructive extrapolation from it. The result of this work regarding OE and ON among other early Germanic and Indo-European languages is an extensive body of knowledge about the phylogenetic connections between these languages and many securely co-identified cognate roots and their respective morphophonological forms and developing

semantics across these languages.⁴⁷ This body of work is of course also part of the foundation of any contact linguistic work on contact between closely related languages. As Section 5.2 lays out, the lexical closeness between OE and ON at the time of contact is significant, meaning that the amount of cognate lexis is high. The fact of the matter is, however, that this high lexical closeness also makes the secure identification of lexical material as being of native Old English or of Scandinavian origin in later stages of English very complex, especially regarding cognates between these languages. When investigating the structural effects of loan verb integration on the argument structure realization patterns available in Middle English, the distinction between borrowed verbs, or copies, and cognate verbs in contact is an important theoretical and methodical issue (cf. Section 6.1 for operationalisation).

All prior investigations into the Scandinavian element of the English lexicon highlight that careful attention to the details of existing cognacy relationships between native and proposedly copied lexical units is of utmost necessity. Dialectological work like that of Kessler (1995) distinguishes two types of cognacy between lexical units of two languages: first, *etymon identity* where the stem morpheme of the lexical words has the same etymological origin, but derivational morphemes do not necessarily and second, *word identity*, where all morphemes of the lexical words must be cognate for the words to be defined as a cognates. As work on mutual intelligibility (cf. Gooskens, 2024 & references therein) and Contributions B and C below show and Section 8.2 discusses in the context of the presented results, whether some or all morphemes of a lexical unit are cognate directly impacts cognate identifiability and thereby also eventual integration of copies of such lexical units. In the investigation of the contact effects between closely related languages, the nuanced assessment of cognacy relationships must be combined with that of the historical, social, dialectological and system-linguistic details of the contact situation to control for the copy/cognate problem (Johanson & Robbeets, 2012). Between the two categories of native versus copied origin of a cognate linguistic unit at the outcome of contact, the possibility of parallel development of related cognate units before and during contact must also be factored in. This is especially relevant in cases where sets of two or more materially, semantically or combinationally contrasting cognates come into contact (cf. Contributions A, B & D).

⁴⁷ See for example Lass (1997, ch 3) on the input for establishing relatedness between languages, Campbell and Poser (2008) for a general discussion of language classification and Hartmann's (2023, ch. 1) introductory overview of the phylogenetic work on Germanic.

Accounts of the Norse-derived lexis entering medieval English reach back to and beyond the foundational research by Brate (1885), Egge (1887), Björkman (1900–02), overviews like that of Serjeantson (1936, ch. 4), Rynell's (1948) work on Norse-derived ME *taken* and native ME *nimen*, and the works of Peters (1981), Hug (1987), and more recently the assessment of loan words by Grant (2009) and the studies of Norse-derived lexis by Pons-Sanz (2007, 2010, 2013, 2015a, b, 2021, 2024), Dance (1999, 2000, 2003, 2011, 2012, 2013, 2019), and recently Dance, Pons-Sanz and Schorn (2019), among others. As Durkin (2014, part IV; cf. Durkin, in press) reviews in detail, Norse-derived lexis is found across all lexical categories, in a range of semantic fields and has even entered the basic vocabulary of PDE by lexical replacement of native West Germanic lexemes (*take*) or cognate influence (*give*). The extent of Norse-derived vocabulary has been quantified both by the time of first written attestation and concerning the survival of these lexemes into later stages of English. These assessments are available via lexicographic resources like the *Oxford English Dictionary* (OED) (Proffitt, 2019), the *Gersum* database (Dance, Pons-Sanz & Schorn, 2019) and as the synthesis of the body of research. The present work takes the results of these lexicographic accounts as its basis for identifying Norse-derived verbs in English and follows their assessment of relationships to any existing native cognates.

It follows from the segmental approach to linguistic units adopted here (see Section 3.1) that we may contemplate cognacy not just at the level of the lemma, but at the level of a lemma's properties too. Cognacy may exist and be varyingly strong in all properties of a lexical unit. While the material properties of a lexical unit V_M in language M may still be closely related or near-identical to the material properties of a cognate unit V_B in language B , the same closeness is not automatically given for the semantic, combinational and frequential properties of the units V_M and V_B . For example, the cognate verbs ON *reisa* (copied into ME as *reisen*) and OE *rēran* (transmitted into ME as *rēren* v.(1)) investigated in Contribution A of this collection are semantically near-identical, fully parallel in their stem morpheme and original derivation morpheme in early Germanic, making them not just *etymon identical* in the stem but *word identical* (cf. Kessler, 1995). Materially, however, they are recognisably removed from each other and their shared early Germanic ancestral form and derivation by diverging phonological and morphological changes. For another Norse-derived verb, ME *callen*, an etymon identity might be drawn between the ON verb *kalla* and OE compound nouns including the cognate morpheme as a stem. As Contributions A, B and C and Section 8.2.1 discuss, the factors of lacking word

identity and material and semantic distance between the proposed cognate forms in question impacts the structural integration of copies like ME *reisen*, *callen*, and *busken*.

The diachronic and comparative abstraction of cognacy relations made in the etymological investigation of Norse-derived lexical material in English is extremely nuanced and rightly so, as fine-grained categorisation systems like that developed by Dance (2003, 2011, 2012, 2019, *inter alia*) and applied in the *Gersum* project (Dance, Pons-Sanz & Schorn, 2019) reflect. These assessments of cognacy of proposed loan lexis traditionally, and rightly so, concern their phonological form, semantic properties, and morphological derivation but beyond that generally do not include a qualitative or quantitative assessment of their argument structural combinational properties (Contribution C, p. 2). However, these academic evaluations of whether or not a Norse-derived unit in English has cognate relations to native West Germanic units and what the nature of such connections are made in the works cited above may be very different to the original OE and ON speakers' evaluations of whether a unit in a foreign language M is recognisably cognate to a unit in their native language B. Because the diachronic and cross-linguistic reference knowledge employed in academic assessments of cognacy is of course not available to the speakers during contact, speakers operate on immediately available material and semantic clues in their assessment of possible cognate equivalences (cf. Gooskens, 2024, ch. 5). Experiments on the structural integration behaviours of multilingual learners of a foreign language reveal that, where they do not know the argument structure of a new lexical verb from the input, speakers employ both material and semantic equivalences to known verbs in all of their languages as well as their typological knowledge about their languages to assign combinational patterns (Hall et al., 2009). Cognacy effects are a strong factor in multilingual's lexical access and processing (Dijkstra et al., 2010; Hall et al., 2009; Lijewska, 2020; Potapova et al., 2016; *inter alia*). Regarding language contact, this work proposes that which properties of a model unit V_M in language M the speakers of language B identify as cognate to a native unit V_B , if any, directly affects how this model unit may be copied and integrated into language B's basic code as a new unit V_C . How identifiable cognacy and which properties of a unit it affects impact how verbs are copied and structurally integrated is one *explanandum* of the present research programme (see Section 6 for objectives and research questions and Section 8.3 for discussion). As Contribution B asserts, "[f]or any copy, the outcome of loan integration into the basic code is directly affected by which properties of the linguistic element are copied from the model code etymon to the copy and which are replaced by properties of equivalent replica

language elements in the basic code" (Contribution B, p. 221). Teasing this apart for the properties of lexical verbs is especially detailed work and may not always be conclusively determinable for closely related cognate units in contact.

In summary, "this means that, while a verb proposed to be a Norse-derived loan may have a[n academically] well-established formal and semantic cognacy link to a unit in the English basic code, their morphosyntactic properties and the possibilities of argument structure realisation in equivalent contexts have not necessarily been established as cognate" (Contribution C, p. 2) or, at least, not yet. It is exactly this gap which the present work aims to fill by investigating the argument structural integration of cognate loan verbs between closely related languages and that of non-cognate loan verbs alike. My objective is twofold here: The investigation will illuminate whether cognate and non-cognate lexical verbs may be transmitted horizontally with their model code argument structures or whether they will be assigned basic code argument structures, regardless of their material cognacy relation to native lexical units but in analogy with native cognates or near-synonyms. Second, the investigation will reveal whether existing shared (cognate) argument structures are inherently stable in the basic code and can be productively assigned to new cognate and especially non-cognate loan verbs.

5.4.2 Cognate structures and the correspondence problem

However, addressing these issues requires a historical comparative assessment of the structural and combinational properties of proposed cognate units. Notwithstanding the considerations on the possible status of mutual intelligibility between OE and ON, and the eventual outcome of their contact reviewed in the sections above, how close these languages were structurally before coming into direct contact so soon after their divergence from Early Germanic is a question of careful comparison and abstractions to be made in the field of language reconstruction. At the point in history at which the present work is set, an assessment of whether the argument structures of the closely related languages in contact have diverged, are parallel by chance or parallel evolution or are indeed parallel by shared inheritance as cognates touches on the standing debate about whether it is even possible and appropriate to apply the comparative reconstruction methods of phonological and lexical reconstruction to propose proto-stages of morphosyntax. I will remind the reader of the correspondence problem and the issue of establishing *double cognacy* in such comparisons of syntax and argument structure as discussed in Section 3.3.3.

While this work in itself does not attempt the reconstruction of morphosyntactic structures, the language contact outcomes investigated in its research programme merit "a

deeper examination of the concept of cognacy on all linguistic levels and what it entails for the investigation of the argument structure of lexical verbs transmitted horizontally between two languages as closely related as Old Norse (ON) and Old English (OE)" (Contribution C, p. 2). As Walkden (2013) reviews, despite the correspondence problem limiting syntactic reconstruction, cognacy has nevertheless been shown to be a valuable concept in the reconstruction of structural properties. Patterns (Harris, 2008) and constructions (Barðdal & Eythórsson 2012, 2020) can potentially be cognate, in so far as they are hypothesised to be complex units of a language that are acquired and transmitted across generations (cf. Walkden, 2013, p. 103). Barðdal and Eythórsson's (2012, 2020) comparative accounts establish possible diachronic cognacy of parallel and even divergent morphosyntactic structures across multiple early Germanic languages. Still, the correspondence problem stands for syntactic reconstruction, because establishing cognacy at an "intermediate level" of abstract patterns or constructions, like morphosyntactic structures or argument structure constructions, only partly evades the problem that the Double Cognacy Condition cannot be fulfilled by sentences in the same way as it can by phonologically reconstructible cognate lexemes (Walkden, 2013, p. 107). Albeit operating on different theoretical bases of syntax, both Walkden (2013) and Barðdal and Eythórsson's (2012, 2020) comparative accounts show that "correspondence can be suggested on the basis of distributional factors as well as formal and semantic similarity" (Walkden, 2013, p. 117). In summary, I take cognacy as in principle possible on the level of argument structure patterns and syntactic structures and recognise that securely and systematically reconstructing it is fundamentally limited by the nature of syntax.

These factors impacting the syntactic reconstruction of the shared ancestry of OE and ON also affect the comparative analysis of contact effects on verb argument structure, due to the close genealogical and linguistic relationship of the language pair involved. The correspondence problem faced by the field of phylogenetic and reconstructive linguistics underlines how carefully any argument structural parallels between closely related languages in contact must be handled as they may be cognates stemming from shared vertical transmission but may also be affected by copying or convergence as the result of language contact.

Therefore, returning to the Anglo-Scandinavian contact hypothesis, at least a direct synchronic comparability of morphosyntax and argument structures between the language systems is assumed in the present work. The analysis attempts to trace cognacy and non-cognacy of argument structures by controlling for the comparability of copied verbs and

their argument structure at multiple levels: (1) material cognacy of the verbs' root and derivation, (2) near-synonymous verb meaning, and (3) comparability or even possible cognacy of syntactic constructions in which materials and meanings occur.⁴⁸ Section 8 returns to this issue and discusses cognacy on multiple levels of the linguistic system and its recoverability in contact situations as a factor in horizontal versus vertical transmission of lexis and argument structure.

The comparison and possible reconstructability of existing divergent and, in fact, also shared cognate morphosyntax between these two historical languages before they come into active language contact is essential to the present work. As Section 3 laid out, equivalence positions identifiable between the languages are the basis of which any possible contact effects may occur. In the Anglo-Scandinavian contact situation, these equivalences may to a large degree be the vertically transmitted overlap, or cognacy, between these sister languages.

As has been asserted for lexical units above, whether the argument structure of a verb or even verb class can be shown to be copied from the model code or assigned from the basic code (see Section 3.3.2 for possible strategies) also depends on whether it might be cognate between the languages in contact. Structures that are identifiably parallel between OE and ON, especially where they occur with cognate lexical material and semantics, cannot conclusively be assessed as copied or not based on the corpus data (Contribution D, p. 12, 33ff, 48; see sections 8.2–8.3 for discussion).

As this section has shown, cognacy may in principle occur on all levels of the linguistic system and in all properties of linguistic units. Whether we can securely compare it or not from a phylogenetic perspective is a question of methodological rigour and choice of data sources, because the temporal depth of the present investigation does not exceed that of the extant data record. Consequently, the strategies of assessment of contact effects in the following research programme are adopted partly each from work on syntactic reconstruction and contact linguistics to account for the interplay of contact and genealogical closeness. This makes the evaluation of linguistic units, lexical and structural, as cognates between the languages possible, but also highlights any material, semantic and structural differences between them. Generally, in line with the foundations laid out in

⁴⁸ While these proposed safeguards, like the safeguards for cognacy presented by Harris & Campbell (1995, p. 349), do not equate fulfilment of the *Double Cognacy Condition*, they are not intended to. They are not an attempt at enabling syntactic reconstruction but only serve to ensure adequate synchronic comparability between two closely related languages in contact.

Section 3, contact effects on verb argument structure are taken to be possible both as the result of such differences **and** of congruencies and cognacy between the languages in contact. This combined theoretical approach is motivated by the unique linguistic and extra-linguistic features of the Anglo-Scandinavian contact situation.

Part II – The research programme on the integration of Scandinavian loan verbs into medieval English

6 Objectives and overarching considerations

The Anglo-Scandinavian contact situation is a subject of controversial discussion, especially regarding the overall effects of this contact on the development and genealogical roots of the English language. Still, some perspectives on this contact situation seem to have historically been avoided by researchers. The Scandinavian element in the medieval English lexicon is well-researched regarding its material and semantic integration both regarding individual lemmas as well as in relation to the effected semantic fields and lexical domains (Dance 1999, 2000, 2003, 2011, 2019; Pons-Sanz, 2013, 2017, 2015a, b; *inter alia*). Lexical co-existence and competition, both semantically and frequential, as well as restructuring of the lexicon and resulting semantic and lexical changes have been the subject of extensive work (Rynell, 1948; *inter alia*). However, the combinational properties of Norse-derived verbs, specifically concerning verb argument structure and connected constructions and alternations, are understudied. One traditional endeavour of contact-linguistic study is the delineation of how contact may result in language change. The factors of the close genealogical and typological relationship between the languages in contact and the resulting status of lexical and structural closeness and mutual intelligibility might have discouraged earlier investigations of this contact situation in favour of contacts showing starker typological, morphosyntactic and lexical contrasts and requiring widespread L2 learning and individual bilingualism. Additionally, existing work on the argument structural relationships between so closely related historical languages more often focusses on the possibility of syntactic reconstruction from these language stages to an earlier common ancestor language rather than post-divergence language contacts between these sister languages (Barðdal, 2013; Barðdal & Eythórsson, 2012, 2020; Watkins, 1964, 1976). As will be discussed in Section 8, these defining factors of the Anglo-Scandinavian contact

situation, laid out in detail in Section 5 above, make the results of this work especially interesting and challenge the researcher both conceptually and methodologically.

From the state of the previous research on the lexical and structural influences of the Anglo-Scandinavian contact situation (Section 5) and recent research programmes focussing on the structural repercussions of lexical verb copying (Section 3) laid out above, the present research programme synthesizes the following overarching research questions: (RQ 1) *How are Norse-derived verbs structurally integrated into medieval English?* and (RQ 2) *Does the integration of Norse-derived verbs effect changes in the argument structure of affected verb classes in medieval English?* To answer research questions with a scope over such a large set of lexical units, verb classes and possible morphosyntactic realisation patterns, a number of subordinate questions must be addressed to make advances on the subject of investigation and to control for the relevant factors of cognacy and structural closeness of the language pair. As Figure 2 below shows, on the item-oriented level of this research programme as motivated in Section 4, these questions concern the properties of individual Norse-derived lemmas, their model code etyma, native basic code cognates and the relations between them. To answer (RQ 1) and (RQ 2) on the class-oriented level of this investigation, additional subordinate questions concern the members and typifying properties of the English verb classes into which these verbs are integrated and their diachronic development. This cascading set of qualitative questions made it possible to assess whether integration conflicts occurred between the argument structure of the Norse-derived copy and the argument structures possible for equivalent verbs of the same class in the English basic code.

Additionally, the subordinate questions concerning the argument structure constructions and alternations realised by the lexical verbs of these verb classes in English help answer (RQ 2) in the construction- and alternation-oriented studies of this research programme (Figure 2).

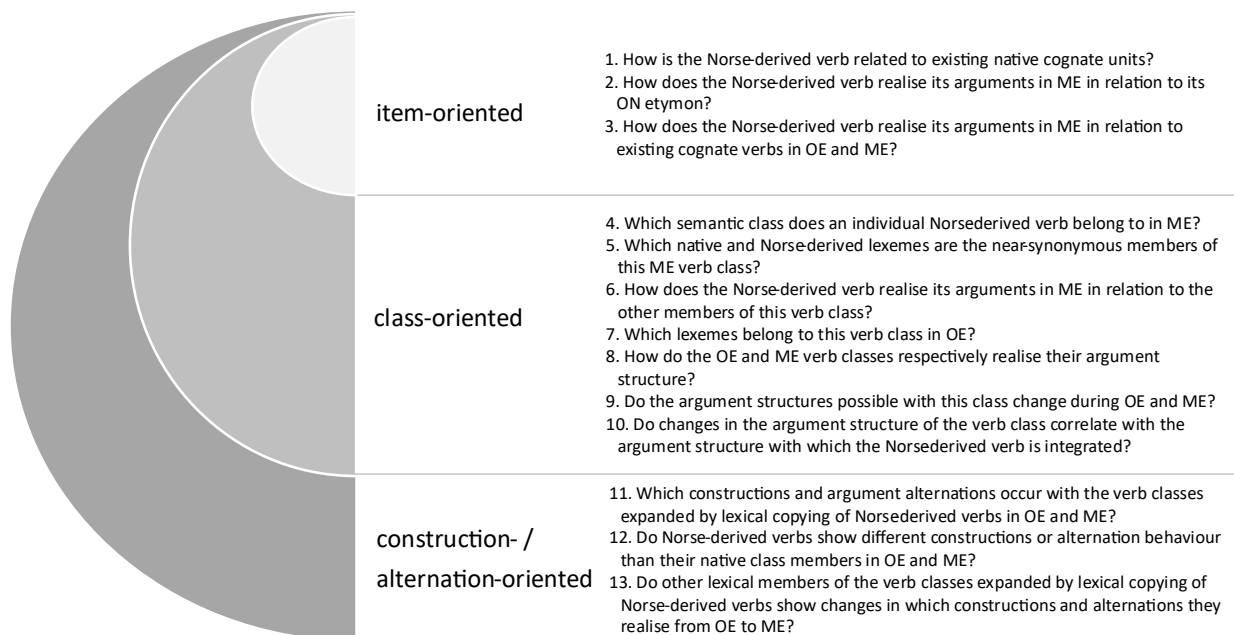


Figure 2: Subordinate research questions by level of abstraction as per Figure 1.

While these questions necessarily underlie all of the case studies in the present collection, the individual contributions address them with varying focus on the three levels stated above to enable identification of contact-effects on all of them, as Figure 2 expanding on Figure 1 (Section 4) illustrates. The results answering these subordinate questions are discussed only in individual contributions, while Section 8 of the present volume focusses on the superordinate research questions (RQ 1) and (RQ 2) and abstractions from the synthesised results.

6.1 General notes on method and operationalisation

The present research programme is concerned with the structural integration of loan verbs at the conceptual level of predicate-argument structure and the resulting morphosyntactic realisation of their thematic arguments in the replica language (Contribution D, p. 3). Considering the wide spectrum of possible vertical and horizontal relationships between native West Germanic lexis and copied North-Germanic lexis in OE and ME, the relationships between a copied verb and its etymon and native cognates must be carefully assessed for all properties of the linguistic unit as Section 5.4.1 lays out. Moreover, assessing which structural properties of a copied unit are possibly transferred from the model code and which ones are modelled on a native cognate or otherwise equivalent unit

in the basic code necessitates careful operationalisation of argument structure in Johanson's Code-copying Framework. As laid out in Section 2, argument structure is taken to be the representational layer mapping between a verb's semantic (LCS) properties and combinational (morphosyntactic realisation) properties. Such pairings of semantic and combinational properties for each verb are operationalised as its argument structures, as defined in Sections 3.1 and 3.3 above. I combine (1) a dictionary-based approach identifying cognate and etyma relations between OE, ON and ME verbs, and the material, semantic and combinational properties of these lexemes with (2) a corpus-based approach for assessing the argument structure realisations of these verbs in the basic code. I assess the predicate-argument structure patterns of copied verbs by recording all pairings of semantic and combinational properties they show in the basic code corpus data in a qualitative analysis (see Contributions A–D for details on this procedure). As a point of comparison, I analyse corpus data representing their etyma in ON and basic code cognate and non-cognate equivalents in OE and ME in parallel. Consequently, I describe the types of copying resulting in the investigated ME Norse-derived lexemes by abstracting from comparisons of these qualitative predicate-argument structure patterns of these copies, their etyma in ON and basic code cognate and non-cognate equivalents in OE and ME. Especially where the model and basic codes vary or differ in predicate-argument structure for equivalent operations and constructions, like reflexivisation, the comparison of copied verbs with native cognate and non-cognate synonymous verbs allows us to assess whether copies are integrated with model code patterns or are assigned patterns from the basic code (Contribution C, p. 2f.).

The previous research on the Scandinavian element of the medieval English lexicon (see Section 5.4.1) provides ample foundation for identifying the lexical verbs relevant to the research questions posited above. While the fine-grained nature of loan classifications found in etymological and lexicographic research is justified in the field, a focused categorical operationalisation of these sets regarding cognacy relations and the nature and extent of Norse influence was necessary for effectively modelling the argument structural integration of verb copies in this contact situation.

The summary categories of the *Gersum* project (Dance, Pons-Sanz & Schorn, 2019) serve as the point of departure for this operationalisation. These summary categories, based on Dance (2019), are a referencing system that indicates both the nature of the etymological evidence and the originators' assessment of the strength of the argument supporting influence from Old Norse for each individual case (Dance, Pons-Sanz & Schorn, 2019).

The first categories, *type A*, include as lexemes for which "systematic, formal evidence for input from ON [exists]: that is, each item shows the reflex(es) of one or more regular and predictable ON developments in phonology (A1), morphology (A2) or both (A3) which cannot reasonably be explained as having taken place in OE" (Dance, 2019, p. 76). Lexemes which show a native cognate for the stem are marked with an asterisk, yielding categories A1*, A2* and A3* (Dance, 2019, p. 85). The next categories, *type B*, include lexemes for which systematic formal evidence for Norse-derivation like for *type A* is not available. While roots of these lexemes can be traced back to Germanic, "the [Germanic] root is not represented in (early) OE, [...] but is represented in ON" (Dance, 2019, p. 114), but nowhere else in Germanic (B1) or also also "in [Gothic] and/or the continental WGmc languages (but not in early OE)" (Dance, 2019, p. 114). *Type C* categories also lack *type A* evidence but "the [Germanic] root is already represented in (early) OE, or alternatively [...] in a third language, such as (Anglo-)French" (Dance 2019, p. 127). Type C verbs show some aspect of their derivational form (C1), orthographic/phonological form (C2), sense (C3), formation of a compound or phrase (C4) or frequency (C5) that can be better explained by input from ON (Dance, 2019, p. 127). Finally, *type D* encompasses lexemes for which the case for input from ON has been made but evidence varies considerably in availability and plausibility and "(for several possible different reasons, sometimes in combination) a single, generally accepted form-source is not available" (Dance, 2019, p. 178).⁴⁹ The present research programme originally operationalises different types of Norse-derived lexical verb copies in three working categories in line with the *Gersum* summary categories as follows:

- | | |
|---------------------------------|--|
| (1) Non-cognate copies: | <i>Gersum</i> categories A1–A3 & B1–B2
e.g., <i>scare</i> (A1c), <i>cast</i> (A1), <i>thrive</i> (B1), <i>take</i> (B2) |
| (2) Contrasting cognate copies: | <i>Gersum</i> categories A1*–A3*
e.g., <i>raise</i> (A1*c), <i>neven</i> (A1*c), <i>give</i> (A1*c), <i>busk</i>
(A2*) |
| (3) Cognates in contact: | <i>Gersum</i> categories C1–C5
e.g., <i>call</i> (C1a/C5), <i>burn & run</i> (C2c), <i>dream</i> (C3ac) |

⁴⁹ See Dance (2019) and Dance, Pons-Sanz and Schorn (2019) for detailed explanations of these summary categories and classification of the examples in (1)–(3).

These three categories are based not only on the recorded existence of cognate morphemes in OE or another West Germanic language and in ON or another North-Germanic language, but also on the material, derivational and semantic closeness of the relation between the proposedly Norse-derived lexemes and native cognates (Dance, 2003, 2011, 2012, 2019; Dance, Pons-Sanz & Schorn 2019). However, as Section 8.2 will discuss, the results of the present research programme on how these lexical verbs were assigned argument structure in the ME basic code in relation to their etyma and native cognates and equivalent verbs provide a new perspective on the role of cognacy relations in structural loan integration. As Section 8.2.1 shows, the results merit a re-assessment of the working categories presented above by the recognisability of verbs cognacy relation as it is reflected their structural integration. These results directly reflect the factors identified as affecting the degree of mutual intelligibility between modern languages and the lexical and structural outcomes of contact between them (e.g., Gooskens, 2024).

Moreover, most lexical verbs, like other content words, especially ones which have been transmitted vertically from earlier language stages as cognates or show close derivational connections between multiple related lexemes, have diachronically developed polysemy (cf. Bréal, 1897, p. 143–4). As Section 2 laid out briefly, many verbs develop systematically related senses which are derived by common transformations like causativisation or reflexivisation in the same language, while other related senses reflect more abstract conceptually and synchronically rather intransparent changes in the underlying semantic structure. To control for this natural and ever-developing polysemy of lexical verbs, related meanings of the common transformation types and other cases of *extended meanings* (Levin & Rapoport, 1988) or *regular polysemy* (Apresjan, 1973) are treated collectively in the case studies below especially where they result in systematic argument structure alternations, while polysemies of the latter type are treated separately (cf. Section 2). In this, the present approach leans in the direction of maximised homonymy (Lyons, 1977, p. 552 ff.) rather than conflating event structurally incongruous senses of a polysemous verb. For example, the related (caused) change of state senses of preparation and dressing of ME *busken*, are treated collectively in Contribution C, while the (caused) change of location senses of ME *busken* are excluded from the class-oriented study. This also means that the descriptive assessments of the type of Norse-derived copies investigated in this research programme are made at the fine-grained level of a verb's main senses as reflected by its lexical conceptual structures rather than at the level of the lexeme recorded in a dictionary (cf. Section 3.1).

On the level of the lexeme this leads to selective and mixed copying being described over global copying. The present work would only propose the global copying of a lexeme if all of its attested ME senses and argument structures match between the model code etymon and the copy. Instead, global copying may be proposed for individual senses of a lexical verb if its respective material properties and its argument structure – as the abstraction of its semantic and combinational properties – match between the model code etymon and the copy. However, if such a lexical verb also shows material, semantic, combinational or frequential properties of a native cognate or other basic code equivalent, a selective or mixed copy may be proposed on the lexical level (cf. Contribution C, see Section 8.2 for discussion).

To enable comparative analysis of the copies' structural integration, the verb classes of near-synonyms into which these copies are integrated in the English lexicon must be defined. These classes may include native cognate verbs as well as unrelated near-synonyms sharing equivalent event structure. To compile these historical verb classes for OE and ME respectively, Levin's (1993) work on the verb classes and alternations of Modern English serves as a basis for the definition of copied verbs' classes, if they were listed. This was combined with a dictionary- and thesaurus-based approach to identify all near-synonymous verbs. First, near-synonymous verbs listed as co-hyponyms for the lemma's senses in the *Historical Thesaurus of English* in the OED (Kay et al., 2024) up until 1500 CE were recorded and traced back to their ME and OE lemma forms. Synonymous meanings were verified by searching for meaning paraphrases of these senses in the *Middle English Dictionary* (Schaffner et al., 2018) and *Bosworth-Toller Anglo-Saxon Dictionary* (Bosworth et al., 2014) (and the *Dictionary of Old English* (Cameron et al., 2018) where available) entries for these forms respectively. Additional verbs identified as near-synonyms during this step were included in the sets unless the synonymous meaning was contested as possibly erroneous or minor to a polysemous verb. Near-synonymous verbs of Latinate or Romance origin were not included in these sets. Verbs attested in both OE and ME but which only lexicalise the synonymous meaning in one of these stages were included only in the lexical set for this respective stage and excluded for the other so as not to obfuscate semantic change in these sets. Verbs that are only attested in either OE or ME were not excluded so as not to obfuscate lexical change and replacement in these sets. The resulting lists of OE and ME near-synonymous verbs for the investigated lemma's main sense(s) were then used as a basis for data extraction. Analysis of argument structures and

their diachronic development was conducted following the procedure established above for item-oriented studies.

The most limiting methodological decisions to be made at this stage were the cut-off points for how broadly these sets of near-synonyms were to be defined and whether to include only the most basic or salient and frequently attested sense of the Norse-derived lemma under investigation in the search for near-synonyms, include multiple or all senses of the verb or to subdivide the synonymous verb class studies into multiple investigations for polysemous lemmas that lexicalise different event types. In line with the treatment of natural polysemy as laid out above, the definition of verb classes for class-oriented studies is limited to include only verbs lexicalising a LCS congruent to that of the copied verb or verbs under investigation. On the levels of verb classes and alternations, this ensures that diachronic semantic changes in English are accounted for and that argument structure patterns are comparable across these sets and do not conflate differences in LCS with differences in predicate-argument structure. The lexical sets of a verb class for each respective language stage (OE and ME) are made up only of near-synonymous, most likely translation-equivalent, units proposedly showing the same underlying semantic structure (LCS) and recoverable systematic transformations and derivations thereof (like causativisation) as the Norse-derived copy or copies. For the class-oriented, and construction- and alternation-oriented diachronic analyses in this research programme, this means that the lexical sets investigated in OE and ME respectively will only partly overlap to reflect semantic and lexical changes, both intra-linguistically and contact-induced (cf. Contributions B & C).

Similarly, for the investigation of constructions and alternations possibly affected by the copying of Norse-derived verbs in ME, not all semantic verb classes participating in a construction or alternation of interest are being included. The present work does not aim to provide a full survey of the changing alternation behaviour of OE or ME verb classes. Such an endeavour, although worthwhile, would be the work of a lifetime. Only verb classes showing lexical expansion by Norse-derived lexis and exhibiting alternating behaviour in possible correlation with these Norse-derived lexemes are of interest to the present research programme.

6.2 General notes on the data

As Björkman (1900-02) already points out and as evident from previous research discussed in Section 5, the data used in the investigation of the Anglo-Scandinavian contact cannot

be taken exclusively from data dated to earlier than beginning of the ME period but must include the data of the ME period. As a consequence for this investigation, dictionaries and corpora for the OE and ME periods are taken as the basis of data analyses. While the direct linguistic contact with Old Norse dialects in England is synchronic with the second half of the OE period, the earliest substantial written records of Old Norse represent Old Icelandic and only start in the 12th century.

Because the present research programme is concerned with the morphosyntactic realisation of verb argument structure, syntactically annotated corpora of OE and ME as well as Old Norse Icelandic are used, whose tagging and parsing schemes are compatible with the those of the *Penn Parsed Corpora of Historical English* (Kroch 2020). They are especially suited to fulfil the needs of the present research, as their markup allows for queries for specific syntactic constructs as well as specific constituent orders. Additionally, (verb) lemmatisation for all of these corpora has become available, furthering the opportunity for systematic argument structural analysis of lexical verbs (Percillier & Trips, 2020; Taylor et al., 2021; see individual contributions A–C & E & references therein for details).

The York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE) (Taylor et al., 2003; Taylor et al., 2021) is used as representative of the Old English period. As representative of Old Norse, *the Icelandic Parsed Historical Corpus* (IcePaHC) (Wallenberg et al., 2011) is used. Multiple syntactically annotated corpora are analysed in combination as representative of ME. These are *the Penn-Helsinki Parsed Corpus of Middle English, second edition* (PPCME2) (Kroch & Taylor 2000) as well as *the Parsed Linguistic Atlas of Early Middle English* (PLAEME) (Truswell et al., 2018) and *the Parsed Corpus of Middle English Poetry* (PCMEP) (Zimmermann, 2018). While the PPCME2 is the largest and adequately representative of prose text genres, diachronic subperiods of ME, the main dialect areas, and translation status of texts, it does show a significant imbalance especially in the underrepresentation of English original compositions in the M2 Helsinki period and texts from Northern varieties of ME (Percillier, 2016, 2018; Percillier & Trips, 2020). The PLAEME corpus specifically amends this shortcoming of representativeness (Truswell et al., 2018). The PCMEP corpus is added to represent verse texts in ME, as Norse-derived lexis has been shown to specifically find currency in lyrical use. In verse, as evidenced especially by texts from the *Alliterative Revival* (Turville-Petré, 1977, p. 69–83; cf. Dance, 2003, p. 185–284, 2019, p. 57 fn. 181), a high wealth of near-synonyms would be to composers' advantage.

As any historical work relying on the limited extant data as its empirical basis, the present research programme must account for the caveats of data poverty and balance inherent to the lexicographic data and corpus data which takes as its basis.

First, the early subperiods of the IcePaHC corpus used in this research programme to represent usage of etyma verbs in the Old Norse model code must be termed a proxy in the comparative analysis of argument structures in contact between Old Norse and Old English, while nevertheless being the best available data source. Rather than directly being able to draw on written records of Old East Nordic for comparative analysis of argument structures and lexical verbs which speakers of Old English would have encountered in mutually intelligible contact with speakers of Old Norse, the IcePaHC corpus is representative of Old Norse Icelandic.⁵⁰ Among other things, this is due to the fact that the cultural tradition of speakers of Old East Nordic dialects, who represent the bulk of settlers in England (cf. Barnes, 1993, p. 377; Cole & Laker, 2022, p. 9; Keynes, 2001), is an overwhelmingly oral tradition at the time of contact and the surviving written records of early Nordic from that time overall are limited (Brink, 2005; see Würth, 2002 for an overview of sources). Moreover, the earliest texts in the IcePaHC corpus are dated to the 12th century CE and thus represent a synchronous *comparandum* only for ME and not for OE. While these caveats on the cross-linguistic comparisons of this work could not be compensated by expanding the data sources for ON, the author does not assume full and unquestioned identity of forms or structures attested in the IcePaHC with those most likely encountered by speakers at any point.

Accounting for a myriad of variational differences must always be the case when conducting such far-reaching diachronic and cross-linguistic comparisons as those of the present research programme. The same of course applies to the OE and ME data utilised in this work and the variations and dialects represented in them.

Second, concerning the corpora utilised to represent Middle English, the combined corpora described above are representative of a wide spectrum of written text genres and text types as well as translated texts and original compositions but working with historical data such as these invariably comes with a set of limitations. For instance, not all social strata are represented as writers and the linguistic competence, biographies and mindsets

⁵⁰ This work assumes that the more fine-grained dialectal differences between the dialects of ON are unlikely to be significant regarding the present investigation of verb argument structure realisations. See Walkden et al. (2023, p. 252 fn. 13) for a similar assumption about the role of Old East Nordic and Old West Nordic variation in their assessment of possibly contact-induced morphosyntactic changes.

of writers and copying scribes will have varied (Meillet, 1921, p. 4; cf. Davidse & De Smet, 2020). Additionally, the text types predominantly attested in these corpora are highly formal, resulting in the underrepresentation of more informal text types and, due to the historical nature of the present research, an absence of spoken and spoken-like data. One option to expand the sample size to also represent more informal genres is the inclusion of the data from the *Parsed Corpus of Early English Correspondence* (Nevalainen et al., 2006). This corpus contains published authentic correspondence on a variety of topics and written in both informal and formal registers, albeit with a focus on more informal texts. However, the present work leaves this endeavour to future research which may also expand the timeframe of the investigation to Early Middle English and focus only on well-attested or (at least regionally) more lastingly established and surviving Norse-derived lexemes in the lexicons of more Scandinavianised varieties.

Third, the YCOE corpus on which the works in this collection based their comparative analyses of OE verb argument structures is as representative of the period and regional and diachronic varieties subsumed therein as the extant data allows, but ultimately is subject to the same caveats as the ME corpora, namely the imbalance of extant data across subperiods, dialects, text types, genres, register, and socioeconomic background of writers.

Overall, the Old and Middle English data suffer a relative underrepresentation of texts written in Northern dialects, one of the dialects inside the high-contact area of the Danelaw, especially in early (M1) and late (M4) ME (cf. Kroch & Taylor, 2000; Taylor et al., 2003; see also discussion of diatopic and diachronic distribution of texts in these corpora in Percillier & Trips, 2020; Truswell et al., 2019). This known caveat however somewhat mitigates the significance of the complete lack of attestations for many of the lexical verbs proposed as Norse-derived by etymological and lexicographic research in the combined corpora of ME and the overall low numbers of attestations in the data used in the present research programme. Late first attestations or attestations limited to specific text types, genres or dialects suggest their own conclusions regarding the integrational success and usage currency of these lexical verbs in medieval English. Detailed analysis of these well-researched factors was however not the aim of the representative corpus analyses presented in this collection (Contributions A, B, C, & E). Conclusions about the structural integration of Norse-derived verbs in Orm's linguistic system have been discussed in Contribution D.

As reviewed in Section 5.4.1 and operationalised in Section 6.1, the etymological and lexicographic research into the Scandinavian element in the lexicon of Old and Middle

English looks back on a long and fruitful tradition. Its success is however limited by the same data poverty as has been described for the corpora.

The most notable caveat concerns the fact that the dates of first written attestation of most of the Norse-derived lexis cluster in Middle English, rather than Old English (Dance et al., 2023; Durkin, 2014, in press; Hug, 1987; cf. Proffitt, 2019). Hug's (1987, p. 7–9) analysis quantifies Scandinavian loans with respect to the century of their first attestation. Her numbers reflect only a selective wordlist "[...], but their chronological distribution is nonetheless very instructive" (Durkin, 2014, p. 187) as it shows the peak of new attestations of loanwords in English during the 13th century. The fact that most lexical items of likely ON origin are first attested only after the end of direct contact in ME is due to their natural usage and their belonging to more informal registers (Durkin, 2014). As Durkin (2014, p. 187ff.) discusses, this reflects a quantitative and qualitative representativity gap in the record of extant data "rather than actual initial copying of ON lexemes after the end of direct Anglo-Scandinavian contact" (Contribution D, p. 15). Because of this data poverty, "a closer dating for the majority of the Norse-derived words first attested in ME texts is likely unrecoverable[. T]his qualifies the date of first written attestation as an imperfect evaluation of these words' existence in the English language" (Contribution D, p. 15f.) (cf. Durkin, 2014, p. 187–89). As the present work cannot not overcome this limiting fact, the analyses assume neither any widespread currency nor its complete absence of the lexis under investigation in spoken language use previous to the date of first written attestation currently on record and beyond what is attested in the utilised data sets. Dates of first attestation as recorded in the OED are used merely as an approximation of the pivotal point in time at which an individual lexical copy could be taken to have entered language use sufficiently to have been successfully argument-structurally integrated and adapted to the basic code linguistic system. Consequently, only after this point in time it may exert any detectable influence on its lexical set and the argument structures licensed for use with it and its near-synonymous class members (cognate and non-cognate).

With these limitations on the data in mind, the structural integration of Norse-derived loan verbs into English and the assignment of argument realisation patterns to them is investigated by extracting all occurrences of these verbs from corpora of OE and ME and coding them for the observable morphosyntactic realisation of the verbs' semantic arguments. All true positive hits for the investigated verbs in the corpora were analysed for valency, thematic roles and morphosyntactic realisation of arguments as well as finiteness

of the lexical verb. Valency as a second order property is defined formally by the number of realized complement phrases. As a basis for cross-linguistic comparison between the copy and its etymon, data for the ON etymon are extracted from the ME-synchronic subperiod texts of the IcePaHC and annotated in parallel. Attested predicate-argument structures are verified using the respective dictionaries. Each analysis presented in the collection below poses its own specific research questions and lays out the methodological and theoretical distinctions necessary to answer them.

7 Collection of publications on loan verbs resulting from Anglo-Scandinavian contact

A: Elter, W. Juliane. (2023a). Integration of Cognate Loan Verbs in Contact Between Closely Related Languages Effecting Valency Changes. In B. Lewandowska-Tomaszczyk & M. Trojszczak (Eds.), *Language in Educational and Cultural Perspectives* (pp. 237–258). Springer, Cham. https://doi.org/10.1007/978-3-031-38778-4_12

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B: Elter, W. Juliane. (2024). Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns. *Etudes Médiévales Anglaises: A French Journal of English Medieval Studies*, 103(1), 217–253. L'Association des Médiévistes Anglicistes de l'Enseignement Supérieur (AMAES).

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C: Elter, W. Juliane. (submitted). 'Busked hem redy boun' – Achieving the Structural Integration of Norse derived 'busken' as a Mixed Copy into the class of 'prepare' verbs in Medieval English. (Submitted version). Submitted for Publication in *North-Western European Language Evolution. NOWELE*.

D: Elter, W. Juliane. (accepted). 'The Morphosyntactic and Argument Structural Integration of Norse-derived verbs in the Ormulum'. (Submitted version). In S. M. Pons Sanz, B. Méndez-Naya, A. Cooper, & M. Cole (Eds.), *The Language of the Ormulum*. Studies in the Early Middle Ages. Brepols.

E: Elter, W. Juliane, & Shaw, Marlieke. (2025). Loan verb accommodation: a comparison of Old Norse and French in Middle English. *English Language and Linguistics*, 29(1), 35–58. <https://doi.org/10.1017/S1360674324000029>

As the localisation of contributions in the nested layout of Figure 3 below illustrates, Contributions A–D progressively widen the perspective taken to argument structure from individual lexical items to verb classes and to alternations and constructions realised by these classes (cf. Figure 1, Section 4) Each contribution explores different aspects of the overarching research programme (see Section 8). Contribution A establishes the *modus operandi* for item-oriented studies conducted in this research programme and represents the methodological basis on which the other item-, class-, and alternation- and construction-oriented studies in Contributions B, C, and D expand. Contributions B and C expand this quantitatively representative corpus linguistic approach to capture the argument structural integration of individual Norse-derived loan verbs in the context of the verb class a copy enters in the basic code, including near-synonyms and existing cognates in the basic code as described in Section 6.1. Contributions A and C and the case studies on ME *skerren* and ME *brennen* in Contribution D contextualise the assignment of argument structure to Norse-derived copies in the development of constructions and alternations realised by these verbs or other members of their verb classes in the basic code.

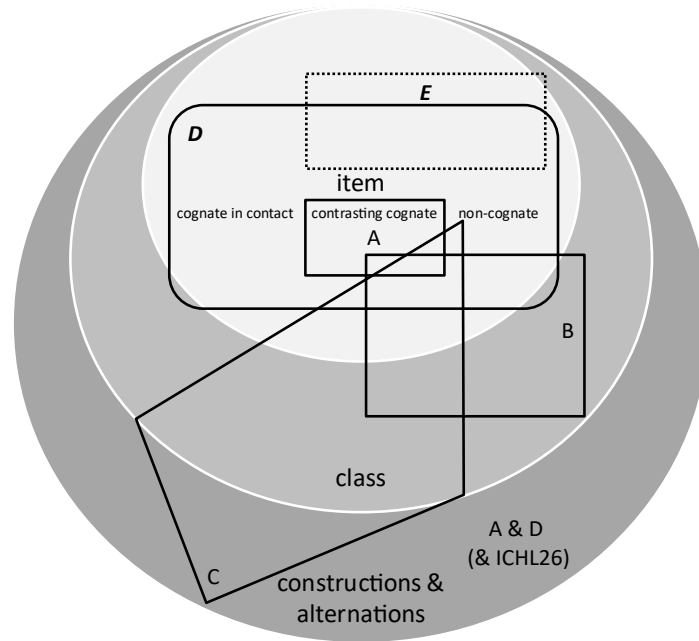


Figure 3: Mapping of individual contributions in the conceptual space of levels of perspective on argument structure of Norse-derived verbs and their cognacy relations as established in Figure 1 (Section 4). Angled shapes represent studies using parsed corpora, rounded shapes single full-text studies. Solid lines and regular script for the reference letter indicate qualitative analysis of argument structural integration of loan verbs and dotted lines and italics indicate quantitative analysis of morphosyntactic accommodation bias.

The present research programme is the first to investigate the argument structural integration of Norse-derived verbs in medieval English in this manner and its approach is novel in the field of Anglo-Scandinavian contact studies. The use of the combined corpora of Middle English on which the analyses in Contributions A–C and E are based are indicated by angled shapes in Figure 3. The collaborative Contribution E methodologically complements the qualitative analyses of the representative corpus data utilised in Contributions A–C by a quantitative comparative analysis of morphosyntactic integration of newly copied verbs in the representative combined Middle English corpora. This quantitative methodological approach is indicated by the use of italics for the reference letter and the use of a dotted line. Finally, Contribution D is a full-text analysis on the *Ormulum* focusing on the structural – morphosyntactic and argument structural – integration of Norse-derived lexis in a single text. This difference in data source is indicated by the rounded shape in Figure 3 above. Contribution D's mixed-methods approach combines the qualitative methodological approaches of Contributions A–C as indicated by the solid outline and the quantitative approach of Contribution E as indicated by the use of italics for the letter referencing the contribution.

Overlap of the shapes representing individual contributions in Figure 3 do not indicate that the subject matter of individual lexical verbs, classes or constructions and alternations overlap, but only represent the mapping of the contributions in the conceptual space of the approach to argument structure laid out in Section 4. Additionally, the width and orientation of the shapes on the horizontal axis in Figure 3 indicates whether case studies investigated non-cognate, contrasting cognate or cognate Norse-derived verbs, as operationalised in Section 6.1. The methodological and conceptual development of the contributions in this collection are discussed in detail at the outset of Section 8 below.

7.1 Article summaries

7.1.A: *Item-oriented study of contrasting cognate verb copies: ME 'reisen'*

Elter, W. Juliane. (2023a). Integration of Cognate Loan Verbs in Contact Between Closely Related Languages Effecting Valency Changes. In B. Lewandowska-Tomaszczyk & M. Trojszczak (Eds.), *Language in Educational and Cultural Perspectives* (pp. 237–258). Springer, Cham. https://doi.org/10.1007/978-3-031-38778-4_12

This contribution investigates the argument structural integration of Norse-derived ME *reisen* 'raise' in an item-oriented study. This lexical copy shows a formally contrasting West Germanic cognate verb in ME *rerēn* 'raise', both derived by causativising *-ja* suffixation in early Germanic and inherited into the respective daughter languages, and a structurally and semantically contrasting but formally similar cognate in ME *rīsen* 'rise', which is the descendant of the unaccusative Germanic base verb. A mixed-methods analysis of the combined Middle English corpora (see Section 6.2 on the choice of corpora) investigates the assignment of argument structure to the contrasting cognate copy ME *reisen* by comparing its semantic and combinational properties to those of its native cognate and related base verb in the linguistic system of the replica language.

This ME lexical triplet consisting of a copied causative verb and the originally stable native pair of an unaccusative non-causative base verb and the formally contrasting derived transitive causative shows unexpected post-integration lability between intransitive and transitive patterns with the formally co-identifiable cognate forms of ME *rīsen* and *reisen*.

Overall, this item-oriented study provides evidence that the copying of contrasting cognates can serve as a source for post-integrational argument structural variation for the affected lemma because, not despite, of linguistic closeness.

Concerning the structural integration of ME *reisen* as a copy of ON *reisa*, Contribution A argues that the ambiguity between the phonological forms of the contrasting cognates OE non-causative *rīsan*, ON causative *reisa* and ON non-causative *rīsa* in contact is a source for structural ambiguity resulting in the appearance of valency alternation for native ME *rīsen* and Norse-derived ME *reisen* shortly after the integration of the copy. This short-lived integrational effect is due to the accommodation techniques employed by speakers in this contact between mutually intelligible languages masking the formal distinction between the lexemes of the cognate sets in contact.

As a consequence, Contribution A proposes that formal ambiguity between members of identifiable cognate sets in contact between mutually intelligible languages can disguise existing meaningful structural and semantic contrasts shared by both model and basic code, like the reflexes of formerly regular Germanic *-ja* causativisation (Contribution A, p. 255). Resulting structural ambiguities are points of possible reanalysis of the form-function relations of cognate sets in contact and may lead to argument structural changes, like the labilisation of historically contrasting, non-labile verbs. Section 8 will discuss this in the context of the broader results of this research programme.

7.1.B: Class-oriented study contrasting non-cognate and cognate verb copies: ME 'nevenen' and ME 'callen' in the class of 'dub' verbs

Elter, W. Juliane (2024). 'Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns'. *Etudes Médiévales Anglaises: A French Journal of English Medieval Studies*, 103 (1). pp. 217–253. L'Association des Médiévistes Anglicistes de l'Enseignement Supérieur (AMAES).

Contribution B investigates the structural integration of two Norse-derived verbs lexicalising naming relations in Middle English, namely ME *nevenen* (< ON *nefna*) and ME *callen* (< ON *kalla*). The aim of this work was to assess whether the source of argument structure assignment to copied verbs could be assessed across varying types of cognacy relations between etyma and basic code cognate lexemes. Furthermore, it analyses the impact of these two Norse-derived verbs with varying relation to existing West Germanic

cognate lexemes on the argument structure patterns realised by the lexemes in Levin's (1993, p. 182, class 29.3) class of *dub* verbs in Middle English. It thus extends the item-oriented studies to a class-oriented study, aiming to assess the possible impact of individual verb copies on the argument realisation of their near-synonyms in the basic code.

Overall, the analysis finds that cognate argument realisation patterns prevail in the assignment of argument structure to new cognate-derived copies. This is the case both for ME *nevenen*, where cognate lexical material exists realising cognate patterns, **and** where it does not, like for ME *callen*, but where non-cognate synonymous verbs do show cognate patterns and thus could serve as models for analogous argument structure assignment (Contribution B, p. 247).

Concerning the assignment of argument structure to new verbs, this contribution argues that differences in availability and identifiability of a native West Germanic verbal cognate as a model for argument structure as operationalised as the formal, semantic and structural closeness of cognate pairs (cf. Gooskens, 2024) and the (lack of) attestations of the OE cognate(s) (cf. Dance, 1999) likely results in the employment of different strategies of argument structure assignment. For model code verbs showing identifiable cognate verbs realising cognate argument structure patterns assignment of these same cognate patterns via global copying or indeed analogous assignment based on the native cognates' patterns is likely. Contrastingly, where no cognate verb exists or a lexical cognate is not identifiable to speakers (see Section 8.3 for discussion), global copying of the cognate pattern with the lexical verb from the model code or assignment of a cognate pattern analogous to near-synonymous non-cognate verbs in the basic code are the likely sources for the assignment of cognate argument structures to copied verbs (Contribution B, p. 245f.).

Concerning the effects of loan verb integration on the argument structure of the class of *dub* verbs in ME, the analysed data do not suggest any conflict between the existing OE basic code argument realisations of that class and the attested ON model code argument realisations that would require restructuring of argument structure of the copied verbs for functional integration (cf. Holler 2015, Trips 2020a on integration conflicts). The analysis finds that ME *dub* verbs, both native and copied, "show a pattern that is the canonical ME reflex of the cognate patterns previously already attested for the OE members of this verb class **and** for the ON etyma *nefna* and *kalla* of the ME Norse-derived copies in this verb class" (Contribution B, p. 241). In summary, the class-oriented diachronic and cross-

linguistic comparison reveals that the argument structure patterns of *dub* verbs stay stable throughout the integration of these two cognate loan verbs (Contribution B, p. 242).

7.1.C: New items in a verb class: a class- & construction-oriented study on a lexicalised inherent reflexive copied into a class of argument-reflexive verbs: ME 'busken' and its native and Norse-derived near-synonyms

Elter, W. Juliane. (submitted). 'Busked hem redy boun' – Achieving the Structural Integration of Norse derived 'busken' as a Mixed Copy into the class of 'prepare' verbs in Medieval English. (Submitted version). Submitted for Publication in *North-Western European Language Evolution. NOWELE*.

Contribution C investigates the argument structural integration of Norse-derived ME *busken*, into the ME class of near-synonymous *prepare* verbs. ME *busken* is the copy of a derivationally idiosyncratic inherently reflexive Norse verb *būask* and lexicalises senses of preparation, or (caused) change of state of readiness in ME. The class of near-synonymous verbs into which ME *busken* is integrated is a twofold intriguing subject of investigation. First, it shows a variety of argument structure patterns both with reflexive and causative senses of preparation in contrast to the ON etymon and second, it undergoes lexical expansion by not only *busken* but by several varyingly Norse-derived verb copies, both cognate and contrasting cognate, as a result of Anglo-Scandinavian contact. This work aims to assess the source of argument structure assignment to a copied reflexive change of state verb, which is derivationally opaque and not co-identifiable with an existing native West Germanic cognate root to speakers of the basic code (see Section 8.2.1 for discussion). Argument structure would likely be assigned to such a copy either as copied globally with the etymon or on the basis of analogy to native non-cognate near-synonymous verbs.

The results show that ME *busken* is not simply a global copy of ON *būask* but that it combines the global copy of the intransitive reflexivised ON *būask* as a non-argument reflexive verb with a selective copy of this verb form which is assigned cognate transitive and canonical basic code reflexive patterns in English in transitive causative and argument reflexive senses. Concerning the integration of this lexical verb into ME, this represents a mixed copy, following Johanson's framework (1999, 2002).

While intransitive usage of inherently reflexive verbs is non-canonical and infrequent in the basic code, it is not ungrammatical in OE and ME (Visser, 1966, §159). Consequently, the integration of a copy with this argument structure modelled on an ON

model unit which regularly shows this argument structure in the model code does not necessarily represent an integration conflict. Similarly, the assignment of the canonical basic code argument realisation for reflexives using a coreferential pronoun on the basis of analogy of the verb's semantic properties does not represent a conflict under the assumption that the *-sk* reflexivisation of ON *būask* was intransparent to OE speakers and the verb was copied as a simplex into the basic code.

Solely the assignment of a causative transitive pattern to ME *busken* does reflect a true innovation on the part of the copy in the basic code. The transitive construction attested for ME *busken* in 'prepare sth.' senses is a pattern neither attested for the etymon form *būask* in ON nor for the native cognate base verb OE *būan*. "It follows that neither OE *būan* nor the ON inflectional form *būask* can be the direct model[s] for this pattern in ME *busken*" (Contribution C, p. 15). Secondly, expanding the qualitative analysis to a class-oriented perspective on the argument structures of the class OE and ME *prepare* verbs shows that the class of native non-cognate near-synonyms of *busken* are the likely source of this transitive pattern. This argument structure seems to have been analogously assigned to the copied verb *busken* in 'prepare sth.' senses. However, this innovation by analogical assignment of argument structure from non-cognate near-synonyms in the basic code does not represent an integration conflict as the transitive pattern involved is the canonical [subject(nominative)-AGENT; direct object(accusative)-THEME] transitive pattern cognate to both languages involved in this contact. With ME *busken* being assigned both causative and argument-reflexive change of state argument structures, as evidenced by canonical OE transitive and reflexive constructions, Contribution C reasons that the simplex copying of ON *būask* as the idiosyncratic ME *busken* partially masked the reflexivisation of the model unit formation.

Concerning the argument structural development of the class of *prepare* verbs, the analysis revealed no licensing of formerly ungrammatical patterns with lemmas of this class as a result of the integration of Norse-derived copies overall. Overall, this contribution corroborates the pervasive nature of cognate lexis, cognate argument structure and cognate morphosyntax characterising this contact situation, as also evidenced by Contributions A, B, and the qualitative analysis in D alike.

7.1.D: Cognacy as a factor affecting morphosyntactic accommodation and argument structural integration of Norse-derived verbs. A full text study

Elter, W. Juliane. (accepted). 'The Morphosyntactic and Argument Structural Integration of Norse-derived verbs in the *Ormulum*'. (Submitted version). In S. M. Pons Sanz, B. Méndez-Naya, A. Cooper, & M. Cole (Eds.), *The Language of the Ormulum*. Studies in the Early Middle Ages. Brepols.

Contribution D revisits the Norse-derived lexis of Orm's language based on Pons-Sanz (2024, in press) reassessment of their etymological evidence and focusses on the integration of loan verbs and their argument structure in the *Ormulum*. As a text source, it utilises the recent new edition of this text, edited by Johannesson and Cooper (2023). Its date of composition and the Scandinavian-influenced linguistic and social heritage of the author locate the *Ormulum* at the transition between the Old and Middle English periods and in a significantly Scandinavianised area. Thus, it lends itself perfectly to the study of structural integration of Norse-derived verbs shortly after the end of direct contact. This contribution assesses how well integrated Norse-derived verbs were into Orm's linguistic system, both morphosyntactically and argument-structurally.

The qualitative analysis of three Norse-derived verbs in the *Ormulum* combines three item-oriented studies with a focus on how the existence and varying closeness of cognacy relations to native West Germanic lexemes impacts the assignment of argument structure to copied verbs. It contrasts the argument structural integration of ME *skerren*, ME *geinen*, and ME *brennen* and thus delineates how argument structure assignment strategies are impacted by the variable of speaker-identifiable cognacy, as operationalised in three categories (cf. Contribution B, p. 222; see also Section 6.1 above).

ME *skerren* 'frighten' (*Gersum* category A1c) is investigated as representative of non-cognate copies, as it does not show an identifiable cognate in OE. As evidenced in the *Ormulum* data, ME *skerren* is assigned cognate argument structure of psych-verbs of the *amuse*-type in the basic code, as parallel to both its etymon and native non-cognate verbs of the same class. ME *geinen* 'help, suit, be useful' is investigated as representative of contrasting cognate copies, as it shows the formally and semantically contrasting cognate OE *gȳnan* 'drive' (Contribution D, p. 37ff.) in the basic code prior to integration. The Norse-derived copy ME *geinen* is also assigned cognate argument structure in the basic code, albeit including a non-canonical [subject(nominative)-BENEFACITOR; direct object(dative)-BENEFICIARY] pattern that is cognate to both OE and ON with the cognate lexical items.

Lastly, ME *brennen* 'burn' is investigated as the lexically merging outcome of non-contrasting cognates in contact. As Contribution D (p. 41ff.) describes, the native late OE pair of an unaccusative base and a *-ja*-causativised verb already behaves as labile, while the pair of ON model code lexemes, while contrasting formally with the OE verb pair, are not yet labile in ON. Orrm uses native West Germanic metathesised *bærnen*-forms of these verbs as labile, but non-metathesised Norse-derived *brennen*-forms exclusively with causative transitive argument structure. This suggests a global copy of causative ON *brenna* in Orrm's linguistic system. However, as a representative corpus analysis (Elter, 2023b, September 7) showed, this result does not hold true for ME overall or indeed for early ME texts from other dialects. Both metathesised (native West Germanic) and non-metathesised (Norse-derived) forms of these verb pairs behave as labile in the combined ME corpus data. "Consequently, existing labilisation of the [...] native verb is maintained in Orrm's early ME variety and later keeps gaining ground in this cognate set, even where the introduction of a non-metathesised variant form from a closely related language might have renewed the mostly intransparent formal [and functional] contrast [...]" (Contribution D, p. 45). In summary, ON influence on the merging cognate in contact ME *brennen* does not lead to an integration conflict and native argument structure, albeit cognate, is stably vertically transmitted from OE to ME.

Overall, the comparative qualitative analysis of these three item-oriented studies revealed that "cognate argument structure patterns are pervasive in the Anglo-Scandinavian contact, not only for formally close or even contrasting cognates in contact but also for verbs without a cognate verb in the replica language"(Contribution D, p. 49). This contribution shows that the Anglo-Scandinavian contact situation does not lead to significant structural integration conflicts regarding the assignment of verb argument structure patterns to either cognate or non-cognate lexical copies in Orrm's linguistic system. Consequently, regardless of the identifiability, existence and nature of cognacy relations between Norse-derived copies and native lexical verbs, this contribution finds that transmission of cognate argument structure patterns at the transition from Old to Middle English remains stable under the conditions of linguistic contact with Old Norse, for both canonical and non-canonical patterns in the replica language, like (former) dative objects (Contribution D, p. 53).

This full-text analysis of the *Ormulum* also investigates the morphosyntactic integration of Norse-derived verbs in Orrm's vernacular in a quantitative assessment of loan verb accommodation biases. The quantitative analysis shows that Orrm's Norse-derived

verbs with a contrasting native cognate show a significant integrative bias towards non-finiteness in the *Ormulum* when compared to native English verbs, in line with the findings of Contribution E (Contribution D, p. 28). While the data for non-cognate Norse-derived verbs was impacted significantly by the finite usage of highly frequent lemma ME *taken*, the set of less frequent non-cognate Norse-derived verbs did show a significant accommodation bias in this early Middle English text. The attested biases for non-cognate and contrasting cognate copies in the *Ormulum* are weaker than what has been attested for other early ME texts in Contribution E. This indicates that the investigated Norse-derived verbs were already well integrated into the linguistic system of author's vernacular at the time of the text's composition (Contribution D, p. 52). Additionally, the non-significant accommodation bias revealed for non-contrasting cognate verbs in contact in the *Ormulum* data suggests "that closely identifiable non-contrasting cognacy relations between lexical items of mutually intelligible languages facilitate direct insertion of cognate verb copies into the morphosyntax of the replica language" (Contribution D, p. 51).

Overall, the lack of integration conflicts and the near-native morphosyntactic usage of copied verbs revealed by this mixed-methods analysis show advanced nativisation of the Norse-derived lexis of all cognacy groups in Orm's vernacular.

7.1.E: Closeness of languages in contact as a factor in the structural integration of copied verbs

Elter, W. Juliane, & Shaw, Marlieke. (2025). Loan verb accommodation: a comparison of Old Norse and French in Middle English. *English Language and Linguistics*, 29(1), 35–58. <https://doi.org/10.1017/S1360674324000029>

This collaborative work focusses on the effects that typological and genealogical closeness of languages in contact has on the morphosyntactic integration of copied verbs. It combines the detailed investigation of how the factors of lexical and structural closeness between Old English and Old Norse affects loan verb integration of the present research programme with Marlieke Shaw's work on the accommodation biases observable in the morphosyntactic integration of French-derived loan verbs in Middle English (De Smet & Shaw, 2024; Shaw, 2022; Shaw & De Smet, 2022).

Methodologically it utilises Shaw's (2022) operationalisation of an accommodation bias towards non-finite use of verbs as a measure of loan verb integratedness to compare whether Norse-derived or French-derived verbs are integrated more easily into the ME

basic code morphosyntax in a quantitative corpus analysis of the PPCME2 and PLAEME corpora. This study utilises the etymological operationalisation of Norse-derivedness and the data extraction and annotation protocols of the research programme presented in this collection and additionally draws on the etymology annotations of the BASICS project for French-derived verbs. By choosing a narrow definition of Norse-derivedness for the operationalisation of verb etymology and excluding North- and West Germanic cognates in contact from both the test and control sets of ME verbs, this contribution focusses on the factors of lexical, typological and structural closeness of the language pairs in contact as a factor in loan verb integration, thus minimizing the confounding impact of cognates in contact on the independent variable measure of non-finiteness of use.

Additionally to etymology, we also test for the significance of temporal distance to direct linguistic contact and control for dialect area and lemma frequency. The results show a significant accommodation bias towards non-finite use of copied verbs for both etymologies, but they are stronger for French- than for Norse-derived verbs in the ME data. This corroborates that accommodation biases are a valid measure of foreignness of lexical verbs across different contact situations. The results further give evidence that accommodation bias towards non-finiteness is weaker at a longer temporal distance to direct linguistic contact and in contact between languages that are structurally more similar, as is characteristic for closely related languages (Contribution E, p. 21).

Abstracting from this comparative work, Contribution E corroborates that structural and genealogical closeness as a characteristic of language contact situations like the one investigated in the present research programme facilitates the borrowing of more complex categories overall (Winford 2003, p. 51ff; cf. Johanson, 2002; Meillet, 1921; Moravcsik, 1975) and directly effects how easily copied lexis of such complex categories can be functionally integrated into the structures of the basic code's linguistic system.

7.2 Complete contributions

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Integration of Cognate Loan Verbs in Contact Between Closely Related Languages Effecting Valency Changes



Wiebke Juliane Elter

Abstract In contact between closely related languages like Old Norse (ON) and Old English (OE), higher similarity between units of the languages in contact can favour integration of loans as selective copies (Johanson, 2002). This can result in the copying of cognates like Middle English (ME) *reisen* ‘to raise’ (<ON *reisa*) which shows intransitive *rísan* as a formally similar cognate in OE. A mixed-methods analysis of ME corpus data shows that the argument realisation patterns used with forms representing either cognate verb show semantic and combinational features of both verbs. It is argued that ambiguity between cognate phonological forms of OE *rísan*, ON causative *reisa* and ON anticausative *rísa* during contact served as the source for structural ambiguity between valency constructions later available to both ME verbs *rísen* and *reisen*. Thus, this work proposes that formal ambiguity between identifiable cognates in contact can disguise existing meaningful structural and semantic contrasts and lead to argument structural changes like the labilisation of historically contrasting, non-labile verbs. This work provides evidence that copying of cognates can serve as a source for argument structural change because, not despite, of linguistic closeness.

Keywords Argument structure · Valency · Old Norse · Loan · Verb

The original version of the chapter has been revised: Missed corrections have been updated. A correction to this chapter can be found at https://doi.org/10.1007/978-3-031-38778-4_18

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1 Introduction

Present Day English (PDE) shows a high number of labile verbs in comparison to Old English as well as to other Germanic languages (cf. van Gelderen, 2011, p. 206, 2018, p. 76; Visser, 1963, p. 97–135). Labile verbs alternate in valency without change to their morphological form (Kulikov, 2001, p. 887). Van Gelderen (2011) discusses the source and diachrony of this development of labilisation of formerly non-labile verbs for causative verbs and the resulting changes to the basic transitivity of English as causativization is commonly posed as a valency-increasing operation (cf. Kulikov, 2001, p. 894; van Gelderen, 2018). However, not all verbs developing labile behaviour across causative/anticausative meanings in the history of English do so as a direct result of the processes and changes discussed by van Gelderen (2011, 2018) or even retain this lability into Modern English. Some verbs alternate in valency in some PDE dialects and senses despite the efforts of modern usage guides to restrict them to only intransitive anticausative or monotransitive causative uses respectively (cf. Fowler & Crystal, 2009). One such set are the cognate verbs *rise*, *raise* and *rear*.¹ While usage guides put *rise* and *raise* forward as being strictly non-labile verbs (cf. *rise* v., OED Online) separated by the causative semantics inherent in the basic senses of *raise* and only support their use as in (1) and (4), some speakers of PDE varieties can use these verbs intransitively as well as monotransitively as in examples (1)–(4).

1. After the last ice age **the sea rose** at the amazing rate of 4 m per century
(2008 New Scientist 19 July 18/1 as cited in *rise* v. OED Online)
2. **We are rising our tatties** this week
(1974 W. Leeds Herefordshire Speech 88 as cited in *rise* v. OED Online)
3. **His Brezhnevian brows raise** at the memory
(2002 Miami New Times (Nexis) 29 Aug. as cited in *raise* v.1. OED Online)
4. **They** managed to **raise a barn** in one day
(2002 F. Michaels Kentucky Heat xii. 324 as cited in *raise* v.1. OED Online)

This clear separation between intransitive anticausatives and monotransitive causatives might have been true originally for the verb pair *rise* and *rear* in which *rear* is the descendant of a causative verb derived from the base of *rise* in early Germanic (see Sect. 5). However, the relationship between *rise* and *raise* is not one of derivation, even though these verbs are close cognates, but one between a native and a copied cognate verb gained through language contact.

The alternation of *rise* and *raise* between causative and anticausative uses is rare in PDE and Levin (1993) does not include them in the sets of alternating lexemes

¹ This work focuses on the contact influence between *rise* and *raise*. The relation between *raise* and *rear* is not subject of this work. Etymologically both verbs descend from Germanic derived causatives and Anglo-Scandinavian contact leads to their status as near synonyms in English (*rear* v.1. OED Online).

for the causative alternation.² It seems to be confined to some regional PDE varieties (*rise* v. & *raise* v.1. OED Online), but it was more frequent after it arose during Middle English (ME), when both verbs could alternate even in basic senses of (caused) directed motion and (caused) change of state like in ME examples (5) and (6) reflecting usage of these verbs as in PDE (2) and (3) respectively:

5. *þe risen vp a renk, Rome for to kepe, [...]*
Romayns
 The rise-3PL- PST up a soldier-OBJ, Rome to keep, [...]
 Romans-SBJ
 “The Romans raised up a soldier to keep Rome, [...]”
 (Siege of Jerusalem(1) (LdMisc656) 933 as cited in “*risen* v.”, MED)
6. *If þe cataracte raise agayne after þe first remouyng [...]*
 If the cataract raise-3SG-PRS again after the first removing [...]
 “If the cataract rises again after the first removal...”
 (*Chauliac(1) (NY12) 134b/a as cited in “*reisen* v.(1)”, MED)

The present work seeks to gain an understanding of how the copying of the cognate verb ME *reisen* in a contact situation between closely related languages like Old English (OE) and Old Norse (ON) could influence the argument structure of this set of English verbs. To this end, this analysis of ME *reisen* takes the argument structure of the Norse etymon and its close ME cognates into account. This approach may thus also illuminate how such types of code-copying may have impacted the ongoing labilisation and the resulting change in the basic valency of medieval English (cf. van Gelderen, 2011; Visser, 1963). While labilisation may have already been underway language-internally in OE (van Gelderen, 2011), Anglo-Scandinavian contact and resulting cognate copies of formally and functionally ambiguous verbs showing labile surface behaviour may have strengthened the labile behaviour of native and copied cognate verbs alike and facilitated the diffusion of lability to more verbs of the same derivational type.

2 Language Contact and Argument Structural Change Through Code-Copying

Contact-induced change is effected in bilingual individuals or monolingual individuals in contact with a mutually intelligible foreign language (Townend, 2002). Although linguistic contact may impact all areas of a language system individually, transitive influence between subsystems of language, like the lexicon and morphosyntax, is also possible (Trips, 2020; Trips & Stein, 2008). This means that, while the copying of a lexical verb from one language to another may add to or

² Levin (1993) lists *arise* and *rise* as non-alternating verbs in the causative/inchoative alternation. *Raise* is not listed.

change the lexicon of what has traditionally been termed the ‘recipient language’ (Weinreich, 1953), copying between languages may also impact the predicate argument structure of the copied verb and related lexical items (cf. Barðdal & Eypórsón, 2020; Holler, 2015; Trips, 2020).

Whether contact can affect the more structural layers of a language depends on its duration and intensity, socioeconomic status dynamics between the groups and on the typological, genealogical, and linguistic closeness of the languages (Matras, 2009, p. 154). In situations where contact is lasting, intense and where it happens between closely related languages, structural influence is more likely (Matras, 2009; cf. Thomason & Kaufman, 1988). The measure of this intensity and closeness has often been linked to the copying of basic vocabulary and the amount of loans over all (cf. Durkin, 2014; Matras, 2009, p. 166). To be discussed in Sect. 4, both apply to varying degrees to the contact situation between OE and ON.

2.1 *Code-Copying and the Integration of Lexical Verbs*

Johanson’s *code-copying framework* (2002, 2008a, 2008b) underlines the view that copied material is never identical to its model unit in the model code (otherwise known as source language, Weinreich, 1953). Furthermore, copied elements are adapted in their phonology, semantics and morphosyntax to better fit into the basic code system into which they are integrated (otherwise known as recipient language, Weinreich, 1953). Johanson (2002, 2008a) describes all units of a language code as segmental. Linguistic units are comprised of their material form, semantic content, combinational and frequential properties. A lexical verb like *rise* has a material phonological form /rAIZ/, at least one salient meaning like „get up from sitting or lying, move upward” and subsenses or specified meanings. Additionally to these more *de Saussurean* features, a linguistic unit also has combinational features, like PDE *rise* being commonly used as an intransitive verb that takes a nominative subject argument, who or what is rising, and possible combinations with particles and prepositions. Finally, a linguistic unit has frequential features, meaning how often it is used in general speech in relation to other elements of the same category, class, and semantic field.

Corresponding to this definition of linguistic units, copying of units from one language to another during contact can affect the whole block of properties of a unit with it being copied as a whole, or only some select property of that unit being copied (Johanson, 2002).

By their nature, verbs are morphologically more complex than other “borrowable” lexical categories, making their integration into a basic code more complex as well (Winford, 2003, p. 52). While Johanson does not explicitly work on the copying of verb argument structure, he notes that “[m]odel code predicates may trigger copying of their valency patterns for basic code equivalents” (2008b, p. 499). Due to its modular approach to the nature of linguistic units, the code-copying framework serves well for an analysis of the copying of verbs and their argument structure.

As soon as a copy is adapted to the basic code of a speaker it becomes part of it and is subject to its internal processes. Conventionalised copies are not restricted to use by bilingual speakers of the model and basic codes, but function solely in the basic code system. Possible deviations of the copied element's features from the basic code may be introduced as new variant forms or structures and possibly may even replace native equivalents in the basic code. This is the point of linguistic change through code-copying (cf. Trips, 2020).

2.2 *Changes in Argument Structure*

“The term ‘argument structure’ is used to refer to the lexical representation of argument-taking lexical items—typically verbs (...)” (Levin, 2018, p. 1). This representation specifies sufficient information about these items’ arguments to allow their syntactic realisation to be determined and is taken to indicate the number of arguments, their syntactic expression, and their semantic relation to this lexical item.

When identifying changes in the argument structure of lexical verbs or sets of lexical verbs they can affect any of these aspects and may effect changes in the combination of all three, meaning the argument structure as a mapping between internal semantic structure and morphosyntactic realisation of grammatical relations. Observed changes have been valency shifts or labilisation of verbs or sets of verbs that could even result in changes to the basic valency of a language.³ Others may involve changes of the morphosyntactic expression of arguments like the loss of case morphology and the rise of prepositional marking. Copying of lexical verbs may lead to conflicts in their structural integration into the basic code due to incompatibilities between model and basic codes. These integration conflicts have been pinpointed as a cause of contact-induced argument structural change (Holler, 2015; Trips, 2020).

An overarching phenomenon in argument structure are alternations (Levin, 1993). Lately, language contact has gained attention as a possible cause for changes to the participation of verbs in alternations (Elter, 2020; Trips, 2020). One such alternation is the causative/inchoative alternation (Levin, 1993).⁴ Following Ottósson (2013, p. 14), I will refer to transitive uses of verbs expressing causation of an event as causative and to intransitive uses of verbs not inherently expressing causation of the lexicalised event as anticausative, focusing on the valency of the alternation's variants. In transitive uses of alternating verbs both a CAUSE and THEME are expressed as arguments while in intransitive uses only the affected THEME is expressed as in (7):

³ For work on the basic valency of OE and the effects of causativity marking see van Gelderen (2011) and García García (2020).

⁴ This alternation is also known under the name causative/anticausative alternation (Ottósson, 2013).

7. *Tom breaks the vase*

The vase breaks

While in PDE verbs lexicalising (caused) inherently directed motion like *arise*, *rise* and *raise* do not alternate in valency due to causativity, their ME predecessors *rísen* and *reisen* did, as shown above.

3 Contact Between Closely Related Languages

While linguistic contact depends on duration and intensity to have a lasting effect, linguistic and typological closeness of the languages in contact is another important factor in modelling the outcomes of language contact (cf. Heine & Kuteva, 2005, p. 234f.; Matras, 2009; Warner, 2017). This factor is especially important in research into the possible structural effects of lexical copying.

Johanson (2002, p. 294) takes the existence of some subjectively perceived equivalence between languages in contact as a prerequisite for the copying of linguistic units. However, this equivalence is assessed by the speaker and does not necessarily correspond to true linguistic equivalence (Johanson, 2008a, p. 63). This nevertheless implies at least some subjectively perceived intelligibility of the model code by the basic code speaker making the copy, either based on acquired competence or on natural mutual intelligibility. This suggests that a small typological distance eases copying (Johanson, 2002, p. 306), as extensive overlap in essential structures and ordering principles together with low structural resistance provides a multitude of possible equivalences available for the insertion of copies (Johanson, 2002, p. 306). Additionally, units representing a type that already exists as an alternative in the basic code are copied more easily and could spread as the result of frequent copying (Johanson, 2002, p. 306). Contact situations between closely related languages are characterised by a lexical closeness due to a high number of cognates, typological closeness, and sufficient phonological, morphological, and structural overlap (Bower, 2013; Pons-Sanz, 2013; Townend, 2002). Consequently, these instances of contact have the advantage of encompassing a higher number of functional equivalences at which copying of linguistic units may occur.

Recent work on the integration of copied material (Holler, 2015; Trips, 2020) suggests that global copying of verbs with their argument structure and their integration into a basic code syntax might only be possible if parallel structures between model and basic codes exist or model code structures required by the copied unit are at least possible in the basic code. Otherwise, as mentioned in Sect. 2.2, copying of verbs with their argument structure results in integration conflicts to be resolved.

It may be proposed that contact between closely related languages will likely not show relevant structural influence due to a lack of conflicting or complementary structures that would need accommodating during copying of linguistic units, especially between cognate items. However, the higher similarity between units of

the languages in contact can favour integration of loans as selective copies of only some properties of a model unit (Johanson, 2002, p. 292). In this manner, new variant forms can be integrated easily with existing material and structures. This may lead to ambiguity and thus structural changes in the basic code. Therefore, this work argues to the contrary that contact-induced structural influence becomes even more likely in contact between closely related languages, due to the copying of equivalent linguistic units like cognate lexical items.

The impact of copying between closely related languages may, of course, still affect the material form and semantic content of the affected linguistic units, but due to the high formal and structural overlap, contrasting and structurally more abstract linguistic properties may be affected in contact situations that might otherwise have been argued to be too superficial or short-lived to result in structural changes based on the work by Thomason and Kaufman (1988) (cf. Winford, 2003). This makes contact between closely related languages an interesting area to study the argument structural influences of lexical copies.

3.1 Cognates and Mutual Intelligibility

The most salient feature shared by closely related languages is unarguably lexical closeness. Lexical closeness is defined as the number of cognates existing between the languages. A cognate is a “morpheme which is related to a morpheme in another language by virtue of inheritance from a common ancestral morpheme, whereas a ‘copy’ is a so-called ‘borrowed’ morpheme” (Johanson & Robbeets, 2012, p. 3). Recent sociolinguistic research shows that lexical closeness is the linguistic factor best predicting mutual intelligibility (Gooskens & Swarte, 2017). Consequently, languages that contain a high number of cognates between them will likely show a higher degree of inherited mutual intelligibility.

While phonological and semantic similarities between cognate units are not part of the definition, this reflex of the common ancestry characterises easily recognisable cognate sets. Phonological, morphosyntactic and semantic changes separating related languages by degrees may mask the etymological relation of linguistic units to the speaker, but they do not erase it conceptually. However, whether a set of etymological cognates is recognisable to speakers of either language depends on the degree of formal and semantic identity between the units of this set, which indeed is affected by such separating changes.

3.2 Cognates in Contact as a Source of Ambiguity

For the systematic study of contact between closely related languages both the conceptual etymological connection and its recognisability to speakers at the time of contact are important factors. Both affect the modelling of contact effects between

cognate materials. Especially when investigating the integration effects of verbs copied from closely related languages on the argument structure realisation patterns available in the basic code, the conceptual distinction between non-cognate loans and cognates in contact is an important theoretical and methodological issue. The reason for this lies in the segmental nature of linguistic units itself and in the minutiae of formally, semantically, and structurally distinguishing close cognates. The formal and semantic identifiability of cognates by speakers and the recognisable differences between them serves as a basis for possible copies. The combination of both factors helps determine if indeed a copy has likely been made between these cognates in contact and if yes, what the exact nature and extent of this copy was.

In contact between closely related languages, the smallest formal or functional differences between recognisably cognate linguistic units can lead to lasting changes, due to their very high but imperfect lexical, formal, and structural identity. This may lead to two types of ambiguities. First, *multiple functions:one form* ambiguities caused by an intransparency of meaningful contrasts between functionally non-equivalent morphosyntactic structures and expressed lexical semantic structures realised as recognisably identical or near-identical morphophonological forms of identifiable cognates. Second, *one function:multiple forms* ambiguities caused by the existence of functionally equivalent structures expressed as recognisably distinct morphophonological forms of identifiable cognates. Reanalysis of these ambiguous form-function relations between cognates in contact towards transparency, with contrasting surface forms always representing meaningful functional contrasts, is a likely path for disambiguation. This is especially relevant where formal differences concern a meaningful stem variation as these cannot be as ‘easily’ overcome by speaker accommodation in bilingual or mutually intelligible communication as differences in affixal inflection could (cf. Matras, 2009). Where derivational morphology like *-ja* causativisation is affected, this type of contact between cognates may manifest on the level of argument structure specifically in valency changes and changes in participation in transitivity alternations (cf. van Gelderen, 2011).

4 Anglo-Scandinavian Contact

Direct contact between people originating from England and Scandinavia can be said to have been ongoing between the late 8th and early eleventh century (Pons-Sanz, 2013, p. 6f.).⁵ This contact situation can be divided into three phases (Pons-Sanz, 2013) based on the intensity, geographical extent, and socio-political power dynamics of this contact. These phases of social contact are also reflected in the intensity and nature of linguistic contact between speakers of OE and ON varieties.

While during early contact linguistic interactions would have been brief and basic, linguistic contact during the second phase would have been more intense. Later, Scandinavian linguistic influence spread south with the Danish reign over England

⁵ See Pons-Sanz (2013) for a detailed account.

(Pons-Sanz, 2013). Research suggests a bilingual society, but not necessarily a large proportion of bilingual individuals (Townend, 2002, p. 185). During the later phases copying as well as inference will have co-occurred (Pons-Sanz, 2013). Linguistic influence of ON diverged “in connection with the areas of significant (...) contact” (Pons-Sanz, 2013, p. 7) and societal bilingualism and the transmission of ON as a native language later declined. Some suggest that a linguistic shift of Scandinavians in England from ON to OE as their dominant language seems likely in this phase (Townend, 2002) while others argue for koinisation (Warner, 2017).

Genealogically, the varieties of OE and ON in contact have Early Germanic as a common ancestor. While OE descends of North-Sea West-Germanic varieties, ON varieties are of the North-Germanic branch. Linguistically, OE and ON show a separation of around 200–350 years (Townend, 2002). As expected, they show many lexical cognate sets between them (Morse-Gagné, 2003, p. 282ff.) as well as a high formal and structural overlap, albeit systematic phonological and some significant morphosyntactic differences (cf. Dance, 2012; Townend, 2002).

This situation aligns well with the factors of mutual intelligibility laid out in Sect. 3.1, meaning that due to their close genealogical and typological connection OE and ON likely were mutually intelligible to such a degree that monolingual speakers of either could successfully navigate basic day-to-day interactions with each other (Townend, 2002, p. 182f.). Their phonological inventories, lexicons and morphosyntax are parallel enough for pragmatic mutual intelligibility, but distinct enough that speakers recognised this difference and would have needed to make accommodations, utilising a switching-code, to successfully communicate details and complex issues required for prolonged and intense cohabitation of areas (Townend, 2002, p. 182). In line with this assessment, Warner (2017) proposes a situation of close interaction of speakers of mutually intelligible varieties spoken in varied social groups later resulting in koinisation. This did not require pervasive individual adult bilingualism initially and childhood bilingualism was subsidiary and transient (Warner, 2017, p. 375).

5 Development of the Germanic Cognate Verbs OE *rísan*/*ráeran* and ON *rísa*/*reisa* to the ME Cognate Set *rísen*, *reisen* and *réren*

While PDE shows three etymologically related lexemes in *rise*, *raise* and *rear*, this was not the case before *raise* entered English as ME *reisen*. OE had an unaccusative intransitive verb *rísan* “rise, move upward” and a derived causative monotransitive verb *ráeran* “raise, cause to move upward” that was derived by *-j* suffixation in early Germanic before undergoing analogical sound change obscuring this derivation. Parallel to this original OE set, ON also shows a stable opposition between an unaccusative base verb *rísa* “rise” and the *-j*-derived causative verb *reisa* “raise”.

The derivational relation of this ON verb pair remains transparent. During Anglo-Scandinavian contact ME *reisen* enters English supposedly as a copy of ON *reisa* (cf. Dance et al., 2019) resulting in the set of three cognate verbs *risen*, *reisen* and *réren* surviving into PDE.

5.1 *Rísa/reisa in Old Norse*

As mentioned, ON has an unaccusative and derived causative verb pair in *rísa* “rise” and *reisa* “cause to rise”. As case in ON still represents syntactic relations and thematic roles systematically, nominative can be argued to have been connected to the most prominent argument for each predicate (cf. Barnes, 2008; Faarlund, 1994, p. 58ff.). Considering the semantic composition of the ON weak verb *reisa*, it selects for a CAUSE and THEME argument and maps CAUSE regularly to subject in nominative case and THEME to direct object in accusative case (cf. *reisa* vb.2, ONP Online). ON *reisa* also occurs reflexively with the pronoun *sik* and in reflexive middle constructions with the suffix *-sk* meaning “rise, raise oneself” and *reisask upp* “be raised up” (*reisa* vb.2., ONP Online).

ON *reisa* has its unaccusative, intransitive counterpart in the strong verb *rísa*. ON *rísa* is an intransitive verb mapping its only argument, THEME, to nominative subject. ON *rísa* also occurs with the suffix *-sk* with reciprocal meanings like “raise oneself against sth.” (*rísa* v. ONP Online).

Concerning inflection, the ON strong verb *rísa* forms past tense following the ablaut series *í – ei – i – i*. This leads to formal overlap in the stem with the paradigm of weak *reisa* in the singular past indicative forms.

5.2 *Rísan/réran in Old English and the Integration of reisen*

Prior to the integration of *reisen*, OE shows two cognate verbs, namely the strong verb *rísan* “rise” and the weak verb *réran* “raise, rear”. Structurally parallel to many other Germanic languages, these verbs form a stable causative/anticausative verb pair. In this pair *rísan* selects a THEME argument and regularly maps this onto a nominative subject in intransitive constructions, while causative *réran* selects a CAUSE in addition to the THEME and maps CAUSE to nominative subject and THEME to direct object in accusative case in transitive constructions. OE *rísan* und *réran* generally do not alternate in valency, meaning they are not syntactically labile (cf. Ottósson, 2013; van Gelderen, 2011).

As we might expect for two so closely related cognate verbs, the inflectional paradigm of OE strong verb *rísan* overlaps with that of the strong cognate ON *rísa* in all stems in *i* as OE *rísan* follows the ablaut series in *í – á – i – i* (cf. Hogg & Alcorn, 2012). Forms with ablaut in *á* do not overlap with the ON cognate paradigm (Fig. 1).

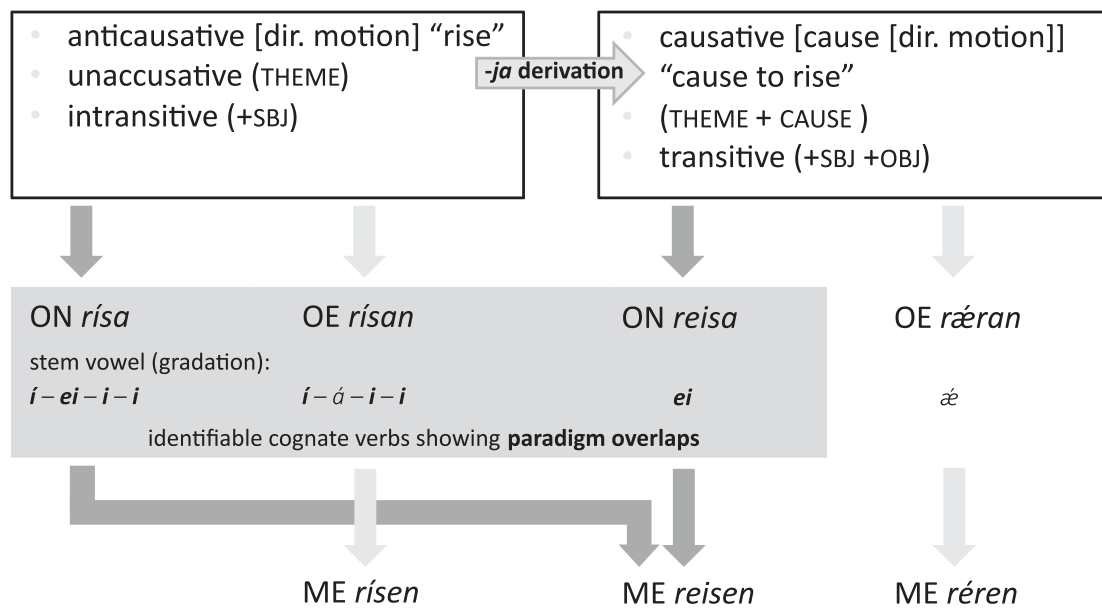


Fig. 1 Origin of the ME cognate verb set in the formal ambiguity of OE and ON anticausative verbs and *-ja* derived causatives

From the inflectional paradigms of these verb pairs from both languages (cf. Barnes, 2008; Hogg & Alcorn, 2012) it seems that the ON phonological form of the weak verb *reisa* “raise” with stem vowel /ei/ represented as <ei> is copied to OE. There it contrasts with the lexical stems of OE strong verb *rísan* and weak verb *ráeran*. As expected, ON and OE strong unaccusative verbs *rísa* and *rísan* overlap fully in <rís> stems in the present, but only partly in the past indicative, in forms in <ris>. However, the paradigm of the ON causative *reisa* also overlaps with the past indicative singular forms of the ON unaccusative verb *rísa* in the lexical stem <reis>, where OE *rísan* shows forms in <ras>. Consequently, OE *rísan* and ON *reisa* and *rísa* are not clearly distinguishable by their stem forms alone in mutually intelligible communication between OE and ON speakers (Fig. 1).

5.3 Basic Valency and Labilisation of Derived Causatives

Historically, *rísan* is the OE base verb and causative *ráeran* is derived in pre-OE Germanic via the causativising *-j* suffix. The *Bosworth-Toller Anglo-Saxon Dictionary Online* (Bosworth et al., 2014, *rísan*) gives only intransitive senses for OE *rísan* and transitive senses for *ráeran* (Bosworth et al., 2014, *ráeran*). However, neither Visser (1963, 114f.) nor van Gelderen (2011) list OE *rísan* and *ráeran* as exclusively intransitive or transitive verbs respectively. While Visser (1963) argues that OE was still base intransitive and transitivising in verb formation, van Gelderen (2011) argues for already ongoing labilisation in OE. Van Gelderen (2011, p. 137f.) proposes that due to the morphological opacity of transitivity and causativity marking affixes many formerly contrasting verbs become formally identical. The underlying features are

reanalysed and the verbs thus become labile. This leads to the loss of the intransitive basic valency reported for Early Germanic languages, including OE. While the phonological change distancing OE *ræran* from *rīsan* could have prevented a permanent labilisation of the kind argued for by van Gelderen (2011), I argue that the copying of ON *reisa* as ME *reisen* provided a new possible source for formal and functional ambiguity between an unaccusative intransitive and causative transitive verb in the ME set *risen* and *reisen*. Thus code-copying may be a factor contributing to change in the basic valency of English. This has previously not been systematically considered in research on the matter of these verbs.

6 Valency of ME *risen* and *reisen*—A Corpus Study

While the origin of *reisen* from Anglo-Scandinavian contact is undisputed and supported through, among other evidence, the contrasting English causative cognate *rēren* (PDE *rear*), the question of why both *risen* and *reisen* seem to show labile behaviour in ME when both OE and ON show a stable contrast between unaccusative and derived causative verbs remains open.

As shown in Sect. 1 the Middle English Dictionary (MED) gives both monotransitive (5) and intransitive (6) senses for the ME verbs *risen* and *reisen* and links them as identical in a sense each (“*rīsen*, v.”, “*reisen* v.(1)”, MED). The Oxford English Dictionary (OED) lists both intransitive and transitive senses for *rise* and *raise* with both constructions coexisting diachronically in several senses between ME and early Modern English (*rise* v., *raise* v.1., OED Online). Entry notes remark on this behaviour from ME onwards and the existing modern usage restrictions on transitive *rise* and intransitive *raise* (compare (1)–(4)). The OED points to a possible association between the forms and meanings of *raise* and *rise* for this development of lability (*rise* v. OED Online) not quite going as far as the MED co-identifying these verbs. This suggested identity seems to have been great enough as to be reflected in *reisen* and *risen* variably occurring in manuscripts of the same text as in (8) from the Laudanian Miscellaneous and Landsdown manuscripts:

8. *A dede man* *þat* *in graue* *hathe* *leyn* *Four*
 A dead man-OBJ that in grave had lain four
dayes *he* *shall* *ryse* [*Landsdown ms.: reise*] *ayen*
 days he-SBJ shall-3SG-PRS rise/raise-INF again
 “He [Jesus] shall raise a dead man [Lazarus] that had lain in a grave for four days again.”
 (Sidrak & B.(LdMisc559) 10,516 as cited in “*rīsen* v.”, MED)

This suggests that forms of these verbs may indeed have been used interchangeably by speakers or that they were even undistinguishable in or across some ME varieties leading to their interchangeability in the copying of texts as a result of ambiguity between forms and meanings of these two lexemes.

The OED also remarks on the formal influence or possible merger between Old Danish *risæ* “rise” and *resæ* “cause to rise” towards *rejse* (*raise* v.1. OED Online),

which again points to early intransparency of the Germanic causative derivation and an identification of forms of both verbs with each other in early North Germanic varieties in contact with OE described in Sect. 5. If indeed the Scandinavian varieties had already started merging forms of the unaccusative and causative verbs a copy of such a cognate lexical item would be a viable source for the lability of ME *reisen*. However, copying of a labile verb to ME might not fully explain why the native anticausative *rísen* also started alternating.

6.1 Data and Method

To gauge the depth of the connection between ME *reisen* and *rísen* and its influence on their valency a mixed-methods analysis of these verbs in the *Penn-Helsinki Parsed Corpus of Middle English*, 2nd version (PPCME2) (Kroch & Taylor, 2000), *A Parsed Linguistic Atlas of Early Middle English* (PLAEME) (Truswell et al., 2018) and the *Parsed Corpus of Middle English Poetry* (PCMEP) (Zimmermann, 2018) investigates their usage to determine in which forms and senses the verbs *reisen* and *rísen* show labile behaviour. The results facilitate modelling a code-copying scenario for ME *reisen* that helps explain the ME valency patterns by considering the possible copying of argument structural properties as a factor in the labilisation of *reisen* and *rísen*.

To this end all occurrences of *reisen* and *rísen* were extracted from the lemmatised versions of the PPCME2, PLAEME and PCMEP using *CorpusSearch2* (Randall, 2010). The *BASICS lemmatizer* (cf. Trips & Percillier, 2020) provides a differentiated lemmatisation of verb forms in these corpora, including multiple associations for forms possibly representing multiple lexemes.⁶ False positives, i.e., uses formally associated with lexemes outside the cognate set which semantically represent neither cognate, were excluded. For all tokens, annotations concerning morphosyntactic part-of-speech, form, transitivity, arguments, co-occurring prepositional phrases and metadata for text and Helsinki time period were extracted.⁷ Varying transitivity patterns across all stem forms were observed and contrasted for the associated lemmas.

6.2 Results

Quantitative analysis of the transitivity patterns observed for all forms lemmatised as lexemes *rísen* or *reisen* shows that intransitive constructions are much more frequent than transitives with these forms overall in ME (Fig. 2).

The higher frequency of intransitive uses in the corpus data is consistent with a possible mixed combinational and semantic copy of ON *reisa* and *rísa* into ME as

⁶ Ordering of multiple lemma associations by the BASICS lemmatizer is not probabilistic. The author thanks Carola Trips and Michael Percillier for sharing insights into the annotation process.

⁷ Data extraction protocol: the penn2svg tool from the *BASICS Toolkit* (Percillier, 2016–2021) was used to generate a html structure embedding the *CorpusSearch2* output. Relevant metadata, annotations and text for each token were extracted from this for analysis in a csv dataset using an in-house script.

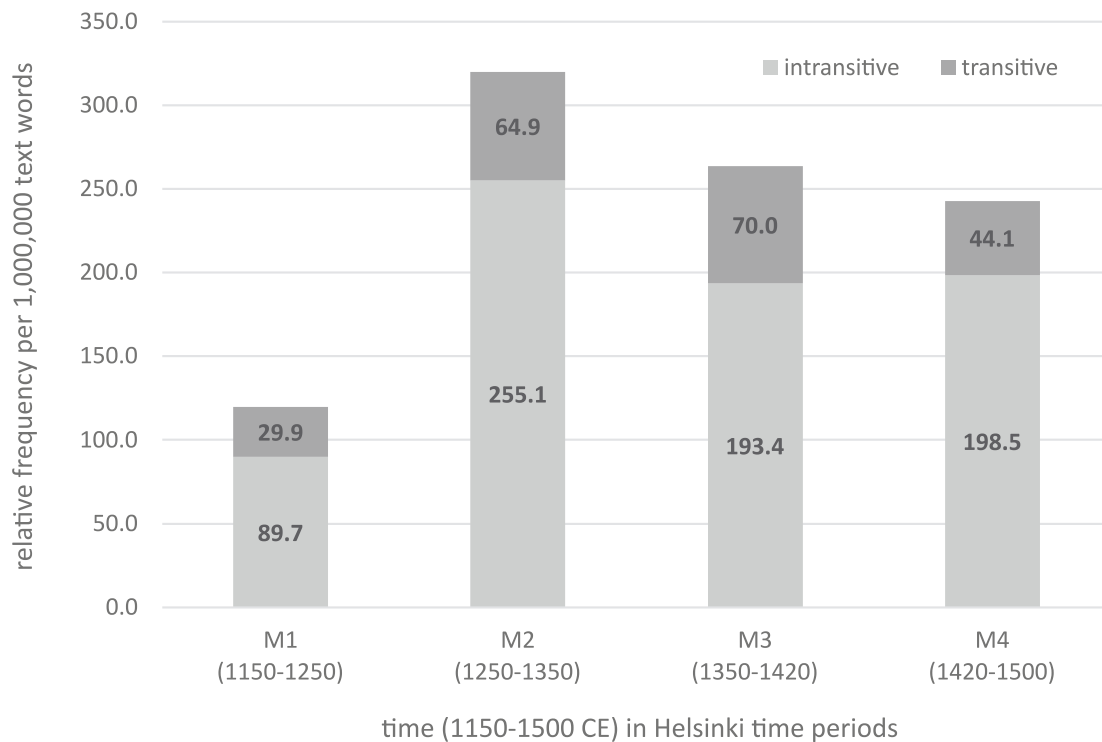


Fig. 2 Diachronic distribution of transitive and intransitive uses of forms representing ME *rísen* and/or *reisen* in the PPCME2 (2nd version), PLAEME and PCMEP data

reisen, as forms identifiable as OE *rísan* would be generally intransitive. Additionally, forms being ambiguous between ON *reisa* and *rísa* and OE *rísan* do not meaningfully contrast in stem forms between causative and anticausative across the paradigms and thus may present as labile.

While the lemmatisation seems to suggest that all forms lemmatised as *rísen* occur intransitively and all transitives represent uses of *reisen*, this is not unambiguously the case upon closer qualitative inspection. Some inflectional forms that could reasonably belong to both lexemes due to their ambiguous stem vowel spellings and inflectional ending between strong *rísen* and weak *reisen* occur with unaccusative meaning in intransitive constructions like in (9) and (10). These uses corroborate the co-identification of these lexemes made by the MED. These ME constructions defy the modern prescriptivist notions of irregular intransitive *rise* and regular transitive *raise*.

9. *and thei risiden togidere to stonde*
 and they-SBJ rise-3PL- PST- WEAK together to stand
 “and they rose/raised together to stand.”
 (CMPURVEY,I,35.1664)

10. *and as I suppose thou haste slayne my two bretherne,*
 and as I suppose you have slain my two brothers,

<i>for</i>	<i>the</i>	<i>whyche</i>	<i>rysyth</i>	<i>my herte</i>	<i>sore</i>	<i>agaynste</i>	<i>the</i>
for	that	Which	rise/ raise-3SG- PRS	my heart-SBJ	sore	against	you

“And as I suppose you have killed my two brothers, for this my heart rises/raises sore against you”

(CMMALORY,199.3128)

In uses like (9) and (10) from the PPCME2, the stem vowel and inflectional ending represented in spelling seemingly clash between stems and paradigms used. In (9), the use of a weak tense inflection *-d* typical for causative *reisen* with a base showing a stem vowel generally taken to reflect the strong intransitive *rísen* is a clear case of merging of the two lexemes. In (10) the unmarked, ambiguous, present tense on a likewise phonologically ambiguous base is less clear, but nevertheless ambiguous in this surface intransitive use reflecting what Ottósson (2013) calls a “reflexive Middle” construction for ON. Here, the THEME argument is expressed as the subject and the event acting on the THEME is anticausative in content. This applies in ME to animate and abstract “semi-animate” like *heart* (see *raise* v.1. OED Online). In this ME *reisen* is clearly distinct from its native cognates and their earlier OE expression of reflexives.

The PLAEME contains an intransitive use of a form with grapheme combination <ai> possibly reflecting a diphthong in the stem but lacking overt weak past inflection in (11).⁸ This form reasonably reflects the formal overlap between the past indicative forms of the ON cognate set *risa* and *reisa* in /ei/ as OE strong *risan* did not show /ei/ ablaut.

11.	<i>It</i>	<i>sal</i>	<i>be</i>	<i>brint</i>	<i>sa dep on dreh \</i>
	It	shall	be	burnt	[so deep on grief-PHRASAL]
	<i>Als</i>	<i>noes</i>	<i>flod</i>	<i>rais</i>	<i>p uilum heih</i>
	as	[Noah-GEN	flood]-SBJ	raise/ rise-3SG- PST	once high

“It shall be burnt so far down \ as Noah’s flood once rose high”

(EDINCMAT.579)

Albeit reflexive in meaning, (12) is a syntactically transitive use of a form representing the strong verb *rísen*. Given the religious topic of this example the use of a reflexive may be emphatic. Still, the use of a form representing *rísen* in this transitive construction shows that this pattern was available for the anticausative verb as well as for the causative. They appear interchangeably in these contexts, as reflexives have the AGENT of the event acting on itself as the THEME (compare (13)).

⁸ The author thanks Gjertrud Stenbrenden for her correspondence on these forms where <ai> might reflect a diphthong and thus potential ambiguity between the cognates or could reflect a northern form for southern *á*.

12. *he* *ros* *him* *ene* *þe* *þridde* *day*
 He-SBJ rise-3SG- PST him-OBJ- RFL on the third day
 “He raised himself on the third day”
 (EGSOMERT.32)
13. *And Jhesus* *reiside* *hym silf*
 and Jesus-SBJ raise-3SG- PST himself-OBJ
 “And Jesus raised himself”
 (CMNTEST,8,1 J.716)

The PCMEP also shows a clear example of a strong verb form for *rísen* used transitively in (14). Considerations of metre may have contributed to this choice of a monosyllabic form over the polysyllabic weak alternative *reised*. Still, transitive use of ME *rísen* needs to have been an option for the composer at the time.

14. *Vp* *hir* *ros* *þat swete wiȝt*
 Up her-OBJ rose that sweet creature-SBJ
 “That sweet creature raised her up”
 (AmisAmiloun,27.[Stanza_45]0.529.210)

These cases support the existence of the causative alternation with forms possibly reflecting either of these lexemes in the corpus data. These *reisen/rísen* forms corroborating labile behaviour in ME stem from texts localised to dialect areas outside as well as within the Danelaw.

As the labile behaviour of ME *reisen* and *rísen* does not enter the British English Standard generally (*rise* v., *raise* v.1., OED Online) and is heavily restricted by prescriptive usage guides it seems that the labilisation of *reisen* and *risen* mostly affected dialects of ME that lie in or near the area of most intense Anglo-Scandinavian linguistic contact and that this development did not successfully disperse across dialects much beyond the Danelaw.

7 Discussion

Returning to the objectives of this work, namely the qualitative assessment of the labile behaviour of forms representing ME *rísen* or *reisen* and the modelling of a code-copying scenario for *reisen* that can adequately explain the rise of this labile behaviour, the linguistic variation in the presented examples of *rísen* and *reisen* permit the following interpretations.

7.1 *Code-Copying of ME reisen on the Model of ON rísa and reisa*

The data show a combination of the argument structural patterns available to the cognate verbs *rísen* and *reisen* between causative and anticausative uses as the result of the copying of ME *reisen* on the model of ON. The qualitative analysis shows that the forms exhibiting labile behaviour coincide with the formal ambiguity between stems of ON *rísa* and *reisa* and OE *rísan*.

Which features were copied from the ON model code onto ME *reisen*, however, requires a more detailed answer. Returning to the four properties of linguistic units (Johanson, 2002) for a critical corpus-based assessment of the copying of ME *reisen*, tentative conclusions can be drawn.

Assessing a realistic usage frequency of ON loans in OE and ME is difficult due to the nature of available data. Consequently, this qualitative work can only corroborate the position that the usage frequency of ME *reisen* stabilises soon after its first attestation. In the analysed data, it does so generally and in relation to formally close *rísen*.

As previous research discusses (Dance, 2012; Townend, 2002), OE and ON show some systematic phonological differences but generally close inventories and processes. While the OE cognates *rísan* and *ráran* are separated by phonological change masking the derivation (cf. Ottósson, 2013, p. 374), ON *rísa* and *reisa* still more clearly reflect their derivational connection. As discussed in Sect. 5, the inflectional paradigms of OE *rísan* and ON *rísa* and *reisa* show a partial overlap in lexical stems. This formal ambiguity is a likely source for confusion between the causative and unaccusative verbs in Anglo-Scandinavian contact as the stems of the cognate verbs OE *rísan* and ON *rísa* and *reisa* were likely identifiably parallel to speakers of these mutually intelligible languages. These phonological clues point to copying of the phonological properties of ON *reisa* onto ME *reisen* but are also consistent with a merging of two selective formal copies of the ON verbs *rísa* and *reisa* combined in ME *reisen*.

Concerning the valency as well as the semantic properties of ME *reisen*, the corpus analysis points to the conclusion that the combinational and semantic features of ON *reisa* could not have been copied exclusively and faithfully to ME *reisen*, as ME *reisen* does not only show the expected transitive causative uses, but also intransitive anticausative uses consistent with ON *rísa*. This corroborates the classification of the consulted dictionary resources and current etymological research (Dance et al., 2019), which link the lexemes *rísen* and *reisen* not only as an anticausative-causative verb pair, but as parallel in senses according with this alternation in causativity and valency.

As discussed in Sect. 5.3, lexicological and typological research on the basic valency of OE suggest that causative formation was no longer morphologically transparent and at best minimally productive in OE (van Gelderen, 2011). Adding to this the formal identity of ON and OE verb forms between OE *rísan* and ON *rísa* and *reisa*, the labile behaviour of ME *reisen* seems to suggest that this verb is not a

global copy of ON *reisa*. This work proposes for the code-copying of ME *reisen* that contact between these closely related languages resulted in mixed selective copying of material, semantic and combinational properties of the ON cognate verbs *reisa* and *rísa* onto ME *reisen* (Fig. 1). This resulted in the temporary labilisation of *reisen*, as there seems to have been possible confusion between the formally overlapping cognate forms ME *reisen* and ME *rísen* along the variants of the causative alternation. While ON *rísa* and *reisa* were phonologically identifiable cognates to OE *rísan*, the semantic and combinational contrast between the two ON verbs was likely intransparent to speakers of OE in contact with speakers of ON. This may have been due to the extensive phonological overlap between forms of ON *rísa* and ON *reisa* and the active accommodation necessary for successful communication (cf. Townend, 2002; Warner, 2017). Thus, during contact the ambiguity of cognate phonological stem forms of OE *rísan* and ON *rísa* and *reisa* across their inflectional paradigms served as a source for the structural ambiguity between transitive causative and intransitive anticausative constructions available to both verbs in ME, not just to the copied lexeme ME *reisen*.

7.2 *Contact Affecting Labilisation and Its Influence on Basic Valency*

While lexical copying of verbs and its influence on valency alternations is not part of van Gelderen's (2011) argumentation about the valency changes affecting English, her account is in line with the present analysis of the ME verbs and their transient lability. The loss of the causativising affix *-j* and the formal intransparency between unaccusative verbs and their derived causatives that she takes to be the origin of the rise of lability does not necessarily have to be restricted to native cognates. As this work illustrates, the formal overlap not only between the paradigms of the unaccusative cognate verbs from OE and ON but also between the ON unaccusative and derived causative verbs makes for a source of crosslinguistic formal ambiguity that could lead to an identification of the anticausative and causative forms as variants during contact. This seems especially likely in a linguistic situation in which monolingual speakers of two just adequately mutually intelligible languages must have employed extensive switching-codes (Townend, 2002, p. 182; Warner, 2017) to achieve communication, as the accommodation processes involved typically reduce inflectional morphology and clause complexity. The resulting form-function ambiguities between the mixed copy ME *reisen* and native ME *rísen* leads to the intransparency of the previously still meaningful contrast between unaccusative and causative verbs and furthers the loss of the causative/anticausative distinction between derivationally related verbs (cf. van Gelderen, 2011). The mixed code-copying of *reisen* from ON and the resulting ambiguity can explain the valency alternation of these verbs in ME that we still see in modern examples like (1)–(4).

Conclusively, linguistic contact between these closely related languages has facilitated the documented temporary labilisation of *rísen* and *reisen*, or at least catalysed the processes of labilisation already ongoing for these verb types.

Abstracting from the case study, this work proposes that formal ambiguity between identifiable cognates in contact between closely related languages can disguise existing meaningful structural and semantic contrasts by the integration of selective and mixed copies of cognates. This may lead to lasting changes in the argument structure of verbs like the illustrated labilisation of historically contrasting, non-labile verbs. This work thus provides evidence that contact between closely related languages and the resulting copying of cognates can serve as a force for structural changes in the argument structure of a language.

How lasting the effects of such a change are, however, depends among other things on the degree of dispersion and conventionalisation achieved. The prescriptivist rejection of labile uses of *rise* and *raise* in PDE usage guides already suggests what the data for alternating forms of these verbs in this corpus study and the dialectal survival of these labile uses seem to confirm: The labile use of ME *rísen* and *reisen* did not spread across the majority of ME varieties and did not find lasting entry into the developing standard. However, to discern a clearer dialectal or diatopic distribution of the labile behaviour of ME *rísen* and *reisen* more data should be analysed, including multiple manuscripts contrasting in their use of these verbs like in (13). It seems that the labilisation of ME *rísen* and *reisen* did not permanently enter the group of labile verbs presumably changing the basic valency of Modern English, but that it was a transient state of valency for these verbs resulting from the nature of the code-copy made between the ON model and ME *reisen* that persists only in some PDE senses and varieties.

8 Conclusion

To summarise, this work traces the etymological relation of the verbs *rise* and *raise* from the Anglo-Scandinavian contact until late ME and models ME *reisen* as a mixed copy from ON. This accounts for the transient labilisation of these verbs in ME. Considering relevant characteristics of contact between mutually intelligible languages and the specific differences of the linguistic systems involved, this work proposes that the causative cognates *reisa* (ON) and *réran* (OE) were unidentifiable as cross-linguistic cognates due to their phonological non-equivalency. Additionally, the ON causative/anticausative verb pair *reisa* and *rísa* likely was not clearly distinguishable phonologically to monolingual speakers of OE interacting with ON speakers due to partial paradigmatic stem identity. This situation resulted in a mixed copy of ON *reisa* and *rísa* as ME *reisen* and the identification of some of its forms and intransitive uses with ME *rísen*. This mixed copy between formally very close cognates led to a labilisation of native *rísen* and copied *reisen* during and shortly after contact.

With this example this work has shown that copying of formally close cognates between closely related languages is facilitated through a high functional and formal equivalence in grammatical categories and their expression. Consequently, such copies can affect the argument structure of contact-influenced cognate verb sets on a more general level like that of valency if the incoming form-function relations only imperfectly map onto that of the basic code equivalent. This case study gives evidence to the proposition that cognates in contact influence argument structure **because** of and not despite formal and typological closeness, as the labilisation observed for ME *reisen* and the resulting partial identity with ME *rísen* could reasonably be explained as resulting from a mixed copy of ON *reisa* and *rísa* onto ME *reisen*.

To extend our understanding of cognates in contact between closely related languages affecting valency changes and to gauge a possible impact on basic valency, further research into the set of cognate verb copies is necessary. The set of derived causative verbs and their bases in OE and ON are particularly interesting here as (de)causativisation is one of the main processes affecting a language's basic valency.

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Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns

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Abstract: This work investigates the structural integration of loan verbs resulting from contact between closely related languages. I argue that lexical copying of verbs between closely related languages represents a force for stability in the argument structural patterns of verb classes when existing structures are strengthened through the insertion of cognate loans with parallel structures into the same class. I discuss this for the Anglo-Scandinavian contact by tracing the integration of Middle English *dub* verbs *callen* and *nevenen*, two cognate verbs copied from Old Norse (ON). A qualitative analysis of corpus data representing the native and copied verbs of this class in Old and Middle English, and data representing the ON etyma compares the argument structure patterns of this verb class prior to and after loan integration. A diachronic and cross-linguistic comparison reveals that the argument structure patterns of *dub* verbs stay stable throughout the integration of cognate loan verbs.

Keyword: argument structure, Middle English, Old Norse, *dub* verbs, language contact

1 INTRODUCTION¹

A cognate is most generally defined as "...a linguistic form which is historically derived from the same source as another...form" (Crystal 2008, 83). The most salient cognacy relations concern cross-linguistic sets of lexical units inherited from a common ancestral unit in an earlier ancestral language into multiple descendant languages. While shared phonological and semantic features of cognate lexemes are the most easily

¹ The author thanks Carola Trips and her research colloquium as well as Jóhanna Barðdal for their helpful and encouraging comments in the course of this study.

identifiable parallels in such cognate sets both synchronically and diachronically, cognacy may also affect parallel properties and structures in other areas of linguistic units and systems, like argument structure, as sections 2 and 3 will show.

Closely related languages are characterised, among other things, by a small lexical distance, meaning that they probably share a large number of cognate lexemes (cf. Swadesh 1952). This makes establishing the extent and nature of copied lexis resulting from linguistic contact between such languages more complex.² Additionally, the characteristic similarity between all levels of the languages' systems is a factor further shaping the integration of copied materials (Johanson 2002; Winford 2003). The cross-linguistic overlap in the possible strategies for structural integration of copies shown by typologically close languages adds to the complexity of defining contact influence between closely related languages (cf. Wohlgemuth 2009, 172). Furthermore, as higher similarity between units of the languages in contact can favour integration of copies from more complex categories (cf. Johanson 2002, 292; Winford 2003, 52), I argue that contact between closely related languages especially facilitates the copying of cognate units and their properties due to their high lexical and typological closeness. I show this by means of a case study of cognate loan verbs resulting from the contact between Old Norse (ON) (model code) and Old

² In the use of terminology, this work follows Johanson's (2002, 2008) integrative approach to language contact and code-copying which will be discussed in section 2 below. For increased readability, 'loan' is used in its most general sense as a synonym for 'lexical copy'.

English (OE) (basic code).³ The Anglo-Scandinavian contact situation is an interesting instance of contact between closely related languages which has been discussed in terms of the typological closeness and mutual intelligibility of the language pair (Townend 2002) as well as its impact on the English lexicon (Durkin 2014; Hug 1987; Pons-Sanz 2013).

Specifically, the present study explores the question of whether the copying of cognate Norse-derived verbs *callen* and *nevenen*, meaning 'assign a name to sb. / refer to sb. by a name' (among other senses), from ON cognates *kalla* and *nefna*, into Middle English (ME) leads to changes in the argument structure patterns available to ME verbs belonging to the same semantic class (i.e., *dub* verbs cf. Levin 1993, class 29.3, 182). To this end, the argument structural development of the two Norse-derived cognate loan verbs and the class of *dub* verbs they enter into in ME is investigated and available patterns are compared diachronically. By investigating the integration of two copies of ON lexemes differing in closeness to and availability of their OE replica language cognates, this work seeks to deepen the understanding of argument structure assignment strategies available to new cognate verbs resulting from language contact between closely related languages. Concerning the structural integration of cognate copies, this work exemplifies that lexical copying of verbs between typologically close languages favours stability in the argument structure of verb classes when

³ The term 'Old Norse' is used in this work to refer to the varieties spoken by the Scandinavians who came to Britain during the Viking Age. For ease of reference, relevant Old Norse terms are quoted as recorded in *the Dictionary of Old Norse Prose* (ONP). This is not meant to suggest that these are necessarily the forms encountered by English speakers in interaction with Old Norse speakers, as both groups spoke a range of varieties across the area and timespan of contact.

existing argument structure patterns are strengthened through the insertion of loan verbs with parallel structures into the same verb class (cf. Barðdal and Eythórsson 2020, 223–227).

In the following, section 2 expands on the characteristics of contact between closely related languages and their implications for its outcomes. Section 3 focuses on the integration of loan verbs and the assignment of argument structure to new verbs in particular. Section 4 presents a case study in which the argument structure of two Norse-derived verbs in Middle English is investigated and compared both synchronically to that of other members of the same semantic verb class and diachronically to the argument structure patterns available to this class prior to their integration. Section 4.3 provides a discussion of the results in the context of argument structure assignment strategies available to contrasting and non-contrasting cognate copies. A conclusion is offered in section 5.

2 CONTACT BETWEEN CLOSELY RELATED LANGUAGES

In Johanson's (2002) descriptive *code-copying framework*, the transfer of linguistic elements between languages during contact is termed 'copying'. Johanson's 'model code' refers to the linguistic system of what Weinreich (1953) calls 'model language', i.e., the language on the model of which a linguistic element is copied. Johanson's term 'basic code' refers to the linguistic system of Weinreich's 'replica language', i.e., the language into which a linguistic element enters from the 'model code' via copying. Johanson's (2002) model describes linguistic elements, like lexical units, as sets of material, semantic, combinational and frequential properties. As a

result, loanwords, or rather lexical 'copies' from a model to a basic code, may be made 'globally' as the full set of properties, 'selective' as single properties, or 'mixed' as a subset of them. For any copy, the outcome of loan integration into the basic code is directly affected by which properties of the linguistic element are copied from the model code etymon to the copy and which are replaced by properties of equivalent replica language elements in the basic code.

Prominently discussed factors influencing the number and nature of copies resulting from any language contact situation are the intensity of contact and morphological complexity of the copyable categories (Matras 2009, 154, 175f.). However, typological closeness of the languages in contact has also been argued to facilitate copying, especially of more complex categories (Winford 2003, 51ff.; cf. Johanson 2002, 306; McMahon 1994, 210). Such typological closeness can be found in contact situations between typologically closely related languages, like OE and ON. Such contact situations are characterised by lexical closeness, as reflected in a high number of cognates, high phonological overlap, and high typological closeness, meaning morphological and structural overlap. This, in some cases, is so close a relation that the languages in contact are arguably mutually intelligible. This has been convincingly argued for in the case of mediaeval Anglo-Scandinavian contact by Townend (2002), who proposes a status of adequate mutual intelligibility of these languages enabling daily transactions between monolinguals of either speech community (Townend 2002, 183). Taking into account that the high similarity between units of the languages characterising such close contact situations can favour

integration of loans as selective copies (cf. Johanson 2002, 292), copying of cognate lexical units should be particularly pervasive.

Indeed, determining the impact of the Anglo-Scandinavian contact on the English lexicon is a well-researched field (Dance, Pons-Sanz and Schorn 2019; Pons-Sanz 2013, Hug 1987, Björkman 1900-1902), all the more so because it is especially complex in the large realm of cognates between the languages. The present paper, while focussing on Norse-derived verbs in ME, follows this extensive research, specifically drawing on the *Gersum* database (Dance, Pons-Sanz and Schorn 2019). Based on the *Gersum* project's summary categories, three types are distinguished for ME Norse-derived verbs: (i) non-cognate copies like *casten* (< ON *kasta*) that do not show attested cognates in OE prior to contact and fall into *Gersum* categories A1–A3; (ii) cognate copies like *nevenen* (< ON *nefna*) that do show attested cognates in OE prior to contact, which are formally distinct from the copy made to ME and thus fall into *Gersum* categories A1*–A3*; and (iii) cognates in contact like *callen* (< ON *kalla* & possibly OE **ceallian*) that also show cognates in both languages, but for which the English cognate and Norse-derived cognate copy are not lastingly distinct, formally and functionally and thus fall into *Gersum* categories C1–C5.⁴ However, where contact between so closely related languages as OE and ON is concerned, it is difficult to accurately determine the extent and nature of ON influence on any ME verb showing signs of influence from ON and OE cognate material. Categorisations can only ever be an approximation of

⁴ See section 4.3 and refer to OED for notes on the late OE citation for OE **ceallian* from the *Battle of Maldon*.

likeness based on usage and representation in the extant data. Thus, the three categories above are a simplifying working definition.⁵

Concerning the possible structural impact of contact between closely related languages, one might argue that argument structural changes are unlikely due to a lack of conflicting or complementary structures that would need accommodating. As these languages are structurally very close, the perceived equivalence necessary for copying (cf. Johanson 2002, 294, 306) during contact may largely still represent actual linguistic equivalence. More specifically, both lexical items as well as their argument structural patterns and realisations may be inherited as cognate lexemes and cognate structures into both language systems from the common ancestor language (cf. Barðdal and Eythórsson 2020). Thus, contact influence between near-equivalent linguistic elements like the integration of cognate copies and influence on their native equivalents becomes even more likely as they may require less integrational restructuring effort (cf. Johanson 2002, 292, 297, 306) than copying of less similar linguistic elements. However, the result of such copying may, of course, consequently be stability rather than change due to lexical copying reinforcing existing cognate argument structural patterns (cf. Barðdal and Eythórsson 2020, 223–227). To corroborate this, the argument structure patterns of verb classes into which cognate copies are integrated must be investigated. Additionally, this will further illuminate how previously identified strategies for argument structure assignment to new

⁵ Refer to Dance, Pons-Sanz and Schorn (2019) for definitions of their summary categories.

verbs (cf. Barðdal and Eythórsson 2020) can be applied to describe the integration of cognate copies between closely related languages.

3 LOAN VERB INTEGRATION AND ASSIGNMENT OF ARGUMENT STRUCTURE

Whether cognates or non-cognates are being copied, copied lexis must be grammatically integrated into the basic code of the replica language (Muysken 2000; Eisenberg 2001; Johanson 2002, 295f.). The integration of copied verbs has been said to be constrained due to their morphological complexity (cf. Winford 2003, 52; Matras 2009). Due to this complexity and the central role of verbs as predicators in event description, work on the structural integration of copies must include a perspective on the argument structure of verb copies and whether it is copied from the model code or assigned from the basic code. Following Levin (2013), argument structure is defined as "the lexical representation of argument-taking lexical items—typically verbs..." (Levin 2013, 1). It specifies sufficient information about these items' arguments to allow their syntactic realisation to be determined, including the number of arguments a lexical item takes, their syntactic expression and their semantic relation to this lexical item. Drawing a connection from this definition to Johanson's (2002) code-copying model, the argument structure of copied verbs and their realisation patterns in a language are part of the semantic and combinational properties of linguistic elements.

Whether and how these properties of verbs are copied from the model code unit onto the copy in the basic code affects how these verbs realise their

predicative argument structure in the replica language. In investigating the possible sources of the argument structure of new verbs in a language, including that of copied verbs, four strategies for assigning argument structure have been identified (Barðdal and Eythórsson 2020, 216):

1. Assigned as copied with the lexical verb from the model code
2. Assigned by default in the basic code
3. Assigned analogous to non-cognate synonymous verb in the basic code
4. Assigned from a cognate verb in the basic code

The first strategy requires the semantic and combinational properties of the model code lexeme to be copied and present in the copied verb in the basic code. The remaining strategies do not necessitate these properties to be copied fully and in combination. The fourth strategy is obviously not available for the integration of non-cognate copies, while the other three strategies are available for both cognate and non-cognate copies. For strategy four to be possible, cognate elements must of course be identifiable to the speakers of the languages in contact. As equivalence between linguistic elements and structures, as perceived by speakers, is the point of insertion of copies, similarity between linguistic systems facilitates copying (Johanson 2002, 294, 297, 306; cf. Johanson 2008, 499). Such perceivable equivalence is also the basis of argument structure assignment in strategy three, where semantic similarity between the copied verb and native non-cognate synonymous verbs leads to an analogous assignment of argument structure in the replica language.

Additionally, in contact between closely related languages these strategies for assigning argument structure are likely to overlap in the patterns they can assign. Specifically, highly schematic and frequent, or 'default', patterns (Barðdal 2012, 470, strategy 2 above), and patterns for basic vocabulary items and their near synonyms would be shared between closely related languages (cf. Barðdal and Eythórsson 2020), as both a significant amount of the basic vocabulary and default argument realisation patterns are likely still cognate. Consequently, cognate argument structure patterns existing in both languages in contact constitute a source of congruence between the language systems where copying is facilitated by similarity (cf. Johanson 2002, 292, 297, 306).

However, the copying of lexical verbs including their model code argument structure may lead to conflicts in the basic code if model and basic code elements are sufficiently semantically equivalent to allow insertion of a copy but the possible patterns for realising the argument structure of the copied verb are incompatible between the model and basic codes (cf. Trips 2020). Such integration conflicts have been pinpointed as a possible cause of contact-induced argument structural change (Holler 2015; Trips 2020). The present work seeks to determine if such conflicts may have arisen during the copying of cognate verbs in the Anglo-Scandinavian contact.

4 NORSE-DERIVED *DUB* VERBS IN MIDDLE ENGLISH

To provide a case study for the strategies identified in Barðdal and Eythórsson (2020, 216), the argument structural development of two very different cognate verb copies in ME and the verb class they enter into are

traced throughout the ME period. The ME verbs *nevenen* and *callen*, copies made on the model of ON cognate ctyma *nefna* and *kalla*, and the verb class of ME *dub* verbs are the subject of this study. By diachronically comparing the argument structure realisations for the OE and ME members of the class of *dub* verbs and contrasting with the argument realisation patterns available to the proposed ON cognate ctyma, this paper will answer the following research question: (RQ) Does the introduction of Norse-derived cognate copies *callen* and *nevenen* into ME change the argument structure patterns available to the ME class of *dub* verbs?

Following from the account above, I hypothesise that the integration of the Norse-derived cognate copies *callen* and *nevenen* does not lead to lasting changes in the argument structure patterns available for use with *dub* verbs in ME. Rather, I propose that cognate verb copies are assigned argument structures in the basic code that are also cognate, i.e. inherited into both languages from their common ancestor language (cf. Barðdal and Eythórsson 2020). Such cognate argument structure patterns may either be globally copied with the lexical verb from the model code or assigned in analogy to the basic code cognates on the basis of identifiable equivalence between cross-linguistic cognate pairs.

4.1 Data and Method

To investigate the argument structure of ME *dub* verbs and define the impact of Norse-derived copies on this class, data were extracted from *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE)

(Taylor et al. 2021)⁶, *The Penn-Helsinki Parsed Corpus of Middle English (2nd edition)* (PPCME2) (Kroch and Taylor 2000) and *A Parsed Linguistic Atlas of Early Middle English* (PLAEME) (Truswell et al. 2018) for Old and Middle English. Argument structures available to the Old Norse etyma documented in *The Dictionary of Old Norse Prose* (ONP) and the early sub-periods (1100-1500 CE) of *The Icelandic Parsed Historical Corpus* (IccPaHC) (Wallenberg et al. 2011) served as the cross-linguistic point of comparison to those attested for the Norse-derived verbs in English.

A comparative qualitative analysis of the usages of all *dub* verbs compares the argument structure patterns available to members of this verb class prior to and after integration of the Norse-derived copies in the OE and ME corpus data. To this end, the sets of lexical verbs showing basic senses of 'refer to by name, assign a name' in OE and ME, respectively, were compiled using the *Oxford English Dictionary* (OED) (Proffitt n.d.), *Middle English Dictionary* (MED) (Lewis et al. 1952-2001) and *Bosworth-Toller Anglo-Saxon Dictionary* (BTASD) (Bosworth 2014) and taking Levin's class of *dub* verbs as a point of reference for Present-Day English (Levin 1993, class 29.3, 182). Romance and Latinate verbs were excluded from this set so as not to falsely conflate their patterns with those available to native English verbs and copied Norse-derived verbs. The OE class of *dub* verbs includes the lexemes *cigan*, *clipian*, *cristnian*, *hatan*, *namian*, *namnian*, and *nemnan* including *a-* and *ge-* prefixed forms of these verbs. The ME class of *dub*

⁶ Thanks are due to Ann Taylor and colleagues for graciously providing a beta version of the YCOE (Taylor et al. 2003) newly enriched with lemmatisation annotations preceding its release (Taylor et al. 2021). See also Cichosz et al. (2022) for information on the manual lemmatisation of the YCOE word forms.

verbs includes the lemmas *callen*, *icallen*, *cristnen*, *hoten*, *namen*, *nemmen*, and *nevenen*. All instances of these lexical *dub* verbs in ME – both native and copied –, their native OE predecessors – both cognate and non-cognate – and the ON etyma *nefna* and *kalla* were then extracted from the respective corpora using *CorpusSearch* (Randall 2010) and utilising lemmatisation annotations for all four corpora.⁷

For all the resulting instances of *dub* verbs in the Old and Middle English and Early Icelandic data automatic annotations concerning the realisation of subjects, objects and other co-occurring noun and prepositional phrases were made by extracting relevant parsing from the clause context of each token from the *CorpusSearch* output into a data frame. Additionally, corpus annotations for lemmatisation, verb form, morphosyntactic parsing, as well as text metadata were extracted. Multiple lemmatisations and homonymous lemmas were manually disambiguated from the context and resulting false positives excluded. Ambiguous lemmatisations for cognate forms in the ME corpora e.g., for *nemmen* and *nevenen* were disambiguated between the Norse-derived and autochthonous variants by form.⁸ Naming-unrelated usages of polysemous *dub* verbs like *callen* in the senses of 'summon sb.' or 'emit noise' were excluded, as they may participate in different constructions than those representing *callen* in the class of *dub* verbs. For each remaining token the number and morphosyntactic realisation

⁷ Verb lemmatisation annotations for the ME corpora stem from the work of the *BASICS* project (cf. Percillier and Trips 2020). IeePal IC lemmatisation annotations are part of the corpus' release. As referenced above a beta version of the lemmatisation-enriched YCOE data (Taylor et al. 2021) was graciously provided by Ann Taylor.

⁸ See Percillier (2016: 210) and Percillier and Trips (2020) for information on multiple lemmatisation attribution to ME verb forms by the *BASICS* lemmatiser.

of arguments and their thematic roles expressed were coded. All attested patterns of how these roles are expressed by *dub* verbs in OE, ME and ON were recorded following the pattern [syntactic relation (morphosyntactic realisation)-THEMATIC ROLE] for each argument phrase (e.g., [subject(nominative)-AGENT; direct object(accusative)-THEME]) to enable subsequent diachronic and inter-lemmata comparison.

Levin (1993, 182; class 29.3) classifies *dub* verbs as transitive verbs taking predicative complements. Generally, in the basic senses of 'assign a name' and 'refer to by name', *dub* verbs select arguments for the thematic roles of AGENT, i.e., a sentient entity assigning or using the name, a THEME, i.e., the named entity, and select a predicative REFERENCE, i.e., the name. This study adopts the view that naming events, as lexicalised by *dub* verbs, are bivalent. They involve a causative event of an AGENT causing an embedded state event which is the predication of a THEME as being in the state of co-referential identification with a REFERENCE.⁹ The overt realisation and morphosyntactic form of these semantic elements shown by *dub* verbs in OE and ME is the subject of the following analysis.¹⁰

⁹ Albeit not subscribing to the same approach to argument structure as this work, compare Sánchez Sánchez (2023) resultative analysis of naming constructions. While Matushansky (2008) proposes that naming verbs cannot occur in simple transitive structures like 'Mary names her new cat' but must obligatorily realise a REFERENCE predicative object as in 'Mary names her new cat Mittens', Sánchez Sánchez (2023) proposes an analysis in which naming constructions may be realised without an overtly realised REFERENCE without rendering the small clause realising the state predication structurally nullified. This means that the THEME of the state predication of 'having a name' may appear surface identical to a direct object of a simple transitive verb. This of course does not imply parallel underlying semantic or syntactic structures.

¹⁰ In Modern English, the realisation of the predicative complement REFERENCE as a bare noun phrase for *dub* verbs appears surface identical to the double object

4.2 Results

First, the patterns attested for the OE cognates *nemnan* and **ceallian* are taken as the diachronic, native OE point of comparison for the integration of ME *nevenen* and *callen*. For the OE verb *nemnan*, predecessor of ME *nemmen* and cognate to ON *nefna* and later ME *nevenen*, in the basic senses of 'assign a name' or 'refer to by name', the following argument realisations are attested in the YCOE data and recorded in the BTASD: (i) [subject(nominative)-AGENT; direct object(accusative)-THEME] with cognate object(dative)-REFERENCE as in (1), and (ii) [subject(nominative)-AGENT; direct object(accusative)-THEME; object predicative(nominative)-REFERENCE] as in examples (2) and (3) (and (13) below).¹¹ In particular 'Simonem', the overtly marked accusative THEME object of the naming event in (2), clearly contrasts with the unmarked nominative form of its predicative REFERENCE argument 'Petrus'. As example (3) shows, the predicative pattern (ii) can also cooccur with the cognate adjunct OE *nama* 'name'.

construction of ditransitive verbs like *give*. However, the underlying semantic composition and consequently the syntactic projection of these verbs differ (cf. Sánchez Sánchez 2023, 12; Matushansky 2008). In OE, double object constructions and bare noun phrase predicative complements are distinguishable by case assignment, as indirect objects are realised as datives in OE while predicative complement noun phrases realise nominative case as the objects of the predicative small clause.

¹¹ In the annotation scheme and parsing of *the Penn Parsed Corpora of Historical English* and corpora annotated accordingly, like the IccPalIC, naming relations are parsed as predicative small clauses, with the predicative REFERENCE noun phrase tagged as the direct object of the THEME subject in this embedding. However, THEME arguments are often moved from the small clause subject position of this parsing to the main clause where they appear surface identical to direct objects of transitive events. This work aims to reflect this parallel between the surface structures of the predicative pattern and simple transitive pattern of naming verbs in the glossing of THEME as OBL.

- 1) *Hwæt Drihten þa cynelican burh*
 what Lord.NOM.SG.SBJ that royal castle.ACC.SG.OB1
forhogodlice naman nemde
 contemptuous name.DAT.SG name:PST.3SG
 'Lo, the Lord named the royal castle with a contemptuous name.'
 (*Blickling Homilies*, YCOE)¹²
- 2) *& þa he nemde*
 and that.ACC.PL.OB1 he.NOM.SG.SBJ name:PST.3SG
apostolas . Simonem þæne he
 apostle.NOM.PL.PRED Simon:ACC that.ACC.SG.OB1 he.NOM.SG.SBJ
nemde Petrus & his brōðor Andreas [...]
 name:PST.3SG Peter.NOM.PRED and his brother Andrew.ACC
 'and those he [Jesus] named apostles. Simon, who he named Peter,
 and his brother Andrew [...]' (*West-Saxon Gospels, Luke*, YCOE)
- 3) *þa man eac oþrum naman*
 that.ACC.OB1 man.NOM.SG.SBJ also other:DAT name:DAT.SG
clate nemneþ
 clotbur.NOM.SG.PRED name:PRS.3SG
 'That man also by another name calls clotbur.' (*Herbarium*, YCOE)

Considering the proposed OE cognate verb **ceallian*, a possible form of this verb is only attested once in OE, namely in the *Battle of Maldon* text, which is, however, not part of the YCOE text samples and furthermore does not represent a usage in the sense of naming (cf. Dance 1999). How this

¹² Glossing follows the *Leipzig Glossing Rules*. Additionally and departing from the tags proposed as common in the rules, the following tags are used in the present work: OB1 for direct object, OB2 for indirect object of a ditransitive, PRED for predicative complement, OBJ for objective case of (morphologically unmarked) non-subject complement noun phrases, and OBL for oblique case of noun phrases under appositives like prepositional phrase cognate objects, REFERENCE objects and other non-core frame elements of naming verbs.

deficient status of attestations for the proposed native cognate verb **ceallian* affects the reconstructability of argument structure assignment to the ME copy *callen*, will be discussed in section 4.3.

Second, the argument realisation patterns of the proposed ON cognate ctyma are taken as a point of cross-linguistic comparison for the integration of ME *nevenen* and *callen*. Concerning the patterns available to ON cognate verbs *nefna* and *kalla*, the ONP and pre-1500 IcePaHC data attest the following active voice patterns for the basic sense of naming: (i) [subject(nominative)-AGENT; direct object(accusative)-THEME] with cognate object(dative)-REFERENCE as in (4) where *kalla* occurs with the REFERENCE object ON *nafn* 'name', and (ii) the predicative pattern [subject(nominative)-AGENT; direct object(accusative)-THEME; object predicative(accusative)-REFERENCE], as examples (5) with *ne* and (6) with *kalla* show.¹³

- 4) *En vit það fyrir vist að þinn unnusti er af voru kyni og hefir engi djörfung til borið að kalla sinn son mínu nafni [...]*
 But know this for certain that your lover.NOM.SG.SBJ bc.3SG.PRS of our lineage and have.3SG.PRS none courage.NOM.SG.SBJ to bear.PTCP to call.INF his son.ACC.SG.OBJ my name.DAT.SG

¹³ Unlike in OE, as shown in example (2), the case of the predicative REFERENCE complement noun phrase always agrees with that of the THEME of the naming event in ON. In examples (5) and (6), this results in accusative case REFERENCE complements. However, ON has a mediopassive expressing meanings of middle voice e.g. *kallask* 'name oneself'. In such uses, the AGENT and THEME of the naming event have the same referent which is expressed in subject position in nominative case. Consequently, the predicative REFERENCE complement of the naming event is then also expressed in nominative case. The present work is primarily concerned with the use of the investigated *dub* verbs in active indicative forms and regular transformations and paradigms like passivisation and mediopassives are treated separately for the sake of context comparability of argument structural realisation patterns.

'But know for certain that your lover is of our lineage and no courage has caused him to give his son my name [...]'
(*Ectors saga*, IcePaIIIC)

- 5) *Þér* *skuluð* *nefna* *mig*
you.NOM.PL.SBJ shall.2PL.PRS name.INF I.ACC.SG.OBJ
Austvestan, *og aldri öðru vís*
EastWest.ACC.PRED and never other way
'You shall call me East-West, and never anything else.' (*Jarlmanns saga ok Hermanns*, IcePaIIIC)

- 6) *Þann* *kalla* *Norðmenn*
that.ACC.SG.OBJ call.PRS.3PL Norseman.NOM.PL.SBJ
Rögnvald
Rögnvaldur.ACC.PRED
'Norsemen call that (man) Rögnvaldur.' (*Vilhjálmss saga Sjóðs*, IcePaIIIC)

While the ON verbs *nefna* and *kalla* occur in a wide range of particle constructions and show an even higher degree of polysemy than OE *nemnan* (cf. ONP n.d. *nefna* vb.; ONP n.d. *kalla* vb.; Bosworth 2014 *nemnan* v.), the patterns attested for the naming senses of these OE and ON cognate *dub* verbs in the corpus data show a high degree of congruence and may be proposed as cognate patterns expressing naming relations inherited from early Germanic.

4.2.1 Integration of Middle English *callen* and *nevenen*

The Norse-derived verb copy *callen* regularly occurs in the ME corpus data in the senses of naming, as well as in senses of noise emission and summoning (cf. Lewis et al. 1952-2001, *callen* v.). In the naming senses, active uses of this copy occur with the predicative argument realisation

pattern [subject(nominative)-AGENT; direct object(objective)-THEME; object predicative(objective)-REFERENCE] as in (7) and (8).¹⁴ Additionally, adjuncts expressing cognate object ME *nāme* 'name' and other frame elements like source or reason for the name assigned occur frequently as obliques, like 'after his name' in example (13) (see section 4.2.2).

- 7) *bot þe priures sal calle þaim*
 but the prioress.NOM.SG.SBJ shall.3SG.PRS call.INF they.OBJ.PL.OB1
hir "sistirs"
 her sister.OBJ.PL.PRED
 'But the prioress should call them her "sisters".' (*The Northern Prose Rule of St. Benet*, PPCME2)
- 8) *and mo other called hym*
 and many other.NOM.PL.SBJ call:PST.3PL he.OBJ.SG.OB1
a wytche
 a witch.OBJ.SG.PRED
 'and many others called him a witch.' (*Malory's Morte Darthur*, PPCME2)

The complex transitive pattern exemplified in (7) and (8) matches the predicative pattern (ii) recorded for the proposed ON cognate etymon *kalla*

¹⁴ Following Huddleston et al. (2002, 254) the present work analyses predicative REFERENCE complements controlled by the direct object THEME as agreeing in case with it as the controlling predicand. This is the status of Modern English predicative complements and has also been shown to be the case for ON *nefna* and *kalla* in this work. Thus, the obligatory resultative predicative complements of naming verbs (cf. Huddleston et al. 2002: 265) would show objective case in ME, even though, unlike OE, ME no longer shows overt morphological case on common nouns and proper names. ME personal pronouns still show distinct forms for nominative and objective. However, due to the non-referential nature of predicative complements, pronouns cannot occur as naming REFERENCE.

and the patterns (ii) recorded for the native OE non-cognate synonymous verb *nemnan* (and other OE *dub* verbs as section 4.2.2 will show).

ME *nevenen*, a cognate copy of ON *nefna*, occurs only 8 times in the data and coexists with the formally distinct and much more highly frequent native cognate verbs ME *namen* and *nemnen*, although all three seem to be general in the lexicalised basic sense of naming.¹⁵ ME *nevenen* is attested with a similar active pattern as its native cognates, namely [subject(nominative)-AGENT; direct object(objective)-THEME] as in (9). All usages but this one in (9) are passive uses or infinitives as in (10), where the THEME 'it' is expressed as the syntactic subject. The REFERENCE argument is not overtly expressed as a predicative (objective) argument of the verb in the attestations of *nevenen* in the PPCME2 and PLAEME data but can, like in OE, occur as moved outside of the predicative small clause, as the appositive position of the simple transitive naming clause in passive voice in (10) exemplifies. Parallel to the patterns (i) shown above for both the OE and ON verbs, cognate REFERENCE 'name' can occur as in (11), where it is realised as the syntactic subject of *nevenen* due to passivisation.

- 9) *He* , *þat* *neuenes* *God* &
 He.NOM.SG.SBJ that.NOM.SG.SBJ name:PRS.3SG God.OBJ.OB1 and
sweris *fals* , *dispyses* *God*
 swear:PRS.3SG false despise:PRS.3SG God.OBJ.OB1

¹⁵ In the lemmatised data of the PPCME2 and PLAEME, ME *nevenen* occurs only in texts from the Northern dialect area and in the sub-periods M2 and M3. In M2, it appears in the text samples of *Richard Rolle's Epistles* and *Prose Treatises* in the PPCME2 and in the samples from the *Cursor Mundi* and *The Northern Homily Collection* in the PLAEME. In M3, *nevenen* occurs in the PPCME2 text samples of *The Mirror of St. Edmund (Thornton Ms.)* and *Dan Jon Gaytryge's Sermon*.

'He who says God's name and gives false testimony despises God.'

(*Richard Rolle, Prose Treatises*, PPCME2)

- 10) *vnder þe munt of olivete als it es*
under the mountain of olive^{tc}.OBL.PRED as it.NOM.SG.SBJ be.3SG.PRS
nevind of prophete [...]
name:PTCP of proph^{et}.OBL.SG
'Under the mountain of Olivete, as it is named by the Prophet, [...]'
(*Cursor Mundi*, PLAEME)

- 11) *For þe sall thynk joy to*
For you.OBJ.SG.OB2 shall.PRS.2SG seem.INF joy.OBJ.SG.OB1 to
here þat name be nevened [...]
hear.INF that name.NOM.SG.SBJ be.INF name:PTCP
'It shall seem joy to you to hear that name be named [...]' (*Richard Rolle, Epistles*, PPCME2)

Consequently, the ME copies *nevenen* and *callen* are integrated into the basic code with patterns that can reasonably be proposed to match the patterns previously already attested for the OE cognate members of this verb class. As section 4.2 has shown, the patterns attested for OE *dub* verbs can reasonably be said to be cognate to the patterns attested for the model units in ON. The next section will contextualise the integration of ME *callen* and *nevenen* by comparing the attested argument realisation patterns of the class of *dub* verbs before and after the integration of these copies.

4.2.2 The class of *dub* verbs

In OE, the class of *dub* verbs includes, in order of frequency of occurrence from most to least frequent in naming senses in the YCOE corpus, the lexemes *nemnan*, *hatan*, *namian*, *cígan*, *cristnian* and *namnian*.

These verbs lexicalise basic senses of 'assign a name' and 'refer to by name' among other senses, which are not subject of the present paper. For this set of lexical verbs the following maximal argument realisation patterns are attested in the YCOE data: (i) [subject(nominative)-AGENT; direct object(accusative)-THEME] with cognate object(dative)-REFERENCE as with REFERENCE 'name' as in example (1) (see section 4.2) with *nemnan*, and (ii) [subject(nominative)-AGENT; direct object(accusative)-THEME; object predicative(nominative)-REFERENCE] as in examples (2) and (3) (see section 4.2) with *nemnan* and (12) with *cigan*.¹⁶

- 12) *He gecegð me his fæder*
 He.NOM.SG.SBJ call.3SG.PRS I.ACC.SG.OBJ his father.NOM.SG.PRED
 'He calls me his father.' (*James the Greater*, YCOE)

During Anglo-Scandinavian contact, two Norse-derived cognate copies have entered the class of English *dub* verbs, but some of the native OE lexemes recorded for this class fell out of use by ME. In ME, the lexical items in the class of *dub* verbs include, again in order of declining frequency of attestation in the data, the lexical verbs *callen*, *namen* and *nemnen*, *hoten*, *cristenen* and *nevenen*. Notably, *callen* supersedes both *namen* and *nemnen* as the most frequently used *dub* verb in the data. However, more than half of

¹⁶ Moreover, *dub* verb OE *hatan* and its ME descendant *hōten* can occur as a state verb in the sense of 'having a name' with the non-causative pattern [subject(nominative)-THEME; predicative(*case*)-REFERENCE] with OE realising reflexes of nominative case while ME does not realise overt case marking of nominative and objective on common nouns and personal names. This non-causative sense is parallel to modern West Germanic cognates like Modern German *heißen*. The ONP records a cognate pattern [subject(nominative)-EXPERIENCER; predicative(accusative|dative)-REFERENCE] for the North Germanic cognate ON *heita* as well.

these attestations are passive uses of 'be called'. These verbs in the basic sense of naming in the active voice select for the maximal pattern (i) [subject(nominative)-AGENT; direct object(objective)-THEME; object predicative(objective)-REFERENCE] as for *nemmen* in example (13), and with *hōten* in (14) and (15).

- 13) & *how he conquered Albyon,*
 and how he.NOM.SG.SBJ conquered Albyon.OBJ.SG.OB1
þat after he nepned
 that.OBJ.SG.OB1 afterwards he.NOM.SG.SBJ name:PST.3SG
Brytaigne, after his name, þat now
 Brytaigne.OBJ.PRED after his name.OBL that.NOM.SG.SBJ now
is ycalled Engeland
 be.PRS.3SG call:PTCP England.OBJ.PRED
 'And how he conquered Albyon, that he afterwards named Britain,
 after his name, that is now called England [...].' (*The Brut*,
 PPCME2)
- 14) *þere burh þet zet me hat*
 this castle that.OBJ.SG.OB1 still man.NOM.SG.SBJ call.PRS.3SG
Speciosa porta
 Speciosa Porta.OBJ.PRED
 'The castle that still one calls Speciosa Porta.' (*The Lambeth*
Homilies, PPCME2)
- 15) *þis boc hatte huio þet*
 This book.OBJ.SG.OB1 call.3SG.PRS who.NOM.SG.SBJ that
writ Ayenbite of Inwyte.
 write.3SG.PRS Ayenbite of Inwyte.OBJ.PRED
 'He who writes it, calls this book Ayenbite of Inwyte' (*Ayenbite of*
Inwyte, PPCME2)

Considering the argument realisation patterns with which the Norse-derived copies *nevenen* and *callen* are attested in ME (section 4.2.1) and the patterns attested for native members of the class of *dub* verbs before and after integration of these lexemes, the following progression can be abstracted for this verb class (cf. Figure 1):

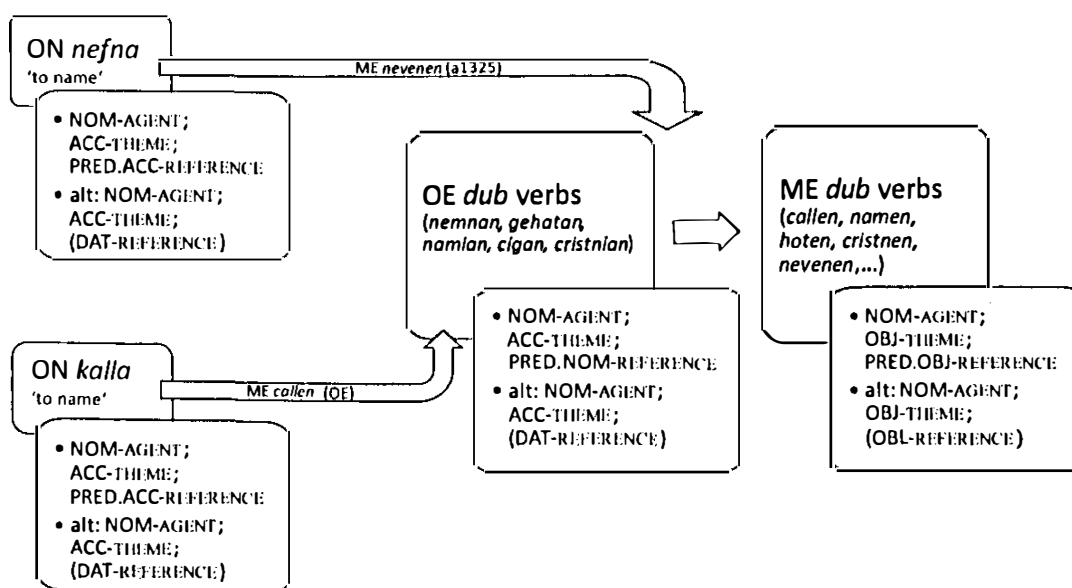


Figure 1: Schematic representation of the insertion of Norse-derived copies *callen* and *nevenen* into the ME class of *dub* verbs and corresponding argument realisation patterns.

Old Norse *nefna* and *kalla* enter ME as *dub* verbs *nevenen* and *callen*. While OE and ON *dub* verbs can express REFERENCE complements as bare noun phrases in dative case and commonly occur with modified cognate object 'name' in this position (cf. patterns (i) in section 4), both native and copied ME *dub* verbs do not regularly express REFERENCE as cognate object 'name' in the PPCME2 and PLAEME data, but only rarely as obliques like appositives and prepositional phrases.

Due to the non-referential nature of REFERENCE predicatives in naming relations, no personal pronouns occur as REFERENCE objects in the data. This means that due to the loss of nominal case marking by early ME, the case of predicative REFERENCE complements cannot be straightforwardly compared with OE and ON case properties of predicative REFERENCE objects like those exemplified in section 4 and consequently limit the abstraction for the ME data beyond the expressed syntactic relation of an object-controlled bare noun phrase predicative generally agreeing with the controlling argument (cf. footnote 14). Consequently, ME *dub* verbs show a pattern that is the canonical ME reflex of the cognate patterns previously already attested for the OE members of this verb class **and** for the ON ctyma *nefna* and *kalla* of the ME Norse-derived copies in this verb class. Specifically, ME *dub* verbs show the predicative pattern (i) [subject(nominative)-AGENT; direct object(objective)-THEME; object predicative(objective)-REFERENCE]. When comparing the patterns attested for the full class of *dub* verbs in OE and ME, no integration of a formerly unattested pattern can be observed. Rather, the patterns existing for the expression of thematic roles selected by these lexical verbs are transmitted from OE into ME with the lexical verbs they occur with.

Concerning the integration of new verbs illustrated in figure 1, the patterns attested with the verbs of this class in the ME data do not suggest any conflict between the existing OE basic code argument realisations for verbs of this class and the patterns assigned to Norse-derived copies *nevenen* and *callen* in ME. The ME copies *nevenen* and *callen* enter the class of *dub* verbs with a pattern that can reasonably be proposed to match the patterns

previously already attested for the OE cognate and non-cognate synonymous members of this class.

Especially when considering the already ongoing accusative/dative syncretism in later OE and the mutually intelligible status of the languages in contact, which probably resulted in active accommodation during bilingual spoken communication (cf. Allen 1995; Townend 2002, 182, 196ff., 205), it seems likely that the shared cognate argument realisation patterns available for the cognate verb pairs *nemnan* and *nefna*, and **ceallian* and *kalla* were identifiably equivalent to speakers in functionally mutually intelligible interactions, thus facilitating insertion of these cognate copies.

4.3 Discussion

Concerning the evaluation of argument realisation patterns for the OE and ME *dub* verbs with special focus on the integration of Norse-derived copies *callen* and *nevenen*, the qualitative analysis reveals that the set of argument structure patterns available to this verb class stays stable throughout the integration of varying types of cognate copies. Regarding the research question posed in section 4, the data do not show a mismatch between the argument structure patterns available for use with *dub* verbs in OE and those shown by the ME *dub* verbs after integration of these copies that would necessarily be the result of their integration. Cognate argument structure patterns are pervasive and seem to be preferred for assignment to copied verbs where available from the set of existing variants in the verb class and set of native cognates.

The argument realisations shown by the new ME verbs *callen* and *nevenen* reflect the genealogical and structural closeness of the languages in contact in their cognacy to both their Old Norse etyma and their Old English cognates and even their structural parallels to OE non-cognate near synonyms. These two new verbs entering the class of *dub* verbs are assigned the same patterns for argument realisation in ME as other native class members. As they match at least one main pattern available to their Old Norse etyma, these ME realisations bring evidence to the integration of cognate verb copies with cognate patterns both for contrasting and non-contrasting cognates in contact between closely related languages. Thus, at first glance the data is consistent with the proposition made in section 2 that copies of cognate verbs would appear as selective copies. However, whether these patterns are the result of (i) selective copying of these lexical verbs without their combinational properties and subsequent assignment of a cognate pattern from a native cognate verb from the class of *dub* verbs, or in fact (ii) globally copied verbs including their native, but cognate, ON argument realisation patterns, cannot be deduced from the data.

Consequently, the strategy of argument structure assignment to the investigated cognate copies of verbs presents itself as based either on cognate basic code verbs (strategy 4) or copied from the model code (strategy 1), both of which may or may not be identical to the default argument realisation pattern (strategy 2). Further, strategies 3 and 4 can only be differentiated by the (non-)existence of cognates and their formal and functional identifiability and closeness in mutually intelligible communication. However, all evaluations of assignment strategies depend on significant contrast between

linguistic systems for identification. As the most prominent patterns available to the class of *dub* verbs are cognate in ON and OE, the two most likely strategies for argument structure assignment in the present case study are surface indistinguishable. Nevertheless, it is apparent that this case of integration of cognate copies between closely related languages shows pervasive cognate argument structure realisation.

To further illuminate how argument structure might have been assigned to the Norse-derived verbs *nevenen* and *callen* in ME, one might draw on the differences between these verbs. These differences range from their formal and semantic closeness to attested OE cognates to the recoverable strength and extent of the Norse influence on the resulting ME lexemes. From this, I deduce a difference in likelihood of the respective native cognate serving as source for argument structure assignment when these verbs were integrated into the ME class of *dub* verbs.

While cognate copy *nevenen* coexisted in ME with the native cognate verb *nemmen* and both were superseded by *namen* from the same lexical stem, the continuous existence of an OE verb **ceallian* cognate to ME *callen* is debated and no coexistence of two formally or functionally contrasting cognate verbs is attested at any point in English. OE cognates *nemnan* and *namian* are well attested from early OE onwards while the Norse-derived cognate copy *nevenen* is first attested in the 14th century (Proffitt n.d., *neven* v.). The attested forms for both OE and ON verbs contrast formally in the dissimilation of Germanic /mn/ > /fn/ in ON, but share basic senses (Dance, Pons-Sanz and Schorn 2019, *neuen* v.). The *Gersum* project further reviews the localisation of attestations and concludes that *nevenen* is a copy of the

ON cognate and not a merger of cognates in contact (Dance, Pons-Sanz and Schorn 2019, *neuen* v., *Gersum* category A1*c). This argument is strengthened by the fact that native cognate *nemmen* survived and co-existed with Norse-derived *nevenen*. Therefore, native *nemman* was highly available and most likely identifiable as a model and source from which argument structure could be assigned to copied *nevenen* during its integration (strategy 4) in case it was not globally copied (strategy 1).

Contrastingly, the only evidence for the existence of a native OE cognate **ceallian* depends on the dating, localisation, and interpretation of two occurrences, one of which is the nominal stem in *hildealla* in *Exodus* 1.252, which can only be taken as circumstantial evidence for the existence of a cognate verb form. The second is a verbal usage of **ceallian* in the *Battle of Maldon* text. The dating and localisation of the latter have been debated, specifically considering its possibly Norse-derived elements. Following Dance (1999) and Pons-Sanz (2013, 62) I posit that even if a verbal cognate **ceallian* existed in some OE dialect(s), this is no imperative evidence for its continuous usage and survival up until contact with Scandinavian. As Dance puts it, "the Middle English revivification was such that the difference between pure borrowing and slight native support may be read as virtually negligible, with the new-found loan of a word very common in Old Norse to all intents and purposes triumphant" (Dance 1999, 146). The detailed work of the *Gersum* project concurrently finds that ME *callen* (Dance, Pons-Sanz and Schorn 2019, *calle* v., *Gersum* category C1a & C5) indeed shows considerable input of the Norse cognate *kalla* in its derivational nature and frequency of use and that the contrasting form, sense, and usage of the OE

cognate can be taken as indication of ON influence (Dance, Pons-Sanz and Schorn 2019, *calle*, v.). Consequently, OE **ceallian* cannot be proposed as a possible source for the assignment of argument structure to ME *callen* with as much security as is possible in the previous case of OE *nemnan* and Norse-derived copy *nevenen*. Assignment of argument structure as copied with the verb from ON (strategy 1) or from native OE non-cognate synonyms in the class of *dub* verbs (strategy 3) become more likely strategic alternatives to assignment from a cognate (strategy 4) considering the absence of secure pre-contact attestations of verbal cognate **ceallian*.

Further limitations beyond the idiosyncrasies of the cognacy relationships of these individual copied lexemes concern imbalances in the extant data. These originate not least from the availability of reliably datable and localisable data from all dialect regions across the relevant timespan during and right after direct Anglo-Scandinavian contact. An additional factor is the quantitative imbalance of attestations of different lexemes from the class of *dub* verbs in OE and ME. A Zipfian distribution of lexeme usage frequencies is to be expected, but with even the most prototypical OE lexeme *nemnan* for the basic sense of naming occurring 874 times in the OE and 156 times in the ME data, quantitative diachronic comparison of existing argument realisation patterns between lexemes is less illuminating than one would hope, as sufficient attestations for the OE predecessor of the ultimately dominant verb, **ceallian*, do not exist.

5 CONCLUSION

Based on the qualitative analysis of the argument structural patterns available for *dub* verbs in ME and the comparison to the patterns available for the cognate and non-cognate synonymous verbs of this class in OE, the impact of the integration of Norse-derived verbs *nevenen* and *callen* was investigated. Both the cognates in contact resulting in ME *callen* and the cognate copy *nevenen* did not bring about any lasting changes in the argument structures available to this class. The argument structure of English *dub* verbs remained stable throughout the contact and integration of these two Norse-derived verbs. In these cases, cognate argument realisation patterns prevail in the assignment to new cognate-derived copies into the basic code both where cognate lexical material exists realising cognate patterns, **and** where it does not but non-cognate synonymous verbs do show cognate patterns and are thus available as models for analogous argument structure assignment. Consequently, the present paper argues for continuity as a possible outcome of language contact between closely related languages such as OE and ON. The differences in closeness between native and copied cognates and the possibly differing availability of a verbal cognate as a model for argument structure as suggested by the (lack of) attestations of the OE cognates leads this analysis to differentiate between *nevenen* and *callen* concerning the most likely strategies of argument structure assignment. Nevertheless, the analysis shows that despite these differences in strategy of argument structural integration of cognate verbs the underlying patterns of mapping semantic participants onto morphosyntactic relations in the affected verb class stay stable throughout contact between these two closely related languages due to the prevailing cognacy of available argument structures in

this verb class. Moreover, this study gives evidence for the argument structural integration of cognate verbs in a well attested historical contact situation and thus informs historical contact studies concerned with closely related languages.

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'busked hem redy boun' – Achieving the structural integration of Norse-derived *busken* as a mixed copy into the class of 'prepare' verbs in Medieval English

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Title:

'busken hem redy boun' – Achieving the structural integration of Norse-derived *busken* as a mixed copy into the class of 'prepare' verbs in Medieval English

Abstract:

This paper advances a recent line of inquiry investigating how loan verbs are assigned argument structure in the replica language and whether lexical copying may effect changes in argument structure. It delineates how Middle English *busken* 'prepare' (< Old Norse reflexivised *būa-sk*) is assigned argument structure in the replica language both by copying from the model language and by assignment from near-synonyms in the replica language as a mixed copy. A comparative qualitative corpus study of the structural integration of *busken* and the diachronic development of its native near-synonyms in Old and Middle English shows how cognacy of linguistic units and structures, and mutual intelligibility between the languages in contact influence the lexical and, more importantly, structural outcomes of contact.

Keywords:

Anglo-Scandinavian contact, loan verb, argument structure, Middle English, reflexives, 'prepare'

1 Introduction

The field of Anglo-Scandinavian contact studies has long focussed on the lexical outcomes of this contact in Medieval English (Björkman 1900–02; Hug 1987; Pons-Sanz 2013; Dance 2003, 2019; Dance, Pons-Sanz & Schorn 2019). The present study takes this indispensable line of work on Norse-derived lexis in English as its point of departure to investigate how this new lexis, especially verbs, is accommodated into the linguistic system of Middle English (ME; 1150–1500 CE) with regards to its argument structure realisation.¹ Verbs as a semantically and morphologically complex lexical category central to event description are particularly interesting regarding the structural outcomes of language contact and the resulting horizontal transfer of lexical form-meaning pairings and the argument structures they license in the language system.

This work follows recent research programmes that investigate the impact of language contact on verb argument structure and resulting morphosyntactic changes in the replica language (Holler & Scherer 2012; Holler 2015; Trips & Stein 2019; Trips 2020a, b; Percillier, Schauwecker, Stein & Trips 2024).² However, the Anglo-Scandinavian contact situation poses new challenges to this line of inquiry. The language pair in contact, Old Norse (ON) and Old

¹ Following Dance (2003, 2019) and the *Gersum* project (Dance, Pons-Sanz & Schorn 2019), the term 'Norse-derived' is used to indicate the high level of nuance characterising ME lexis influenced by or copied from Old Norse. Moreover, the term 'Old Norse' is used broadly to refer to the North Germanic varieties spoken by Scandinavians who came to Britain during the Viking Age. For the sake of referencability, Old Norse terms are quoted as recorded in the *Dictionary of Old Norse Prose* (ONP) (Sigurðardóttir et al. 2021). This should not be taken as suggesting that the quoted lemmas necessarily are the exact forms encountered by English speakers in interaction with Norse speakers. Likewise, the term 'Old English' is used to refer to any and all varieties of Old English spoken during contact. Old English terms are referenced as in the *Bosworth-Toller Anglo-Saxon Dictionary* (BTASD) (Bosworth 2014).

² Weinreich's (1953) 'model language' refers to what Johanson's code-copying approach (1999, 2002) terms the 'model code', i.e., the linguistic system on the model of which a linguistic element is borrowed or rather 'copied'. Parallely, Weinreich's 'replica language' refers to Johanson's 'basic code', i.e., the linguistic system into which a linguistic element enters. The present work follows Johanson's approach (cf. section 3) but uses both sets of terms synonymously in their general sense for increased readability.

English (OE), is characterised by a close genealogical relationship, linguistic closeness, wealth of cognate lexis and likely mutual intelligibility (cf. Townend 2002; Keller 2020). This complicates the researcher's task of distinguishing between what is inherited as cognate from a common ancestor and what is transmitted through contact. For this very reason, the detailed qualitative investigation of the Anglo-Scandinavian contact from this perspective presented in this work contributes greatly to our understanding of the structural outcomes of lexical transfer by being the first to focus on a contact situation between closely related languages and the effects of mutual intelligibility and lexical closeness on the argument structural outcomes of contact.³

Thus, the Anglo-Scandinavian contact situation requires a deeper examination of the concept of cognacy on all linguistic levels and what it entails for the investigation of the argument structure of lexical verbs transmitted horizontally between two languages as closely related as Old Norse (ON) and Old English (OE). While the term 'cognate' is traditionally used in reference to lexical words as descendant "from a single common ancestor in the common ancestral language" (Trask 1996: 78), its inheritance relation has also been applied in the contexts of sounds, morphemes and, most importantly to this work, in morphosyntax, especially concerning verb argument structure (Barðdal & Eyþórsson, 2012: 9; Barðdal & Eyþórsson, 2020; see Walkden 2013 for an overview and criticism).

Following the general definition of cognate linguistic units, the assessment of cognacy of proposed loan lexis established in lexicographical work on the Anglo-Scandinavian contact traditionally only concerns their phonological form, semantic properties, and morphological derivation but beyond that generally does not include an assessment of their combinational and structural properties (cf. Dance, Pons-Sanz & Schorn 2019; Dance 2003). This means that while a verb proposed to be a Norse-derived loan may have a well-established formal and semantic cognacy link to a native unit in the English basic code, the morphosyntactic properties and the possible argument structure realisation of this loan verb in equivalent contexts have not necessarily been established as being cognate. This work deals with exactly this gap by investigating the argument structural integration of the Norse-derived ME verb *busken* 'prepare' which varies in its cognacy relation to its proposed cognate root in pre-contact English regarding their morphologically, semantically, and possibly argument structurally contrasting properties.⁴

As section 3 lays out, the present work follows Barðdal and Eyþórsson's (2012, 2020) reconstruction approach and Barðdal (1999) in assessing the assignment of argument structure to new verbs by setting them in relation to their model code etyma as well as to their basic code cognates and non-cognate synonyms. By drawing these horizontal (cross-linguistic, synchronic) and vertical (intralingual, diachronic) comparisons the present work assesses how argument structure is assigned to individual Norse-derived verbs in Medieval English, i.e., at the junction of OE and ME, specifically. More generally it shows how sensitive argument structure in this type of contact scenario is to horizontal transmission, especially where only some properties of the lexical unit are cognate.⁵ Moreover, where model and basic code differ or vary in the realisation of morphosyntactic operations and constructions, like reflexivisation, comparison of copied verbs with native cognate verbs and non-cognate synonymous verbs

³ See [AUTHOR] (2023, 2024) for earlier work resulting from this research programme.

⁴ The research programme originating the present work investigates the argument structural integration of proposedly Norse-derived ME verbs of varying cognacy relations to native lexemes and varying kinds and degrees of Old Norse influence on the ME verb (cf. [author] 2023, 2024, submitted).

⁵ See section 3 for definition of linguistic units as segmental.

allows us to assess whether copies are integrated with model code patterns or assigned basic code cognate or non-cognate patterns.⁶

As a case study for such a complex cognacy relation between a model and replica language lexeme which varies in the morphosyntactic patterns licensed in the model and basic codes for the expression of one of its central argument-reducing operations, reflexivisation, the present paper investigates the structural integration of the Norse-derived verb ME *busken* 'prepare' which enters English as a simplex lexical verb based on an Old Norse reflexivised form ON *būask* (ON *būa* + *-sk*) (Dance, Pons-Sanz & Schorn 2019, *busk* v.; cf. Warner 2017: 373). The present work asks how Norse-derived *busken* is assigned argument structure in Medieval English in relation to its etymon, native cognate lexemes and native non-cognate near-synonyms (RQ1, cf. section 4). It seeks to illuminate whether only the model code's reflexivised sense of this verb was transferred into the English basic code resulting in corresponding argument structure patterns in ME, or if ME *busken* was assigned argument structure on the basis of semantic equivalences by analogy to native near-synonyms, thus additionally gaining senses and argument structures realised with these near-synonyms in addition to its model code sense and pattern.

A predicate can be said to be used reflexively when two of its syntactic arguments are coreferential (Haspelmath 2023: 20). Depending on the language, reflexivity may be marked by various strategies like the use of coreferential personal pronouns (e.g. OE reflexive construction), reflexive pronouns (e.g. ON *sīk*) or verbal suffixes (e.g. ON *-sk*) (cf. Haspelmath 2023; Dimitriadis & Everaerts 2004). However, strategies marking reflexivity may also serve other functions, as is the case for ON *-sk*, which also marked middle voice, reciprocity and anticausativity (Barnes 2008: 146; Ottósson 2008; cf. Walkden 2013: 111f.) and strategies varying between languages in contact may lead to integration conflicts during lexical copying (cf. Trips 2020b).⁷

Putting the integration of ME *busken* into context in the Medieval English verb lexicon, the set of near-synonymous verbs recorded in OE and ME are investigated as *comparanda*, with the integration of *busken* serving as the pivotal point for a diachronic comparison of the argument realisation patterns taken by verbs lexicalising 'prepare'. What makes this semantic class of near-synonymous verbs specifically interesting diachronically is the fact that multiple Norse-derived verbs enter this set as a result of Anglo-Scandinavian contact both at its semantic core (e.g., ME *greithen*, *atlen(-ien)*) and periphery (e.g., ME *richen* v.(1)). This amount of lexical expansion in a set of near-synonymous verbs through the integration of Norse-derived verbs, adoption of variant forms of cognate verbs (e.g., ME *yāren* (<OE) and *gēren* (<ON)) and formation of deadjectival verbs from Norse-derived cognate adjectives (e.g., ME *bainen* v.(2), *bōunen*) is remarkably high considering the overall lexical outcomes of Anglo-Scandinavian contact. The class of 'prepare' verbs is thus well suited for an investigation into the possible structural effects of Norse-derived verbs on the argument structure of semantic verb classes in ME.

⁶ See Walkden (2013) on approximating fulfilment of the *Double Cognacy Condition* in syntactic reconstruction by identifying correspondences in syntax. The author acknowledges that Walkden (2013) and Barðdal and Eyþórsson (2012, 2020) operate on different theoretical assumptions but will not generally subscribe to either approach here. The present work assumes that patterns of argument realisation and their corresponding semantic verb meanings found in multiple closely related languages may indeed be commonly inherited as cognates from the shared ancestor language. These patterns could be tentatively proposed as reconstructable proto-patterns for the common ancestor language, i.e., cognate patterns, that are inherited through the vertical transmission of language between generations.

⁷ See sections 4 and 5 for details on OE and ON reflexive marking and the functional intransparency of *-sk* in Anglo-Scandinavian contact.

The structure of the paper will be as follows: The Anglo-Scandinavian contact situation and its implications for contact outcomes are laid out in section 2. Section 3 expands on the theory of loan verb integration and assignment of argument structure to new verbs. Section 4 presents the case study on the integration of Norse-derived *busken* into the ME class of 'prepare' verbs. A synchronic comparison of *busken*'s argument structure patterns to those of its model code etymon (section 4.2) and those of other members of the same semantic verb class in ME (section 4.3.2) is complemented with a diachronic comparison to the argument structure patterns available to the OE verbs of this class prior to *busken*'s integration (section 4.3.1). Section 5 discusses the results in the context of the argument structure assignment strategies available to speakers for individual copies and copies in relation to their verb class. Finally, section 6 concludes and abstracts from these results on the integration of individual copies to the possible effects on the argument realisation of semantic verb classes.

2 Anglo-Scandinavian contact: Prior research and considerations

The linguistic contact between speakers of Old English and Old Norse presents researchers with a singular set of situational properties. These include the varying intensity, socio-economic dynamics, topological reach, and duration of the contact situation, the genealogical relation, typological and lexical closeness of the languages in contact, and the probable status of existing bilingualism and possible mutual intelligibility. Over time, the Anglo-Scandinavian contact in England varies significantly concerning many of these factors, but altogether roughly lasts from 787 to 1042 CE and spreads from the northeast to cover an area commonly known as the Danelaw (Pons-Sanz 2013: 6f.). Generally, Old English and Old Norse are both Germanic languages and proposedly only diverged around 200–250 years before coming into contact in North-East England (cf. Townend 2002: 41). This close genealogical connection is reflected in high lexical closeness and a degree of structural similarity that arguably resulted in a shared "adequate intelligibility" (Townend, 2002: 183) for productively monolingual speakers of the languages in contact (cf. Townend 2002: 183f.).⁸ This status enabled speakers to employ processes of accommodation and levelling between the languages in a so-called 'switching code' (Townend 2002: 60, 183ff.) produced in their own native language rather than necessitating individual productive bilingualism.⁹ Considering this mutual intelligibility, the areas of cohabitation and the socio-economic dynamics between ON and OE speakers, Townend (2002, : 60, 185, 189) postulates a high level of societal bilingualism in the most intense phase and area of continuous contact (cf. Pons-Sanz 2013: 6–9; cf. Warner 2017). Following Weinreich (cf. 1953: 56), 'borrowing', or rather lexical copying, is not exclusively available to bilingual individuals in a bilingual society, making it possible for monolingual speakers of English to identify interlingual correspondences between Old Norse and Old English (Townend 2002: 60, 203) and consequently copy linguistic units like lexis and even combinational patterns. Indeed, mutual intelligibility, and typological and lexical closeness have been proposed as factors facilitating copying (Johanson 1999: 49, 2002: 297, 306; cf. Winford 2003: 51ff.) postulating that "[c]opying may be easier when the codes have essential structures in common" (Johanson 2002: 306) and differences between units and therefore the need for extensive restructuring of

⁸ While phrasing it differently, Björkman (1900–02: 8) and others also come to this conclusion earlier on (cf. Warner 2017: 375f.). See Keller (2020) for supporting evidence on lexical closeness.

⁹ See Warner (2017) for an analysis of koineisation as being the primary process characterising the structural outcomes of Anglo-Scandinavian contact. While Warner's analysis is congruent with Townend's (2002) assessment of the languages' mutual intelligibility, it proposes that the linguistic outcome represents a koine serving as a lingua franca rather than representing the unfocussed and non-stabilised production results of a set of active accommodation processes.

copies "[...] may be smaller in the case of relatively similar codes, such as mutually intelligible and structurally similar dialects" (Johanson 2002: 297).

Concerning contact outcomes, the high number of cognates between Old English and Old Norse complicate secure identification of lexical material as of Scandinavian origin. The present work takes the detailed assessment of the *Gersum* project (Dance, Pons-Sanz & Schorn 2019) and Dance (2003, 2019) as its lexicographical basis and follows their classification of evidence and terminology for lexemes' etymological origin as being 'Norse-derived'. One should note however, that differences in, first and foremost, the existence of cross-linguistic cognates and, secondarily, their formal and semantic closeness, lead to differences in identifiability of cognate pairs for speakers during contact. Identifiable cognacy impacts the integration of new words and consequently results in different contact outcomes (cf. [AUTHOR] 2023, 2024, forthcoming). With most Norse-derived lexis being first attested in ME (Hug 1987; cf. Durkin 2014; Dance, Pons-Sanz & Schorn 2019), the date of first written attestation has limited value in assessing these words' existence in English (Durkin 2014: 178ff., 189). Due to data poverty, it must still serve as a proxy in the assessment of the verb class' diachronic development in this case study.

3 Contact-induced change in verb argument structure

This section lays out how loan words are adopted and adapted into their replica language, specifically regarding the argument structural properties of copied verbs. The present work investigates verb argument structure in the form of morphosyntactic realisation patterns of nominal, prepositional and clausal arguments taken by a lexical verb with a specific semantic meaning in clauses instantiating these verbs. While verbs are semantically meaningful lexical units, they are also taken to contain representations of events. This representation defines the structure of a clause a lexical verb may instantiate including information concerning the number of arguments taken by the verb, their semantic relation in the event and via a set of linking rules also their morphosyntactic expression (Jackendoff 1990; cf. Rappaport Hovav & Levin 1998). Thus, argument structure realisation patterns instantiated by lexical verbs in sentences are operationalised as the expression of the abstract representation of both semantic and combinational properties of lexical verbs.

In his code-copying approach, Johanson (1999, 2002, *inter alia*) proposes a segmental definition of linguistic units and models copying as the non-identical replication of a model code's linguistic unit at a speaker-subjectively equivalent position in the basic code. While Johanson himself does not specifically investigate the copying of verb argument structure, this model is well suited to describe the effects of lexical copying of verbs on the argument structures possible in the basic code of the replica language (cf. Percillier et al. 2024). Further, Johanson (1999, 2002) proposes differences between types of copies, specifically whether a linguistic unit is copied from the model code as a whole set of material, semantic, frequential, and combinational, in morphology and syntax, properties as a 'global copy' or not. When only selected properties of a linguistic unit are copied into the basic code, Johanson (1999: 41, 2002: 292) terms this 'selective copying'. Selective copies concern "extrapolated structural properties and patterns applied to indigenous units" (Johanson 1999: 41) rather than full morphemes. 'Mixed copying' "combines both techniques, thus yielding selective – typically combinational or frequential – copies that comprise at least one global copy" (Johanson 2002: 292). At insertion, the model code properties of the copied unit are adapted to the basic code system (Johanson 1999, 2002: 296f.; cf. Muysken 2000). The necessary kind and degree of adaptation and how it is achieved depend on the type of copy made and the formal and structural closeness of the languages and linguistic units in contact (cf. Johanson 2002: 297). Afterwards, copies

behave as units of the basic code and are subject to its internal processes and constraints (Johanson 1999: 52).

Following this approach, I take the global copying of argument-taking linguistic units like lexical verbs as involving their material form and semantics, expressly in the traditional sense of the 'lexeme', and the combinability of these linguistic units in larger structures, explicitly their morphosyntactic properties. From this approach also follows that verb argument structure as an abstract representation of the lexical verbs' semantic and syntactic properties may be copied between model and basic code in global copies or in selective semantic and combinational copies (Johanson, 1999: 44f.). Copying of verb argument structure consequently may impact the argument realisation patterns available for copies of lexical verbs but also the argument realisation of native lexical verbs that have been established as semantically, formally or structurally equivalent units by speakers. The second scenario represents a selective copy of combinational properties of a foreign verb onto these basic code units (cf. Johanson 1999: 51f.). However, copying of argument structure from the model code is of course not the only possible strategy by which newly copied verbs may receive argument structure in the basic code. Four strategies of argument structure realisation assignment have been aggregated from recent work by Barðdal (1999, 2001, 2008, 2012) in Barðdal & Eypórssón (2020: 216): assignment of argument structure realisation (i) as copied from the model code, (ii) by default in the basic code, (iii) by inheritance via identification with a cognate verb in the basic code, (iv) by analogy to native non-cognate synonymous verbs in the basic code.

In contact between closely-related languages like Old Norse and Old English, teasing apart these strategies poses a number of challenges. The pervasive nature of cognacy between the languages' lexicons, phonological and morphological systems is also reflected in a high similarity between the languages' canonical argument realisation patterns, meaning that they will present a match between codes for many functions and structures. While this status of a wide range of equivalence positions between model and basic codes is conducive to copying and code-convergence (Johanson 2002: 297, 306; Winford 2003: 51ff.), this also means that determining whether the argument structure of a copy can be identified as assigned from the basic code or as copied globally from the model code unit depends on whether these patterns themselves even differ between native and basic codes or, more specifically, between model code verb and native equivalent verbs (cognate, near-synonymous or otherwise structurally equivalent).

Specifically, even where model and basic code differ and copying of argument structure from the model code can be rejected, discerning between assignment strategies (iii) and (iv) depends on the identifiable existence and the formal, semantic and structural closeness of a native cognate. Furthermore, proposing assignment of argument structure from a cognate verb in the basic code depends partly on the degree to which a cognate lexical unit would be the linguistic element showing the highest degree of similarity to the copied element, formally and semantically. As the present work will show, this is not generally the case, even in closely-related, high-cognate language contacts. Consequently, a deeper understanding must be gained of how assignment of argument structure realisation patterns from native non-cognate synonymous verbs in the basic code may differ from assignment from a cognate or indeed default pattern assignment in mutually intelligible contact situations.

The present work seeks to identify which of these strategies of argument structure assignment has most likely served as the strategy for the integration of ME *busken* into Medieval English. This lexical verb is highly interesting in delineating the impacts of lexical and structural cognacy on argument structural contact outcomes for two reasons. Firstly, it is the outcome of copying an idiosyncratically ON morphosyntactic form for the central semantic operation of reflexivisation on a cognate base verb. Secondly, the semantic verb class it enters into undergoes lexical expansion by a number of varyingly Norse-derived near-synonyms in ME.

By illuminating the argument structural outcomes of lexical verb copying, the present work rounds out the classically formal and semantic perspectives taken on the integration of loan lexis. Further, it deepens our understanding of how copying of verbs affects the argument structure of semantic verb classes and potentially transitively the overall linguistic system of the replica language. Recent results on the argument structural change potential of language contact (cf. Percillier et al. 2024; Holler 2015; Trips 2020a,b; Trips & Stein 2019) merit that this new perspective must also be taken on the Anglo-Scandinavian contact outcomes to test the degree of linguistic divergence between model and basic codes necessary to trigger the integration of new patterns from the model code in the basic code during integration-necessitated restructuring (cf. Johanson 1999: 49, 51f.).

4 The integration of Norse-derived lexemes into the set of Medieval English 'prepare' verbs: the case of ME *busken*

The verb *busk* meaning 'prepare, ready, dress' and 'set out, go, hurry', is listed in the *Oxford English Dictionary* (OED) (Proffitt, n.d.), *Middle English Dictionary* (MED) (Lewis et al. 1952–2001), and *Gersum* database (Dance, Pons-Sanz & Schorn 2019) as descendant of a copy of the ON reflexive 'middle voice' form *būask* 'prepare; manage; coexist' of the lexical verb ON *būa* 'live, dwell; manage sth.; prepare sth.' (cf. ONP 2*būa* vb.) into ME as *busken* (MED, *busken* v.; Dance, Pons-Sanz & Schorn 2019, *busk* v.; OED, *busk* v.1). While the ON verb *būa* has a cognate in OE *būan*, this OE verb meaning 'live, dwell, inhabit' is not attested in the OED or the *Bosworth Toller Anglo-Saxon Dictionary* (Bosworth 2014) with senses 'prepare, ready' or 'set out, hurry' (cf. BTASD *būan* v.). Uses of OE *būan* in reflexive constructions do not show 'prepare' senses parallel to the ON form *būask* but only reciprocal meanings 'cohabit, coexist'. The ME verb *busken* meaning 'prepare, ready, dress' and 'set out, go, hurry' thus reflects senses attested for the ON cognate and its form *būask*, but not for the OE cognate verb. Based on these semantic properties and the material properties of the characteristically ON reflexivising and 'middle voice' inflectional suffix *-sk* being part of the stem of the ME lexical verb (cf. Warner 2017: 373), ME *busken* is classed as A2*c in the *Gersum* database (Dance, Pons-Sanz & Schorn 2019, *busk* v.) and treated as a *contrasting cognate copy* in the present work ([AUTHOR] 2024: 222f.; cf. Dance, Pons-Sanz & Schorn 2019, *Gersum* A* categories).

On all accounts, Anglo-Scandinavian language contact led to the copying of the ON inflectional form *būask* into ME as the idiosyncratic lexical verb *busken*. This ME verb is derivationally independent of its OE cognate *būan*. Its characteristically ON *-sk* affixation was not a transparent or productive formation in West-Germanic (cf. Walkden 2013: 113). ME *busken* is the only securely attested Norse-derived verb in English showing the *-sk* suffix as part of its stem recorded in the *Gersum* database, OED and MED. Consequently, it is unlikely that speakers of OE would have encountered *-sk* inflection systematically enough in contact with ON speakers to abstract its function. The present work seeks to identify the source of argument structure assignment to the ME copy and illuminate its integrational effects in the argument structure of the class of ME 'prepare' verbs. To this end an item-oriented and a class-oriented qualitative comparative corpus study are conducted.

The item-oriented study assesses the argument structure realisation of the ME copy and compares it to those of its ON etymon as well as native cognate, following classical comparative approaches to loan word integration. The class-oriented study puts these results into relation to the set of near-synonymous verbs in OE and ME, both native and Norse-derived and compares the argument structure realisation of these verbs both diachronically and concerning the etymology of 'prepare' verbs taking the timing and nature of the integration of *busken* as its reference point. In combination, these results aim to answer the following research question:

(RQ1) how is Norse-derived *busken* assigned argument structure in Medieval English in relation to its etymon, native cognate lexemes and native non-cognate near-synonyms? Based on the formal, derivational and semantic contrast between the ON etymon and the native OE cognate, for RQ1 I hypothesise that the argument structure of ME *busken* is least likely to be assigned from the basic code cognate. Considering the structural differences in reflexive marking between model and basic codes, argument structure is more likely to be assigned on analogy to native near-synonyms rather than globally copied from the model code.

Classes of near-synonymous verbs showing alternative argument structure patterns in OE and ME, like variant realisation of reflexives as intransitive reflexives, transitive reflexives with a coreferential personal pronoun or *self*-reflexives, are especially interesting cases of tracing argument structural integration, as the integration of a copy into a class showing pattern variation may represent an opportunity of change in the copied lexeme's or even class's behaviour. This way contact-induced change in argument structure may be revealed. Additionally, the set of 'prepare' near-synonyms of *busken* is intriguing because as a semantically defined verb class showing multiple Norse-derived lexical innovations in ME it may be hypothesised to show cumulative contact effects resulting from lexical copying of multiple verbs with their model code argument structure patterns, as section 5.2 will discuss.

4.1 Data and methodology

Based on the definition proposed in section 3, argument structure is operationalised as the set of attested morphosyntactic realisation patterns of verb complements as noun phrases (NP), thematic prepositional phrases (PP) and clausal complements. A qualitative comparison of the argument structure patterns of ME *busken* to those of its model code etymon in ON and to the baseline of near-synonymous ME verbs overall, synchronically reveals the possible sources of argument structure assignment to this verb copy. The general occurrence of patterns for the full class of near-synonymous 'prepare' verbs in each language stage as well as their occurrence by lemma are compared diachronically between OE and ME and assessed for overall loss or gain of licensed patterns in this class. This in turn reveals how the argument structure realisations of this class developed during and after direct contact with ON and whether the integration of Norse-derived verbs like *busken* affected changes in its licensed patterns.

4.1.1 Verb class compilation and data extraction

Data were extracted from *The York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE) (Taylor et al. 2021),¹⁰ *The Penn-Helsinki Parsed Corpus of Middle English (2nd edition)* (PPCME2) (Kroch and Taylor 2000), *A Parsed Linguistic Atlas of Early Middle English* (PLAEME) (Truswell et al. 2018), and *The Parsed Corpus of Middle English Poetry* (PCMEP) (Zimmermann 2018) for the OE cognate *būan* and the near-synonymous class members for OE and ME respectively. Argument structures licensed for the ON etymon *būask* attested in the early texts (1100–1500 CE) of *The Icelandic Parsed Historical Corpus* (IcePaHC) (Wallenberg et al. 2011) and those documented in *The Dictionary of Old Norse Prose* entry subsection for *būask* served as the cross-linguistic *comparandum* for those attested for the copy in ME (ONP, *2būa* vb.).

Investigating a polysemous verb like ME *busken* in relation to its semantic verb class requires abstraction of the underlying meaning structure of this verb's basic senses. Drawing on the dictionaries' definitions of senses of the lexical verb (MED *busken*; OED *busk* v.1), this work proposes ME *busken* to be polysemous in two sets of basic senses. First, senses of preparation

¹⁰ Thanks are due to Ann Taylor and colleagues for graciously providing a beta version of the YCOE (Taylor et al. 2003) newly enriched with lemmatisation annotations preceding its release (Taylor et al. 2021).

(including dressing) (MED *busken*, senses 1–3) and second, senses of motion (MED *busken*, senses 4–5). This work takes the former senses as representing (caused) change of state events and the latter as representing (caused) change of location events. The analysis below focuses on (caused) change of state events and leaves the latter to future research.

Following the decomposition of change of state verbs by Rappaport Hovav and Levin (1998: 108) as accomplishments and the meaning definitions posited for verbs lexicalising senses 'prepare, make ready, get ready' in ME and Present-Day English (PDE), ME *busken* is decomposed as realising the event structure template [[X ACT] CAUSE [BECOME [Y <STATE>]]] and filling the <STATE> constant with a result state of 'preparedness' or 'readiness' as its idiosyncratic meaning component.

Considering this event structure and the frames posited for verbs lexicalising 'prepare, make/get ready' in PDE (cf. Unified Verb Index, *prepare*), I propose the following semantic participants for *busken* in its respective ME senses: First, in externally caused senses of preparatory activity, ME *busken* s-selects for a THEME to be affected by this activity and an AGENT causing the THEME to be affected. This THEME may be coreferential to the AGENT subject in *argument reflexive* senses (see section 5, cf. Steinbach, 2002; Trips, 2020b). Argument reflexive interpretations are formed on underlying two-place predications that s-select for two semantic arguments (Steinbach 2002), most typically an AGENT and a THEME argument, which are then both c-selected in the morphosyntax as the subject and its coreferential reflexive complement respectively. Second, in internally caused change of state senses of 'prepare, get ready' ME *busken* s-selects at least for an AGENT executing the preparatory activity on themselves. The expression of a coreferential THEME in a *non-argument reflexive* (Steinbach 2002) is possible but not obligatory, as the reflexivity of preparatory action is prototypical (cf. Rappaport Hovav & Levin 1998: 115f.; Jackendoff 1990; OED *busk* v.1 senses I.1.b vs. I.1.c & I.2.b; Unified Verb Index, *prepare*). Non-argument reflexives are formed on one-place predications which are valency reduced from two-place predications (Steinbach, 2002). This also applies to the related 'dress' sense. Additionally, a PURPOSE event or a BENEFICIARY of the preparation event might be optionally realised among other non-core elements like specification of the RESULT state (cf. Unified Verb Index, *prepare* v.). The analysis will show whether *busken* is a non-argument or argument reflexive verb in ME.

For the extension of the study to the verb class, a methodological decision defining the set of near-synonyms of ME *busken* must be made. Like the item-oriented study, the extension of the corpus analysis to the verb class focuses on (caused) change of state events (section 4.2.2) even though ME *busken* lexicalises multiple event structure templates, as laid out above. This way it can more closely account for the relationships between argument realisations and the lexicalised senses determining them. Thus, all OE and ME (caused) change of state verbs lexicalising result states of preparedness or readiness as their root are treated as near-synonyms of ME *busken*. Specifically when investigating the possible integration effects of Norse-derived verbs that share partial synonymy with one or more other Norse-derived verbs in ME, like the 'prepare' senses of ME *busken*, *geinen*, and *bōunen*, the extension of item-oriented studies must focus on verb sets lexicalising such shared meanings (cf. approach established in [AUTHOR] 2024).

To compile these lexical sets for OE and ME, a combined dictionary-based approach is employed. Near-synonyms listed up until 1500 CE for the lemma's senses in *The Historical Thesaurus of English* (Kay et al. 2024) and the *Thesaurus of Old English* (Roberts, Kay & Grundy 2017) were collated. These lemma sets were verified by checking for the target senses 'prepare, make/get ready' in the *Middle English Dictionary* (MED) (Lewis et al. 1952-2001) and *Bosworth-Toller Anglo-Saxon Dictionary* (Bosworth 2014) entries respectively. To avoid conflation of patterns available to Germanic near-synonymous verbs with patterns available to verbs of Latinate or Romance origin, the latter (e.g. ME *dighen*, *prēparāten*, *enōurnen*, *gīsen*) were excluded.

The resulting lists of OE and ME near-synonymous verbs for *busken*'s main senses were used as a basis for data extraction. All instances of ME *busken*, its ON etymon *būask* and the native OE cognate *būan*, and all instances of the sets of lexical 'prepare' verbs in OE and ME were extracted from the respective corpora utilising existing lemmatisations for all four corpora.¹¹ The lexemes and absolute usage frequencies of the OE class of 'prepare' verbs are listed in table 1 including prefixed forms.¹²

table1: absolute frequencies of OE verbs lexicalising [[X ACT] CAUSE [BECOME [Y <STATE_{prepared}>]]] in YCOE.

OE lemma	Definition(s)	Absolute frequency	Absolute frequency of 'prepare' senses
<i>a-būnden</i>	'ready'	0	0
<i>rædan</i>	'give/take counsel, determine, prepare'	304	2
<i>a-rædan</i> / <i>ā-rædan</i>	'take counsel, determine, prepare'	28	0
<i>ge-rædan</i>	'give counsel, bring about by counsel'	103	6
<i>ā-scirpan</i>	'dress, make ready'	0	0
<i>gearcian</i>	'make ready, prepare, supply'	65	65
<i>ge-gearcian</i>	'make ready, prepare, supply'	47	47
<i>gearwian</i>	'make ready, prepare, clothe, supply'	47	47
<i>geatwan</i>	'make ready, equip'	0	0
<i>dæftan</i>	'make ready, prepare'	2	2
<i>ge-dæftan</i>	'make ready, prepare'	5	5
<i>ge-fysan</i> / <i>-fȳsian</i>	'make ready, cause to hurry'	0	0
<i>(ge-)gærwan</i>	'make ready, prepare, dress'	0	0
<i>regnian</i> / <i>rēnian</i>	'set in order, arrange, prepare, adorn'	3	3
<i>ge-regnian</i> / <i>-rēnian</i>	'set in order, arrange, prepare, adorn'	1	1

Table 2 lists the ME class of 'prepare' verbs including prefixed forms and sub-sectioned into West-Germanic lemmas and those showing varying degrees of Norse influence.¹³

¹¹ Verb lemmatisation for the ME corpora stems from the work of the project *Borrowing of Argument Structure in Contact Situations* (<https://tinyurl.com/dfgbasics>; cf. Percillier & Trips 2020). A beta version of the lemmatisation-enriched YCOE data was graciously provided by Ann Taylor (see fn.10; Taylor et al. 2021).

¹² Fraser (1985) argues that while OE did not have a grammatical middle voice, preverbs like *a-* could be used for the lexical derivation of middle semantics. As no true positive instances of *a*-prefixed verbs lexicalising 'prepare' remained in the data after annotation, differences in argument structure between *a*-prefixed and non-prefixed OE verbs could not be tested. See section 4.3 for results on ME *greithen* and *a-graithen*.

¹³ This work follows the lexicographic work of Dance (2003, 2019) and the *Gersum* project (Dance, Pons-Sanz & Schorn 2019) in the etymological assessment of ME lexemes and classification of evidence for Norse-derivation. The verbs treated as Norse-derived in this work vary regarding the nature and strength of evidence for their Norse-derivation and the lexico-categorical nature of the copy (cf. section 5). See Dance, Pons-Sanz and Schorn (2019) and references therein for assessment of individual lexemes.

table2: absolute frequencies of ME verbs lexicalising *[[X ACT] CAUSE [BECOME [Y <STATE_{prepared}>]]]* in PPCME2, PLAEME and PCMEP.

ME lemma	Definition(s)	Absolute frequency	Absolute frequency of 'prepare' senses
<u>Native:</u>			
<i>fetlen</i>	'shape, fix, prepare, get ready'	0	0
<i>highten</i> v.(2)	'beautify, prepare, adorn'	5	1
<i>rēdīen</i>	'make ready, prepare, direct or guide oneself'	2	1
<i>birēdīen</i>	'prepare, get ready'	110	1
<i>arēdīen</i>	'prepare, get/make ready'	0	0
<i>rēnen</i>	'prepare (for), clear a way'	27	2
<i>shāpen</i>	'create, establish, ordain, prepare, go, direct'	86	14
<i>yāren</i>	'prepare, make ready, make possible'	2	2
<i>yarken</i>	'make ready, prepare, marshal, ordain, grant'	39	39
<i>yarknen</i>	'prepare, make ready'	0	0
<u>Norse-derived:</u>			
<i>atlen(-ien)</i>	'intend, plan, prepare, advance, be inclined to'	3	3
<i>bainen</i> v.(2)	'make ready, prepare'	0	0
<i>bōunen</i>	'get ready, dwell, go'	1	1
<i>busken</i>	'prepare, get ready, provide, clothe, go, hurry'	7	6
<i>gēren</i>	'prepare, equip, dress, cause, make'	147	8
<i>(en-)greithen</i>	'prepare, dress, provide, cause, make, hasten'	54	51
<i>a-graithen</i>	'make ready, prepare, clothe, dress'	10	10
<i>fōr(e)-greithen</i>	'make ready, prepare'	0	0
<i>richen</i> v.(1)	'arrange, make ready, dress, mend, pull, move'	2	1

4.1.2 Data annotation and analysis

In the raw data, some verbs seem frequent at first glance (cf. tables 1 & 2), but revealed themselves to include a high number of ambiguous homographs actually representing unrelated lexemes (ME *rēnen* 'prepare' vs *rennen* 'run', *regnen* 'reign' & *birēdīen* 'prepare' vs *birien* 'bury').¹⁴ Tokens not representing target lemmas were excluded during manual semantic disambiguation. Additionally, a number of verbs in the OE and ME sets of near-synonyms are polysemous beyond change of state senses connected to preparation (ME *gēren*, *greithen*, *shāpen* & *yarken*) and lexicalise senses of causation (ME *gēren*, *greithen*), possessional transfer, or creation (ME *shāpen*) or constitute semi-auxiliaries. Uses of these verbs not corresponding to the target sense were excluded from the direct comparison data set, as these may participate in different constructions than instances lexicalising 'prepare' senses in lexical verbs. This resulted in the absolute frequencies per lemma represented in the rightmost columns of tables 1 and 2 for OE and ME, including 6 tokens for ME *busken*. Data extraction and annotation for ON *būask* forms resulted in 113 tokens.

To deduce the combinational patterns of argument structure, all resulting verb tokens are semi-automatically annotated for the number and morphosyntactic realisation of overtly expressed

¹⁴ For information on multiple lemma attribution to ME verb forms by the BASICS lemmatiser, see Percillier (2016: 210) and Percillier and Trips (2020).

arguments and their semantic roles. These argument structure annotations included nominal and pronominal argument NPs as well as PPs recurrently representing core thematic roles for some lexical verbs (e.g. *to*-dative RECIPIENT|BENEFICIARY, *for*-prepositional phrase PURPOSE|BENEFICIARY) and finite and non-finite PURPOSE EVENT complement clauses. Annotations followed the pattern [syntactic relation(morphosyntactic realisation)-THEMATIC ROLE] for all realised complement phrases of each verb token (e.g., [subject(nominative)-AGENT; direct object(accusative)-THEME]). Patterns showing coreference between two realised complements, specifically an AGENT NP and a reflexive marker or personal pronoun, were additionally marked as reflexive, as were absolutive intransitives with reflexive meaning. The set of argument realisation patterns gained from this analysis was corroborated based on the patterns recorded for all lemmas in the respective entries in the OED, MED and BTASD. Argument realisation patterns recorded for the ON etyma were corroborated from the relevant subsection of the ONP entry for ON *būa*.

The set of argument realisation patterns attested for ME *busken* was then compared to those of the ON etymon and subsequently to those of the class of near-synonymous verbs in OE and ME respectively. Due to the low token frequencies for most of the investigated lemmas, the qualitative analysis is restricted to a comparison of the availability of argument structure patterns on the grounds of attested existence in the data. Cognacy of patterns is assumed to be reconstructible where the patterns attested for near-synonymous lexemes in OE and ON match (cf. Barðdal and Eyþórsson 2020). Consequently, if argument structure patterns recorded for ME *busken* match such attested cognate patterns, the strategy of argument structure assignment cannot be further narrowed down than proposing that cognate argument structures are stably transmitted even under the condition of contact. The strategy for argument structure assignment to the copy can only be further narrowed down where the patterns attested for the near-synonymous lexemes in OE and those for the ON etymon show a mismatch.

4.2 Results of the item-oriented study

The corpus data of the combined corpora of ME contain a total of 7 tokens of ME *busken*. It occurs once in a sense of change of location or hurrying (LaurMinot.[Poem_2],5.22.84, PCMEP) and once in the sense of dressing, in the passive clause in (1) with [subject(nominative)-THEME] and adjunct PP INSTRUMENT.

- (1) *wen ho wer busket i bis. yer the baner ho*
 When they.NOM be.PST.3PLdress.PASS.PTCP in fine.linen there the banner they
ber with costes ful kene
 bore with ways very warlike
 'Often, when they were attired in fine linen, they bore the banner there in very warlike ways' (LAM499LYRICS.4, PLAEME)¹⁵

In the prototypical senses of 'prepare oneself, get ready', *busken* occurs once in an intransitive active clause. This token in (2) represents an absolutive use of verbs with reflexive meaning without the use of a coreferential object pronoun which is non-canonical but grammatical in OE and ME (cf. Visser 1966, §159).

¹⁵ Translation from Pickering (1992: 162). Glosses and translations are created by the author unless otherwise indicated. Glosses follow the Leipzig Glossing Rules with addition of the following abbreviations: OBJ=objective case in ME, EMPH=emphatic, RSP=resumptive.

- (2) *Busken bernes. Boues brytten. [...]*
 busk.PRS.3SG man.PL.NOM bows destroy
 'Men make ready. Bows take life.' (LAM499LYRICS.5, PLAEME)¹⁶

Note that both (1) and (2) hail from a collection of alliterative verse lyrics from the margins of a thirteenth century manuscript. Pickering (1992: 157) remarks that these verses are elliptical, highly lyrical and their meaning cryptic. Consequently, their word order and possibly also the lack of expression of a reflexive pronoun might not be representative of the common spoken usage and argument structure realisation of this verb. However, as Dance (2003: 322–324; 2019: 58, 82) discusses, Norse-derived lexis which is primarily attested in alliterative verse outside the Danelaw area, like ME *busken*, might have its point of transmission and subsequent dispersion in the replica language exactly in its particular "useful[ness] in expressive, literary context" (Dance 2003: 322), thus making these usage cases elemental evidence in the present work.

Most frequently in the ME corpus data, *busken* occurs 4 times in transitive constructions with reflexive meaning, where the pronominal NP complement in objective case is the reflexive use of a personal pronoun, coreferential with the subject in a [subject(nominative)-AGENT; reflexive(objective)-THEME] pattern like in examples (3) and (4).

- (3) *Do bold bernes for to abide Busked hem redy boun.*
 Those brave soldier.PL.NOM for to go.forth busk.PST.3PL they.REFL ready ready
 'Those brave soldiers prepared themselves fully ready to go forth'
 (AmisAmiloun,15.[Stanza_24].279.103, PCMEP)

- (4) *& al his meine bi ich a side Busked hem redi to*
 And all his company.NOM by each a side busk.PST.3PL they.REFL ready to
ride Wip her lord for to gon
 ride with their lord for to go
 'And all his company on each side made themselves ready to ride and go with their Lord'
 (AmisAmiloun,49.[Stanza_87].1038.453, PCMEP)

All four of these occurrences also include a (*for*) *to*-infinitive complement clause realising the PURPOSE of the preparation and stem from the same lyrical source text (*Amis and Amiloun*, PCMEP). Two of these instances, e.g., (3) and (4), additionally realise a specifying resultative DEGREE adverb lexicalising 'ready'. This transitive pattern is also prominently attested in other texts in the MED and OED (cf. MED *busken* v., sense 1(b)). While the combined ME corpus data only attests the reflexive transitive pattern, the dictionaries also regularly attest transitive constructions describing events of preparation of a THEME for an optionally realised PURPOSE or BENEFICIARY in the pattern [subject(nominative)-AGENT; reflexive|direct object(objective)-THEME] with (*to*-PP)-PURPOSE, clause ((*for*) *to*-infinitive)-PURPOSE as in (5), or (*for*-PP)-BENEFICIARY as in (6).

- (5) *De kyng boskes lettres a-non to bounen his*
 The king.SG.NOM busk.PRS.3SG letter.PL.OBJ immediately to boun his
bernes
 soldiers
 'The king prepares dispatches immediately to ready his soldiers'
 (c1390(?c1350) Jos.Arim.(Vrn)414 as cited in MED *busken* v.)

¹⁶ Translation from Pickering (1992: 163).

- (6) *De* [[read: *þere*]] *were beddes busked for eny burn riche*
 there be.PST.3PLbed.PL.NOM prepare.PASS.PTCP for any soldier noble
 'There beds were prepared for any noble soldier.'
 (a1375(1335–1361) WPal.(KC 13)3196 as cited in MED *busken* v.)¹⁷

The etymon of ME *busken* is the ON reflexivised 'middle' formation *būask* of the lexical verb ON *būa* (cf. ONP *2būa* vb.). While ON *būa* can be used intransitively, in reflexive constructions with *sik* and in transitive constructions with a THEME object in 'prepare sth., dress so.' senses in ON, the reflexivising *-sk* inflection of the form *būask* detransitivises this usage of the verb so that the THEME of preparing and AGENT are coreferential and only a subject is c-selected. From this one might expect the ME copy of this verb form to be non-argument reflexive.

According to the ONP, ON *būask* expresses reflexive senses of 'prepare, manage', 'set out', and 'dress', reciprocal sense 'co-exists', and combines with a range of prepositions and adverbs to form particle verb meanings related to senses of preparing (ONP *2būa* vb.). In the IcePaHC data, forms representing ON *būask* are attested with a token frequency of 119 before 1500 CE. As valency-changing transformations, six instances of passive participles were excluded from the analysis.

In the remaining 113 tokens, forms of ON *būask* occur mainly in intransitive constructions (111/113) with reflexive meanings of 'prepare' and 'dress' but also with motion meanings of 'go, set out, depart'. In its 'prepare' senses, ON *būask* realises [subject(nominative)-AGENT] and a range of PPs (e.g. *til, ĩ, at, við, ĩ mōti*) like in (7) and clauses (8) realising PURPOSE complements.

- (7) *og būast til varnar*
 and prepare.PRS.IND.3PL.REFL to defense
 'and [they] prepare for a defense' (1260.JOMSVIKINGAR.NAR-SAG,.336)

- (8) *Einn tíma būast þeir Finnbogi og Þorkell*
 One time prepare.PRS.3PL.REFL that.NOM Finnbogi.NOM and Þorkell.NOM
að ríða til Gnūps
 to ride to Gnūp
 'One day they, Finnbogi and Thorkell, prepare to ride to Gnūp' (1350.FINNBOGI.NAR-SAG,653.1582)

Two instances (2/113) of *būask* inflected for 3rd person singular are parsed as without a nominative subject, but instead show an accusative NP. These likely represent impersonal constructions in the sense of 'be expected' as recorded in the ONP.

As mentioned at the top of section 4, the native cognate OE *būan* meaning 'live, dwell, inhabit' contrasts derivationally and semantically with the ON cognate form *būask* and is not attested in the BTASD with 'prepare' senses. In the YCOE data, OE *būan* is attested with a token frequency of 13 lexicalising stative senses of 'occupy, inhabit' which can take a LOCATION argument in accusative case. None of these occur reflexively with coreferent complement pronouns or in reciprocal or comitative senses, confirming the dictionaries' account.

Comparing the argument structure patterns observed for ME *busken* to those of the ON etymon form and the OE cognate verb, two mismatches become apparent. First, in senses of preparation, ME *busken* occurs in intransitive constructions in reflexive senses of 'prepare oneself, get ready' as in (2), while the native cognate OE *būan* cannot. As section 5.1 will discuss, this pattern may

¹⁷ This work takes passive clauses as in (6) to be valency-reduced transformations, here of a non-reflexive transitive usage of ME *busken*.

indicate that the morphologically-marked reflexivity of the ON formation *būask* may have been somewhat preserved as prototypical and inherent in ME *busken*

Second, ME *busken* occurs transitively, expressing the preparation of a separate THEME entity and, in reflexive constructions, the preparation of the AGENT themselves. The ME reflexive formation using coreferential object personal pronouns is a construction unlike what is attested for ON, which uses reflexive pronouns like *sik* (3rd person) or *-sk* affixation as mutually exclusive reflexivising transformation strategies. While ON cognate *būa* does occur in intransitive as well as *sik* reflexive and transitive constructions in 'prepare' senses in the IcePaHC data and ONP, the *-sk* formation *būask* cannot occur in transitive constructions with non-reflexive causative meaning. Thus, the transitive construction in senses 'prepare sth./make ready' attested for ME *busken* is attested neither for the etymon form *būask* nor for the native cognate verb OE *būan*. It follows that neither OE *būan* nor the ON inflectional form *būask* can be the direct model for this pattern in ME *busken*. One must look to native non-cognate near-synonyms of ME *busken* for the most likely source of the transitive patterns analogously realised in these senses.

4.3 Results of the class-oriented study

4.3.1 'Prepare' verbs in OE

In the YCOE data, the OE 'prepare' verbs show the following argument realisation patterns: All attested OE lemmas show a transitive [subject(nominative)-AGENT; direct object(accusative)-THEME] pattern as in (9) for *gearcian*.

- (9) & mine gemæstan fugelas & ealle mine þing ic
 and my fattened fowl.PL.ACC and all my thing.PL.ACC I.NOM
gearcode
 prepare.PST.1SG
 'And I prepared my fattened fowl and all my things'
 (cocathom1,ÆCHom_I,_35:477.51.6942, YCOE)

Moreover, *rædan*, *a-rædan* / *ā-rædan*, *ge-rædan*, *gearcian*, *ge-gearcian*, and *gearwian* realise a reflexive transitive pattern with [subject(nominative)-AGENT; reflexive(pronoun.accusative)-coreferential THEME] both with (10) and without (11) emphatic pronoun *self*.

- (10) Ða bebead ic minum þegnum & hie het þæt
 There bade I my soldiers and them commanded that
 hie hie mid heora wæpnum *gereden*, &
 they.NOM they.ACC.REFL with their weapons ready.PST.SBJV.3PL and
 mid þy herige forðferdon.
 with that army forth.go
 'There commanded I my soldiers and ordered them that they should prepare themselves with their weapons and go forth with the army'
 (coalex,Alex:10.12.77, YCOE)
- (11) and we us sylfe *gearciað* mid estfullum
 and we.NOM we.ACC.REFL self.ACC.EMPH prepare.PRS.1PL with devoted
 mode, þæt he mid us wunige.
 spirit that he with us live.PRS.SBJV.3SG
 'And we prepare ourselves with devoted spirit so that he might dwell with us'
 (coaelhom,ÆHom_9:116.1355, YCOE)

Only *gearcian* and *gearwian* are attested in the YCOE data with an intransitive pattern with inherently reflexive meaning [subject(nominative)-AGENT] as in (12).

- (12) *Ða cwædon hig, hwar wilt tu þæt we*
 Then say.PST.3SG they.NOM where want.PRS.2SG you.NOM that we.NOM
gearwion?
 prepare.PRS.SBJV.1PL
 'Then they said, 'where do you want us to prepare?''
 (cowsgosp,Lk_[WSCp]:22.9.5422, YCOE)

All lemmas except for OE *(ge-)regnian* / *rēnian* also realise a ditransitive pattern [subject(nominative)-AGENT; direct object(accusative)-THEME; indirect object(dative)-BENEFICIARY]. Example (13) with *gearwian* represents a sense of food preparation that alternates in the *Benefactive Alternation* in OE as well as in ME and PDE (cf. Levin 1993, 26.3). In such senses, the result state of the THEME similarly implicates its creation.¹⁸

- (13) *Martha his sweostor þa gearwode þam Hælende*
 Martha.NOM his sister then prepare.PST.3SG that saviour.DAT
æfengereordu
 evening.meal.ACC
 'And Martha, his sister, then prepared the saviour an evening meal'
 (coblick,HomS_21_[BlHom_6]:67.30.824, YCOE)

The OE 'prepare' verbs also take non-finite (14) or bare adverbial (15) clause complements of PURPOSE both with otherwise transitive (14) and canonical reflexive (15) patterns

- (14) *Þa gearwodon heo his lichoman to byrgenne stænenne*
 Then prepare.PST.3PL they.NOM his body.ACC to bury stony
þruh.
 tomb.SG.ACC
 'Then they prepared a stone tomb to bury his body'
 (cobede,Bede_4:14.296.16.2988, YCOE)
- (15) *þa Sathanas, þære helle ealdor, cwæð to helle, Gearca*
 There Satan that hell's prince said to hell prepare.IMP
þe, helle, þæt þu muge Crist onfon, [...]
 you.SG.REFL hell.VOC that you may christ receive
 'There satan, the prince of hell, said to hell: 'prepare yourself, hell, that you may receive christ, [...]' [...]' (conicodC,Nic_[C]:230.231, YCOE)

or realise prepositional object complements as (*to*-PP)-PURPOSE like in (16).

- (16) *and gearcodon heora mod to ðam martyrdome, caflice to*
 and prepare.PST.3PL their spirit.ACC to that martyrdom valiantly to

¹⁸ Verbs of creation and transformation are a subtype of change of state verbs that do not presuppose the existence of the THEME at the initial temporal bound of the event (Kamp & Roßdeutscher 2005).

campienne for Cristes geleafan
 fight for Christ's belief
 'and [they] prepared their spirit for martyrdom, to valiantly fight for Christ's belief
 coalive,ÆLS_[Sebastian]:148.1300, YCOE)

Other non-core participants like instruments (17), comitative participants and non-agentive natural causes can be expressed as adjunct PPs:

- (17) & *hwilum þa meolc geren mid cyslybbe*
 and simultaneously that.ACC milk.ACC prepare.IMP with rennet
 'and at the same time prepare the milk with rennet'
 (colacnu,Med_3_[Grattan-Singer]:41.1.259, YCOE)¹⁹

4.3.2 'Prepare' verbs in ME

In the combined ME corpus data, all attested ME 'prepare' verbs show transitive patterns as in example (18), except for *heighten* v.(2) and *rēnen*, which only occur once as adjectival participles. The instances of transitive pattern [subject(nominative)-AGENT; direct object(accusative)-THEME] attested for *atlen(-ien)*, *redien*, *bōunen*, *yāren*, *yarken* (18) and *richen* v.(1) in the data are exclusively non-reflexive. The attestations of transitive reflexive patterns for all of these lemmas in the MED and OED suggest that this is a reflex of the size of the dataset.

- (18) & *tu mihht ec gastlike laf Onn operr wise*
 and you.NOM may.PRS.3PL also spiritual life.OBJ on other ways
zarrkenn [...].
 prepare.INF
 'And you might also prepare a spiritual life in other ways'
 (CMORM,I,49.493, PPCME2)

For *shāpen*, *birēdīen* and *busken* (3)–(4) all instances of transitive patterns in the data exclusively realise a reflexive [subject(nominative)-AGENT; reflexive(pronoun.accusative)-coreferential THEME] pattern.²⁰ Both non-reflexive (19) and reflexive (20) transitive patterns are realised in the data by *gēren*, *(en-)greithen* and *(a-)graihten*.

- (19) *Vor þet guode los to abatye and hyre guodes to lozy þe*
 For that good reputation to abate and their goodness to lower the
enuious agrayþeþ alle his gynnes.
 envious.NOM prepare.PRS.3SG all his device.PL.OBJ
 'Their good fame to abate and their goodness to depreciate the envious prepares all his devices.' (CMAYENBI,28.446, PPCME2)²¹

¹⁹ The form *geren* seems ambiguous between lemmas *ge-rēnian* and *ge-rinnan* only at first glance. The prototypical verb for cheese preparation, OE *ge-rinnan* 'coagulate', would realise *gerinn/gerinnap* in the imperative.

²⁰ Non-reflexive transitive uses of ME *shāpen* exclusively lexicalised senses of creation or ordination rather than change of state (with the possible implication of creation). Still, the MED attests the possible transitive usage of ME *shāpen* in 'prepare' senses.

²¹ Translation from Wyatt, Michel & Laurent (2019: 23).

- (20) *And zaynte paul þus zayþ þæt þe wyfmen hi*
 and saint paul thus says that the woman.PL.NOM they.NOM.RSP
ssolle ham agrayþi mid sobrete [...]
 shall.PRS.3PL they.OBJ.REFL prepare.INF with sobriety
 'and St. Paul thus says that the women should dress themselves with sobriety'
 (CMAYENBI,258.2418, PPCME2)

Only the ME 'prepare' verbs *greithen* and *a-graithen*, as well as *busken* (see example (2) above) also occur in an intransitive pattern [subject(nominative)-AGENT] with inherently reflexive meaning.

Moreover, the ME lemmas *greithen* and *yarken* also realise a ditransitive *double object construction* pattern [subject(nominative)-AGENT; direct object(accusative)-THEME; indirect object(dative)-BENEFICIARY] in senses of preparation as in (21).

- (21) *ha greiðið þe o grome nu alles cunnes*
 He.NOM prepare.PRS.3SG you.SG.OBJ in anger now all kind.POSS
pinen.
 pain.PL.OBJ
 'He now wrathfully prepares you pains of every kind'
 (CMJULIA,107.191, PPCME2)

The ME 'prepare' verbs also regularly take non-finite complement clauses in combination with [subject(nominative)-AGENT] pattern (22) in inherently reflexive senses. With verbs *atlen(-ien)*, *gēren*, *a-greithen* and *shapen* this occurs in senses of an AGENT preparing themselves for an activity or event.

- (22) *þai gert seke north and sowth þe mowntes of israell*
 they.NOM prepare.PST.3PL seek north and south the mountains of Israel
 'they prepared to search the north and south of the mountains of Israel'
 (Nicodemus,82.[Stanza_79].946.530, PCMEP)

Parallel to what has been shown for ME *busken* and the OE 'prepare' verbs above, finite (23) and non-finite (24) PURPOSE complement clauses are realised in combination with reflexive [subject(nominative)-AGENT; reflexive(pronoun.accusative)-coreferential THEME] pattern by *greithen* (23) and *shāpen*; and with [subject(nominative)-AGENT; direct object(accusative)-THEME] pattern in otherwise transitive constructions by *yarken* (24) and *greithen*.

- (23) *Hiswif he het to greiþe hure. þt heo*
 Hiswife.OBJ he.NOM order.PST.3SG to prepare.INF she.OBJ.REFL that she
wiþ him come
 with him come.PST.SBJV.3SG
 'He ordered his wife to prepare herself so that she could have come with him'
 (CORP145SELT.1511, PLAEME)
- (24) *He zarkedē aday is ost. azen hom for stoned*
 He.NOM prepare.PST.3SG at.day his army.OBJ against them to stand
 'By day he prepared his army to stand against them' (CORP145SELT.191, PLAME)

Alternatively, ME 'prepare' verbs can realise complements of PURPOSE (25) or BENEFICIARY (26) as prepositional objects. Expression of PURPOSE participants as *to*-PPs occurs with ME

yarken, *rēdīen* and *shapen* (25) in inherently reflexive intransitive, reflexive transitive and transitive patterns. ME *greithen*, and *yarken* are recorded with (to|for|against|toward-PP)-BENEFICIARIES, as e.g., (26). The alternation between indirect object and prepositional object BENEFICIARIES occurs both in argument reflexive (26) and in non-reflexive (21) (di)transitive constructions.

- (25) *pou3 þat wistestal bifor w3i schope þou me to*
 You that knew all before why prepare.PST.2SG you.SG.NOM I.OBJ to
wroþerhele
 ruin
 'You that knew everything before, why did you prepare me for ruin'
 (LAUD108BT.205, PLAEME)

- (26) *Rihht swa summ bidell birrþ ben sennd To 3arrkenn & to*
 Right so some herald ought.to be sent to prepare.INF and to
gre33þenn Onn3æn hiss laferrd tær þær he Shall cumenn swiþe
 ready.INF against his lord.OBJ there where he shall come very
newenn, Rihht o þatt wise comm Johan Biforenn Cristess come,
 soon right so that way come Johan before Christ's coming
To 3arrkenn follc onn3æness Crist, To taken wiþþ hiss
 to prepare.INF people.OBJ against Christ to assent.INF with his
lare.
 teaching
 'Just like some herald must be sent to prepare and prepare (in preparation) for his
 Lord there where he shall come very soon, right so that way John came before Christ
 to prepare the people for Christ to believe in his teaching'
 (CMORM,INTR.L85.118, PPCME2)

Finally, as has been shown for the OE verb class (17) and for ME *busken*, the ME class of 'prepare' verbs can express non-core elements as adverbials of result state or degree like *redy boun* in (3), or as adjunct *with|by|through*-PPs of manner or instrument as in (20) above.

4.3.3 Comparative results: Etymological and diachronic differences in the argument structure of English 'prepare' verbs

Taking a diachronic and etymological perspective, table 3 compares the argument structure realisation patterns attested for 'prepare' verbs in OE and ME by lemma. Some diachronic changes are observable in the expansion of 'prepare' verbs to complex event structures realised as ditransitives, in senses of caused transformation with subsequent provision of the THEME in its result state to a BENEFICIARY.

table 3: 'prepare' verbs in OE and ME, by argument structures attested in the YCOE, and combined corpora of ME (PP = prepositional phrase, INF = infinitive, CL = clause; N/A marks patterns not attested with investigated lemmas).

AS pattern	OE lemma	ME lemma	
	Native	Native	Norse-derived
[subject(nominative)-AGENT(refl.)]	<i>gearcian,</i> <i>gearwian</i>	<i>N/A</i>	<i>busken,</i> <i>greithen,</i> <i>a-graithen</i>
[subject(nominative)-AGENT; direct object(accusative)-THEME]	<i>ge-rādan,</i> <i>gearcian, ge-gearcian,</i> <i>gearwian,</i> <i>dæftan, ge-dæftan,</i> <i>rēnian/ regnian,</i> <i>ge-rēnian/-regnian</i>	<i>yarken,</i> <i>yāren</i>	<i>atlen(-ien),</i> <i>bōunen,</i> <i>gēren,</i> <i>greithen,</i> <i>a-graithen,</i> <i>richen v.(1)</i>
[subject(nominative)-AGENT; reflexive(accusative)-THEME(coref.)]	<i>rādan, ge-rādan,</i> <i>gearcian, ge-gearcian,</i> <i>gearwian</i>	<i>birēdīen,</i> <i>shāpen</i>	<i>busken,</i> <i>gēren,</i> <i>greithen,</i> <i>a-graithen</i>
[subject(nominative)-AGENT; direct object(accusative)-THEME; indirect object(dative)-BENEFICIARY]	<i>rādan,</i> <i>ge-rādan,</i> <i>gearcian, ge-gearcian,</i> <i>gearwian,</i> <i>dæftan, ge-dæftan</i>	<i>yarken</i>	<i>greithen</i>
[subject(nominative)-AGENT; direct object(accusative)-THEME; reflexive indirect object(dative)-BENEFICIARY(coref.)]	<i>gearcian</i>	<i>N/A</i>	<i>greithen</i>
[subject(nominative)-AGENT; reflexive(accusative)-THEME(coref.); indirect object(dative)-BENEFICIARY]	<i>ge-gearcian</i>	<i>N/A</i>	<i>N/A</i>
[subject(nominative)-AGENT; direct object(accusative)-THEME; prepositional object(PP)-BENEFICIARY]	<i>N/A</i>	<i>yarken</i>	<i>greithen,</i> <i>a-graithen</i>
[subject(nominative)-AGENT(refl.); complement clause(INF-CL that wh-CL)-PURPOSE]	<i>gearcian</i>	<i>shāpen</i>	<i>atlen(-ien,)</i> <i>gēren,</i> <i>a-greithen</i>
[subject(nominative)-AGENT(refl.); prepositional object(PP)-BENEFICIARY]	<i>N/A</i>	<i>N/A</i>	<i>greithen</i>
[subject(nominative)-AGENT(refl.); prepositional object(PP)-PURPOSE]	<i>N/A</i>	<i>yarken</i>	<i>N/A</i>

[subject(nominative)-AGENT; direct object(accusative)-THEME; complement clause(INF-CL <i>that</i> -CL)-PURPOSE]	<i>rǣdan,</i> <i>gearcian, ge-gearcian,</i> <i>gearwian</i>	<i>yarken</i>	<i>greithen</i>
[subject(nominative)-AGENT; reflexive(accusative)-THEME(coref.); complement clause(INF-CL <i>that</i> -CL)-PURPOSE]	<i>gearcian</i>	<i>shāpen</i>	<i>busken,</i> <i>greithen</i>
[subject(nominative)-AGENT; direct object(accusative)-THEME; prepositional object(PP)-PURPOSE]	<i>gearcian, ge-gearcian,</i> <i>gearwian</i>	<i>shapen</i>	<i>N/A</i>
[subject(nominative)-AGENT; reflexive(accusative)-THEME(coref.); prepositional object(PP)-PURPOSE]	<i>gearcian,</i> <i>gearwian</i>	<i>rēdīen</i>	<i>N/A</i>
[subject(nominative)-AGENT; direct object(accusative)-THEME; indirect object(dative)-BENEFICIARY; prepositional object(PP)-PURPOSE]	<i>gearcian</i>	<i>N/A</i>	<i>N/A</i>
[subject(nominative)-AGENT; reflexive(accusative)-THEME(coref.); indirect object(dative)-BENEFICIARY; prepositional object(PP)-PURPOSE]	<i>ge-gearcian</i>	<i>N/A</i>	<i>N/A</i>

On the one hand, while the OE verbs realise BENEFICIARIES only as indirect objects and not as prepositional objects with *to*-*for*-PP, ME *greithen* and *yarken* appear to alternately express BENEFICIARIES as prepositional and indirect objects in senses of preparation and subsequent provision (cf. Broccias & Torre 2020).²² Following Broccias and Torre (2020: 180–183), abstract transfer of possession to these BENEFICIARIES may be construed in these senses. Consequently, this work analyses these ME 'prepare' verbs realising BENEFICIARIES alternately as indirect objects and *to*-PPs and, arising only later in ME, as *for*-PPs as being verbs of creation and transformation alternating in an early stage of the benefactive alternation (cf. Broccias & Torre 2020: 180; cf. Levin 1993, 26.3).

On the other hand, both OE and ME 'prepare' verbs can realise the PURPOSE of the preparation event as complement clauses or PPs, headed by *to* and *for* among some other prepositions. As the *to*-dative is not yet well established in OE (cf. Zehentner 2018: 152f.), it is not surprising that OE 'prepare' verbs do not show (*to*|*for*-PP)-BENEFICIARIES but only realise them in *double object constructions*. However, in ME, nouns realising BENEFICIARIES of creation and transformation events, like preparation events, can take prepositions *to* and *for* and do combine with 'prepare' verbs as (*to*|*for*-PP)-BENEFICIARY objects as in the passive construction in (27).

²² While Zehentner (2018: 170) proposed the benefactive alternation to be "strikingly absent from ME", Broccias and Torre (2020: 180ff.) show that in ME the double object construction could alternate with *to*-PPs in what one would treat as benefactive contexts in PDE. Broccias and Torre (2020: 180) conclude that the benefactive alternation indeed existed in early ME but was expressed by DOC and *to*-PP pattern alternation and the *for*-PP entered this alternation only later. The present analysis finds animate BENEFICIARIES expressed as *to*|*for*|*against*|*toward*-PPs in ME.

- (27) *Gað ze wariede ut of min eze sichðe intoþet eche fur. Þt*
 Go you damned out of my eyesight into.that eternal fire that
wes igreiðet to þe feont. & to his engles.
 be.PST.3SG prepare.PST.PTCP to the enemy.OBJ and to his angel.PL.OBJ
 'Go, you who are accursed, out of my sight, into that eternal fire that was prepared
 for the devil and for his angels' (CMANCRIW-1,II.226.3271, PPCME2)²³

When combining these two observations, the changes in the argument realisation patterns taken by the OE and ME lexical 'prepare' verbs in contexts where both PURPOSE and BENEFICIARY of a preparatory event are realised, become clearer. As BENEFICIARY and PURPOSE are semantically similar participants, both being indirectly affected by the realisation of the result state of the preparation event, both may be expressed as *to/for*-PP after the rise of the dative and benefactive alternations in ME. Consequently, ambiguities between PURPOSE and BENEFICIARY could arise in contexts where both participants are realised. While BENEFICIARIES are generally human, or at least animate and somewhat sentient, PURPOSES are more often events, generally states or activities, or inanimate, possibly abstract, entities. In the data, ME 'prepare' verbs show a preference for double object constructions with BENEFICIARY indirect objects and PURPOSE PPs over *for/to*-PP expression of BENEFICIARIES. This analysis finds that this might be to avoid semantic ambiguities resulting from the expression of both participants as PPs.

Moreover, while the OE verbs take prepositional objects of PURPOSE both with transitive and ditransitive structures, the ME verbs only show prepositional PURPOSE complements with reflexive transitive uses of *rēdīen* and *shāpen*. Generally, OE verbs express PURPOSE as complement clauses and prepositional objects while the ME verbs seem to prefer complement clauses over prepositional objects for the expression of PURPOSE events or activities with otherwise intransitive and transitive, and ditransitive structures.

Comparing the ME patterns realised by native and Norse-derived verbs, this analysis finds that, firstly, only the Norse-derived verbs occur in an intransitive pattern with inherently reflexive meaning. However, native *yarken* and *shāpen* do realise inherently reflexive meaning in otherwise intransitive patterns with a nominal AGENT subject and a PURPOSE clause or PP. Taking a diachronic perspective, this seems to be partially a data poverty problem rather than actual non-existence of native ME verbs in intransitive non-argument reflexives: As table 3 shows, this ME lack of attestation is juxtaposed by the, albeit infrequent, occurrence of this pattern with native OE *gearcian* and *gearwian*, predecessors of ME *yarken* and *yaren* and cognate to Norse-derived ME *gēren*. Consequently, and in line with Visser's (1966, §159) observations, this pattern was clearly grammatical for verbs lexicalising 'prepare' in OE. There is no reason to assume that the ME descendants of native West-Germanic lexemes would lose this possible argument structure realisation while licensing it for newly copied Norse-derived verbs and cognates.

Abstracting from classes of near-synonyms to verb classes defined by their structural behaviour, Levin (1993: 35f.) describes the *Understood Reflexive Object Alternation* for verbs alternating between intransitive uses with reflexive meaning and reflexive transitive structures, like PDE *dress*. Considering the analysed data, the OE 'prepare' verbs *gearcian* and *gearwian* and ME 'prepare' verbs *busken*, *greithen*, and *a-graiþen* seem to have participated in this alternation. As table 3 suggests, OE *gearwian*, its ME descendant *yāren* and Norse-derived cognate copy *gēren*, as well as the 'prepare' sense of OE (*a-/ge-*)*rædan* and its ME descendant (*bi-*)*rēdīen* are additional candidates for verbs showing this alternation from early English onwards. The dictionary entries for these verbs record both intransitive reflexive and transitive reflexive usage and thus corroborate the possibly alternating status suggested by the corpus analysis. PDE verbs

²³ Translation from Salu (1955:136).

lexicalising change of state towards a result state of preparation, like *prepare* and *ready*, and related verbs like *dress* also show this alternation. How do these results reflect on the integration of Norse-derived copies like *busken* into the class of verbs lexicalising 'prepare'?

5 Discussion

5.1 Integration of Norse-derived 'busken'

The evidence regarding the etymological origin of ME *busken*'s argument structures is twofold concerning the combination of semantic properties and corresponding combinational properties, as figure 1 illustrates.

Firstly, ME *busken* realises an intransitive inherent reflexive argument structure. Generally, OE forms reflexives by use of an anaphorically bound subject-coreferential pronoun (Haspelmath 2023: 23; cf. Dimitriadis & Everaerts 2004). However, Visser notes that omission of the reflexive complement and thus intransitive use of generally transitive lexical verbs with reflexive meanings is non-canonical but grammatical in OE, where "context and/or situation [...] prevents the shorter construction from being misunderstood" (Visser, 1966, §159). In contrast to OE, ON expresses reflexivity by use of coreferential reflexive pronouns in transitive constructions or by intransitive usage of 'middle voice' *-sk* verb forms (Barnes 2008: 146), as apparent in the etymon ON *būask*. As laid out in section 4, OE *būan* does not show such intransitive inherent reflexives with 'prepare' senses parallel to ON *būask*. Thus, OE *būan* cannot be the source of ME *busken*'s intransitive reflexive argument structure. Moreover, this work deems it unlikely that the cognacy relation between OE *būan* and ON *būask* was identifiable to speakers during contact, based on their formal and semantic contrast. Consequently, licensing of a regular OE reflexive formation for the Norse-derived copy ME *busken* by this relation is unlikely.

Therefore, the assignment of an intransitive reflexive argument structure to ME *busken* suggests that this lexeme might be the result of a global simplex copy of the ON inflectional form *būask* with its inherently reflexive semantic properties and its intransitive combinational properties. However, this scenario of global copying cannot account for the transitive reflexive formation with a coreferential personal pronoun direct object also realised by ME *busken*, as such a pattern is not attested for the model unit *būask* in ON.

Comparing the reflexive patterns realised by ME *busken* to those realised by the class of 'prepare' verbs into which it is integrated, this analysis finds that the OE class indeed realises both intransitive reflexives and the regular OE transitive reflexive pattern. This suggests participation in the understood reflexive object alternation (Levin 1993; cf. section 4.3.3). Consequently, the assignment of the canonical basic code transitive reflexive pattern to ME *busken* supports an assignment of argument structure based on semantic analogy to native near-synonymous reflexive verbs.

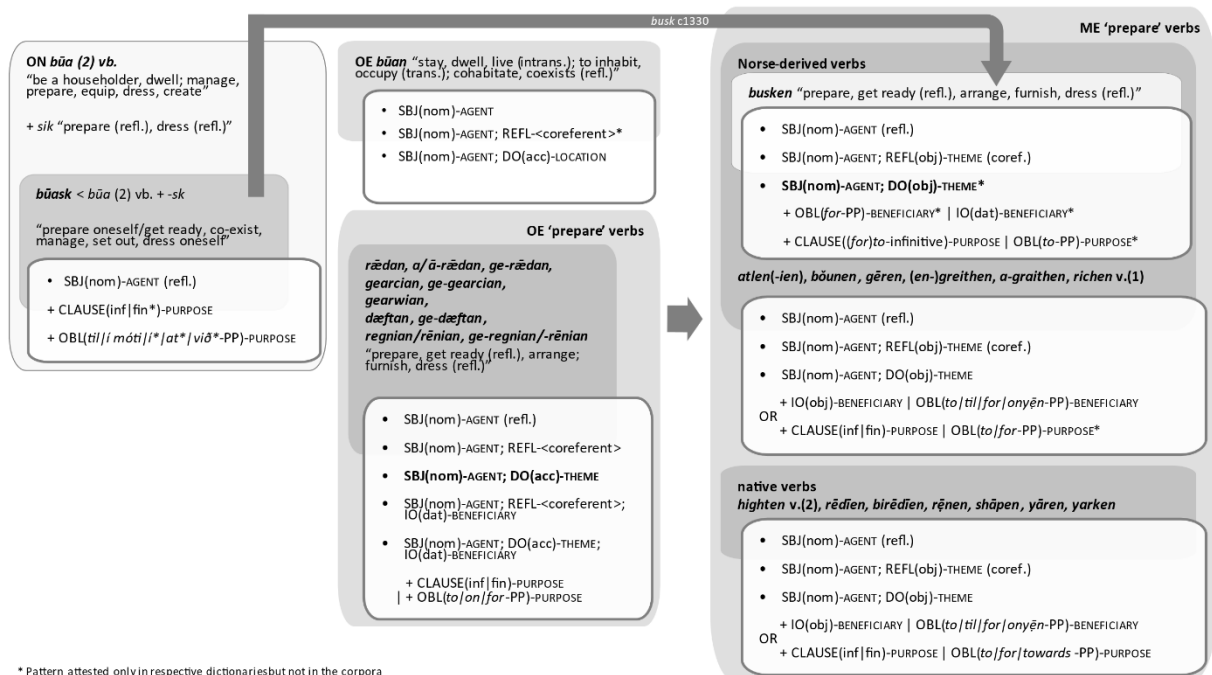


figure 1: argument structural integration of ME 'busken' on the model of ON 'būask' into the ME class of verbs lexicalising "prepare" (DO = direct object; IO = indirect object).

Secondly, ME *busken* realises non-reflexive senses of caused change of state in transitive and ditransitive patterns. Global copying of ON *būask* as an inherently reflexive verb cannot account for these argument realisations assigned to the copy as such a transitive pattern is not attested for the model unit *būask* in ON (cf. section 4.2). However, as section 4.3.1 has shown, these transitive and ditransitive patterns are indeed attested for the OE class of 'prepare' verbs into which *busken* is integrated. Consequently, the assignment of transitive reflexive, transitive and ditransitive argument structures to ME *busken* is innovative when compared to the argument structures available to the ON etymon.

These deviations from the model unit's semantic and combinational properties suggest that the ME copy is the result of a selective formal and semantic copy of the reflexive senses of ON *būask* that is then assigned cognate argument structures already existing in OE for verbs lexicalising such events, namely intransitive reflexives in analogy to the model code's pattern and transitive reflexive formation with coreferential object pronoun in analogy to native near-synonyms in the basic code. However, a number of these basic code near-synonyms are labile and polysemous between their change of state and caused change of state senses in OE and ME. In this analogy to these native near-synonymous lexemes, *busken* is additionally assigned cognate transitive and ditransitive as well as prepositional BENEFICIARY argument structures. As a result, it also lexicalises caused change of state senses in ME.

Concerning the argument status of the varying reflexive uses, Fischer (1992: 237–8) proposes that OE reflexive pronouns are generally thematic and thus would be argument reflexives, following Steinbach's (2002) terminology. Recent work has shown that both argument reflexives and non-argument reflexives exist in OE and ME (Trips 2020b: 6–8; van Gelderen 2018, chapter 6). The senses recorded for *busken* in the MED and OED as well as the corpus data presented above suggest that this is also true for this copied verb in English: Firstly, ME *busken* can clearly be realised as an argument reflexive in the sense of Steinbach (2002: 4), as it shows both two-place predicative 'prepare sth./so.' senses with a non-coreferential object complement THEME and reflexive 'prepare oneself' senses with coreferential reflexive

complement pronoun THEME in transitive constructions. Secondly, ME *busken* (and PDE *busk* v.1) may also be used as a non-argument reflexive in intransitive constructions where it receives middle and inherent-reflexive interpretations. There the first semantic argument is reduced and syntactically unexpressed and its coreferentiality to the second semantic argument of THEME expressed as the syntactic subject is evident from the context.²⁴

5.2 Loan Verb Integration Effects on the Verb Class

Abstracting from individual lexical copies to the semantic verb class, the integration of *busken* and other Norse-derived 'prepare' verbs does not seem to have triggered major restructuring of the set of available argument realisation patterns of this class in ME concerning the expression of reflexivity. The Norse-derived verbs enter English with an intransitive reflexive *and* a transitive reflexive pattern. Native near-equivalent patterns did exist in the basic code for both patterns. While ON employs reflexive pronouns in transitive reflexive patterns, the OE pattern of reflexive marking by use of coreferential personal pronouns is assigned to the Norse-derived copies upon integration into the basic code. While intransitive expression of inherently reflexive preparation events was less common but permissible in OE (Visser, 1966, §159), the ME Norse-derived 'prepare' verbs show this pattern with a wider range of lexemes than the native ME verbs of this class. As the ON model code has both an equivalent intransitive reflexive pattern and the synthetic verbal reflexivisation with *-sk* as available strategies of reflexivising detransitivisation, the type-increase of intransitive reflexive pattern by Norse-derived 'prepare' verbs in ME might be a frequential integration effect. The copying of the model code units' combinations of semantic features in reflexive senses and their corresponding combinational features of intransitivity might have been copied into English as the cognate intransitive reflexive pattern realised with these copied verbs.

While these qualitative results are intriguing, the etymological classification of Norse-derived 'prepare' verbs limits their explanatory power. The Norse-derived lexemes in the ME set of investigated near-synonymous verbs are of varying kinds of Norse-derivation (cf. Dance, Pons-Sanz & Schorn 2019). Other than ME *busken*, ME *atlen(-ien)*, *gēren* and *greithen* are also verbs of the group of contrasting cognate copies (cf. section 4). Other possibly Norse-derived verbs are the resultative deadjectival verbs ME *bainen* v.(2) and *bōunen*, both ultimately from the same Proto-Germanic root **buwwēn-* as OE *būan* and ON *būa*. ME *richen* v.(1) is of uncertain origin, but shows close cognacy between OE **ryccan* and ON *rykkja*. Thus, I do not propose that any of these verbs individually and directly are the source for the described developments in the argument structure of ME 'prepare' verbs. However, the amount of Norse-derived verb lexis entering this class is considerable. The combined impact of the type-frequency with which these copies realise cognate structures that are otherwise non-canonical and less frequent with native class members in the basic code, namely intransitive reflexives, may be crucial to the continued existence of these structures in the set of possible argument structures of this class.

Quantitative analysis of a larger data set is necessary to test whether this integrational effect is significant and constitutes a frequential copy of this cognate pattern with these lexical verbs. Due to the size and imbalance of the present dataset across the variables of etymology, lemma, and argument structure the application of statistical tests to this end was impossible without conflating the argument structural alternations realised by this verb class.

²⁴ cf. Rappaport Hovav and Levin (1998) on semantic expansion of change of state verbs to accomplishments.

6 Conclusion

Concerning the argument structural integration of ME *busken* in ME, the corpus data and dictionaries revealed pattern matches between the ON etymon *būask* and ME *busken* for the intransitive reflexive pattern [subject(nominative)-AGENT(refl.)]. This pattern could additionally combine with a (INF-CL|*that*-CL)-PURPOSE or (PP)-PURPOSE. From this, I abstract a global copy of this reflexivised ON verb into English as an inherent reflexive, or non-argument reflexive (cf. Steinbach 2002). The OE data for 'prepare' verbs revealed that the intransitive reflexive use of *busken* and indeed other Norse-derived verbs lexicalising 'prepare' in ME is not an innovation in this set of near-synonyms in the basic code of English on the model of the ON etymon *būask*. This copy does not pose an integration conflict to the basic code, as this pattern, while being non-canonical, is grammatical in OE (section 5.1). However, while the reflexive marking by use of coreferential personal pronouns in a transitive construction assigned to ME *busken* is the canonical argument realisation for reflexive verbs in the OE basic code, coreferential pronoun reflexivisation is disallowed for the already reflexivised model unit ON *būask*. This assignment of a cognate argument realisation pattern for reflexive marking cannot have been globally copied.

Additionally, the transitive pattern realised with caused change of state senses 'prepare sth.' of ME *busken* revealed by the data is an innovation on the copy. This pattern is realised by native and copied near-synonymous verbs in ME, like native *rēdīen*, *shāpen*, and *yarken* and Norse-derived *greithen* and *bōunen*, but not available to the model code unit in ON. Based on the data observed for ME *busken* and the comparisons made between them and the data representing ON *būask*, OE *būan* and the OE and ME near-synonymous verbs, this analysis concludes that ME *busken* also shows the properties of a selective formal and semantic copy of the ON inherently reflexive verb which is assigned cognate argument structures in ME based on analogy to near-synonymous verbs in the basic code. Despite not all senses and patterns assigned to the ME copy having direct equivalents available to the model unit in ON, these additional patterns assigned to the copy nevertheless present a match between the OE and ON codes overall, as they are the canonical cognate patterns licensed for (caused) change of state verbs in both languages.

Consequently, regarding RQ1 this analysis proposes that argument structure assignment of ME *busken* combines these two strategies, resulting in a *mixed copy*, following Johanson (cf. 1999: 52). First, the intransitive realisation of inherently reflexive ME *busken* is copied globally from the model code unit with its material form following strategy 1 (see section 3). Second, the reflexive transitive – semantically argument reflexive –, transitive, and ditransitive argument structures are assigned to ME *busken* in senses of (caused) change of state in analogy to near-synonymous verbs in the basic code and thus follow strategy 4. This extension of the semantic and combinational features of the copied form-meaning pair of ME *busken* on the model of native near-synonyms represents a selective copy, making the polysemous, labile verb ME *busken* a mixed copy.

Such a complex lexical copy speaks to the importance of the lexical and typological closeness characterising the Anglo-Scandinavian contact situation because in contacts where "[...] the two interacting codes are closely related, as in the case of English and Norwegian, there are relatively many equivalence positions, which allows a wider range of copying patterns" (Johanson 1999: 49). The present study thus corroborates the results of previous work ([AUTHOR] 2023, 2024, forthcoming; [AUTHOR] & [COLLEAGUE] 2024) showing that both the typological closeness of languages in contact and specifically the existence and closeness of cognacy relations between a native and copied lexeme impact the structural outcomes of loan verb integration.

Overarchingly, the result that the argument structures of 'prepare' verbs remain stable throughout the transmission from OE to ME is not trivial (cf. Barðdal 2013: 442; Barðdal & Eypórsson 2020). The present work brings evidence to the statement that, "the study of individual cognate verbs in the earliest Germanic languages to discover fine-grained differences, and attempting to reconstruct where differences do exist [is] an interesting endeavour and less open to the charge of banality" (Walkden 2013: 107 fn.6). This becomes especially clear in the present study where the reconstruction of stability in light of the integration of a number of Norse-derived cognate verbs of a contrasting nature into this semantic verb class which integrates both horizontal and vertical transmission of cognate argument structures in contact between two closely related languages.

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The Morphosyntactic and Argument Structural Integration of Norse-derived verbs in the *Ormulum*

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Abstract:

The present work revisits the Norse-derived lexis of *Ormm*'s language, focussing on the integration of loan verbs and their argument structure. The structural contact outcomes for loan verbs concern the morphosyntactic realisation of the verb itself as well as the number and nature of its arguments. In two case studies on the *Ormulum*, edited by Johannesson and Cooper, this work assesses how well integrated Norse-derived verbs were into *Ormm*'s linguistic system. First, a quantitative analysis of a potential integrative bias towards non-finiteness determines the degree of their morphosyntactic integration. Second, a qualitative analysis reveals how argument structure is assigned to these loan verbs by comparing their argument realisation patterns in the *Ormulum* to those recorded for their model language etyma and replica language cognates and synonyms. This work illuminates how cognate Norse-derived verbs differ in their structural integration from non-cognate Norse-derived verbs in the *Ormulum*.

Keywords: Old Norse, Middle English, loan verb integration, argument structure, cognate

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1 Introduction¹

The *Ormulum* is an important text in reconstructing the transition from Old English (OE) to Middle English (ME). By the nature of the author's vernacular represented, its date of composition and its localisation it is also a highly relevant text in delineating the lasting impact of Anglo-Scandinavian contact.² The present work draws on the new critical edition of this text by Johannesson and Cooper to revisit the Norse-derived lexis of *Ormm*'s vernacular,³ focussing on the integration of loan verbs and their argument structure specifically.⁴ The status of lexical verbs as a morphologically complex category most central to event description makes them a particularly interesting lexical category to investigate regarding the structural realities of contact outcomes. As will be explored in section 2, the structural integration of loan verbs not only affects the morphosyntactic realisation of the copied verb itself but also concerns the number and nature of its arguments and their expression in the replica language.⁵

This work is concerned with the structural integration of loan verbs both at the surface level of morphosyntactic accommodation and the deeper conceptual level of argument structure assignment to new verbs and their realisation of thematic arguments in the replica language. By combining a morphosyntactic and an argument structural perspective on the integration of loan verbs in the *Ormulum*, this work seeks to illuminate how fully the Norse-derived lexis of *Ormm*'s vernacular had been structurally integrated into the English linguistic system at the time of its

¹ The author thanks the organisers and all participants of the ICEHL-22 session on the *Ormulum* as well as Carola Trips and her research colloquium for their invaluable feedback and suggestions on this work. All shortcomings are my own.

² (?)Section I of this volume; (?)Pons-Sanz, this volume.

³ Ormm, *The Ormulum*, ed. by Johannesson and Cooper.

⁴ The term *Norse* is used in this work as referring to the varieties spoken by Scandinavians who came to Britain during the Viking Age. For the sake of referencability, relevant Norse terms are quoted as recorded in the *Dictionary of Old Norse Prose* (hereafter *ONP*). This should not be taken as suggesting that these necessarily are the forms encountered by English speakers in interaction with Norse speakers, as both groups spoke a range of varieties across the area and timespan of contact.

⁵ Concerning the terminology of *model* and *replica* languages, see: Weinreich, *Languages in Contact*.

composition. To this end, this study assesses the degree of morphosyntactic integration of Norse-derived loan verbs in the *Ormulum* by testing if they show a bias towards non-finite use as compared to native English verbs. Such so-called ‘accommodation biases’ have been shown to exist for copied linguistic materials after integration in the Anglo-Scandinavian contact and other historic and contemporary contact situations.⁶ How these new verbs of foreign etymology are integrated into English concerning their argument structure is assessed by a qualitative analysis of the argument structure patterns realised by Norse-derived verbs in the *Ormulum* data. A comparison to the patterns attested for their respective Old Norse (ON) etyma and native cognate and non-cognate, synonymous verbs reveals how Norse-derived verbs are assigned argument structure and whether they are integrated with cognate or non-cognate patterns. Additionally, by this differentiation between the integration outcomes of cognate and non-cognate verbs this work highlights how the (non-)existence of cognate materials and structures in the model and replica languages might have affected the structural integration of copied verbs.

In what follows, section 2 will first expand on the modelling of loan verb integration as well as recent research on their morphosyntactic accommodation and argument structural integration into their replica language. Section 3 will introduce relevant concepts concerning the Anglo-Scandinavian contact, the Norse element in the early ME source text, and the issue of cognacy in evaluating these contact outcomes. Section 4 will formulate the research objectives and present the approach to the data of the text edition. The following sections will present two case studies: Section 5 will quantitatively assess the degree of morphosyntactic integration of loan verbs in the *Ormulum*, while section 6 will provide a qualitative analysis on the argument structural integration of three Norse-derived verbs in the *Ormulum*. In section 7,

⁶ Shaw, ‘English Phrases, French Verbs’; Shaw and De Smet, *Loan Word Accommodation Biases*; Elter and Shaw, *Loan Verb Accommodation*.

the findings from the two case studies will be discussed in the context of integratedness of the Norse element in *Ormm*'s language and section 8 will offer a conclusion.

2 Loan verb integration

The English lexicon shows a significant number of loan words originating from historical language contact situations like that with Old Norse, which has enriched the language with loans like Present Day English (PDE) *(to) take* and *(to) raise*.⁷ Factors shown to influence the number and nature of loans words are the intensity of contact and the morphological complexity of borrowable categories.⁸ For loan words to become functioning units of a replica language they must be structurally integrated into the replica language system.⁹ As a result, they become subject to this replica language system's internal processes like inflection. Regarding the lexical category of verbs, the use of loan verbs in inflected forms as in (1), where <takenn, tākenn> (ME *taken*) (< ON *taka*) '(to) take' has been strongly inflected as a past tense third person singular form, illustrates their status as fully integrated lexical verbs in the replica language.

(1) ¶ 7 *tanne***toc** [< ON *taka*] *þe defell him.*

¶ And then take.3SG.PST the devil him

Inn till þatt hall^hhe chesstre.

in to that holy city

'And then the devil took him into that holy city'¹⁰

⁷ Grant, *Loanwords*; cf. Durkin, *Borrowed Words*, p. 42.

⁸ Thomason and Kaufman, *Language Contact, Creolization and Genetic Linguistics*; Matras, *Language Contact*, p. 175f.

⁹ Eisenberg, *Die Grammatische Integration von Fremdwörtern*; Poplack, Sankoff and Miller, *The Social Correlates and Linguistic Processes of Lexical Borrowing and Assimilation*; Muysken, *Bilingual Speech*.

¹⁰ Orm. *The Ormulum*, ed. by Johannesson and Cooper, I.11,347–48. Glosses and translation of all examples are created by the author. In addition to the morphosyntactic glosses, information like ON verb etymon and thematic roles of argument noun phrases are added in square brackets to the text line throughout this paper, especially in section 6 for the glossing of argument structural patterns. To differentiate between morphological case and syntactic relation, the following abbreviated category labels are used partly diverging from and in addition to the ones proposed in *The Leipzig Glossing Rules*: OBJ = objective case, OBL = obliques like prepositional phrases.

Because verbs are morphologically more complex than other lexical categories, their integration as loans is more complex as well.¹¹ Due to verbs' morphosyntactic complexity and their central role as predicators in event description, the study of how loan verbs are integrated into a replica language system requires a model differentiating the morphosyntactic and argument structural properties of loan lexis in addition to phonological material and semantic properties. To adequately describe how a loan word in a replica language relates to its etymon in the model language and which properties of the model language unit are 'copied' to the new element in the replica language, Johanson's code-copying framework is applied.¹² Following Johanson, linguistic units are defined as segmental and composed of a set of properties, namely their material form, semantic content, frequential and combinational properties.¹³ Applied to a lexical verb like PDE *(to) take*, which is a copy of ON *taka*, we would distinguish the material phonological form /teɪk/ and at least one salient meaning like '(to) take hold, receive' plus subsenses or specified meanings as semantic properties.¹⁴ Additionally, the linguistic unit has frequential features pertaining to its usage frequency in relation to other linguistic units of the same category and semantic field. Finally, the linguistic unit has combinational features, like morphosyntactic class constraints and constructional information like *(to) take* being most commonly used in PDE as a transitive verb that takes a nominative subject argument, who or what is taking, and an objective direct object argument, who or what is being taken. These features also include possible combinations with particles and prepositions. It follows from this definition that the borrowing, or rather *copying*, of units from one language to another during contact can include all properties of a model unit as a *global copy*, only some select property of the model language unit as a *selective copy* or a subset of its properties as a *mixed copy*.¹⁵ Which

¹¹ Winford, *An Introduction to Contact Linguistics*, p. 52; Myers-Scotton, *Multiple Voices*, p.229

¹² Johanson, *Contact-induced Change in A Code-copying Framework*.

¹³ Johanson, *Contact-induced Change in A Code-copying Framework*, p. 291–93.

¹⁴ Cf. the *Oxford English Dictionary* (hereafter *OED*), s.v. *take* v.; *ONP*, s.v. *taka* v.

¹⁵ Johanson, *Contact-induced Change in A Code-copying Framework*, p. 291–93.

of these properties are copied from the model language etymon to the loan word, or *lexical copy*, in the replica language and which are replaced by replica language elements and how, directly reflects on the outcome of loan integration in the replica language. Specifically, whether and how the semantic and combinational properties for complex categories like verbs are copied will affect how these verbs realise morphosyntactic forms and their predicate argument structure in the replica language, as will be expanded on below (2.1 and 2.2).

As linguistic closeness of the model and replica languages has been argued to facilitate copying, specifically of more complex categories,¹⁶ language contact situations between closely related languages provide particularly interesting cases concerning the structural integration of copied verbs. Such contact situations allow us to investigate whether high lexical, morphological, and structural similarity between the linguistic units of the model language being copied and native elements in the replica language, like cognate lexemes, also affects the outcome of the structural integration of resulting loans into the replicating language. Consequently, we are able to determine if copies of cognate words behave differently during integration than copies of non-cognate words in a contact situation between closely related languages.

2.1 Morphosyntactic integration and accommodation bias

As shown in (1) above, copied verbs may be used with replica language inflections after integration without requiring explicit morphological integration effort for them to function as lexical verbs.¹⁷ This represents one of four strategies identified by Wohlgemuth in his seminal typological work on the morphosyntactic integration of loan verbs.¹⁸ Out of Wohlgemuth's four

¹⁶ Meillet, *Linguistique Historique et Linguistique Générale*; Moravcsik, *Understanding Language*; Winford, *An Introduction to Contact Linguistics*, p. 51ff.

¹⁷ Integrational effort is defined as 'expenditure of any morphological, morphophonological, or morphosyntactic operation that is necessary to *adapt* a borrowed lexical item into the system of the recipient language' by Wohlgemuth. Wohlgemuth, *A Typology of Verbal Borrowings*, p. 134.

¹⁸ Wohlgemuth, *A Typology of Verbal Borrowings*.

strategies of ‘direct insertion’, ‘indirect insertion’, the ‘light verb strategy’, and ‘paradigm insertion’, direct insertion is the most frequent cross-linguistically and proposed to be the prevalent strategy in lexical copying of verbs in Anglo-Scandinavian contact.¹⁹ This strategy, as exemplified in (1) where ON *taka* ‘(to) take’ is copied to ME as *taken*, is defined as integrating new verbs by adding replica-language inflections (like the native English infinitival marker *-enn*, compare Norse-derived *kindel-enn* and *anngr-enn* in (2) and (3) below) directly onto the copied stem.²⁰ Under direct insertion inflection cannot be avoided and thus Wohlgemuth argues that loan verb integration should not be constrained by inflection.²¹

Recent work on the morphosyntactic accommodation of loan verbs does confirm that they can indeed be used just like native verbs but also shows that, even under direct insertion, loan verbs are subject to initial integrative constraints concerning which usage categories they enter most readily.²² Shaw and De Smet show that in late ME French loan verbs occur significantly more frequently in non-finite forms than in finite forms in relation to native English verbs and describe this as an integrative accommodation bias.²³ As Elter and Shaw show, this holds for loan verbs resulting from Anglo-Scandinavian contact, most significantly shortly after the end of direct linguistic contact in ME.²⁴ An example of the non-finite usage of Norse-derived loan verb ME *kindelen* ‘(to) kindle’ is provided in (2) and contrasted with the finite usage of native English verb *finden* ‘(to) find’ as well as the non-finite use of Norse-derived ME *angren* ‘(to) anger’ in (3), both from the *Ormulum*.

¹⁹ Wohlgemuth, *A Typology of Verbal Borrowings*, p. 338.

²⁰ Cf. Wohlgemuth, *A Typology of Verbal Borrowings*, p. 87, 94. Note Orm’s orthographic convention of marking infinitives with *-enn* as divergent from infinitival forms in *-en* as the classically recorded dictionary form.

²¹ Wohlgemuth, *A Typology of Verbal Borrowings*, p. 291.

²² De Smet, *De integratie van Engelse leenwerkwoorden in het Nederlands*; Shaw and De Smet, *Loan Word Accommodation Biases*; Shaw, ‘English Phrases, French Verbs’.

²³ Shaw and De Smet, *Loan Word Accommodation Biases*.

²⁴ Elter and Shaw, *Loan Verb Accommodation*.

(2) *To kinndlenn* [< ON *kynda*] *hemm sop lufess fir*;

To kindle:INF them true love fire

Inn hannd. 7 ec inn herrte.

in hand and also in heart

‘To kindle in them true loves fire; in hand and also in heart’²⁵

(3) *Forr fand* [< OE *findan*] *mann nan þing upp onn hemm*;

For find.3SG.PST man.NOM.SBJ no.thing up on them

Patt mihhte | ohht anngreenn [< ON *angra*] *opre.*

that may.3SG.PST possibly anger:INF other

‘For man found nothing about them, that might anger others in any way’²⁶

Examples (2) and (3) illustrate the dominant distribution of Norse-derived verbs which have been shown to be more prevalent in non-finite forms as compared to native English verbs in early Middle English corpus data.²⁷

Despite recent progress in the field, the morphological integration of loan verbs is still understudied and requires further investigation, specifically regarding the effects of linguistic closeness and intensity of contact. This work aims to deepen our understanding of loan verbs’ structural integration in intense contact between closely related languages by re-examining the Norse-derived verbs in the *Ormulum* and operationalising accommodation bias as a measure of verbs’ morphosyntactic integration.

2.2 Assignment of argument structure to new verbs

²⁵ Orm. The *Ormulum*, ed. by Johannesson and Cooper, 1.13,442–43.

²⁶ Orm. The *Ormulum*, ed. by Johannesson and Cooper, 1.431–32.

²⁷ Elter and Shaw, *Loan Verb Accommodation*.

Argument structure is taken to be ‘the lexical representation of argument-taking lexical items—typically verbs [...]’.²⁸ Thus, it includes sufficient information about the arguments of these lexical items to determine their syntactic realisation, including the number of arguments, their syntactic expression, and their semantic relation to the lexical item. Following Jackendoff’s predicate decomposition approach, I assume that the semantic parameters of argument realisation are derived from verb meanings, which are themselves compositional structures composed of argument-taking primitive predicates.²⁹ The semantic properties of a lexical verb thus determine the number of participants it requires as well as their thematic roles by the structure of the predication and the primitives involved.³⁰ Their realisation in a language’s morphosyntax is mapped from these semantic properties onto the combinational properties available in the linguistic system. Drawing a connection from the abstract definition of argument structure above to Johanson’s model of lexical copying, the argument structure of verbs and their realisation patterns in a language are part of the semantic and combinational properties of linguistic units.

As laid out in section 2, the need for structural integration into the replica language system is an integral part of lexical copying. Consequently, the question of how the argument structure of such new verbs can be assigned and expressed in the replica language must be addressed in models for the structural integration of lexical verb copies. Based on Barðdal’s earlier work,³¹ four strategies for the assignment of argument structure to new verbs are identified in work by Barðdal and Eythórsson:³²

1. pattern assigned as copied with the lexical verb from the model language

²⁸ Levin, *Argument Structure*, p. 1.

²⁹ Cf. Jackendoff, *Toward an Explanatory Semantic Representation*; Jackendoff, *Semantics and Cognition*; Jackendoff, *Semantic Structures*.

³⁰ Jackendoff, *Semantic Structures*.

³¹ Barðdal, *Case and Argument Structure of Some Loan Verbs in 15th Century Icelandic*; Barðdal, *Case in Icelandic*; Barðdal, *Productivity*; Barðdal, *Predicting the Productivity of Argument Structure Constructions*.

³² Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, p. 216.

2. pattern assigned by default in the replica language
3. pattern assigned analogous to a non-cognate synonymous verb in the replica language
4. pattern assigned as inherited from a cognate verb in the replica language

From this follows, first, that strategy one would require the semantic and combinational properties of the model language unit to be copied and present in the verbal copy in the replica language. Strategies two through four do not require these properties to be copied fully and in combination. Thus, strategy one is a possible source for structural innovation in the replica language while strategy four is a possible source for innovation of argument structure regarding the properties of an individual lexical copy in relation to its model language etymon.

Second, while strategies one through three are available for the integration of cognate and non-cognate verb copies alike, the fourth strategy, assignment from a cognate verb in the replica language, is only available to verb copies for which a native cognate exists in the replica language. As Barðdal and Eythórsson argue from a perspective of reconstructability rather than linguistic contact, any necessary co-identifiability of these cognates and speaker-perceived equivalence between them to a degree sufficient for pattern assignment from a cognate during integration is not explicitly addressed there,³³ but might be argued for depending on the genealogical and typological closeness of the languages under investigation. Likewise, the present work proposes that cognate lexical material must of course be identifiable to speakers of languages in contact for argument structure assignment from a native cognate to a newly copied cognate verb to be possible. In this, this work follows Johanson in the propositions that equivalence as perceived by speakers is the point of insertion and similarity between units facilitates such copying.³⁴ This is also the basis of assignment in strategy three, where the perceivable equivalence between the semantic properties of the copied verb and those of native

³³ Barðdal and Eythórsson, *How to Identify Cognates in Syntax*.

³⁴ Johanson, *Contact-induced Change in A Code-copying Framework*; Johanson, *Case and Contact Linguistics*, p. 499

non-cognate synonymous verbs leads to analogous assignment of argument structure in the replica language.

Third, in contact between closely related languages like OE and ON, these four strategies are likely to at least partially overlap in the patterns they can assign in multiple ways, due to the inheritance of argument structures from the common ancestor language. Specifically, highly schematic, type frequent ‘default’ patterns are likely to be cognate and are, as a result, shared between the related languages as they later come into contact.³⁵ Similarly, this would hold for argument structure patterns occurring with highly frequent and basic vocabulary items, as these are less often affected by lexical substitution and are thus possibly still cognate lexical items with cognate patterns at the time of contact.³⁶ As argument realisation patterns may remain stable even when the lexical verb is affected by lexical replacement through a non-cognate synonymous item,³⁷ cognate patterns may be pervasive even throughout the non-cognate lexicon. Consequently, these four strategies might not be clearly distinguishable in contact between closely related languages, as the qualitative results in section 6.2 will show. In contact situations between closely related languages like the Anglo-Scandinavian contact, the more salient question seems to be if cognate argument structures are generally pervasive with both cognate and non-cognate lexical material or if non-cognate argument structure patterns also occur with either cognacy group of lexical copies.

The integration of non-cognate argument structure patterns with global lexical verb copies in the replica language and the assignment of cognate patterns which were formerly not associated with synonymous cognate or non-cognate verbs in the replica language to a copied verb are two possible sources for change in argument structure via the copying of lexical verbs.

³⁵ Cf. Barðdal, *Predicting the Productivity of Argument Structure Constructions*, p. 470; cf. strategy 2) above.

³⁶ Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, p. 223; Pagel, *Human Language as A Culturally Transmitted Replicator*, p. 411; cf. strategy 4) above; Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, p. 206.

³⁷ Cf. strategy 3) above, Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, p. 223–227.

Such sources of change are documentable as instances of reconstructive mismatch between argument structures available to etyma and copies in cross-linguistic data.³⁸ These mismatches may result in integration conflicts and lasting pattern differences between copied lexis and the native lexicon in the replica language data, as work by Holler and Trips shows.³⁹

Recent work by Elter suggests,⁴⁰ in line with Barðdal and Eythórsson,⁴¹ that the possible combination of cognate argument structures and cognate lexical material in the integration of Norse-derived copies might be a strong factor in upholding the linguistic stability of the OE system of argument structure patterns. While far-reaching internal linguistic changes in the OE morphosyntax are underway possibly disrupting the system's stability,⁴² Norse-derived lexical material enters the English lexicon at the same time, even at the basic vocabulary level. Just as the increased use of an innovative structure reinforces its position in the linguistic system of a language, the copying of cognate lexis, which is well attested for the Anglo-Scandinavian contact, might have reinforced existing cognate argument structure patterns by increasing the number of lexical types realising them through their usage with both the native and copied cognate lexemes.⁴³ Likewise, the integration of non-cognate Norse-derived lexis with cognate patterns, whether copied globally or assigned from the replica language system, would have increased the type frequency of these cognate patterns.

This is why this work aims to deepen our understanding of how argument structure was assigned to Norse-derived verbs entering English as a result of the Anglo-Scandinavian contact

³⁸ Cf. Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, p. 211–17, for a case of reconstruction of argument structure assignment from a mismatch between two Germanic cognate synonyms for '(to) answer'.

³⁹ Holler, *Grammatik und Integration*; Trips, *Copying of Argument Structure*.

⁴⁰ Elter, *Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns*.

⁴¹ Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, p. 228.

⁴² Cf. Allen, *Case Marking and Reanalysis*.

⁴³ Cf. Elter, *Integration of Cognate Loan Verbs in Contact Between Closely Related Languages Effecting Valency Changes*; Elter, *Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns*.

by identifying (mis)matches between the argument structure realisation patterns of Norse-derived verbs in ME and their ON etyma and OE near-synonyms (cognate and non-cognate). To this end, three sets of verbs with different relations of cognacy to native English lexemes are investigated in the present work concerning the likely origin of the argument structure pattern they are assigned during integration.

3 Norse-derived verbs in the *Ormulum*

3.1 Anglo-Scandinavian contact and the *Ormulum*

The Anglo-Scandinavian contact can be dated as lasting from 787 to 1042 AD.⁴⁴ The contact between speakers of OE and ON dialects originated in the north-east of England and spread from there to cover the area which later becomes known as the *Danelaw*.⁴⁵ For this contact situation between two West Germanic languages, Townend convincingly argues that adequate mutual intelligibility must have existed between monolingual speakers of either language.⁴⁶ Consequently, societal bilingualism rather than widespread individual bilingualism is argued to have been the situation during Anglo-Scandinavian contact.⁴⁷ Following Weinreich in the proposition that lexical copying is not restricted to bilingual individuals and Townend in that speakers of either language would have employed processes of accommodation in a so-called ‘switching code’ during communication,⁴⁸ this work assumes that lexical copying and identification of inter-lingual congruencies between ON and OE were available to monolingual speakers of OE as well as bilingual individuals.⁴⁹ This reasonably results in the volume and

⁴⁴ Pons-Sanz, *The Lexical Effects of Anglo-Scandinavian Linguistic Contact on Old English*, p. 6–7.

⁴⁵ Thomason and Kaufman, *Language Contact, Creolization, and Genetic Linguistics*, p. 280–282; for more detailed accounts see, among others, Townend, *Language and History in Viking Age England*; Pons-Sanz, *The Lexical Effects of Anglo-Scandinavian Linguistic Contact on Old English*.

⁴⁶ Townend, *Language and History in Viking Age England*, p. 183–84. Cf. Keller, *The Leipzig-Jakarta List as a Means to Test Old English / Old Norse Mutual Intelligibility*, for supporting lexical evidence.

⁴⁷ Townend, *Language and History in Viking Age England*, p. 60, 189; Townend, *Contacts and Conflicts*, p. 70.

⁴⁸ Weinreich, *Languages in Contact*, p. 56.

⁴⁹ Townend, *Language and History in Viking Age England*, p. 60, 183ff., 203; cf. Johanson, *Contact-induced Change in A Code-copying Framework*, p. 294; see also van Coetsem, *A General and Unified Theory of the*

nature of Norse-derived lexis documented in research by Björkman, Hug, Grant, Pons-Sanz, Dance, and recently Dance, Pons-Sanz and Schorn, among others.⁵⁰ As Durkin reviews in detail, Norse-derived lexis can be found in a range of semantic fields and across all lexical categories and even has entered the PDE basic vocabulary by lexical replacement of native West Germanic lexemes ((*to*) *take*) or cognate influence ((*to*) *give*).⁵¹

However, the close genealogical relationship and resulting high formal and lexical closeness of OE and ON make secure identification of lexical material as being of Scandinavian origin very complex, especially for the large number of cognates between these languages. This work follows the classification of evidence and adopts the terminology for lexemes' etymological origin as being 'Norse-derived' from the detailed work of the *Gersum* project and Pons-Sanz' work on the lexicon of the *Ormulum* specifically in defining the set of investigated lexemes, as made explicit in section 4.2.⁵²

As discussed by Durkin, most Norse-derived lexis is first attested in writing in ME.⁵³ However, this reflects a gap in the record rather than actual initial copying of ON lexemes after the end of direct contact.⁵⁴ As a closer dating for the majority of the Norse-derived words first attested in ME texts is likely unrecoverable, this qualifies the date of first written attestation as

Transmission Process in Language Contact, on the continuum of individuals' linguistic dominance in language contact situations.

⁵⁰ Björkman, *Scandinavian Loanwords in Middle English*; Hug, *Scandinavian Loanwords and Their Equivalents in Middle English*; Grant, *Loanwords in British English*; Pons-Sanz, *The Lexical Effects of Anglo-Scandinavian Linguistic Contact on Old English*; Dance, Pons-Sanz and Schorn, *The Gersum Project*, (hereafter *Gersum*); Pons-Sanz, *Norse-Derived Vocabulary in Late Old English Texts*; Pons-Sanz, *Norse-Derived Terms in Orm's Lexico-Semantic Field of EMOTION*; Dance, *Getting a Word in*; Dance, "Tomarzan Hit Is Awane" Words Derived from Old Norse in *Four Lambeth Homilies*; Dance, "Tor for to Telle": Words Derived from Old Norse in *Sir Gawain and the Green Knight*; Dance, *Words Derived from Old Norse in Early Middle English Studies in the Vocabulary of the South-West Midland Texts*; Dance, *Words Derived from Old Norse in Sir Gawain and the Green Knight*; cf. Durkin, *Borrowed Words*.

⁵¹ Durkin, *Borrowed Words*, part IV.

⁵² Dance, Pons-Sanz and Schorn, *The Gersum Project*; (?)Pons-Sanz, this volume.

⁵³ Durkin, *Borrowed Words*, p. 187ff.

⁵⁴ Durkin, *Borrowed Words*, p. 187–89.

an imperfect evaluation for these words' existence in the English language.⁵⁵ Thus, investigating early ME texts like the *Ormulum*, which shows Norse-derived lexis that is attested relatively early and includes the first attestations for a number of Norse-derived lexemes, will illuminate the early stages of integration of Norse-derived verbs specifically.

The *Ormulum* is an early ME text that can be dated to circa 1175 AD and its place of origin localised to Lincolnshire.⁵⁶ As this text is the only extant text of its time and dialect it is an invaluable source for linguists interested in the key features of English in the twelfth century and ongoing linguistic changes during that time.⁵⁷ Because of its likely localisation inside the *Danelaw* area, the area most heavily and lastingly impacted by Anglo-Scandinavian contact between the eighth and eleventh centuries, the *Ormulum* can also be taken as an essential record of the Norse element surviving in East Midland's English shortly after the end of the Old English period.⁵⁸ As will be laid out in section 4.2 below, the recent new edition of the *Ormulum* under editorship of Johannesson and Cooper enables renewed and more detailed analyses of the linguistic features of the author's language in the full text and thus allows for more valid abstractions concerning the integrative status of Norse-derived verbs in early, post-contact ME.⁵⁹

3.2 Integration of cognate and non-cognate verbs

Due to the close genealogical relationship of the languages in contact, verbs copied as a result of the Anglo-Scandinavian contact can be of a cognate or non-cognate nature, meaning that there are verbs without attested cognates in OE that are copied from ON and also Anglo-Norse cognate verbs showing clear Scandinavian impact in their phonological or derivational form, meaning, frequency or morphosyntax in English. As a working definition based on the *Gersum*

⁵⁵ Durkin, *Borrowed Words*, p. 187–89.

⁵⁶ (?)Cole and Golding, this volume; (?)Golding and Carroll, this volume.

⁵⁷ Cooper, 'Ormulum. The Johannesson edition – principles, practice, products', p. 3.

⁵⁸ (?)Pons-Sanz, this volume; (?)Cole and Golding, this volume.

⁵⁹ Orm, *The Ormulum*, ed. by Johannesson and Cooper.

project's typology three groups of Norse-derived verbs are distinguished depending on the attested existence and nature of a native OE cognate:⁶⁰ (i) non-cognate copies like <*takenn*, *tākenn*> (*ME taken*) (<ON *taka*) that do not show attested cognates in OE prior to contact; (ii) cognate copies like *reisen* (<ON *reisa*) which do show attested cognates in OE prior to contact that contrast with the Norse-derived copy; and (iii) cognates in contact like <*deʒenn*> (*ME dīen*) (<ON *deyja* & OE *dīgan*) that show cognates in both languages, but for which the English cognate and Norse-derived cognate copy are not lastingly distinct, formally and functionally in English or shared influence of both languages on the surviving lexeme is likely.⁶¹

These differences in cognacy relation between Norse-derived copies and native lexemes more concretely result therein that speakers of either of these adequately mutually intelligible languages might or might not have been able to identify existing cognates across languages depending on their formal, semantic, and functional closeness. Whether cognate lexical material is identifiable might thus affect both the morphosyntactic and argument structural integration of copied verbs. On the one hand, the morphosyntactic properties of an identifiable native cognate may serve as a model for the morphosyntactic integration of a cognate copy and ease the integration of such a copy under direct insertion by the existence of an equivalent paradigm in the replica language readily available for insertion of the copy. On the other hand, it may affect which strategies of assigning argument structure are available to speakers during integration into the replica language system, as assignment from a cognate verb is only possible where such a verb exists and is identifiable, as laid out in section 2.2. above.

Generally, both cognate and non-cognate copies beg their own specific questions about the nature of copying between these languages and the processes of structural integration, but two overarching questions present themselves: first, whether lexical copies modelled on non-

⁶⁰ Dance, Pons-Sanz and Schorn, *The Gersum Project*.

⁶¹ Full operationalisation of these cognacy subsets in accordance with the project's typology is discussed in section 4.2.

cognate lexical items are more or less easy to integrate into the linguistic system of replica language speakers than copies modelled on cognate lexical items and, second, if they differ in the strategies speakers apply to integrate them argument structurally depending on the existence and identifiability of a native cognate.

4 Objectives and data extraction

4.1 Research questions and hypotheses

To investigate these possible differences in the structural integration of Norse-derived verbs entering ME, a mixed methods analysis of these lexemes' occurrences in the *Ormulum* is conducted.⁶² The analysis pursues two objectives regarding the structural integration of verbs copied into early ME: First, to determine how well integrated these Norse-derived verbs were into the morphosyntax of the text's composer and, second, to investigate which cognate or innovative argument realisation patterns were admissible for their use and where they were assigned from. Thus, the following research questions are posed:

- I. Do accommodation biases shown by Norse-derived copied verbs in the *Ormulum* differ in strength depending on the existence and identifiability of a native cognate in English?
- II. Do cognate and non-cognate Norse-derived verb copies differ concerning the sources of the argument structure patterns assigned to them during integration in the *Ormulum*?

This work proposes that cognate verbs copied into English from Old Norse differ in their structural integration from non-cognate verbs copied in this contact, due to the close etymological relation and the resulting identifiability and high formal and structural compatibility of cognate copies with their native cognates. Cognate verb copies should thus be

⁶² Orm, *The Ormulum*, ed. by Johannesson and Cooper.

easier to morphologically integrate fully. Consequently, I hypothesise that non-cognate verbs show a higher bias towards non-finite usage than cognate verbs.

Based on the same reasoning, I secondly hypothesise that, at a deeper structural level, cognate verb copies generally occur with cognate argument realisation patterns, either by copying of the semantic and combinational properties from the model language or by analogous assignment from their native cognate lexemes in the English replica language based on the identifiable equivalence relation between the cognates. Non-cognate verb copies, on the other hand, are expected to either be globally copied including their semantic and combinational properties or assigned argument structure on the basis of synonymous non-cognate verbs in the replica language. This may or may not involve cognate patterns inherited from Proto-Germanic to both North and West Germanic and, consequently, the model and replica languages. The latter strategy, strategy three as in section 2.2, draws on analogical assignment based on identifiable equivalence of semantic properties between copies and native synonyms. Non-global copying of verbs without the combinational properties of the model language etyma is the case where argument structure assignment strategies will overtly differ between the cognacy conditions.

To tackle the question how well Norse-derived lexis was integrated into *Orrm*'s morphosyntax, the existence of accommodation biases towards non-finite usage for Norse-derived verbs in the text is assessed. In this study, such accommodation biases serve as a measure for the degree of morphosyntactic integration of copied verbs (see section 2.1). Accommodation bias is operationalised as the difference in proportion of non-finite to finite uses of verbs between foreign etymology verbs and English verbs. A set of native English verbs excluding any verbs showing influences between shared cognates serves as a baseline for the quantitative analysis of the morphosyntactic integration of Norse-derived verbs in the *Ormulum*.

To address the question whether cognate and non-cognate Norse-derived verbs differ in how their argument structure patterns are assigned during integration into the replica language, a qualitative analysis compares the argument realisation patterns recorded for Norse-derived verbs of three different cognacy sets to the patterns available to their respective ON etyma as well as to those of their native cognates and near-synonyms in the replica language. The argument structure patterns realised with these Norse-derived verbs in the *Ormulum* are recorded as the basis of comparison. The patterns recorded in lexicographical resources for these verbs' ON etyma, native English cognate verbs, where existing, and non-cognate near synonymous verbs serve as *comparanda* to assess the likely origin of the argument structure patterns realised by the Norse-derived copies in ME.

4.2 Data extraction

Data for Norse-derived verbs were extracted from the Johannesson and Cooper edition of the *Ormulum*, while data for the baseline for native English verbs were extracted from the *Ormulum* text sample included in the *Penn-Helsinki Parsed Corpus of Middle English*, utilising the lemmatisation annotations of the *BASICS* project.⁶³ Data extraction and annotation protocols differed for the English and Norse-derived etymological sets for reasons of efficiency and reproducibility, as motivated by availability of parsing, lemmatisation and etymology annotations as well as the applicability of corpus analytic tools. Detailed data extraction protocols and reasoning for both the Norse-derived set and English baseline are laid out in the following.

The set of Norse-derived verbs is defined following the work of the *Gersum* project on the varying nature and strength of evidence of Norse influence on early ME lexis, Pons-Sanz'

⁶³ Orm, *The Ormulum*, ed. by Johannesson and Cooper; Kroch and Taylor, *The Penn-Helsinki Parsed Corpus of Middle English, Second ed.* (henceforth *PPCME2*); cf. Percillier and Trips, *Lemmatizing Verbs in Middle English Corpora*; for more information on the project *Borrowing of Argument Structure in Contact Situations* (BASICS) (2015-2021), see <https://tinyurl.com/dfgbasics>.

work on the Norse influence on the lexis of the *Ormulum*, and on the glossary of the text's edition itself.⁶⁴ As motivated in section 3, etymology is operationalised in three subsets of Norse derivation considering the nature of the evidence for Norse-derivation as well as the attestation and closeness of a cognate in OE: (i) non-cognate copies like <takenn, tākenn> (ME *taken*) (< ON *taka*) that do not show attested cognates in OE prior to contact and thus fall under *Gersum* categories A1–A3 or B1 or B2; (ii) cognate copies like <reḡḡsenn> (ME *reisen* v.(1)) (< ON *reisa*) that fall into *Gersum* categories A1*–A3*, which do show attested cognates in OE or another West Germanic language prior to contact, but which are formally distinct from the copy made to ME; and (iii) cognates in contact like <deḡenn> (ME *dīen*) (< ON *deyja* & OE *digan*) that show cognates in both languages, falling under *Gersum* categories C1–C5, but for which the English cognate and Norse-derived cognate copy are not lastingly distinct, formally and functionally in English or shared influence of both languages on the surviving lexeme is likely. While ten lemmas fall into the first group of non-cognate Norse-derived copies (<clippenn> (ME *clippen* v.(2)), <downnenn> (ME *downnen*), <hæpenn> (ME *hēthen*), <kinndlenn> (ME *kindelen* v.(1)), <ḡatenn> (ME *yēten* v.(2)), <skerrenn> (ME *skerren*), <skeḡḡrenn, skeḡḡredd> (ME *skairen*), <skirrpepp> (ME *skirpen*), <takenn, tākenn> (ME *taken*), <þrifenn> (ME *thriven*)), fourteen lemmas are categorised as copies with a contrasting cognate (<beḡḡtenn> (ME *baiten*), <biḡḡen> (ME *biggen*), <epenn> (ME *ēpen*), <forḡarenn, forḡarrt> (ME *forgāren*), <ḡeḡḡnenn> (ME *geinen*), <ḡetenn, ḡett> (ME *gēten* v.(1)), <ḡepenn> (ME N/A), <ḡifenn> (ME *yēven* v.), <ḡreḡḡpenn> (ME *greithen*), <heḡḡlenn> (ME *heilsen*), <leḡḡkenn> (ME *leiken*), <leḡḡtenn> (ME *leiten* v.(2)), <reḡḡsenn> (ME *reisen* v.(1)), <sannenn> (ME *sannen*)) and eleven lemmas are sets of OE and ON cognates in contact (<addlenn> (ME *adlen*), <annḡrenn> (ME *angren*), <attbresstenn, attbrasst> (ME *atbresten*),

⁶⁴ Dance, Pons-Sanz and Schorn, *The Gersum Project*; (?)Pons-Sanz, this volume; Orrm, *The Ormulum*, ed. by Johannesson and Cooper, Glossary.

<brennenn, brennde> (ME *brennen*), <deȝenn> (ME *dīen*), <eġġenn> (ME *eggen* v.(1)), <flittenn> (ME *flitten*), <rennenn, rann> (ME *rennen* v.(1)), <semenn> (ME *sēmen* v.(2)), <unnhilenn> (ME *unhilen*), <wanntenn> (ME *wanten*)). Lexemes classified as only showing dubitable evidence for Norse derivation (*Gersum* categories D = 17 lemmas) as well as those classified with decreased security of evidence for Norse derivation (*Gersum* categories BB–BBB, CC–CCC = 30 lemmas) are excluded.

The dataset for Norse-derived verbs in three cognacy subsets was extracted from the Johannesson and Cooper edition of the *Ormulum*.⁶⁵ Using the word forms recorded in the *Ormulum* glossary, regular expressions for all verb lemmas were formulated. All strings matching these regular expressions were queried from a plain text version of the *Ormulum* full text using *AntConc*.⁶⁶ Resulting tokens were extracted into a data frame including 10-word contexts to their right and left respectively. False positives were manually excluded by context disambiguation based on homograph and conversion forms identified using the text's glossary. This resulted in a total of 563 tokens across the three cognacy subsets of Norse-derived verbs. The set of ten non-cognate copies resulted in a total of 373 tokens, the set of fourteen contrasting cognate copies in a total of 113 tokens and the eleven cognate lemmas in contact in a total of 77 tokens. These tokens and their clause context are used as data basis in two case studies as outlined in section 4.1.

5 Morphosyntactic integration of Norse-derived verbs in the *Ormulum*

5.1 Method for the assessment of accommodation bias

The set of native English verbs serving as a baseline contains all verbs lemmatised and annotated as ‘non-French’ in the *BASICS* project’s etymological annotations, excluding all subsets of Norse-derived verbs. To eliminate the remaining overlap between the etymological

⁶⁵ Orm, *The Ormulum*, ed. by Johannesson and Cooper.

⁶⁶ Anthony, *AntConc*.

sets, all instances ambiguously lemmatised between ON and OE cognate lexemes are excluded.⁶⁷

To constitute a dataset for English verbs in *Orrm's* language, all instances of native English verbs that do not show a cognate in ON were queried from the *PPCME2 Ormulum* text sample using *CorpusSearch2* and extracted into a data frame including their annotations for verb form, lemma, and finiteness of the morphosyntactic realisation.⁶⁸ This resulted in a total of 4967 tokens of native English verb uses. This method enabled a more efficient extraction of a comparable dataset for the computation of a baseline of finiteness proportions for native English verbs in *Orrm's* language than would have been feasibly achievable with the protocol of semi-automatic extraction and manual disambiguation employed for the set of Norse-derived verbs.

As the Johannesson and Cooper edition fully includes all parts of the *Ormulum* text sample included in the *PPCME2*, albeit from the Holt-White edition, representativity of the *PPCME2* corpus sample for the full text concerning the use of morphosyntactic structures in the verb phrase may be assumed.⁶⁹ Moreover, comparability of the data was substantiated by comparing the proportions of non-finiteness of usage for Norse-derived verbs between the *PPCME2* sample and the full text.⁷⁰ The difference between data sets was not significant (Chi-square test with Yates correction, $p = 0.6206$), which suggests that the baseline of English verbs' non-finiteness as represented by the *PPCME2 Ormulum* text sample is an adequate *comparandum* for the assessment of accommodation biases for Norse-derived verbs in the *Ormulum* full text.

⁶⁷ Cf. Percillier, *Verb Lemmatization and Semantic Verb Classes in a Middle English Corpus*, p. 210.

⁶⁸ Randall, *CorpusSearch2*.

⁶⁹ Orrm, *The Ormulum*, ed. by Johannesson and Cooper; Orrm, *The Ormulum, with the Notes and Glossary of R. M. White*, ed. by Robert Holt and Robert Meadows White (Oxford: Clarendon Press, 1878)

⁷⁰ Results of a pre-study on accommodation biases in the *PPCME2* sample of the *Ormulum* were presented at the ICEHL-22 conference, 03–06 July 2023, Sheffield, UK.

To facilitate the assessment of an accommodation bias towards non-finiteness, all tokens were manually annotated for queried lemma, cognacy subset, verb form and morphosyntactic category of the verb. Morphosyntactic category of the verb form, as per the operationalisation for morphosyntactic accommodation bias, was annotated in two categories: finite verb forms, which include inflected past and present tense forms as well as imperative forms, and secondly non-finite forms, which include infinitives, present participle, past participle, and passive participle forms.

On this combined dataset of English verb tokens in the *PPCME2 Ormulum* sample and Norse-derived verb tokens in the *Ormulum* full text, basic quantitative analysis was run, relating the variables of etymology and finiteness of morphosyntactic realisation generally and across the variable values of cognacy subset of Norse-derived verbs. Fisher's exact test was used to obtain p-values for the differences in proportion of finite and non-finite forms of each of the cognacy subsets of Norse-derived verbs, comparing them to the English baseline. This type of test is typically used for smaller sample sizes than Chi-square test, following Levshina.⁷¹ The imbalanced nature of the data across the variables of etymology and cognacy did not allow for valid application of regression analysis. Therefore, only pairwise comparisons were conducted, inflating the probability of differences being significant.

5.2 Results: Accommodation biases in cognate and non-cognate verbs

Table 1 represents the total number of analysed attestations for the two etymological sets split by the three cognacy subsets for Norse-derived verbs. The absolute number of instances in the *Ormulum* data is the highest for non-cognate Norse-derived verbs, followed by cognate Norse-derived verbs showing a native contrasting cognate verb and only a comparably small amount of non-contrasting cognate Norse-derived verbs. As discussed below and in section 7, this is an artefact of the frequency distribution of lemmas, with two lemmas, <takenn, tākenn> (ME

⁷¹ Levshina, *How to Do Linguistics with R*. p. 214.

taken) and <ġifenn> (ME *yēven* v.), occurring at a high frequency in the non-cognate and contrasting cognate subsets of lemmas respectively. As the data for the baseline of native English verbs is extracted from the *PPCME2 Ormulum* sample, absolute frequencies are not usefully comparable across etymologies overall.

Table 1: Absolute numbers of verb instances across two etymologies and three cognacy subsets subsets and finiteness of morphological form in the Ormulum full text for Norse-derived verbs and Ormulum text sample from the PPCME2 data for English baseline verbs.

	non-finite	finite	total
English verbs (<i>PPCME2 Ormulum</i> text sample)	2,715	2,252	4,967
Non-cognate Norse-derived verbs	84	289	373
Norse-derived verbs with contrasting cognate	73	40	113
Non-contrasting cognate verbs in OE and ON	41	36	77
total	2,911	2,619	5,530

As the six examples below illustrate, Norse-derived verbs of subsets of non-cognates (4), contrasting cognates (5) and non-contrasting cognates in contact (6) subsets, occur both in non-finite (a) and finite (b) usage forms throughout the *Ormulum*, just like native English verbs (7) do.

- (4) (a) *Forr rihht all swa sum recless smec.*
 For right all so as incense smoke
Iss god. 7 swēt to downnenn [< ON *dauna*];
 be.3SG.PRS good and sweet to smell.INF
 ‘Just as incense smoke is good and sweet to smell’⁷²

⁷² Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 6744–45; cf. *ONP*, s.v. *dauna* vb..

(b) 7 *att te kirrkedure **toc*** [< ON *taka*];

and at the church.door take.3SG.PST

þe pręst ta tveggenn bukkess.

the priest the two books

‘And at the church door the priest took the two books.’⁷³

(5) (a) 7 *godess word iss makedd flæsh.*

And god’s word is made flesh

All forr þatt illke nede.

all for that same necessity

*To **biggenn*** [< ON *byggja*] *her bitwenenn menn.*

to dwell.INF here between men

Inn ure mennisscnesse.

in our humanity

‘And Gods word is made flesh, for that very necessity, to dwell here between humans in our humanity.’⁷⁴

(b) *Acc nu ne **geððneþþ*** [< ON *gegna*] *itt hemm nohht.*

but now not help.3SG.PRS it them not

To winnenn eche blisse.

to win eternal bliss

‘But now it does not help them to win eternal bliss.’⁷⁵

⁷³ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 1332–33; cf. *ONP*, s.v. *taka* vb..

⁷⁴ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 19,206–09; cf. *ONP*, s.v. *2byggja* vb..

⁷⁵ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 970–71; cf. *ONP*, s.v. *gegna* vb..

- (6) (a) 7 *swa we don itt wiþþ unnskill;*
 And so we do it with folly
þatt itt maðð anngreenn [< ON *angra*] *opre.*
 that it may.3SG.PRS anger.INF other
 ‘and so we do it carelessly, that it may anger others.’⁷⁶

- (b) 7 *tanne brennde* [< ON *brenna*] *he recless þær,*
 And then burn.3SG.PST he incense there
To þęwwtenn ġodd to cweme.
 to serve god to satisfaction
 ‘And then he burned incense there to satisfactorily serve God.’⁷⁷

- (7) *Forr | þatt wass filledd* [< OE *fyllan*] *opennlið.*
 For that be.3SG.PST (ful)fil.PASS.PTCP openly
þurh Jesu Cristess come.
 through Jesus Christ’s arrival
þatt comm [< OE *cuman*] *upponn Herodess daðð.*
 that come.3SG.PST on Herod’s day
To wurþenn [< OE *wurþan*] *mann onn erþe.*
 to become.INF man on earth

⁷⁶ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 427–28; cf. *ONP*, s.v. *angra* vb..

⁷⁷ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 1,086–87; cf. *ONP*, s.v. *3brenna* vb..

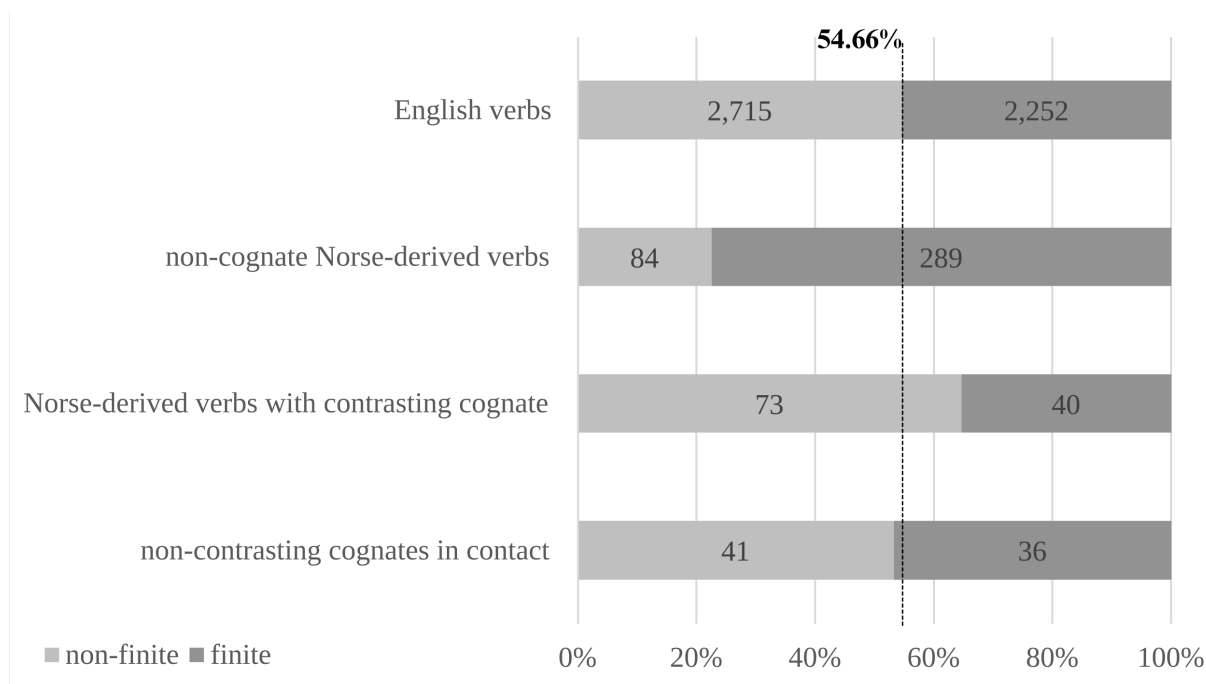
‘For that was fulfilled clearly through the birth of Jesus Christ, who came on Herod’s day to become human on earth.’⁷⁸

Nevertheless, the proportion of finite versus non-finite usage differs across the three cognacy subsets of the Norse-derived verbs and in comparison to native English verbs. Elter and Shaw have shown for a more generally defined set of Norse-derived verbs in the *PPCME2* corpus that Norse-derived verbs are statistically more likely to occur in constructions like (4a), (5a) and (6a) above, especially in early ME (*PPCME2*, M1 (1150 – 1250 AD)), than English-origin verbs.⁷⁹ These are relatively more common in finite forms, as illustrated in example (7) by third person singular past tense form *comm* (‘came’).

As figure 1 illustrates, Norse-derived verbs showing a contrasting native cognate in the *Ormulum* have a significantly higher proportion of non-finite usage (64.60%) when compared to the usage of native English verbs (Fisher’s exact test, $p = 0.0218$), in line with these findings. The baseline of non-finite usage of English verbs in the *PPCME2 Ormulum* text sample (54.66%) corresponds to the vertical dashed line in figure 1. These proportions are based on the absolute frequencies for each cognacy subset dataset as well as the baseline, shown on the bars in figure 1, which differ vastly in absolute number of verb tokens. This must be taken into account when interpreting the findings.

⁷⁸ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 7,002–05; cf. *MED*, s.v. *fillen* v.; *MED*, s.v. *cōmen* v.; *MED*, s.v. *worthen* v..

⁷⁹ Elter and Shaw, *Loan Verb Accommodation*, p. 25.



Insert Fig. 1 here, approx. 1/3 page, black & white.

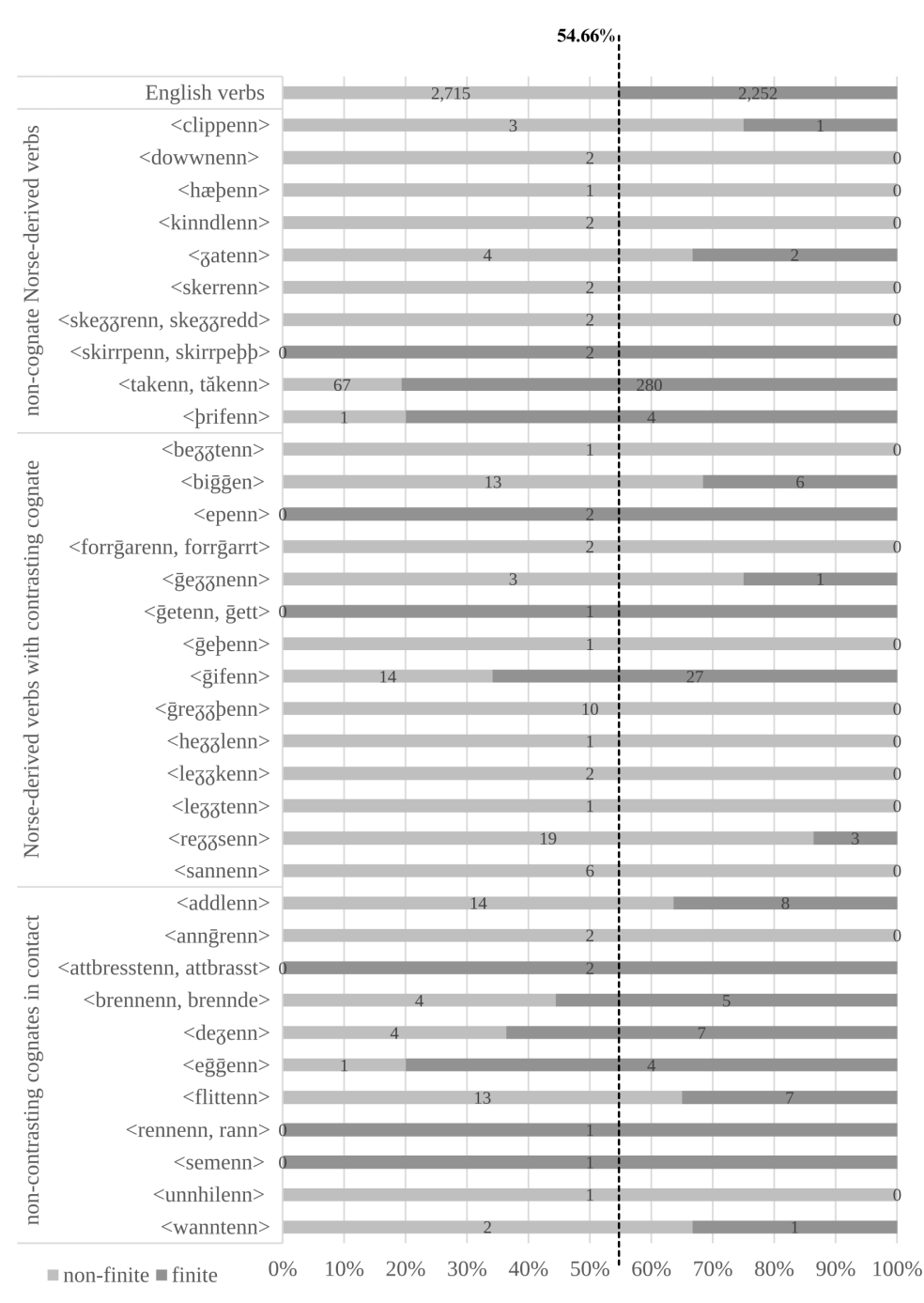
Figure 1. General distribution of Norse-derived verbs for the three cognacy subsets in the Ormulum full text compared to the baseline of English verbs in finite and non-finite forms (n = 5,530). Figure by author.

However, both non-cognate Norse-derived verbs (22.52%) as well as non-contrasting Norse-derived cognates (53.25%) seem to show an overall lower proportion of non-finite usage when compared to the usage of native English verbs. This is contradictory to the hypothesis that Norse-derived verbs would show a bias towards non-finite use. However, this difference is significant only for the non-cognate Norse-derived verbs (Fisher's exact test, $p < 0.0001$).

As discussed by Elter and Shaw, high-frequency verbs like <takenn, tākenn> (ME *taken*) can skew the data, lessening the overall proportion of non-finite usage of foreign etymology verbs, as they are highly entrenched lexical items which occur more frequently in finite forms than low-frequency foreign etymology lemmas.⁸⁰ In the *Ormulum* text, this effect can also be observed for two high-frequency lemmas, specifically <takenn, tākenn> (ME *taken*) and <gifenn> (ME *yēven* v.), which belong to the non-cognate and contrasting cognate verb sets

⁸⁰ Elter and Shaw, *Loan Verb Accommodation*, p. 32.; Shaw, 'English Phrases, French Verbs', p. 137–38, 142.

respectively. While <takenn, tākenn> (ME *taken*) shows a 19.31% proportion of non-finite use (67/347 tokens), <ġifenn> (ME *yēven* v.) shows a 34.15% proportion of non-finite use (14/41 tokens). These values are significantly different from the proportions of non-finiteness shown by the other, less-frequent lemmas of the respective cognacy subsets (Fisher's exact test; <takenn, tākenn> (ME *taken*), $p < 0.0001$.; <ġifenn> (ME *yēven* v.), $p < 0.0001$). Thus, when comparing their proportion of non-finite usage to that of their whole subset respectively they significantly skew the non-finiteness proportions for these two cognacy subsets (Fisher's exact test; <takenn, tākenn> (ME *taken*), $p < 0.0001$.; <ġifenn> (ME *yēven* v.), $p = 0.0079$), as the finiteness proportions broken down by lemma in figure 2 illustrate.



Insert Fig. 2 here, approx. 2/3 page, black & white.

Figure 2. Distribution of Norse-derived verbs per lemma for the three cognacy subsets in the Ormulum full text compared to the baseline of English verbs in finite and non-finite forms (n = 5,530). Figure by author.

When treating these two high-frequency verbs separately from the non-cognate and contrasting cognate lemma subsets respectively, it becomes apparent that the lower-frequency non-cognate verbs as well as the lower-frequency contrasting cognate verbs overall show a

higher proportion of non-finite usage in comparison to the English baseline. This is even more pronouncedly significant for the latter than for the former group (Fisher's exact test; lower-frequency contrasting cognate verbs $p < 0.0001$). As expected based on earlier research,⁸¹ the direction of the non-finiteness bias for non-cognate verbs is inverted and shows a bias towards non-finite usage when treating high-frequency lemma <take_{enn}, tāk_{enn}> (ME *taken*) separately from lower-frequency non-cognate verbs, albeit non-significantly in the sample (Fisher's exact test, $p = 0.1851$), likely due to the imbalance of sample sizes (cf. figures 1 and 2).

Finally, the set of non-contrasting cognate verbs in contact shows a slightly lower proportion of non-finite usage than the English verbs. However, as one would expect for this cognacy subset based on the extremely high lexical closeness of the lemmas involved, this difference is not significant (Fisher's exact test, $p = 0.4462$). The verbs of this subset are by their classification selective or mixed copies of some properties of an ON cognate into English, where an existing OE native cognate is influenced in some capacity by this partial copy. Thus, these cognate verbs were most likely identifiable as cross-linguistic variation on the same shared lexeme to speakers of either of the mutually intelligible languages in contact. The usage of such cognate verbs in contact would have been modelled in direct correspondence to the existing native cognate verbs making them quasi-native. Consequently, their integration would not have incurred a high enough increase in processing costs for speakers to manifest itself in a significant bias towards non-finiteness in production, which Shaw discusses as the therapeutic origin of integrative accommodation biases.⁸²

6 Assignment of argument structure patterns to three Norse-derived verbs in the *Ormulum*

6.1 Method for the assessment of argument structure pattern assignment

⁸¹ Cf. Elter & Shaw, *Loan Verb Accommodation*.

⁸² Shaw, 'English Phrases, French Verbs', chapter 5 and 5.3.4.

All tokens of Norse-derived verbs extracted from the *Ormulum* text across the three cognacy subsets are manually annotated for the arguments they realise from their clause context. Annotations included nominal and pronominal argument noun phrases as well as prepositional phrases recurrently representing core thematic roles for some lexical verbs (e.g. *to*-dative RECIPIENT arguments of ditransitive verbs like <ġifenn> (ME *yēven* v.)). Annotations followed the pattern [syntactic relation(morphosyntactic realisation)-THEMATIC ROLE] for each argument recorded. The set of argument realisation patterns attested per lemma was then compared to the argument realisation patterns of the proposed ON etymon and to those of native OE cognates and, where no cognates are recorded in OE, non-cognate synonymous verbs in OE. To this end, the set of existing late OE and early ME argument realisation patterns for native cognates and non-cognate synonymous verbs were assessed on the basis of entries in the *Oxford English Dictionary*, the *Middle English Dictionary*, and the *Bosworth-Toller Anglo-Saxon Dictionary*.⁸³ Argument realisation patterns recorded for ON etyma and cognate verbs were assessed based on entries in *the Dictionary of Old Norse Prose*.⁸⁴

Due to the low token frequencies for most of the investigated lemmas, the qualitative analysis of the assignment of argument structure patterns to these Norse-derived verbs is restricted to a comparison of the availability of argument structure patterns on the grounds of attested existence in the data. Where the patterns attested for relevant cognate or non-cognate synonymous lexemes in OE and those for ON etyma match, cognacy of these patterns may be assumed to be reconstructible following the discussion in Barðdal and Eythórsson.⁸⁵ Consequently, if argument structure patterns recorded for the Norse-derived ME verb match those attested cognate patterns, the strategy of argument structure assignment cannot be further

⁸³ The *Oxford English Dictionary*, the *Middle English Dictionary* (hereafter *MED*); the *Bosworth-Toller Anglo-Saxon Dictionary* (hereafter *BTASD*).

⁸⁴ The *Dictionary of Old Norse Prose* (hereafter *ONP*).

⁸⁵ Barðdal and Eythórsson, *How to Identify Cognates in Syntax*.

narrowed down than showing a stable transmission of cognate argument structures through contact.

Only where a mismatch or partial mismatch of patterns attested for relevant cognate or non-cognate synonymous lexemes in OE and those for ON etyma occurs, the strategy for argument structure assignment to the Norse-derived verb in ME can be further narrowed down. If the Norse-derived ME lexeme shows a pattern previously unattested for cognate or non-cognate synonymous verbs in the replica language but attested for the ON etymon, copying and assignment of argument structure from the model language lexeme (strategy one) can be assumed. If the ME lexeme shows a pattern previously unattested for its ON etymon in the model language, the assignment of argument structure is seen as following strategy three if this pattern is attested for a non-cognate synonymous verb in the replica language, and strategy four if this pattern is attested for an existing cognate verb in the replica language. The latter two cases may be surface-identical to strategy two, assignment by default in the replica language, especially for canonical patterns.

Following these abstractions, the three sets of verbs with different relations of cognacy to native English lexemes operationalised in 4.2 are assessed concerning the likely origin of the argument structure pattern they are assigned during integration and a possible (dis)preference of cognate patterns for Norse-derived verbs depending on the existence of and relation to native cognates, as documented in the early ME data of the *Ormulum*. One verb from each of these sets will be presented as a case study in the following sections, namely <skerrenn> (ME *skerren*, n = 2) ((to) *frighten*), <geȝðnenn> (ME *geinen*, n = 4) ((to) *be useful*), and <brennenn> (ME *brennen*, n = 9) ((to) *burn*).

6.2 Results: Argument structure assignment strategies of cognate and non-cognate Norse-derived verbs in the *Ormulum*

6.2.1 Non-cognate verbs

According to Levin,⁸⁶ PDE *(to) scare*, descending from the non-cognate Norse-derived verb copy <skerrenn> (ME *skerren*) meaning ‘(to) frighten’, is an *amuse*-type psych verb. In the *Ormulum* data, <skerrenn> (ME *skerren*) shows a [subject(nominative)-STIMULUS; direct object(objective)-EXPERIENCER] pattern, as in the coordinated verb phrase in (8).

- (8) *He*[STIMULUS] *wile* *himm*[EXPERIENCER] *færenn* *ðiff* *he* *maðð*.
 He.NOM will.3SG.PRS he.OBJ fear.INF if he may
 7 ***skerrenn*** [< ON *skirra*] *mære*. 7 *mære*.
 and scare.INF more and more.

‘He wants to frighten him if he can and scare him more and more.’⁸⁷

Its ON etymon *skirra* is recorded in the *ONP* with the [subject(nominative)-STIMULUS; object(accusative)-EXPERIENCER] pattern of *amuse*-type verbs and additional [subject(nominative)-CAUSER; object(accusative)-EXPERIENCER] with adjunct(oblique)-STIMULUS pattern in the sense ‘(to) frighten’.⁸⁸ However, a [subject(nominative)-AGENT; object(dative)-THEME] pattern in the sense ‘(to) prevent’ seems the most prominent for this lexeme in the *ONP*.⁸⁹ Because a cognate verb to ON *skirra* is not recorded for OE, the patterns realised by non-cognate synonymous verbs OE *brégan*, *egsian*, *færan* and *gæstan* serve as *comparandum* for the existing OE argument structure patterns for ‘(to) frighten’ senses.⁹⁰ These verbs are also of the *amuse*-type in OE and are recorded with [subject(nominative)-STIMULUS; object(accusative)-EXPERIENCER] pattern in the *BTASD* and

⁸⁶ Levin, *English Verb Classes and Alternations*, p. 189, class 31.1.

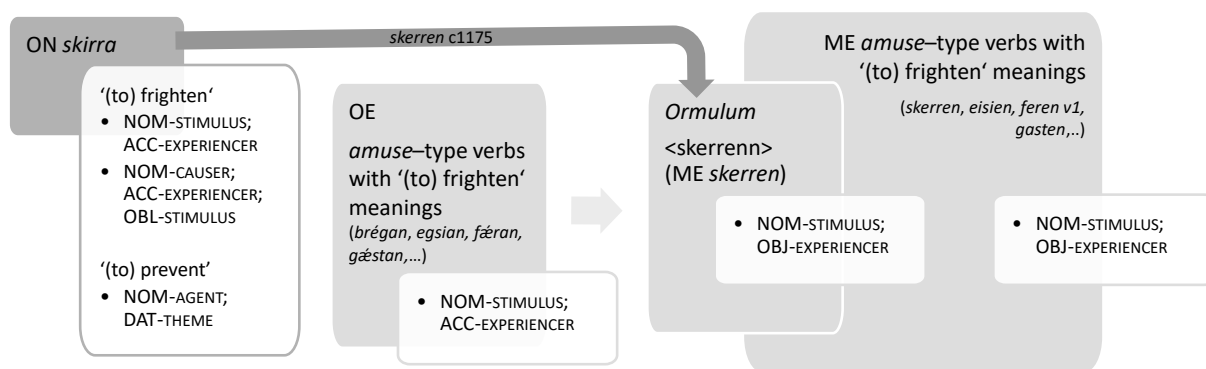
⁸⁷ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 675–76; cf. *ONP*, s.v. *skirra* v.; *BTASD*, s.v. *færan* v..

⁸⁸ *ONP*, s.v. *skirra* v..

⁸⁹ *ONP*, s.v. *skirra* v..

⁹⁰ Dance, Pons-Sanz & Schorn, *The Gersum project*, *scarrez* v.; *BTASD*, s.v. *brégan* v.; *BTASD*, s.v. *egsian* v.; *BTASD*, s.v. *færan* v.; *BTASD*, s.v. *gæstan* v..

OED.⁹¹ When compared, the argument structure pattern [subject(nominative)-STIMULUS; direct object(objective)-EXPERIENCER] realised for <skerrenn> (ME *skerren*) in the *Ormulum* matches the transitive *amuse*-type pattern recorded for the ‘(to) frighten’ sense of the Norse etymon *skirra* and also, canonically, is the descendant of the *amuse*-type pattern recorded for the native synonymous *amuse*-type verbs in OE (figure 3).⁹² The Norse-derived verb in ME is recorded only with ‘(to) frighten’ senses and only displays a pattern that is cognate in both languages for these senses in the *Ormulum*.



Insert Fig. 3 here, approx. 1/5 page (i.e. width of page), black & white.

Figure 3. Integration of Norse-derived verb <skerrenn> (ME *skerren*) in the *Ormulum* as an *amuse*-type verb in ME. Figure by author.

As the sense ‘(to) prevent’ of ON *skirra* is also not recorded for the copied verb in the *OED* or *MED*,⁹³ two scenarios for lexical copying and the assignment of argument structure seem most likely in this case: (i) assignment of a cognate pattern as copied with the lexical verb *skirra* from ON as a mixed copy of the etymon’s phonological material features, its partial semantic

⁹¹ *OED*, s.v. *eisie* v.; *OED*, s.v. *fear* v.; *OED*, s.v. *gast* v.1; *BTASD*, s.v. *brégan* v.; *BTASD*, s.v. *egsian* v.; *BTASD*, s.v. *færan* v.; *BTASD*, s.v. *gæstan* v.; compare also <færenn> (ME *fēren* v.(1)) (< OE *færan*) in (8) where it is coordinated with Norse-derived <skerrenn> (ME *skerren*).

⁹² While OE *færan* realises its event participants strictly as an *amuse*-type verb in OE, ME *fēren* v.(1) shifts to realising them as an *admire*-type verb with subject-EXPERIENCER and direct object-STIMULUS. Cf. *BTASD*, s.v. *færan* v.; *OED*, s.v. *fear* v.. This is however not the case for Norse-derived ME *skerren* and will not be further discussed here.

⁹³ *OED*, s.v. *scare* v.; *MED*, s.v. *skerren* v..

features of only the sense ‘(to) frighten’ and the corresponding argument structure pattern or (ii) an assignment of this same cognate pattern from native non-cognate synonymous verbs in the replica language onto a mixed copy of material and partial semantic features of the sense ‘(to) frighten’ of the etymon ON *skirra* as ME <skerrenn> (ME *skerren*).

6.2.2 Contrasting cognate verbs

Although it is obsolete in PDE, the ME Norse-derived verb <gēggnenn> (ME *geinen*) meaning ‘(to) be useful, help, be suited’, is recorded in the *Gersum* database as derived from Old Norse but showing a contrasting native cognate in OE *gȳnan* ‘(to) drive’.⁹⁴ OE *gȳnan* stands in contrast to the verb’s ON etymon *gegna* ‘(to) meet’ and less common variant *gagna* ‘(to) benefit’ both in form due to the palatalisation of /g/ and in the primary lexical meaning.⁹⁵ In the *Ormulum* data, <gēggnenn> (ME *geinen*) shows a transitive [subject(nominative)-BENEFACITOR/THEME; direct object(objective)-BENEFICIARY] pattern in the recorded primary sense ‘(to) be useful, help’ like in (5b), repeated here as (9), and a [subject(nominative)-THEME] pattern for the sense ‘(to) be suited’, like in (10). Both senses and patterns frequently occur with an PURPOSE complement, like in (9) where it is realised as an infinitive clause like ‘to win eternal bliss’ or in (10) as a prepositional phrase ‘for the fire’.

(9) *Acc nu ne gēggnēbb* [< ON *gegna*] *itt*[THEME] *hemm*[BENEFICIARY] *nohht*.

And now NEG help.3SG.PRS it.NOM they.OBJ not

To winnenn eche blisse[PURPOSE].

to win eternal bliss

‘And now it does not help them to win eternal bliss.’⁹⁶

⁹⁴ *OED*, s.v. *gain* v.1; Dance, Pons-Sanz and Schorn, *The Gersum project*, *gayn* v..

⁹⁵ Dance, Pons-Sanz and Schorn, *The Gersum project*, *gayn* v.; cf. *BTASD*, s.v. *gīnan* v.; *ONP*, s.v. *gegna* vb.; *ONP*, s.v. *gagna* vb.; cf. *OED*, s.v. *gain* v.1.

⁹⁶ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 970–71; cf. *ONP*, s.v. *gegna* vb..

(10) ¶ 7 *forr þatt itt iss mikell trę;*

¶ and for that it is big tree

Itt hafepþ fele boð^hess.

It had many branches

Acc sume[THEME] ġeððnenn [< ON gegna] to þe fir[PURPOSE];

But some.NOM suit.3PL.PRS to the fire

Forr þatt teðð sinndenn driððe.

For that they are dry

‘And because it is a great tree, it has many branches. But some are fit for the fire because they are dry.’⁹⁷

The ON etymon *gegna* ‘(to) meet, fulfil, suit’ is recorded with transitive [subject(nominative)-BENEFACITOR/THEME; object(dative)-BENEFICIARY] pattern for senses of fulfilment and suitability and with [subject(nominative)-AGENT; object(dative)-THEME/PATIENT] pattern for ‘(to) meet’ senses in the *ONP*.⁹⁸ The ON etymon *gagna* ‘(to) benefit’ is recorded with transitive [subject(nominative)-BENEFACITOR; object(dative)-BENEFICIARY] pattern.⁹⁹ Both ON *gegna* and *gagna* combine the [subject(nominative)-THEME] pattern with complement prepositional phrases expressing BENEFICIARY or PURPOSE for the sense ‘(to) fit, suit’.

The OE cognate *gȳnan* is recorded only in the construction *gȳnan on gear* ‘(to) drive (someone/something) back (to a place)’.¹⁰⁰ Thus, the OE verb does not show senses or indeed argument realisation patterns that are also recorded for <ġeððnenn> (ME *geinen*) and which

⁹⁷ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 9973–76; cf. *ONP*, s.v. *gegna* vb..

⁹⁸ *ONP*, s.v. *gegna* vb..

⁹⁹ *ONP*, s.v. *gagna* vb..

¹⁰⁰ The *Dictionary of Old English*, (hereafter *DOE*), s.v. *gȳnan*.

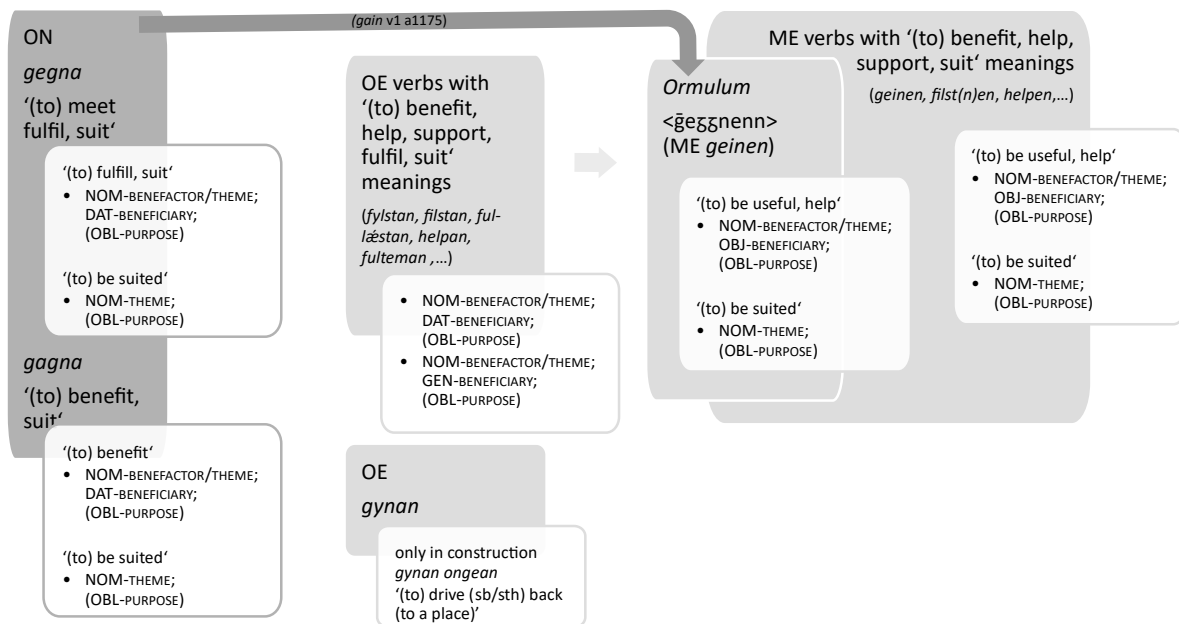
might have served as a source for argument structure assignment to the ME Norse-derived copy. However, the *BTASD* records non-cognate synonymous verbs *fylstan*, *filstan*, *ful-læstan*, *helpan*, and *fulteman* for the meanings '(to) benefit, help, support, fulfil' for OE.¹⁰¹ These near-synonymous verbs show [subject(nominative)-BENEFACITOR; object(dative)-BENEFICIARY] and [subject(nominative)-BENEFACITOR; object(genitive)-BENEFICIARY] patterns in OE, with the former matching the pattern recorded for the ON etymon *gegna* and also the copied verb <ġeġznenn> (ME *geinen*) in ME (figure 4).¹⁰² Moreover, the *OED* and *MED* record transitive [subject(nominative)-BENEFACITOR; direct object(objective)-BENEFICIARY] uses of near-synonym ME *helpen* '(to) help' with a PURPOSE complement being expressed as *to*-infinitive or object clause in OE and ME;¹⁰³ uses also recorded for near-synonymous <ġeġznenn> (ME *geinen*) in the *Ormulum*. Thus, ME verbs with senses '(to) help, fulfil, benefit' show parallel patterns to ME *geinen*. Senses of meeting as for the ON etymon *gegna* are also recorded for ME *geinen*, albeit marginally.¹⁰⁴

¹⁰¹ *BTASD*, s.v. *fylstan* v.; *BTASD*, s.v. *filstan* v.; *BTASD*, s.v. *ful-læstan* v.; *BTASD*, s.v. *helpan* v.; *BTASD*, s.v. *fulteman* v..

¹⁰² *OED*, s.v. *gain*, v.1; *MED*, s.v. *geinen* v.

¹⁰³ *OED*, s.v. *gain* v.1; *MED*, s.v. *geinen* v..

¹⁰⁴ *OED*, s.v. *gain*, v.1; *MED*, s.v. *geinen* v.



Insert Fig. 4 here, approx. 1/3 page (i.e. width of page), black & white.

Figure 4. Integration of Norse-derived verb *<gēggnenn>* (ME *geinen*) in the *Ormulum* as a verb with meanings '(to) be useful, help, suit' in ME. Figure by author.

In summary, the usage of *<gēggnenn>* (ME *geinen*) in the *Ormulum* matches the [subject(nominative)-BENEFACITOR; object(dative)-BENEFICIARY] pattern recorded for the '(to) fulfil' senses of its ON etymon *gegna* as it might have been transferred as [subject(nominative)-BENEFACITOR/THEME; direct object(objective)-BENEFICIARY] into the English replica language system, in which syncretism of dative and accusative is well under way at the time of contact.¹⁰⁵ However, the data for *<gēggnenn>* (ME *geinen*) also reasonably match the canonical ME descendant of the [subject(nominative)-BENEFACITOR; object(dative)-BENEFICIARY] pattern recorded for the native OE non-cognate synonymous verbs in senses of helping and supporting, even though none of the BENEFICIARY objects realised for *<gēggnenn>* (ME *geinen*) in the *Ormulum* unambiguously represent the former dative, but must be analysed as representing generalised objective case.¹⁰⁶ The *OED* records expression of

¹⁰⁵ Cf. Allen, *Case Marking and Reanalysis*, p. 161.

¹⁰⁶ Example (10) and another occurrence in line 14,480 realise the BENEFICIARY as pronominal objects, *hemm* and *þe* respectively, but these forms represent the generalised objective case in *Orm*'s variety at the time; *Orm*, *The*

human BENEFICIARIES as dative objects for OE,¹⁰⁷ supporting the identification of the [subject(nominative)-BENEFACITOR; object(dative)-BENEFICIARY] pattern as a cognate pattern for verbs lexicalising meanings like ‘(to) fulfil, support, help’ in both ON and OE. As with the non-cognate Norse-derived copy <skerrenn> (ME *skerren*), two scenarios for lexical copying and the assignment of argument structure seem likely for the integration of <geðgnenn> (ME *geinen*): (i) assignment of a cognate pattern as copied with the lexical verb *gegna* from ON as a mixed copy of the etymon’s formal phonological features, its semantic features regarding the senses of fulfilment and suitability, also possibly influenced by ON *gagna*, and the corresponding transitive argument structure patterns with dative object or (ii) an assignment of these same cognate patterns from native non-cognate synonymous verbs in the replica language onto a mixed copy of formal and partial semantic features of the sense ‘(to) fulfil, benefit, suit’ of the etymon ON *gegna* as ME <geðgnenn> (ME *geinen*).

6.2.3 Cognate verbs in contact

According to Levin, PDE *burn* is a labile change-of-state verb alternating in the causative alternation between unaccusative intransitive uses of ‘(to) burn’ and causative transitive uses meaning ‘(to) cause to burn’.¹⁰⁸ The ME verb <brennen> (ME *brennen*), meaning ‘(to) burn’ is handled in the *MED* and *Gersum* database as the merging lexeme of native OE verbs *byrnan* and *bærnan* and a copy of ON *2brenna* and *3brenna*,¹⁰⁹ two cognate sets of one strong unaccusative and one derived weak causative verb respectively. Thus <brennen> (ME *brennen*) is treated in the subset of non-contrasting cognates in contact in this work. In the *Ormulum* glossary, Norse-derived <brennen> (ME *brennen*) and native <bærnen> (ME

Ormulum, ed. by Johannesson and Cooper, l. 14,480; cf. Johannesson, *Old English versus Old Norse Vocabulary in the Ormulum*, p. 172; Allen, *Case Marking and Reanalysis*, p. 179-180.

¹⁰⁷ *OED*, s.v. *gain* v.1, sense 1.

¹⁰⁸ Levin, *English Verb Classes and Alternations*, p. 28, class 45.4.

¹⁰⁹ *MED*, s.v. *brennen* v.; Dance, Pons-Sanz and Schorn, *The Gersum project*, *brenne* v.; cf. *ONP*, s.v. *2brenna* vb.; *ONP*, s.v. *3brenna* vb.; *BTASD*, s.v. *byrnan* v.; *BTASD*, s.v. *birnan* v.; *BTASD*, s.v. *bærnan* v..

brennen) are listed separately, while the *MED* treats these forms collectively as one lexeme.¹¹⁰

Both the *OED* and *BTASD* record a number of variant forms and lexemes for the OE set of verbs lexicalising senses '(to) burn' and '(to) cause to burn', with *bærnan* always representing a weak verb with causative '(to) cause to burn' senses, and variants *byrnan*, *birnan*, and *beornan* representing a strong verb for which unaccusative intransitive usage in '(to) burn' senses as well as transitive usage in causative senses is attested.¹¹¹ However, whether the set of forms of this verb are differentiated by stem form or by morphological paradigm into separate lexemes or treated as variant forms of a single lexeme at the transition between OE and ME, verbs lexicalising senses of burning arguably labilise during the OE period.¹¹² Accordingly, this work will treat the OE metathesised cognate forms as already somewhat alternating in the causative alternation.

In the *Ormulum* text, *br-* initial verb forms corresponding to Norse-derived <brennen> (ME *brennen*) in active voice exclusively show canonical transitive [subject(nominative)-AGENT; direct object(objective)-THEME] argument structure patterns with causative meaning '(to) cause to burn', like in example (6b) repeated here as (11).

(11) 7 *tanne**brennde*** [< ON *brenna*] *he*[AGENT] *recless*[THEME] *þær*,

And then burn.3SG.PST he.NOM incense.OBJ there

To þęwwtenn ġodd to cweme.

to serve god to satisfaction

'And then he burned incense there to satisfactorily serve God.'¹¹³

¹¹⁰ Johannesson and Cooper (eds). *The Ormulum*, Glossary; *MED*, s.v. *brennen* v..

¹¹¹ Such labile behaviour of metathesised variant forms is also attested in OE corpus data as shown by García García and Ruiz Narbona, *Lability in Old English Verbs*, p. 297-299; cf. *BTASD*, s.v. *birnan*; *BTASD*, s.v. *byrnan*; *BTASD*, s.v. *beornan*; *BTASD*, s.v. *bærnan*.

¹¹² García García and Ruiz Narbona, *Lability in Old English Verbs*, p. 297-299.

¹¹³ Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 1,086–87.

Such occurrences of <brennenn> (ME *brennen*) match the transitive patterns recorded for both the ON causative etymon *3brenna* in the *ONP* and the native cognate weak OE *bærnan* in the *BTASD*.¹¹⁴ Additionally it matches the transitive pattern recorded for labile formal variants of strong verb OE *byrnan* recorded in the *BTASD* and *OED*.¹¹⁵ While there are no non-causative intransitive uses of verb forms clearly representing Norse-derived <brennenn> (ME *brennen*) in the *Ormulum* data, forms representing native <bærnenn> (ME *brennen*) are labile in the data and show corresponding intransitive non-causative [subject(nominative)-THEME] and causative transitive [subject(nominative)-AGENT; direct object(objective)-THEME] patterns.¹¹⁶ This labile usage of <bærnenn> (ME *brennen*) forms matches the patterns recorded for both its originally unaccusative strong native etymon OE *byrnan* and the originally derived-causative weak verb OE *bærnan* that are both already attested as labile in OE corpus data and the *BTASD* and *OED*.¹¹⁷ The ON verbs strong unaccusative *2brenna* and weak causative *3brenna* are not recorded as labile in the *ONP*.¹¹⁸ Thus, equally whether these ME lemmas are to be treated separately or as already merging cross-linguistic cognates during the time of the *Ormulum*'s composition, there is no evidence for a mismatch of argument structure during integration of a copy of transitive causative ON *3brenna* as <brennenn> (ME *brennen*) (figure 5).

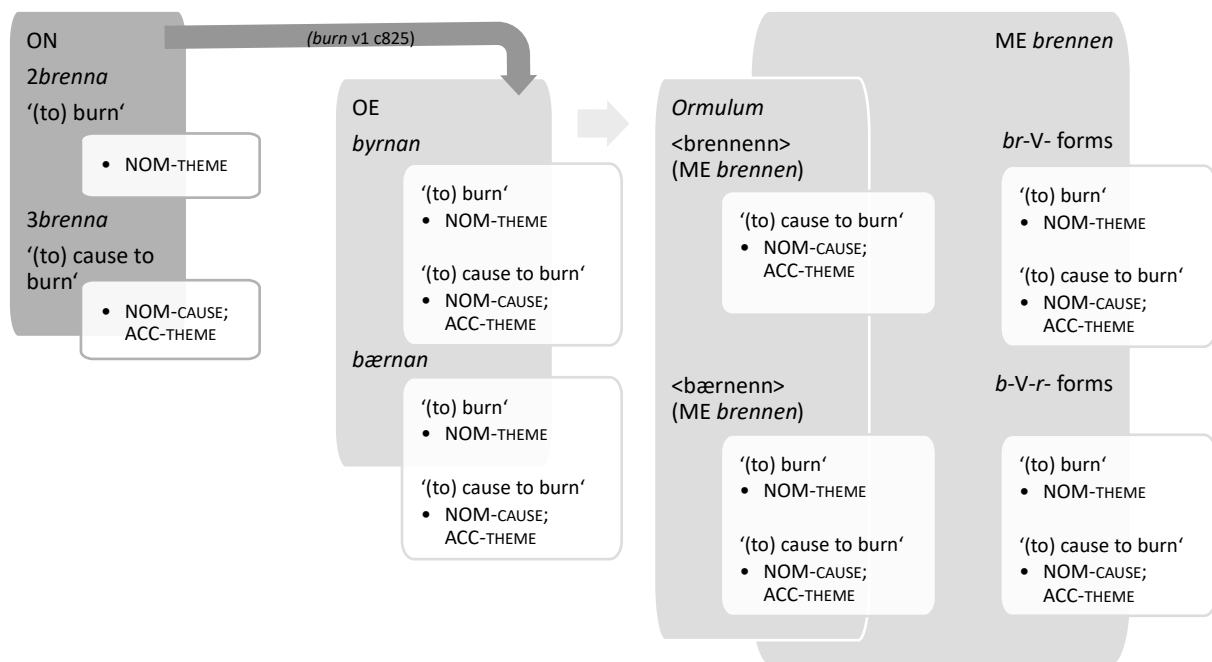
¹¹⁴ *BTASD*, s.v. *bærnan* v.; *OED*, s.v. *burn* v.; *ONP*, s.v. *3brenna* vb..

¹¹⁵ Cf. *BTASD*, s.v. *birnan*; *BTASD*, s.v. *byrnan*; *BTASD*, s.v. *beornan*.

¹¹⁶ Cf. intransitive uses like in line 1572 and transitive uses of it like in lines 1528–29 and line 1742 in Orm, *The Ormulum*, ed. by Johannesson and Cooper, l. 1528–29, 1572, 1742.

¹¹⁷ García García and Ruiz Narbona, *Lability in Old English Verbs*, p. 297–299; cf. *BTASD*, s.v. *byrnan* v.; *BTASD*, s.v. *bærnan* v.; *OED*, s.v. *burn* v.

¹¹⁸ *ONP*, s.v. *2brenna* vb.; *ONP*, s.v. *3brenna* vb..



Insert Fig. 5 here, approx. 1/3 page (i.e. width of page), black & white.

Figure 5. Integration of Norse-derived verb *<brennenn>* (ME *brennen*) in the *Ormulum* as a cognate verb with meaning '(to) burn'. Figure by author.

All members of this set of cross-linguistic cognates that express causative senses of '(to) cause to burn' at any point during or after contact realise the canonical transitive [subject(nominative)-AGENT; direct object(accusative/objective)-THEME] pattern as an inherited cognate feature of their common genealogy.¹¹⁹ Assignment of argument structural patterns during the linguistic copying of the lexeme *<brennenn>* (ME *brennen*) as a variant in addition to native *<bærnenn>* (ME *brennen*) seems to be based on this cognate pattern, exemplifying the stability of verb argument structure for cognate verbs in the Anglo-Scandinavian contact.

¹¹⁹ While dative and accusative syncretism in English has resulted in the ME objective case (cf. Allen, *Case Marking and Reanalysis*), ON shows distinct inflectional forms for dative and accusative cases. In diachronic comparison of these closely related languages, the ME pattern realising the objective is a reasonable reflex of the OE and ON cognate patterns realising accusative for THEME objects of transitive uses of verbs meaning '(to) cause to burn'.

Moreover, non-metathesised forms representing the Norse-derived lexeme <brennenn> (ME *brennen*), which only occurs in transitive causative senses in the *Ormulum* and contrasts with already labile <bærnenn> (ME *brennen*) in this way, do show labile usage in later ME texts as exploration of the *OED* and *MED* entries, and *PPCME2* data reveal.¹²⁰ From this, one might argue that *Ormm* used <brennenn> (ME *brennen*) as a causative verb copied on the model of causative ON *3brenna* and thus more restrictively than later ME authors, who use forms of <brennenn> (ME *brennen*) and <bærnenn> (ME *brennen*) as labile verbs alike as these lexemes merge and are later transmitted as PDE (*to*) *burn*. Additionally, this early non-labile transitive use of ME *brennen* by *Ormm* does **not** coincide with non-labile intransitive use of the native <bærnenn> (ME *brennen*). Consequently, existing labilisation of the latter native verb is maintained in *Ormm*'s early ME variety and later keeps gaining ground in this cognate set, even where the introduction of a non-metathesised variant form from a closely related language might have renewed the mostly intransparent formal contrast of a verb pair of a strong non-causative and weak derived causative verb in the replica language. Such a possible renewal of the formal contrast of unaccusative and causative verbs from the set of native and Norse-derived variants however did not even transiently occur for ME *brennen*.¹²¹ This corroborates that stable transmission of verb argument structure in English is preserved throughout this linguistic contact, as processes ongoing at different rates in the model and replica language, like labilisation, are not necessarily directly affected by the integration of identifiable cognate lexemes reflecting a different stage of this process.

7 Discussion

¹²⁰ Cf. *MED*, s.v. *brennen* v.; *OED*, s.v. *burn* v.; results on the development of ME *brennen* in the *PPCME2* corpus were presented by Elter at the ICHL-26 conference, 4–9 September 2023 and revealed that *br*- initial forms only occur in transitive causative pattern in M1 (1150–1250 CE) and only later show labile behaviour parallel to that shown by metathesised forms in OE and ME.

¹²¹ Elter, 'Anglo-Scandinavian Contact Influence on Verbs Entering the Causative Alternation', *unpublished paper delivered at the ICHL-26 conference*, 4–9 September 2023.

From the non-significant accommodation bias documented for the non-contrasting cognate verbs showing Norse influence in the *Ormulum* text, this work deduces that *Ormm's* verbal lexicon did not simply include a significant Norse element, especially in the area of cognate lexemes, but that it also was very well integrated into his morphosyntax. Due to the cognate nature of the argument structures realised for the verbs under investigation and their etyma, the structural integration of these verbal copies into the English morphosyntax and lexicon would have been without conflict. These non-contrasting cognate verbs were likely integrated as variant forms of the native cognate verbs and their morphosyntax and argument structure analogously assigned from the replica language cognate lexeme or globally copied from the ON cognate as combinations of cognate form, cognate sense and cognate argument structure. As a result, non-contrasting cognate verbs occur in the *Ormulum* without significant bias towards non-finite usage and realising argument realisation patterns cognate to their native cognate lexemes. This evidence from morphosyntax and argument structure supports the argument for *Ormm's* dialect showing a well-entrenched, significant Norse element in its verbal lexicon, resulting from the close genealogical relationship between the languages in contact.

Considering that previous work by Elter and Shaw assessing accommodation biases of Norse-derived verbs in ME demonstrated the existence of significant accommodation bias towards non-finite usage for non-cognate and contrasting cognate Norse-derived verbs in early ME (*PPCME2*, M1),¹²² *Ormm's* Norse-derived verbs do not show as high a bias in these two cognacy categories when accounting for lemma frequency effects. This further supports arguments proposing that *Ormm's* language shows a higher degree of well-entrenched Scandinavian influence than other contemporary early ME varieties.¹²³

Concerning the effects found for highly frequent lemmas <takenn, tākenn> (ME *taken*) and <ġifenn> (ME *yēven* v.), one must note that they are among the earliest attested lemmas in

¹²² Elter and Shaw, *Loan Verb Accommodation*.

¹²³ (?)Pons-Sanz, this volume; (?)Cole and Golding, this volume.

the non-cognate and contrasting cognate verb sets respectively and are attested disputably early in OE.¹²⁴ This is specifically relevant in light of the fact that of the 35 investigated Norse-derived lemmas 23 are first attested in English in the *Ormulum* text according to the *OED* and might consequently have been present in the spoken vernacular for a shorter time period than lemmas securely attested in earlier texts.¹²⁵ An additional four lemmas (<eġġenn> (ME *eggen* v.(1)), <heġġlenn> (ME *heilsen*), <leġġtenn> (ME *leiten* v.(2)), and <unnhilenn> (ME *unhilen*)) are given as first attested only in later ME texts in the *OED*, but might also be first attested in the *Ormulum* itself following the glossary of the Johannesson and Cooper edition and Pons-Sanz' work.¹²⁶

The pronounced inversion of non-finiteness proportions between high-frequency lemmas, like <takenn, tākenn> (ME *taken*) and <ġifenn> (ME *yēven* v.), first attested in texts pre-dating the *Ormulum* and lemmas from all cognacy subsets first attested in the *Ormulum* text itself like <kinndlenn> (ME *kindelen* v.(1)) (n = 2), <clippenn> (ME *clippen* v.(2)) (n = 4), <ġreġġþenn> (ME *greithen* v.) (n = 10), <biġġgen> (ME *biggen*) (n = 19), <reġġsenn> (ME *reisen* v.(1)) (n = 22), <flittenn> (ME *flitten*) (n = 20), and <addlenn> (ME *adlen*) (n = 22) shows that time elapsed since initial integration negatively impacts the strength of accommodation biases towards non-finite usage of copied verbs (cf. figure 2).¹²⁷ As the effect shown for <takenn, tākenn> (ME *taken*) and <ġifenn> (ME *yēven* v.) illustrate, high lemma frequency additionally exacerbates this effect.

Additionally, both <takenn, tākenn> (ME *taken*) and <ġifenn> (ME *yēven* v.) belong to strong (later: irregular) verb classes, meaning they are integrated into the replica language

¹²⁴ Only two verbs of either subset are attested in OE: <takenn, tākenn> (ME *taken*) & <ġatenn> (ME *yēten* v.(2))) in the non-cognate verb set and <ġifenn> (ME *yēven* v.) & <leġġkenn> (ME *leiken*)) in the contrasting cognate verb set.

¹²⁵ See Durkin 2014: 178ff. (cf. section 3 above) for a discussion on how well dates of extant first written attestation reflect the actual timeline of integration of Norse-derived lexis in English.

¹²⁶ Orrm, *The Ormulum*, ed. by Johannesson and Cooper, Glossary; (?)Pons-Sanz, this volume.

¹²⁷ Cf. Elter and Shaw, *Loan Verb Accommodation*.

morphosyntax following an already unproductive inflectional paradigm. For the non-cognate verb <takenn, tākenn> (ME *taken*) specifically, this means that despite its foreign etymology and non-existence of a native cognate form in analogy to which its forms or argument structure could be modelled, it is very well integrated, and its irregular inflectional forms well established in the linguistic system of English speakers by the time of the *Ormulum*'s composition.

These differences in surface level structural integration as reflected by the difference in morphosyntactic accommodation biases between the *Ormulum* and other early texts from a number of Middle English varieties motivated the present work to require an analysis of the structural integration of Norse-derived verbs at a deeper structural level: verb argument structure. The qualitative analysis of the argument structural integration of Norse-derived verbs in section 6 served to illustrate *Orrms* strategies of assigning argument structure to Norse-derived verbs.

Concerning the case studies of argument structural integration of Norse-derived verbs presented in section 6, the genealogical and resulting lexical and structural closeness of the languages in contact is both the factor of interest in how the nature of such linguistic contacts affects the possible outcomes and the limitation to how closely the origin of contact outcomes can be traced. As research on the Anglo-Scandinavian contact has highlighted again and again, the closer two linguistic elements are to each other, the lesser becomes the certainty with which we can tease apart the intricacies of their contact with each other. For neither of the case studies on <skerrenn> (ME *skerren*), <geȝȝnenn> (ME *geinen*), and <brennenn> (ME *brennen*) presented in section 6 a single strategy of argument structure assignment could be securely established from the data due to the cognate nature of argument structure patterns attested with these verbs. However, such instances underline the imperative force of stability in the

integration of Norse-derived verbs and have been shown to be characteristic for the linguistic closeness of the contact situation under investigation by Elter.¹²⁸

Especially the case study of <skerrenn> (ME *skerren*) shows, that cognate argument structure patterns are pervasive in the Anglo-Scandinavian contact, not only for formally close or even contrasting cognates in contact but also for verbs without a cognate verb in the replica language. Whether assignment of cognate argument structure in such cases is achieved by speakers through the copying of argument structure with the lexical verb from the model language as a global copy as made possible by the equivalence of these patterns in the model and replica languages or if cognate argument structure is assigned from the replica language on the basis of analogy between the copy and a native non-cognate synonymous verb must, however, be subject of further study. This question should intrigue both historical contact linguists working on contact situations of varying lexical and typological closeness and psycholinguists concerned with multilingual processing in contexts of mutually intelligible language contacts.

The case study on <geȝnenn> (ME *geinen*) offers another perspective on non-canonical argument structure patterns involving (former) dative objects in this contact and shows that even in the absence of such a pattern in the existing native cognate lexeme in OE, due to differences in lexical meaning, a cognate argument structure like ON [subject(nominative)-BENEFactor/Theme; object(dative)-BENEFICIARY] pattern for cognate etyma ON *gegna* and *gagna* may be successfully transferred to ME as [subject(nominative)-BENEFactor/Theme; object(objective)-BENEFICIARY] and assigned to a Norse-derived copy either by global copying from the model language etymon or by assignment from native synonymous verbs in the replica language. Identifiable formal cognacy between lexical items does consequently not seem to be the only sufficient, or even preferred, basis for assignment of cognate argument structure to

¹²⁸ Elter, *Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns*.

verb copies between closely related languages, as the previous case study on ME <skerrenn> (ME *skerren*) also revealed.¹²⁹

Finally, the case study on <brennen> (ME *brennen*) brings evidence to the copying of cognate verbs resulting in the merging of these native and Norse-derived lexemes. The assignment of only one of the available cognate argument structures to a copied verb as non-analogous to an already labile native cognate verb reveals that influx and establishment of a copied variant form does not necessarily hinder ongoing processes in the replica language like the labilisation of derived causative verbs and their unaccusative bases despite the possibility for the renewal of the formal contrast between a transitive and an intransitive verb from the non-metathesised form of the Norse-derived copy. As a previous case study by Elter has shown, a Norse-derived cognate verb, like *(to) raise*, entering the English class of *-ja*-derived causative verbs only transiently impacted whether such verb pairs or sets, like *(to) rise*, *(to) raise* and *(to) rear*, labilise or not.¹³⁰

To summarise, the case studies in section 6 have shown that these three new, Norse-derived verbs are exclusively assigned cognate argument realisation patterns in the replica language either by global copying of cognate patterns with the lexical verbs from the model language, or assignment of a pattern analogous to native cognate or non-cognate synonymous verbs in the replica language.¹³¹ As projected by the discussion of possible argument structure assignment strategies in section 2.2, this work could not conclusively narrow down which strategy of argument structure assignment is most likely for any one lexical verb copy in the Anglo-Scandinavian contact from the *Ormulum* data. However, the analysis did reveal a clear

¹²⁹ See the case study on **(and)swaran* in Barðdal and Eythórsson, *How to Identify Cognates in Syntax*, 3.3.

¹³⁰ Elter, *Integration of Cognate Loan Verbs in Contact Between Closely Related Languages Effecting Valency Changes*.

¹³¹ Cf. Recent work by Elter, *Cognate Loan Verbs in Contact Situations between Closely Related Languages Strengthening Existing Argument Structural Patterns*.

preference for verbs to be integrated with cognate argument structure over non-cognate structures where multiple patterns are attested as variants, even for non-cognate lexemes.

8 Conclusion

The present work combines a quantitative analysis of morphosyntactic integration bias towards non-finite use of Norse-derived verbs with a qualitative analysis of argument structural integration of Norse-derived verbs in the language of the Johannesson & Cooper (2023) edition of the *Ormulum*. The resulting assessment of the structural aspects of loan verb integration for verbs resulting from a contact situation between two closely related and likely mutually intelligible languages illuminates both the degree of morphosyntactic integration and the degree of structural congruency in the assignment of argument structures characterising the Norse element in *Orm*'s verbal lexicon. Additionally, this work adds to the research on contact outcomes in the realm of loan verbs in contact between closely related languages.

As the analysis of verbal morphosyntax shows, accommodation bias towards non-finite use was not significant for non-contrasting cognate verbs in contact in the *Ormulum*. This work thus concludes that closely identifiable non-contrasting cognacy relations between lexical items of mutually intelligible languages facilitate direct insertion of cognate verb copies into the morphosyntax of the replica language.¹³² Likewise, the exclusive occurrence of cognate argument structure patterns with a cognate verb copy in the *Ormulum* (cf. section 6.2.3) permits the conclusion that argument structure for non-contrasting cognate copies is likely assigned as copied with the lexical verb from the model language on the basis of the equivalence of these patterns across the languages in contact or in analogy to native cognate lexical verbs. From this

¹³² i.e., cognacy as identifiable to the likely monolingual speaker in a mutually intelligible contact situation (or a bilingual speaker of both varieties) based on adequate equivalence of the material and/or semantic properties of linguistic units, following Johanson, *Contact-induced Change in A Code-copying Framework*, p. 294; and Myers-Scotton, *Contact Linguistics*, p. 242–43; (see also section 3.1)

follows that the integration of copies of close cognate verbs indeed does not lead to argument structural integration conflicts, due to the nature of the contact situation.

Contrastingly, the morphosyntactic accommodation of non-cognate verb copies and contrasting cognate verb copies does seem to be affected by the bias towards non-finiteness previously identified by Elter and Shaw, and Shaw and De Smet, notwithstanding the idiosyncrasies of the *Ormulum* concerning the author's dialect and likely timing and location of its composition.¹³³ Accommodation bias does exist for non-cognate and contrasting cognate Norse-derived verbs, shortly after first adoption into English and where they are not (yet) highly frequent lemmas. However, these biases are weaker than the discussed previous work would suggest for an early ME text like the *Ormulum*. This supports the argument that the Norse-derived lexis of *Ormm's* vernacular was already very well structurally integrated at the time of the *Ormulum's* composition. Moreover, this speaks to the consensus that *Ormm's* native variety of ME was heavily influenced by contact with ON.

The argument realisation patterns admissible for use with both non-cognate and contrasting cognate verb copies in the text match those of native cognate or non-cognate verbs of the same semantic classes equally between these groups. Consequently, the present work concludes that argument structure patterns for these copies are most likely assigned in analogy to existing native cognate or non-cognate synonymous lexical verbs respectively or copied directly as global copies including the model language etymon verbs' semantic and combinational properties.

As the investigated verbs of all three cognacy subsets show at least one pattern matching across the model language etymon and replica language cognate or non-cognate synonymous verbs, I argue that the nature of this contact situation indeed does not lead to integration conflicts for verb argument structure patterns for either cognate or non-cognate lexical copies in the

¹³³ Elter and Shaw, *Loan Verb Accommodation*; Shaw and De Smet, *Loan Word Accommodation Biases*.

author's variety. Regardless of the existence and nature of cognacy relations to native lexical verbs, cognate argument structure is prominently assigned to Norse-derived new verbs in English as evidenced by the highly relevant early ME text source under investigation in this work. Concerning the transmission of argument structure patterns at the transition from Old to Middle English under the conditions of linguistic contact with Old Norse, this work finds that both canonical and non-canonical patterns in the replica language, like (former) dative objects (section 6.2.2), remain stable throughout the integration of Norse-derived verbs. The Anglo-Scandinavian contact offers such a wide range of cognate lexical material and cognate structures in the verbal lexicon available for copying, so that van Coetsem's general assumption that 'a language in contact with another language will tend to maintain its stable components' plays out easily.¹³⁴

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Loan verb accommodation: a comparison of Old Norse and French in Middle English¹

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Recent research shows that, even under direct insertion, loan verbs are subject to constraints: for instance, they enter non-finite categories more readily than finite categories. To deepen our understanding of such LOAN WORD ACCOMMODATION BIASES we investigate two contact situations to test whether biases hold in contact between closely related languages. A corpus study on Norse and French loan verbs entering Middle English compares the proportions of their finite and non-finite usage to gauge the impact of etymology and temporal distance to direct contact on loan integration. We identify significant bias towards non-finite use for both etymologies, but it is stronger for French than for Norse loan verbs. This suggests that biases are stronger in some contexts than in others: they are more prominent at a smaller temporal distance to direct contact and in contact between languages that are less closely related.

Keywords: historical linguistics, contact linguistics, loan verb integration, Old Norse and French loans, Middle English

1 Introduction

Many linguistic studies have focused on language contact and borrowing (e.g. Haspelmath & Tadmor 2009; Durkin 2014), in particular synchronic and diachronic cases of contact with English. Recent research has started investigating morphosyntactic constraints on loan word accommodation in French (F) loan verbs entering Middle English (ME) (Shaw & De Smet 2022): it has been revealed that speakers are biased to use loan words more in certain grammatical structures (e.g. non-finite verb forms) than in others (e.g. finite verb forms). This phenomenon, called ‘loan word accommodation biases’, will be explained in detail in section 2. Although this finding is innovative, Shaw (2022: 241) has indicated that the morphosyntactic integration of loan words may

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benefit from additional research, as the research by Shaw & De Smet (2022) and Shaw (2022) focused on two specific language contact situations and cannot be generalised.

The present study aims to gauge how typological closeness of languages in contact and temporal distance to the period of contact impact the presence and strength of accommodation biases.² To this end, the present study compares the integration of loan verbs from French³ and Norse-derived⁴ verbs into ME. Both contact settings are of similar intensity and have the same replica language, English, into which lexical material is integrated; however, the contact settings differ considerably with regards to the typological closeness with the English language and the time distance to the period of contact (see section 3). These two factors can, therefore, reliably be used as the main points of comparison in the analysis. By doing so, this study may deepen our understanding of the nature of constraints on loan word accommodation in other diachronic contact situations than the French–Middle English contact. As such, the present study aims to contribute significantly to research on the morphosyntactic integration of loan verbs and on constraints on loan word accommodation.

In what follows, section 2 will expand on existing research on loan words as well as their accommodation to the replica language, or the language in which linguistic material is integrated. Section 3 will compare the Old and Middle English contact situations with Old Norse and French respectively. In the next sections, the focus will be on the case study at hand, first by formulating research questions and hypotheses (section 4), second by means of a detailed discussion of the data and methodology used for this study (section 5), and third by presenting the findings (section 6). The seventh section will offer a discussion of the findings as well as a conclusion and some avenues for further research.

2 Loan words and their accommodation

2.1 *Loan word accommodation*

During the Old and Middle English periods, the English language borrowed words from various languages, such as Latin, French and Old Norse (e.g. Ingham 2012; Pons-Sanz

² Typological closeness is taken to be indicated by overall similarities of morphosyntactic structures between languages (Thomason & Kaufman 1991: 72; Thomason 2001: 76). See section 3 for an overview of the genealogical relationships between the languages in contact which are taken to be the main source of difference in typological distance in the two contact situations under investigation. Additional related factors like the status of bilingualism and mutual intelligibility will also be discussed in sections 3 and 4. For a discussion of the role of relatedness in language contact, see Bower (2013).

³ The term ‘French’ or ‘French-origin’ is used as a simplified umbrella term for the following two historical varieties: Anglo-French, or the variety of French as spoken in medieval England (see Rothwell 1996), and Old French, or the variety of French as spoken in Paris at the time (see Einhorn 1975: 1). The only situation in which ‘Old French’ is used in this article is when referring to original Old French etyma forms so as not to confuse Old French with Contemporary French.

⁴ The term ‘Norse-derived’ is used to indicate the high level of nuance necessary when characterising ME lexis influenced by or copied from Old Norse (see Dance, Pons-Sanz & Schorn 2019; Dance 2003, 2011, 2012, 2018). See section 3 for the reasoning behind this use of terminology.

2013; Durkin 2014). Borrowing is taken to mean the integration of new linguistic material into a language, often called ‘replica language’, on the model of linguistic material from another language, often called ‘model language’, with which the replica language has been in contact in some way (Weinreich 1953). Frequently investigated examples of model languages are Old Norse (ON) and French (Finkenstaedt & Wolff 1973; Grant 2009; Durkin 2014), which have added to the English language with verbs such as ME *taken* (‘to take’) and *travailen* (‘to travail, work’) respectively.

The number and nature of borrowings resulting from a contact situation depend on the intensity of contact (Thomason & Kaufman 1991), but also on, for instance, the morphological complexity of the borrowable categories (Matras 2020: 191f.). Therefore, linguistic closeness of the languages in contact may favour the borrowing of more complex categories (e.g. Meillet 1921; Moravcsik 1975; Johanson 2002; Winford 2003: 51ff.).

The present study concentrates on loan verbs.⁵ The morphosyntactic implications of loan integration of verbs are generally focused on less in models of borrowability and loan integration (cf. Thomason & Kaufman 1991; Matras 2020) than the formal or semantic implications of the loan integration of other lexical categories, or they are presented as a constraint on lexical borrowing (cf. Winford 2003). Wohlgemuth’s (2009) work on loan verb accommodation is seminal and identifies four accommodation strategies based on his typological research: ‘direct insertion’, ‘indirect insertion’, the ‘light verb strategy’ and ‘paradigm insertion’. Direct insertion describes a loan verb integration pattern where replica language inflections are added directly onto the borrowed stem, while in indirect insertion an additional verbalising affix is added to the word stem of the copy before it can be inflected in the replica language (Wohlgemuth 2009: 87, 94). Under the light verb strategy, Wohlgemuth (2009: 102) classifies all patterns where a copied verb is integrated as part of a complex predicate in combination with a dedicated light verb which carries inflections. Finally, paradigm insertion shows copied verbs continuing to carry their source language inflections in the replica language (Wohlgemuth 2009: 118, 119). Direct insertion is the most frequent strategy cross-linguistically and has, moreover, been identified as the most prominent strategy for loan verb insertion into English in both the Scandinavian and French contact situations (Wohlgemuth 2009: 338). Examples of direct insertion are Old French *comander* and Old Norse *reisa*, which are implemented in Middle English as *commaund-en* and *reis-en* respectively (cf. Lewis *et al.* 1952–2001). Both loan verbs are used with the native English infinitival *-en* marker (cf. native English *find-en*). Since inflection cannot be avoided under direct insertion, Wohlgemuth’s (2009: 291) subsequent argument is that loan verb integration is not as constrained by inflection as much as often assumed (e.g. Harris & Campbell 1995: 135; Sijs 2005: 56–7).

When entering a language through direct insertion, loan verbs are integrated grammatically into their replica language system (Poplack, Sankoff & Miller 1988; Muysken 2000), which

⁵ See Hug (1987: 7ff.) and Dekeyser (1986: 261) for an assessment of the role of verbs in the overall lexical contribution of French and Old Norse to the Middle English lexicon.

means that they adopt replica language inflections and can be used in all morphosyntactic categories in which model language verbs can be used.⁶ In the case of Norse-derived ME *taken* and French-origin ME *travailen* in examples (1)–(2), both taken from *The Penn–Helsinki Parsed Corpus of Middle English* (PPCME2) (Kroch, Taylor & Santorini 2000–), the verbs are inflected as past third-person singular forms. *Taken* is used in the past strong form *tooke* (‘took’), and *travailen* in the past weak form *trauaylde* (‘worked’).

- (1) Marie Magdeleyne **took-e** [ON: taka] an alabaustre box of precious oynement
 Mary Magdalene take.PST-3SG an alabaster box of precious ointment
 ‘Mary Magdalene took an alabaster box of precious ointment.’
 (*Aelred of Rievaulx’s De Institutione Inclusarum*, CMAELR3,44.540)

- (2) He **trauayl-de** [OF: travailler] forto bryng man ynto euerlastyng reste
 He work-PST.3SG to bring man into everlasting rest
 ‘He worked to bring man into everlasting rest.’ (*Mirk’s Festial*, CMMIRK,2.20)

That loan verbs *taken* and *travailen* can be used in inflected forms such as past forms points to them functioning as fully integrated verbs in ME.

2.2 Loan word accommodation biases

More recent research confirms that loan verbs can be used just like native verbs. However, even under direct insertion, loan verbs are subject to constraints on inflection and are biased towards some morphosyntactic usage categories, a phenomenon referred to as LOAN WORD ACCOMMODATION BIASES (De Smet 2014; Shaw & De Smet 2022). Specifically, French loans in late ME have been found to occur disproportionately more frequently in uninflected forms than in inflected forms when compared to native verbs (Shaw & De Smet 2022). Additionally, loan verbs are disproportionately more frequent in non-finite forms (i.e. infinitive, past participle, present participle) than in finite forms (i.e. imperative, past, present) when compared to native verbs. An example of the non-finite usage of French loan verb *maintenen* (‘to maintain’) is provided in (3), where the verb is used in its past participle form, *meigtened* (‘maintained’). The non-finite usage of this French loan verb is contrasted with the finite usage of native English verb *komen* (‘to come’) in (4), where *kom* (‘came’) is a third-person singular form in the past tense. Both examples have been taken from the same text sample from *The Helsinki Corpus of English texts* (Rissanen et al. 1991).

- (3) if he had ben mair, I wot wel he wold-e haue
 if he had been mayor I know well he would.PST.SBJV-3SG have.AUX.PRS
meigten-ed [OF: maintenir] all his ordinances
 maintain-PST.PTCP all hys assignments
 ‘If he had been mayor, I know that he would have maintained all his assignments.’
 (Helsinki Corpus, *Thomas Usk’s Appeal* 1.125–6)

⁶ The present article only addresses morphosyntactic integration. Phonological integration is not considered.

- (4) Also, that day that Sir Nichol Brembre was chose mair, a-non after mete
 also that day that Sir Nicholas Brembre was chosen mayor soon after meal
kom John Norhampton to John Mores hows [...]
 come.PST.3SG John Northampton to John Moore's house [...]
 'Also, the day that Sir Nicholas Brembre was chosen as mayor, soon after lunch John
 Northampton came to John Moore's house [...].' (Helsinki Corpus, *Thomas Usk's Appeal*
 1.135–6)

The usage of finiteness in (3) and (4) above exemplifies the dominant distribution of French loan verbs used in non-finite forms as compared to native English verbs, which are more prevalent in finite forms.

Biases of loan words towards specific morphosyntactic categories have been found not just for verbs, but also for adjectives, both in the historical French contact outcome and for Modern English loan words in Dutch (Shaw 2022; Shaw & De Smet 2022). However, this article will focus on loan verb accommodation biases in historical contact situations. As suggested by Shaw (2022: 241), the morphosyntactic integration of loan verbs requires further investigation, particularly across different contact situations, as the research by Shaw & De Smet (2022) has only focused on French loans in Middle English and Modern English loans in Modern Dutch. Therefore, the present article deepens our understanding by comparing the accommodation of French and Norse-derived loan verbs into ME. The factors of temporal distance to the period of direct contact and typological relation to ME are the main points of comparison. We compare loan verbs from both French and Norse regarding their morphosyntactic accommodation into the English replica language system by operationalising accommodation biases as a measure of loan verb integration.

3 A comparison of French and Norse-derived loan verbs in Middle English

Considering the nature of the contact situations under comparison, the question is whether the biases previously attested for French verbs in ME still hold in the contact between typologically and lexically closer ON and ME. The contact situations are comparable regarding their intensity, but they differ in other characteristics.⁷ Firstly, Old French and Middle English belong to different language families, namely the Romance and Germanic branches of the Indo-European languages respectively, while Old English and Old Norse are both Germanic languages. The closer genealogical connection between Old Norse and Old English is reflected in a higher structural and lexical closeness, which resulted in adequate mutual intelligibility of the languages in contact for monolingual speakers (cf. Townend 2002), which was not the case for speakers during contact with French.

Secondly, while the contact with Scandinavian in England roughly spans 787–1042 CE and spreads from the northeast to cover the area that becomes known as the *Danelaw* (Pons-Sanz 2013: 6f.; cf. Thomason & Kaufman 1991: 280–2), French contact spreads

⁷ For detailed accounts, see Townend (2002, 2006), Durkin (2014) and Ingham (2012, 2020), among others.

from the south to cover all English territory, starting in 1066 CE, and lasts until *c.* 1500 CE (e.g. Rothwell 1983: 259–60). This difference in topological progression and overall spread of these contact situations reflects potential differences in their intensity and lasting impact on different dialects across England, which will be explored in section 6.2.

Thirdly, while a high level of societal bilingualism is assumed for the contact with Scandinavian (Townend 2002: 60, 189; 2006: 70), contact with French is characterised by higher individual bilingualism (Ingham 2012: 5). Additionally, the Old English–Scandinavian contact arguably involved two adequately mutually intelligible languages in contact (Townend 2002: 183f.). This enabled speakers of either language to employ processes of accommodation in a so-called ‘switching code’ during mutually intelligible communication (Townend 2002: 60, 183ff.). We agree with Weinreich (1953: 56) that lexical borrowing is not restricted to the bilingual individuals of a bilingual society. Thus, borrowing of lexical material and identification of interlingual correspondences between Old Norse and Old English were available to monolingual speakers of English in this situation (Townend 2002: 60, 203). The higher degree of individual bilingualism characterising the contact with French and its implications for the integration of loan words by bilingual individuals has been discussed in Shaw (2022: 53). Following these assumptions, we concur with Wohlgemuth (2009: 30) in the proposition that the contact situations investigated in the present work allow for a comparison of loan verb integration outcomes in his typology, despite the difference of their status of societal versus individual bilingualism.

Lastly, regarding the socioeconomic dynamics between linguistic groups, the contrast in prestige and power between speakers of French and English is arguably more stark than that between speakers of ON and English, although both vary across the respective timespans (cf. Townend 2002, 2006; Ingham 2012, 2020).

As to the identifiability of Norse-derived and French loan words, words from Romance languages are more securely identifiable as loans in English than possible loans from Old Norse. The close genealogical relationship and resulting higher formal and lexical closeness of Old Norse and Old English make secure identification of lexical material as of Scandinavian origin more complex, especially in the large number of cognates between these languages. In this matter we defer to the detailed work of the *Gersum* project (Dance, Pons-Sanz & Schorn 2019) and Dance (2003, 2011, 2018) and adopt their classification of evidence and terminology for lexemes’ etymological origin as being ‘Norse-derived’.

Regarding the timing and nature of the influx of loan lexis from both contact settings, most Norse-derived lexis is first attested in writing only in ME (Hug 1987), at the same time as the French loan lexis entered the English language (peak between 1350 CE and 1420 CE (Dekeyser 1986)). While more recent work on the Norse element in Old English (OE) texts (Pons-Sanz 2007, 2013; Dance 2003) does reveal earlier records of Norse-derived lexis in English, the overall picture of much of Norse-derived lexis being first attested in ME still prevails (cf. Proffitt 2000–; Dance, Pons-Sanz & Schorn 2019). As Durkin (2014: 178ff.) notes, this reflects a gap in the record rather than actual borrowing of Old Norse lexemes after the end of direct contact. As it is not

reconstructable when the majority of the Norse-derived words first attested in ME would have entered spoken OE, this limits the value of the date of first written attestation as an assessment of these words' existence in the English language (Durkin 2014: 189). What is certain, however, is that the temporal distance to the period of direct contact with ME differs greatly for ON and French.

4 Research questions and hypotheses

This study seeks to gauge the impact of the etymology (ON and French) of the loan verb on its finiteness in usage, which can show to what extent the verb is morphosyntactically integrated into ME. Additionally, we take a short-term diachronic perspective towards the data and investigate the possible effects of temporal distance to the period of direct contact. Concerning these two objectives we set out two research questions:

RQ1: Do accommodation biases shown by loan verbs from different model languages differ in strength depending on the typological closeness of the languages in contact?

RQ2: Do accommodation biases decrease over time relative to the temporal distance to the period of direct linguistic contact?

Concerning the first research question, we subscribe to the view that linguistic closeness facilitates borrowing of more complex categories (e.g. Meillet 1921; Moravcsik 1975; Winford 2003: 51ff; cf. Johanson 2002). Accommodation biases are, therefore, hypothesised to be less strong for loan verbs from typologically closer model languages than for those from typologically less closely related model languages throughout ME. More specifically, accommodation biases are expected to be stronger for French verbs than for Norse-derived verbs. For the second research question, we hypothesise that accommodation biases weaken over time, with increased temporal distance to the period of direct contact (cf. De Smet & Shaw 2024: 5). Thus, the number of loan verbs used non-finitely is expected to be higher in earlier ME texts than in later ME texts.

5 Data and methodology

5.1 Data and operationalisation

To address these questions, a corpus study on Norse-derived and French loan verbs entering ME was conducted, comparing them to a baseline of native English verbs. Their overall usage as well as the nature and course of their morphosyntactic integration were compared. In this study, accommodation biases served as a measure for the degree of integration of loan verbs, meaning that stronger accommodation biases imply less complete morphosyntactic integration. We operationalised accommodation biases as the difference in relation of non-finite and finite uses of the verbs between foreign etymology verbs (French and ON) and English verbs.

5.2 Data extraction

Data were extracted from *The Penn–Helsinki Parsed Corpus of Middle English* (PPCME2) (Kroch, Taylor & Santorini 2000–) and *A Parsed Linguistic Atlas of Early Middle English* (PLAEME) (Truswell *et al.* 2018). The PPCME2 corpus is mostly based on the Middle English section of the diachronic part of *The Helsinki Corpus of English Texts* (Rissanen *et al.* 1991). It encompasses 56 text samples, totalling around 1.2 million words. It is subdivided into four time periods: M1 (1150–1250 CE), M2 (1250–1350 CE), M3 (1350–1420 CE) and M4 (1420–1500 CE), following the Helsinki Corpus classification.⁸ The PLAEME corpus includes 68 text samples from the *Linguistic Atlas of Early Middle English* (Laing 2023–) which total roughly 173,000 words.⁹ Both corpora include syntactic annotations (cf. Truswell *et al.* 2019) following the *Penn Parsed Corpora of Historical English*.¹⁰ Together, these parsed diachronic corpora span the time between 1150 CE and 1500 CE and include prose of different genres as well as some poetry. However, there is approximately two-thirds less data for the M2 subperiod in the PPCME2 corpus than for the other subperiods in this corpus (Percillier & Trips 2020: 7172f.). This is why the PLAEME data were used as a supplement to make the data more balanced diachronically (Truswell *et al.* 2019).

This combination also leads to a more balanced representation of dialect areas (cf. Truswell *et al.* 2019: 6), as the PPCME2 contains more texts from the east and west Midlands overall and texts from the M2 subperiod only represent the southeast of England, while the smaller PLAEME corpus contains relatively more northern and southern texts (cf. Percillier & Trips 2020: 7173). As Scandinavian contact spread from the northeast in late OE and French contact spread from the south starting in 1066 CE (see section 3), the contact situations under investigation were most intense in different dialects at different times. Therefore, we controlled for the varying intensity and topological spread of linguistic contact in different regions, operationalised as four broad dialect areas, namely Northern, East Midlands, West Midlands and Southern. Herein, the latter three are operationalised as in the *Penn Parsed Corpora of Historical English* and Southern combines the Southern and Kentish dialect classifications for the PPCME2 data.¹¹ As the dialect text metadata for the PLAEME data is more fine-grained, its broad localisation subcategories South East, South Central, South West and Essex and London were collapsed into one Southern category while the categories North West Midlands and South West Midlands were collapsed into a general West Midlands category to make them congruent with the PPCME2 dialect groups.¹² The

⁸ See www.ling.upenn.edu/ppche/ppche-release-2016/PPCME2-RELEASE-4/

⁹ See www.amc.lel.ed.ac.uk/amc-projects-hub/project/p-laeme-a-parsed-linguistic-atlas-of-early-middle-english/

¹⁰ See the annotation manual for the *Penn Parsed Corpora of Historical English* at www.ling.upenn.edu/ppche/ppche-release-2016/annotation/ for detailed information.

¹¹ For more information on the dialect classification of texts, see www.ling.upenn.edu/ppche/ppche-release-2016/PPCME2-RELEASE-4/

¹² Detailed information on the PLAEME text localisation may be found at https://github.com/rtruswell/PLAEME_current/blob/master/PLAEME_texts.csv

PLAEME dialect groupings for Northern and East Midlands largely correspond to those of the PPCME2. This way, patterns of loan verb accommodation biases for verbs from either contact situation can be compared between high- and low-intensity contact areas for each contact respectively across both corpora. However, these four dialect areas are not represented equally in the combined data overall, with Northern accounting for 9.77 per cent of the combined data, East Midlands for 45.61 per cent, West Midlands for 26.23 per cent and Southern for 18.39 per cent of the data, and neither are they diachronically balanced, as [table 1](#) shows (cf. also Percillier & Trips 2020: 7173, figure 3).

Note that 29.21 per cent of text from the aforementioned corpora is based on French or Latin originals with varying degrees of literality. Following Shaw (2022), we did not exclude texts on the basis of the language of the original text. From a diachronic perspective, the ME corpora represent an ongoing contact situation with French, while contact with ON had subsided by the end of the Old English period (see section 3). This directly reflects the factor of temporal distance to the period of contact, which possibly affects accommodation biases. This makes the ME data a fitting basis for this comparative analysis of loan verb accommodation.

We queried the dataset for all occurrences of lexical verbs in three etymological groups, namely English, French, and Norse-derived using *CorpusSearch* (Randall 2010). To fulfil this aim, we used versions of the PPCME2 and PLAEME enriched with verb lemmatisations from the *BASICS* project (cf. Percillier & Trips 2020).¹³ Etymological origins of verbs for these three groups were operationalised as follows: French verbs were queried following the *BASICS* etymology annotations for French origin verbs. The queried list of Norse-derived verbs was based on the *Gersum* project database (Dance, Pons-Sanz & Schorn 2019) as well as the *Oxford English Dictionary* (Proffitt 2000–) and *Middle English Dictionary* (Lewis *et al.* 1952–2001). We restricted the set of verbs to lemmata with strong phonological and morphological evidence supporting ON influence for which no cognates are attested in OE (*Gersum* category A1–A3, Dance, Pons-Sanz & Schorn 2019, e.g. *casten*), or where they are, they are neither formally nor functionally equivalent (*Gersum* category A1*–A3*, Dance, Pons-Sanz & Schorn 2019, e.g. *raise* vs *rear*). A number of verbs which were not classified in the *Gersum* database were added to the set of Norse-derived verb lemmata under investigation. These verbs were listed in the *Oxford English Dictionary* (Proffitt 2000–), *Middle English Dictionary* (Lewis *et al.* 1952–2001) or other current research on Norse-derived lexis in ME (Pons-Sanz 2007, 2013; Dance 2003, 2012) as being of early Scandinavian origin based on sufficient formal evidence. Of these we only included verbs listing no or contrasting native West Germanic cognates to match the conditions of the set of verbs extracted from the *Gersum* database (e.g. *liten* ‘to dye’). By extension, the set of English verbs serving as a baseline contained all verbs annotated as ‘non-French’ in the *BASICS* annotations, also excluding non-contrasting

¹³ The project *Borrowing of Argument Structure in Contact Situations (BASICS)* (2015–21) investigated how the borrowing of French lexical verbs into medieval English effected grammatical changes in the recipient language. For more information, see <https://tinyurl.com/dfgbasics>

Table 1. *Percentual distribution of text words per dialect area and time period in the combined PPCME2 and PLAEME data (n = 1,365,624)*

	M1	M2	M3	M4	Total
Northern	0.00	6.60	2.76	0.42	9.77
East Midlands	11.02	5.98	17.11	11.49	45.61
West Midlands	9.48	1.64	10.13	4.98	26.23
Southern	0.31	7.81	7.24	3.03	18.39
Total	20.82	22.03	37.23	19.92	100.00

close cognates between English and ON. This way, we reduced the overlap of the etymological verb sets between English and Norse-derived verbs in the extensive domain of cognates between these languages. We eliminated overlap between the etymological sets by excluding all instances ambiguously lemmatised (Percillier 2016: 210; Percillier & Trips 2020) between French and non-French lexemes (e.g. orthographic type *comyn* lemmatised as either *comen* ‘to come’ from OE *cuman* or as *communen* ‘to share, commune’ from OF *com(m)uniier*) and all verbs ambiguously lemmatised between non-contrasting close Old Norse and Old English cognates or other formally close lemmata (e.g. orthographic type *lythe* lemmatised as either *lithen* ‘to sail, travel’ from OE *līpan* or as *lithen* ‘to alleviate’ from OE *līpigan* or as *lithen* ‘to listen’ from ON *hlýða*). This way, we excluded lemmata that are of mixed Old Norse and Old English influence that could easily be integrated by directly mapping them onto the inflectional paradigm of the native cognate by way of identification between lexemes. Such copies would likely not show accommodation biases of the nature investigated in Shaw & De Smet (2022) and would not serve to answer our research questions. Including these in our data would have conflated the effects of accommodation processes at work in mutually intelligible communication between high cognate languages and the long-term structural accommodation of loan verbs without identifiable cognates in a language contact situation (see section 3). Our query also excluded *be* and *have*, modal verbs and gerunds, the former for their status as auxiliary verbs and the latter for their status as nominalisations. Fixed expressions like *according to* (ME: *accorden* < OF) and *that is to say* (ME: *seien*) were manually excluded as they are no longer actively generated structures, but lexicalised, and thus do not require active inflection in usage (Shaw 2022: 78).

5.3 Data analysis

We automatically annotated all retrieved instances of verbs concerning their verb form, lemma, etymological origin and finiteness of the morphosyntactic realisation, drawing on the extracted corpus data and annotations. This resulted in a total of 124,308 attestations. For our operationalised diagnostic of finiteness, we distinguished between non-finite (infinitive, present participle, past participle, passive participle) and finite

(inflected present, past, imperative). Additionally, we extracted text metadata concerning dialect (i.e. Southern, Northern, East Midlands, West Midlands; see above for categorisation) and Helsinki time period (i.e. M1, M2, M3, M4; see above for categorisation). For these annotations we followed the PPCME2 classifications (Kroch, Taylor & Santorini 2000–) to retain comparability across the two corpora.

On this dataset we ran basic quantitative analyses, relating the variables of etymology and finiteness of morphosyntactic realisation generally and across the variable values of time period and dialect area. Chi-square test was used to obtain p-values for the differences in proportion of finite and non-finite forms of each of the two foreign etymology sets, comparing them to the English baseline. Yates' correction was used as a measure to prevent overestimation of statistical significance of the data.¹⁴ For subset analyses like lemma and frequency effects (see section 7.1.1), Fisher's exact test was applied, as this type of test is typically used for smaller sample sizes than Chi-square test (Levshina 2015: 214). The imbalanced nature of the data across the four variables did not allow for valid application of regression analysis. Therefore, we only conducted pairwise comparisons in this study to test the probability of differences being significant.

6 Findings

The total number of analysed attestations for all three etymological sets is represented in table 2. The absolute number of instances in the data is by far the highest for native English verbs (103,778), followed by French loan verbs (18,676) and only a comparably small amount of Norse-derived loan verbs (1,854).

The distribution of finite and non-finite forms for all three etymologies will be visualised in figure 1, after discussing three exploratory examples, depicting finite and non-finite forms in verbs of Norse, French and English origin.

For Norse-derived verbs (5) and French loans (6), we find both non-finite (a) and finite (b) usages throughout the ME dataset, just like we do for native English verbs (7). In example (5a), for instance, the Norse-derived verb *casten* ('to cast') is used in a non-finite form, namely as an infinitive, in this case *cast* ('cast'). Example (6a), too, illustrates the use of a non-finite form, but this time of a French loan verb, namely *receiven* ('to receive'). It is used in its past participle form, *receyved* ('received'). An example of an English form used non-finitely is *fyten* ('to fight') in (7), which is the infinitival form, hence *fyten* ('fight'). The examples thus show that both Norse-derived verbs and French loan verbs can be used non-finitely, just like English verbs. However, loan verbs of both origins can also be used finitely. In (5b), *eggen* ('to egg, incite') is used in the third-person singular of the past form, namely *eggede* ('egged'), and in (6b), *tormenten* ('to torture') is used in the third-person plural of the past form, namely

¹⁴ It should be noted that the need for such a measure is disputed in the literature (e.g. Adler 1951).

Table 2. *Absolute numbers of verb instances in the PPCME2 and PLAEME data across three etymological subsets and finiteness of morphological form (n = 124,308)*

	Non-finite	Finite	Total
Norse	858	996	1,854
French	9,171	9,505	18,676
English	40,603	63,175	103,778
Total	50,632	73,676	124,308

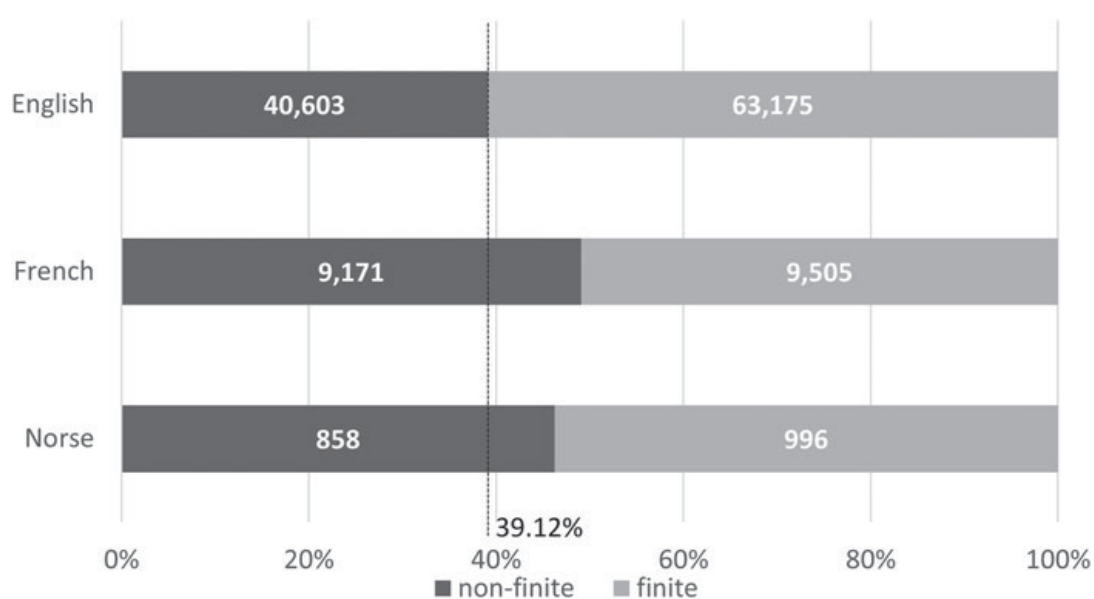


Figure 1. General distribution of verbs of Norse-derived ($p < 0.0001$, Chi-square test) and French origin ($p < 0.0001$, Chi-square test) compared to the baseline of English verbs in finite and non-finite forms in combined PPCME2 and PLAEME data ($n = 124,308$)

tormented ('tortured'). An example of native English verbs is given in (7), where *maken* ('to make') is used finitely as *makest* ('make'), in the second-singular person of the present, and *fighten* ('to fight') is used non-finitely as *fyten* in a *to*-infinitive.

- (5) (a) and þou shal-t **cast** [ON: kasta] hem in-to dampnacioun
 and thou shall.PRS-2SG cast.INF them into damnation
 'And you shall cast them into damnation.' (*The Earliest Complete English Prose Psalter*, CMEARLPS,170.7481)
- (b) He **egge-de** [ON: eggja] him þat he scholde sone. þe giwes ore louerd take.
 he egg-PST.3SG him that he should soon the Jews our Lord take
 'He egged him on to take our Lord to the Jews soon.' (*Life of Christ*, LAUD108ALIFE.969)

- (6) (a) Another defaute is this: that men doon
 another sin is this that men do
 deedly synne after that they hand **receyv-ed** [OF: recevoir] baptesme.
 deadly sins after that they have.AUX.PRS.3PL receive-PST.PTCP baptism
 ‘Another sin is this one: that men do deadly sins after they have received baptism.’
 (*The Parson’s Tale*, CMCTPARS,289.C1.29)
- (b) Hi **tormente-de** [OF: tormenter] him strong and harde.
 they torture-PST.3PL him strong and hard
 ‘They tortured him strongly and hard.’ (*South English Legendary*, CORP145SELT.1131)
- (7) þu **make-st** hym boþe fat & stronge to **fytt-en** þe ageyn
 you make-PRS.2SG him both fat and strong to fight-INF you against
 ‘You make him both fat and strong to fight against you.’ (*Sayings of St Bernard*, ADDE6AT.63)

The above examples show that verbs of Norse, French and English descent can be used seemingly easily in both finite and non-finite forms. However, the proportion of non-finite versus finite usage differs for the three etymological sets. Figure 1, in which the vertical dashed line (39.12 per cent) corresponds with the baseline of non-finite usage of English verbs, shows that both French-origin (48.87 per cent) and Norse-derived (46.28 per cent) verbs have significantly higher proportions of non-finite usage when compared to the usage of native English verbs (French $p < 0.0001$; ON $p < 0.0001$). Those proportions are based on the absolute frequencies, shown in white in figure 1. Note, however, that the datasets for verbs of each etymology differ vastly in absolute number of verb tokens, which has to be taken into account when looking at the findings.

Thus, the analysis shows that significant accommodation biases exist for verbs of both foreign etymologies. Whereas Shaw & De Smet (2022) had already revealed this finding for verbs of French origin¹⁵ from a synchronic perspective on a smaller basis of ME data, it is the first time that the existence of accommodation bias towards non-finiteness is verified for Norse-derived verbs.

In examples (8)–(9), French-origin *disheriten* (‘to disinherit’), *chalengen* (‘to challenge’) and *conqueren* (‘to conquer’) as well as Norse-derived *reisen* (‘to raise’) are used as *to*-infinitives, hence non-finitely. This is the type of construction in which they are, based on the finding above, statistically more likely to occur. English-origin verbs, in contrast, are more common in finite forms, such as *kom* (‘came’) in the third-person singular of the past, as was illustrated in example (4) (see section 2).

¹⁵ The findings in Shaw & De Smet (2022) drew on two sources of data: (i) a full-text analysis of the PPCME2 versions (Kroch, Taylor & Santorini 2000–) of *The Parson’s Tale* and *Mandeville’s Travels*, with a total of 3,881 verb tokens, and (ii) the third subperiod of the Middle English section of the *Helsinki Corpus of English Texts* (Rissanen *et al.* 1991), with a total of 4,894 verb tokens.

- (8) þei are more besy for-to **disherite** [OF: desheriter] here neyghbores more þan
 they are more busy to disinherit.INF their neighbours more than
 for-to **challenge** [OF: chalengier] or to **conquere** [OF: conquer-re] here right heritage
 to challenge.INF or to conquer.INF their rightful heritage
 ‘They are more devoted to dispossess their neighbours than to challenge or to conquer their
 rightful heritage.’ (*Mandeville’s Travels*, CMMANDEV,3.29)
- (9) And he rod onto þe west partyes to **reyse** [ON: reisa] puple ageyn þe qween
 and he rode to the western parts to raise.INF people against the Queen
 ‘And he rode to the western parts to raise people against the Queen.’ (*Capgrave’s Chronicle*,
 CMCAPCHR,152.3563)

These examples illustrate the trends found in [figure 1](#). Apart from the finding that French-origin and Norse-derived verbs are biased towards non-finite constructions as compared to English-origin verbs, the analysis also reveals differences between verbs of French and Norse descent: the non-finite bias is significantly stronger for French loan verbs than for Norse-derived verbs ($p=0.0215$, Chi-square test). This may confirm our hypotheses (see [section 4](#)) that the non-finite bias is stronger (i) when the two languages are typologically less close and (ii) when the temporal distance to the period of direct contact is smaller in a synchronic comparison. However, at this point we cannot yet confirm the two hypotheses separately as we have not yet distinguished between them.

6.1 *Disentangling typological and temporal distance effects*

To disentangle the effects of typological distance and temporal distance to the time of direct contact, we take a diachronic perspective on the ME data. [Figure 2](#) shows the proportion of non-finite usage for verbs of all three etymologies split up by Helsinki subperiods, from M1 to M4.

Each subperiod of ME shows different trends concerning the proportions of non-finite versus finite usage in the three etymological sets. Diachronically, the non-finite bias for Norse-derived verbs steadily decreases throughout ME. In M1 Norse-derived verbs show a significant non-finite bias ($p=0.0003$, Chi-square test) but this is no longer significant ($p=0.6330$, Chi-square test) by the M4 period. This points to Norse-derived verbs not yet being well integrated at the end of the direct contact situation between Old Norse and English. Biases for French verbs, however, persist throughout ME and do not show a clear trend of decrease when the temporal distance to the start of the period of direct contact increases. This finding of persistent biases for French verbs even at the end of the direct linguistic contact situation is parallel with the significant bias attested for Norse-derived verbs in M1. What is more, the non-finite bias for French loans initially increases throughout earlier ME (e.g. from M1 to M2). This may coincide with an increase in texts translated from French and the peak of newly attested French loans, which are reflected in the data.

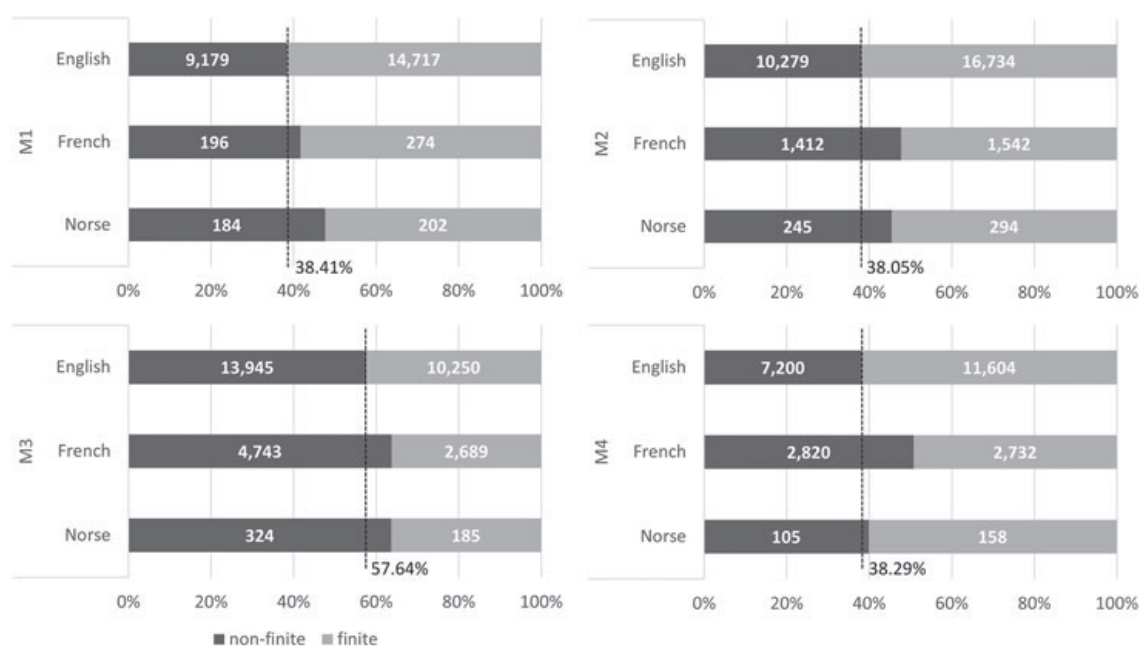


Figure 2. Diachronic distribution of verbs of Norse-derived and French origin compared to the baseline of English verbs in finite and non-finite forms in combined data from PPCME2 and PLAEME ($n = 124,308$)

6.2 Dialect areas

The starting locations and speeds of dispersion of the respective linguistic contact settings differ among the dialectal areas. This means that the areas were affected differently by language contact. For example, whereas French found its way into medieval England through the southern dialects (cf. Rothwell 1983: 259–60), the Old Norse language entered the country through the northern dialects (cf. Pons-Sanz 2013: 6f.). Dialectal distribution of non-finite biases for the French and Norse-derived etymological sets may reveal more about the diachronic development of accommodation biases, as dialect areas relate to areas of longest and most intense contact. From this, we hypothesise that biases would be least strong in areas where contact originated or was most pervasive. A comparison of biases across different dialects (figure 3) will reveal any diatopic trends.

In figure 3, the dashed black line and the associated percentage given at its lower end show the baseline of non-finite usage of native English verbs for the data from each dialect area. Like in the analyses above, this is the comparandum to which the proportion of non-finite usage of loan verbs is compared for each dialect.

As figure 3 shows, our hypothesis holds for French loans to some degree, as the non-finite bias is least strong in Southern texts (at 43.73 per cent non-finite usage compared to 37.04 per cent for English verbs), where French initially entered English (see section 3). However, next lowest are the biases in Northern texts (56.45 per cent compared to 47.07 per cent for English verbs) and East Midlands texts (50.40 per cent compared to 40.19 per cent for English verbs), while West Midlands texts show the

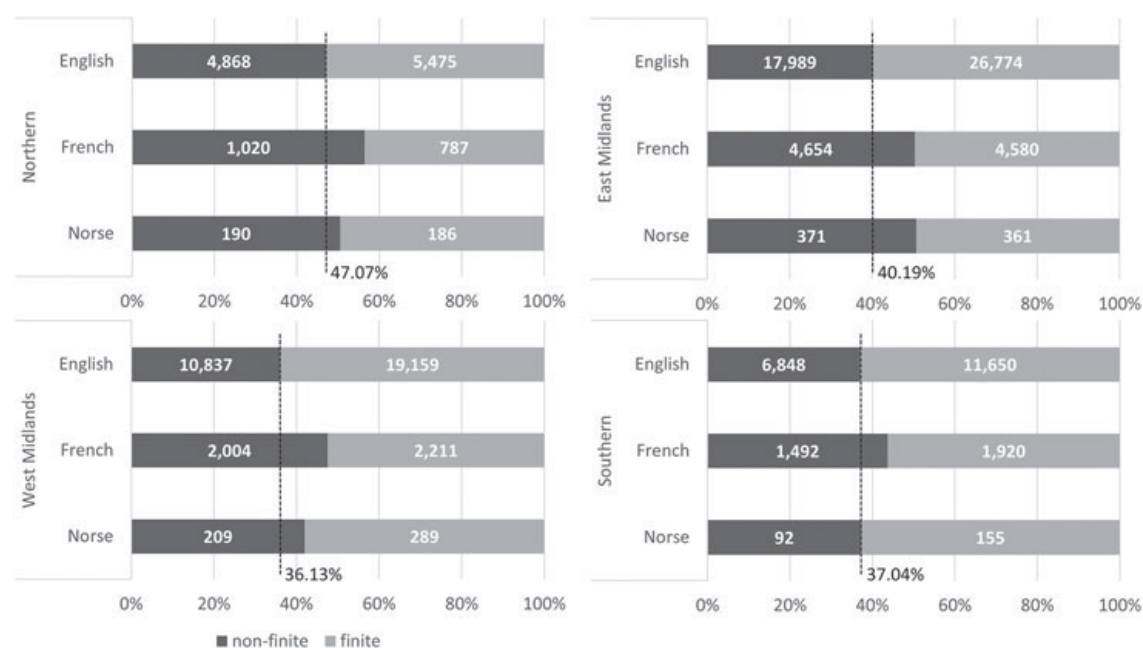


Figure 3. Finiteness distribution per dialect area for verbs of Norse-derived and French origin compared to the baseline of English verbs in combined data from PPCME2 and PLAEME (n = 124,308)

strongest non-finite bias for French loans (47.54 per cent non-finite usage) as compared to English verbs (36.13 per cent). For Norse-derived verbs, a similar trend presents itself in the data, albeit with contrasting implications. Biases are weakest in Southern texts (at 37.25 per cent non-finite usage compared to 37.04 per cent for English verbs), followed in strength by biases in Northern texts (at 50.53 per cent non-finite usage compared to 47.07 per cent for English verbs) and West Midland texts (at 41.97 per cent non-finite usage compared to 36.13 per cent for English verbs), with East Midland texts showing the strongest non-finite bias for Norse-derived verbs with 50.68 per cent non-finite usage (compared to 40.19 per cent for English verbs), as [figure 3](#) shows.

East Midlands dialect texts make up the largest share of data overall in the corpora used (see section 3.2, [table 1](#)) and originate from the Danelaw area, where Scandinavian influence was most intense and long-lived. Therefore, this finding is somewhat unexpected, as integration of loan verbs is hypothesised to be more advanced in high-contact areas. However, more than half of texts from the M1 subperiod, during which we would expect the highest biases for Norse verbs diachronically, are from the East Midlands dialect (52.94 per cent of M1 texts). Therefore, we might expect this higher relative bias. Moreover, the Northern and Southern dialect texts mostly stem from later Middle English (M3 and M4; see section 3.2, [table 1](#)) and there are no Northern texts from the M1 subperiod at all. Hence, the low accommodation biases for Norse-derived verbs in the Northern and Southern dialects may be a reflection of the diachronic distribution of texts rather than dialect alone.

7 Discussion and conclusion

7.1 Discussion

The above findings reveal significant accommodation biases for verbs entering into ME from both French and ON, but there exists a significant difference between the biases for French and Norse-derived verbs, as the biases are significantly weaker for ON than for French (see [figure 1](#), $p = 0.0215$, Chi-square test). The strength of accommodation biases may, therefore, be directly affected by the typological closeness of replica and model language. However, as discussed above, this effect cannot be easily disentangled from the difference in temporal distance to the direct contact situation. Whereas French is at a peak point in its contact with English during the ME period, direct contact between ON and English subsides by the end of the OE period. In order to corroborate the effect of linguistic closeness of the languages in contact on the strength of accommodation biases at the smallest possible temporal distance to contact, accounting for the strength of the biases of those Norse-derived loan verbs attested earlier in OE data is a desideratum. Given the limitations of the extant OE data in accounting for the influx of Norse-derived lexis (see [section 3](#)), this merits an even stricter operationalisation of the etymological verb sets and dialectal distribution of attestations for future investigations.

As for the diachronic development of the biases, the data have shown that accommodation biases for French loan verbs are rather persistent throughout ME. For Norse-derived verbs, accommodation biases are persistent at first as well, but then decrease over time. This could be attributed to direct contact with Scandinavian already having ended by the early ME period, whereas contact with French had not. The comparison would benefit from including later diachronic data for French (e.g. Early Modern English) to assess whether biases for French weaken diachronically at a similar rate to those for Norse-derived verbs. The small number of existing data for Norse-derived non-cognate verbs which are already attested in OE should also be investigated to account for a decreased temporal distance for the Old English-Scandinavian contact situation to further enable comparison with French loan verbs in early ME.

Accommodation biases are also found to be regionally dependent, since biases for French loan verbs are stronger in areas with less intense contact than in areas with more intense contact (i.e. Southern). The data for Norse-derived verbs do not represent a clear picture across dialect areas, but the dialect representation of ME time periods is rather unequal (see [sections 3](#) and [6.2](#)). The low number of biases for Norse-derived verbs in texts from the East Midlands may be explained by 62.71 per cent of this text data being from later ME (M3 and M4). While the data contain no Northern texts for the M1 period, 67.51 per cent of the Northern data are from M2, representing earlier ME. This brings circumstantial evidence to our hypothesis that biases will be lower in high contact areas, even at a shorter temporal distance. The lack of early Northern texts may explain the low biases reported for either etymology in texts from this dialect area, as foreign lexis had become accommodated before occurring in the data. The weaker

biases of Norse-derived verbs in Southern texts may be due to only 1.71 per cent of Southern data being from the M1 period. Again, this allows for the possibility of verb accommodation being well under way before attestation in the data, even in this area of later and less intense contact with ON.

Additionally, the data reveal that the proportion of non-finite usage in native English verbs changes throughout the ME period (see [figure 2](#)): non-finite forms are overall more common in late ME, such as *make* ('to make') and *lawh* ('to laugh') in (10), than in early ME, which relied more on finite forms, such as *libbeþ* ('lives'), *healdeþ* ('holds'), *iualeþ* ('befalls'), *leueþ* ('lives') and *sterfeþ* ('dies') in (11).

- (10) This son was so sobir of chere þat þere mit-e no myrth
 this son was so sober of cheer that there might.PST.SBJV-SG no mirth
make him lawh
 make.INF him laugh.INF
 'This son was so calm in demeanour that no amusement could make him laugh.'
 (*Capgrave's Chronicle*, CMCAPCHR,57.753)

- (11) Þo þet libb-eþ be fisike: hy heald-eþ þe
 those that live-PRS.3PL by physic they hold-PRS.3PL the
 mesure of ypocras þet is lite an strait.
 measure of Hippocrates that is light and straight
 and hit iual-þ ofte. þet þe ilke / þet be fisike leu-eþ: be
 and it befall-PRS.3PL often that he who by physic live-PRS.3PL by
 fizike sterf-þ
 physic die-PRS.3PL
 'Those that live by physic observe the measure of Hippocrates, which is little and narrow; and
 it often befalls that he that by physic lives by physic dies.'
 (*Ayenbite of Inwyte*, CMAYENBI,54.969–70)

The usage of periphrastic verbal structures such as *do*-support and modal verbs (see also *mite* in example (10)) increases drastically as of late ME (Görlach 2003: 97; Green 2017). Such structures typically rely on non-finite forms, as can be seen from example (12), where *blame* is supported by *do*, namely in *doth blame*.

- (12) Do he what-somever he wyll, no man do-th blame [OF: bla(s)mer] hym.
 does he whatsoever he will no man do.PRS-3SG blame.INF him
 'He does whatever he wants to, no man blames him.'
 (*In Die Innocencium*, CMINNOCE,5.64)

Since these innovative structures heavily relied on non-finite structures, it is not unexpected that non-finite forms become increasingly common (see discussion in Shaw 2022: 160).

7.1.1 Lemma and frequency effects

Note that the general findings on accommodation biases in French and Norse-derived verbs should be interpreted in the light of some lemma and frequency effects. An individual lemma effect was identified in the Norse-derived verb set ($n = 55$ lemmata), and more specifically in the high-frequency lemmata. With a proportion of 43.30 per cent non-finite usages, the 5 most frequent lexemes in the dataset diverge considerably from the non-finiteness proportions for the Norse-derived verb set as a whole (46.28 per cent, see [figure 1](#)). These lexemes are *casten* (376 attestations), *for yeten* (174 attestations), *geten* (446 attestations), *geren* (108 attestations) and *for leten* (180 attestations).¹⁶ Exactly because of their high frequency, these lemmata skew the findings for this variable, since they make up 69.27 per cent of all Norse-derived tokens in the data, and they show a significantly ($p = 0.0001$, Fisher's exact test) lower proportion of non-finite usage (43.30 per cent) than the other tokens (incl. low-frequency tokens) of Norse-derived verbs do at 52.98 per cent. The low rate of non-finite usage for the five high-frequency lemmata brings down the general proportion of non-finites in the Norse-derived verb set as well. Despite this significant lemma effect, the proportions of non-finite forms for the five most frequent Norse-derived lemmata is still significantly higher than the proportions of non-finite forms for the English baseline ($p < 0.0025$, Chi-square with Yates' correction). From this one may infer that increased usage frequency of Norse-derived verbs seems to aid the weakening of accommodation biases but does not cancel them out altogether.

Another effect in the data is the tendency of low-frequency lemmata to be used non-finitely. This finding corroborates the interaction effect found in Shaw & De Smet (2022: 11), where lemma frequency and French origin interact, meaning that the non-finite bias in French loan verbs is even stronger in low-frequency items than in high-frequency items. As suggested by De Smet & Shaw (2024: 7–8), low-frequency items are subject to stronger biases than high-frequency items since language users try to decrease the processing cost of low-frequency items.

The non-finite bias for French occurred regardless of lemma frequency (i.e. even in high-frequency items), but showed significant increase in low-frequency lemmata. This is in contrast to the non-finite bias for Norse-derived verbs, which was not significantly stronger in low-frequency items. Only when compared to high-frequency Norse-derived lemmata, which show significantly lower bias than the overall verb set, is the same trend corroborated. In summary, high-frequency French loans still show a significant bias towards non-finite forms (Shaw 2022), as do high-frequency Norse-derived loans when compared to the English baseline, albeit to a lesser extent ($p = 0.0025$, Chi-square test). This may suggest that high-frequency Norse-derived verbs are still somewhat easier to integrate into ME than high-frequency French loan verbs, and as a low-frequency verb is harder to integrate than a high-frequency verb, it is more likely to be biased towards a

¹⁶ The next most frequent lemma, *reisen*, had 58 attestations.

non-finite form. An example of a low-frequency Norse-derived verb used non-finitely is given in (13), where the Norse-derived verb *skerrenn* ('to scare') occurs in the bare infinitive.

- (13) *ziff he seop þe mann forrdredd, He wil-e himm*
 if he sees the man frightened he will.PRS.SBJV-3SG him
skerr-enn [ON: *skirra*] mare [...]
 scare-INF more [...]
 'If he [the devil] sees a man frightened, he will scare him more [...].'
 (*Ormulum*, CMORM,I,132.1120)

7.1.2 Limitations

This case study is unavoidably subject to a number of limitations. First, we have not carried out regression analyses, which were conducted in Shaw & De Smet (2022), because the imbalanced nature of the data across dialects and periods in time discourages the usage of regression analysis as a statistical technique. Second, the dataset includes a number of translated texts from French and Latin originals with varying degrees of literality, and we have not controlled for the possibility of interference effects. However, since the dataset also includes non-translated texts, possible effects may already have been balanced out.

7.2 Conclusion

This study has investigated the effects of typological closeness of languages in contact as well as the temporal distance to the period of contact on constraints in loan word accommodation. Through a quantitative corpus study, the presence and strength of loan word accommodation biases in French and Norse-derived loan verbs in ME were systematically compared.

As hypothesised, typological closeness of languages in contact is inversely proportional to the strength of the accommodation biases in ME. This may strengthen the argument that linguistic closeness facilitates the borrowing of more complex categories (e.g. Meillet 1921; Moravcsik 1975; Winford 2003: 51ff; cf. Johanson 2002). Additionally, this study has confirmed the finding by De Smet & Shaw (2024: 5) that accommodation biases can weaken over time, namely in Norse-derived verbs for which the temporal distance to direct contact is longer than for the French verbs.

At a general level, this study has contributed to filling the research gap on constraints on loan word accommodation and on the morphosyntactic integration of loan words. For Norse-derived verbs in English specifically, this study has provided insight into loan word accommodation, which adds to general research on loan verbs (e.g. Wohlgemuth 2009). As with French verbs (cf. Shaw & De Smet 2022), the integration of Norse-derived verbs into ME is constrained by some factors, such as typological closeness, time distance to the period of contact, and the contact area under investigation. Investigating Norse-derived verbs has also shed light on the nature of

loan word accommodation biases across different contact situations where English is the replica language.

Additional research is needed to properly distinguish between the effects of temporal distance and typological closeness. Furthermore, the findings on typological closeness would benefit from further research into different model and replica language pairings. The question remains as to whether typological closeness facilitates the ease and speed of the morphosyntactic integration of loan verbs independently of time.

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8 Discussion

The collection of works presented here covers a range of factors relevant to the argument structural integration of loan verbs between closely related languages as well as methodological approaches to the subject matter, as Table 1 below lays out. As a collection, the Contributions A–E handle the subject-related aspects of varying cognacy relationships between Norse-derived and native verbs as operationalised in Section 6.1 (Table 1, row 2), and the constructions and alternation behaviour shown by Norse-derived verbs and their verb classes (Table 1, row 3) at the three levels of investigation as motivated in Section 4, i.e., the lexical item, verb class and constructions and alternations (Table 1, row 1).

As row 1 of Table 1 shows, Contributions A–C expand on the plane of abstraction from lexical item to verb classes to constructions and alternations as motivated in Section 4. Contribution E expands the perspective on loan verb integration from argument structural to morphosyntactic accommodation generalising over lemmas, classes and constructions and Contribution D combines these approaches.

As apparent in row 2 of Table 1, the contributions in the present collection capture how the variable of cognacy relations between copied verbs and native English lexemes impacts verb copying between mutually intelligible languages. While Contributions A–C focus on the nature and identifiability of cognacy relations between Old Norse etyma and native English lexemes for individual Norse-derived items varying in this factor, Contribution D covers lexical items from all three categories of cognacy relations in a single case study. Thus, it complements the item-oriented and class-oriented studies of Contributions A–C. Like Contributions A–C, Contribution D operationalises the independent variable of cognacy relations between copied verbs and native English lexemes in three categories as laid out in Section 6.1 above. This way, the comparative mixed-methods analysis of argument structure assignment and morphosyntactic accommodation biases in Contribution D captures the same categories of cognacy relations as the qualitative analyses of argument structure in A–C. Section 8.2.1 below discusses the synthesised results regarding the factor of cognacy. Contribution E expands on the importance of the factors of linguistic closeness, cognacy and bilingualism in the integrational outcomes of loan verbs in Middle English, which are the detailed focus of Contributions A–D, by more generally juxtaposing the differences in typological and lexical closeness of the Anglo-Scandinavian and the Anglo-French contact situation. Contribution E identifies overall genealogical and typological closeness of the source

language as a significant factor in morphosyntactic integration of loan verbs. Section 8.2 discusses how the factors of cognacy, linguistic closeness of languages and bilingualism interact in verb copying in the Anglo-Scandinavian contact situation.

As row 3 of Table 1 reflects, the contributions presented in Section 7 cover a range of verb classes, constructions and alternations. First, Contributions A–D investigate a number of event types like caused motion events (Contribution A), caused result state predication events (Contribution B), and various kinds of (caused) change of state events (Contributions C & D). Second, the contributions cover verb classes like *dub* verbs lexicalising name predication events in Contribution B and 'prepare' verbs lexicalising resultative change of state events in Contribution C. Third, Contribution A on ME *reisen* and Contribution D's case study on ME *brennen*, and Contribution C investigate the structural integration of Norse-derived verbs from a perspective of structural alternations, namely the Causative Alternation and Benefactive Alternation respectively.

Table 1: Methodological and subject matter features of the Contributions A–E (†: double entries separated by an | in column D reflect the fact that the qualitative and quantitative analyses in Contribution D vary in these respective features. First mentioned are the features of qualitative analyses).

Contribution / Feature	A	B	C	D	E
1. Orientation of study	item-oriented	item-oriented & class-oriented	item-oriented, class-oriented & construction-oriented	item-oriented & cross-etymological & across cognacy relations [†]	cross-etymological
2. Investigated Norse-derived lemma(s), <i>Gersum</i> category	<i>reisen</i> , A1*c	<i>nevenen</i> , C1a; <i>callen</i> , A1*c	<i>busken</i> , A2*c (& <i>böunen</i> , C3c; <i>greithen</i> , A1*c; <i>atlen(-ien)</i> , A1*c; <i>gēren</i> , A1*c)	<i>skerren</i> , A1c; <i>geinen</i> , A1*; <i>brennen</i> , C2c & generalising over all A, A* & B verbs [†]	generalising over all A, A* & B verbs
3. Verb classes; constructions & alternations	(caused) motion, (caused) change of state; Causative Alternation	<i>dub</i> verbs; naming relations	(caused) change of state; reflexives, Benefactive Alternation, Causative Alternation	<i>amuse</i> -type psych verb, (caused) change of state; Causative Alternation N/A [†]	N/A
4. Data	representative corpora of ME	representative corpora of OE, ME and ON	representative corpora of OE, ME and ON	full text <i>Ormulum</i>	representative corpora of ME
5. Approach	qualitative; intra-linguistic	qualitative; diachronic; cross-linguistic	qualitative; diachronic; cross-linguistic	mixed-methods; intra-linguistic	quantitative; pseudo- diachronic across contacts
6. Perspective on loan verb integration	argument structure	argument structure	argument structure	argument structure & morphosyntactic accommodation [†]	morphosyntactic accommodation
7. Focus	impact of (non-)identifiable cognacy relations on argument structure assignment	impact of varyingly (non-)identifiable cognacy relations on argument structure assignment in the same verb class	impact of non-identifiable cognacy relation on argument structure assignment; cumulative impact of Norse-derived lexis on verb class	impact of various types of cognacy relation on argument structure assignment and morphosyntactic accommodation	effect of lexical & typological distance between languages on morphosyntactic accommodation of verbal copies

As reflected in rows 4–6 of Table 1, the present collection covers a variety of data sources and methods, and also takes multiple perspectives on the subject matter of loan verb integration (cf. Figure 3, Section 7). As regards the choice of data source for the investigation, the quantitatively representative nature of the combined corpora of Middle English on which the analyses in Contributions A–C and E are based (Table 1, row 4) enables new conclusions about the argument structural integration of Norse-derived verbs in ME across time, dialects, contact-intensity regions, genres and text types. Complementing these representative corpus data analyses of Contributions A–C, Contribution D follows the research tradition of investigating the impact of Anglo-Scandinavian contact through full-text analysis of relevant text sources.⁵¹ It is the first analysis specifically investigating the structural integration of Norse-derived verbs in the *Ormulum*.⁵² The *Ormulum* is the only extant text of its dialect and time. As such it is an invaluable source for linguists investigating the key features of English in the 12th century and ongoing linguistic changes during that time. Moreover, it represents an essential record of the Scandinavian element surviving in East Midland's English shortly after the end of the Old English period (cf. Pons-Sanz, 2024, p. 3ff.; Pons-Sanz, et al., in press). Concerning the data, Contribution E scales the investigation back up to the representative data basis utilised in Contributions A–C (Table 1, row 4) while shifting the methodological approach.

While Contributions A–D qualitatively (Table 1, row 5) investigate the argument structural integration of Norse-derived loan verbs following current approaches to the code-copying of verbs and their argument structure (Table 1, row 6) as introduced in Section 3.3, Contributions D and E quantitatively (Table 1, row 5) investigate the morphosyntactic integration of Norse-derived loan verbs (Table 1, row 6). Thus, they broaden the

⁵¹ As reviewed in Section 5.4.1 above, previous research on the Norse-derived lexis of ME mainly focusses on its overall extent (Björkman, 1900–02; Brate, 1885; Dance, Pons-Sanz & Schorn, 2019; Egge, 1887; Hug, 1987; Peters, 1981; Serjeantson, 1936, ch. 4; *inter alia*), individual words or lexical fields (Dance, 2000, 2011; Pons-Sanz, 2015b, 2017; Rynell, 1948) or on in-depth analyses of the lexical material in contact-relevant single texts or manuscript collections representative of specific dialect areas or text genres (Dance, 1999, 2003, 2011, 2019; Pons-Sanz, 2007, 2010, 2013, 2015b, 2021, 2024; *inter alia*). Such full-text analyses of relevant sources are highly valuable to understanding how speakers of high-contact varieties, like OE Northumbrian and Mercian, and ME Northern and East-Midlands dialects, integrated Norse-derived lexis into the linguistic system formally and semantically, for which functions it was used and in which usage contexts.

⁵² Overall, Contribution D complements prior works on this text. The morphosyntactic idiosyncrasies and historically ongoing syntactic changes evidenced in the *Ormulum* have been previously investigated (Palmatier, 1969; Denison, 1981; Trips, 2002, 2003; van Kemenade & Truswell, in press; *inter alia*) and the foreign lexical element of this text has been investigated since the 19th century (Björkman, 1900–02; Brate, 1885; Egge, 1887; Johannesson, 1995; Rynell, 1948; Pons-Sanz, 2015b, 2024, in press; Skaffari, 2009; *inter alia*).

perspective of this research programme from the argument structural combinational properties of verbs to include their more immediate and word-internal morphosyntactic combinational properties in the basic code (Table 1, row 6). Contributions D–E take accommodation bias towards non-finiteness as the measure for morphosyntactic integration of copied verbs. In this, Contributions D and E follow the morphosyntactic approach to loan verb integration by Shaw (2022; see also De Smet, 2014; De Smet & Shaw, 2024; Shaw & De Smet, 2022). The weakening of accommodation biases over time revealed in the results of Contribution E indicate the progressing morphosyntactic integration of Norse-derived verbs in ME while the comparatively weak bias shown by Norse-derived verbs in the early ME *Ormulum* text (Contribution D) indicate successful integration of these copied verbs in highly Scandinavianised varieties of the basic code, like the native vernacular of Orm. In contrast to Contributions A–C, Contributions D and E generalise over the factors of lemmas, classes, and constructions and alternations (see Table 1, rows 2, 3 & 6 of columns D & E) to capture these morphosyntactic integration effects.

Contribution D combines the methodological approach of Contributions A–C and that of the collaborative Contribution E in an in-depth mixed-methods analysis (Table 1, rows 5 & 6). Its approach to the *Ormulum* is innovative and achieves a well-rounded perspective on the morphosyntactic and argument structural integration of Norse-derived verb lexis in this text. Finally, the collaborative Contribution E methodologically (Table 1, row 5) and conceptually (Table 1, row 6) complements the qualitative analyses of Contribution A–D by a purely quantitative corpus-based analysis of the morphosyntactic integration of newly copied verbs in ME.

By the combination of factor values of study-orientation (Table 1, row 1), cognacy relation (Table 1, row 2), verb classes, constructions, and alternations (Table 1, row 3), data source (Table 1, row 4), methodological approach (Table 1, row 5) and perspective on structural integration of loan verbs (Table 1, row 6) that are pursued in each of the contributions, Contributions A–E systematically vary in their subject-related focus (Table 1, row 7). Contribution A starts out by investigating the nature and identifiability of cognacy relations between cognate etyma and native verbs and how it impacts copying and argument structure assignment in the basic code. Contribution B expands on this by contrasting two verb copies entering the same verb class but varying in the identifiability of existing cognacy relations. Contribution C replicates this approach on a highly idiosyncratic lexical verb copy from another verb class and investigates the possible cumulative impact of Norse-derived lexis on this class. Contribution D covers all three

categories of (non-)identifiable cognacy relations explored in A–C and assesses their varying impact on the argument structural integration and morphosyntactic accommodation of Norse-derived verbs. Finally, Contribution E assesses the effect of lexical and typological distance between languages in contact on the morphosyntactic accommodation of loan verbs. This way, the Contributions A–E cover the width and depth of the conceptual space of the research programme as Figure 3 (Section 7) illustrates.

Overall, the combined approach taken in the present research programme is comparative in multiple ways: First, diachronically across the transition from OE to ME; second, across the linguistic divide between the languages in contact and third, across different types of cognacy relations between model and basic code units. By this multiple comparison it reveals the varying role of cognates and classes of near-synonyms for the structural integration of verb copies in the basic code (cf. RQ 1). It further allows us to compare the argument structure construction and possible alternations shown by these verb classes before and after the integration of Norse-derived copies (cf. RQ 2).

Collectively, the contributions presented in Section 7 bridge two methodological divides in Anglo-Scandinavian contact research (cf. Table 1 above, rows 5 & 6): First, the opposition between representative corpus studies (Contributions A–C & E) and single full-text study (Contribution D) and, second, the methodological distance between quantitative analyses (Contributions D & E) and qualitative analyses (Contributions A–D) of loan lexis' structural integration.

Regarding the research questions set out at the beginning of Section 6 and repeated here for review, the results of Contributions A–E allow for overarching conclusions and abstractions to be drawn.

- (RQ 1) How are Norse-derived verbs structurally integrated into medieval English?
- (RQ 2) Does the integration of Norse-derived verbs effect changes in the argument structure of affected verb classes in medieval English?

The item-oriented studies in Contributions A–D answer the first research question individually for each investigated lemma (cf. Table 1, row 2), by assessing the type of copy following Johanson's approach and by narrowing in on the most likely strategy of argument structure assignment to these new verbs following Barðdal (1999a, 2001, 2008, 2012) and Barðdal and Eythórsson (2020, p. 216). To achieve this, each contribution also answers the subordinate research questions posed in Figure 2 (Section 6) for the level of item-oriented

studies. While Norse-derived verbs with close or contrasting West Germanic cognates can be usefully contextualised in relation to these cognates and their model code etyma, a wider lexical context must be reviewed for Norse-derived verbs for which no native West Germanic cognate is recorded or recorded cognate morphemes are likely not co-identifiable with the copy to speakers. Consequently, the structural integration of such non-cognate copies is investigated in relation to their etymon and the set of native near-synonymous verbs in the basic code in lieu of native cognates as possible models for argument structure in the basic code. The class-oriented Contributions B and C and the synthesis of the qualitative case studies in Contribution D combine these two kinds of relationships to basic code lexemes for a holistic view on lexical verb copying and argument structure assignment. These contributions thus also address the subordinate research questions posed in Figure 2 (Section 6) for class-oriented studies.

Additionally, the quantitative analyses in Contributions D and E additionally investigate the morphosyntactic integration of Norse-derived loan verbs, generalising over lemmas, classes, and constructions and alternations (see Table 1, rows 2, 3 & 6 of columns D & E). These contributions take accommodation bias towards non-finiteness as the measure for morphosyntactic integration of copied verbs. By this, Contribution E broadens the focus of the present research from the argument structural combinational properties of verbs to include their more immediate and word-internal morphosyntactic combinational properties in the basic code (Table 1, row 6). This approach also enables the analysis to review the general effect of typological and structural closeness of the language pair involved in the Anglo-Scandinavian contact on the morphosyntactic integration of verb copies (Table 1, rows 6 & 7, column E). The comparative quantitative analysis of verb accommodation bias in the *Ormulum* in Contribution D focuses on how the variable of cognacy affects this aspect of structural integration (Table 1, row 2, column D). By assessing loan verb accommodation in general and diachronically in the representative ME corpora (Contribution E) and at its stage in early ME in Orm's vernacular in three categorical groups of cognacy relations to native verbs (Contribution D), these contributions round out the present collection at the widest scope of investigation for RQ 1.

The second research question is also approached from multiple angles as row 3 in Table 1 shows. These angles include the effects of single and multiple Norse-derived verbs entering a verb class on the development of the argument structures licensed for this verb class, the development of and verbs' participation in structural alternations in Middle English, and the survival of non-canonical cognate structures, as laid out in Section 4. This

is achieved by the contributions as follows: First, the class-oriented studies in Contributions B and C compare the argument structure of the verb classes into which one or multiple Norse-derived verbs are integrated diachronically between Old English and Middle English and cross-etymologically in the basic code contrasting native and Norse-derived verbs in the same class.

Second, the construction- and alternation-oriented discussions in Contributions A, C and D investigate how Norse-derived verbs are integrated into existing and developing constructions and alternations of the basic code, as proposed for a number of phenomena in Section 4. These contributions assess whether verb copying from Old Norse has impacted the development of these alternations and involved constructions in the investigated English verb classes. Contributions A and D investigate two Norse-derived *-ja*-causative verbs. In combination they assess whether verb copying of cognate *-ja*-causatives from ON effects the labilisation of verb classes starting to alternate in the Causative Alternation (cf. Elter, 2023b, September 7; Contributions A & D & references therein). While a number of *-ja*-derived causativised verbs and their bases merge and labilise in English (García García, 2012, 2020; Ottósson, 2008, 2013; van Gelderen, 2011, 2018; Visser, 1966, §138; e.g., PDE *melt*, *sink*, *spring*), this argument structure alternation for ME *reisen* is short-lived and does not lead to lasting labilisation of the lexical verb as evidenced by the PDE non-labile verbs *rise*, *raise* and *rear*. Even though Orm formally and argument-structurally distinguishes a Norse-derived and a native formal variant of ME *brennen* in his writing (cf. Contribution D), a parallel usage was not found in other early ME varieties (cf. Elter, 2023b, September 7). As an exploratory study (Elter, 2023b, September 7) sparking off from these case studies showed, no overarching contact-induced effect catalysing or indeed inhibiting the labilisation of *-ja*-derived causatives in English could be identified for cognate sets of this derivational class showing lexical copying of or contact with Old Norse cognate sets (e.g., ME *brennen* C2c, *rennen* C2c, *hellen* A1*c, *reisen* A1*c, *beiten* A1*). As it stands, Anglo-Scandinavian contact does not seem to lastingly impact whether or not *-ja*-derived causatives enter the Causative Alternation.

Contribution B shows that the event structure and argument structure realisation patterns of REFERENCE result state predication events lexicalised by the class of *dub* verbs stays stable in English throughout the integration of Norse-derived verbs ME *callen* and *nevenen*. This result of vertical transmission of cognate patterns with verb copies of varying cognacy relation to native verbs is not trivial, as the languages in contact do vary in case assignment to the arguments of the predicative naming relation as well the availability of

oblique patterns for the expression of secondary predication (Contribution B & references therein).

Contribution C reveals whether the etymological origin of the verbs in the class of 'prepare' verbs correlates with their early participation in the Benefactive Alternation between the *Double Object Construction* and prepositional phrase expression of BENEFICIARY arguments. Third, Contribution C also reveals that the copying of multiple Norse-derived near-synonyms into the same semantic verb class may have a cumulative effect on the survival of infrequent non-canonical cognate structures in English, namely the intransitive expression of inherent reflexives with verbs of preparation. Each of these contributions necessarily answers the subordinate research questions posed in Figure 2 (Section 6) for the levels of class-oriented, and construction- and alternation-oriented studies to gain these insights.

Before the more general subject-related and theoretical conclusions that can be drawn from the publications presented above are discussed, Section 8.1 reviews the limitations of the present research programme. How the factors of identifiable material, semantic and structural cognacy of linguistic units as well as the mutual intelligibility and status of bilingualism characterising the contact situation are shown to affect the copying and structural integration of new verbal copies in the present research programme is laid out in Section 8.2. Finally, Section 8.3 discusses the implications of this work from a perspective on diachronic stability or change under the Anglo-Scandinavian contact. Possible points of departure for further research on all of these points are given in the respective sections.

8.1 Limitations

The research programme presented in this dissertation is subject to a variety of limitations. While limitations specific to individual case studies are discussed in the respective contributions, some more general limitations warrant discussion here.

From the limitations on the data discussed in Section 6.2, a caveat on how well contact-induced change may be traced follows. The utilised extant data taken as representative of the structural impact of the Anglo-Scandinavian contact situation significantly overlaps temporally with the data representative of another, highly impactful linguistic contact situation: the Anglo-French contact. While large-scale, direct contact between speakers of Old Norse and Old English dialects ends around 1042 CE, the variety of Old Norse spoken in England survives longer in areas of intense and prolonged contact

(Section 5.3). At the same time, direct, intense and socioeconomically dominant French contact influence from Anglo-Norman and the developing Anglo-French variety starts in 1066 CE with the Norman Conquest and quickly spreads all over England with Norman rule (Percillier et al., 2024, ch. 1.2 & references therein). This partial overlap in the timeline of observable contact-outcomes between these two contacts suggests that structural effects of Old Norse, which would only become observable in early Middle English, might be somewhat obfuscated in the ME data by the early onset effects of the contact with French varieties in the domain of argument structure (see Percillier et al., 2024; Stein & Trips 2019; Trips 2020a, b; *inter alia* for research on the argument structural impact of this contact situation).

A second caveat one must note concerns the limits of abstractability from and generalisability of the individual item- and class-oriented case studies presented in this collection to the overall impact of copying of Norse-derived lexical verbs on English basic code argument structures. While the Scandinavian element in the ME verb lexicon is substantial, many verbs show only partial and selective material, derivational semantic or frequential influence of a Norse cognate on a native cognate (cf. Dance, Pons-Sanz & Schorn, 2019; Section 5.4.1). Many of the derivationally and argument-structurally interesting contrasting and non-cognate copies, like ME *skerren* and *busken* (see Section 8.2 for reassessment of this categorisation), are only sparsely attested overall, attested late in relation to the period of direct linguistic contact, or highly regional or genre specific.⁵³ Many are not attested in the combined ME corpora at all. These limitations of the data are due to the overall data poverty and imbalance issues discussed above.

The small number of quantitatively and representationally well-attested Norse-derived verbs in ME is largely limited to only materially or semantically contrasting cognates in contact showing material or derivational Norse influence on a native cognate verb.⁵⁴ One reflex of the data and lemmatisations used in the present research programme

⁵³ See Section 6.2 above on the methodological value of the date of first written attestation and the representativity of the utilised data and see Contribution C for a discussion of ME *busken* in lyrical use.

⁵⁴ Sorted by absolute frequency in the combined ME corpora, the 10 most frequent lemmas investigated in this research programme are: *taken* (B2, n = 3008), *yēven* (A1*c, n = 2739), *dīen* (C1a, n = 887), *līen* (v.1)(CC2c, n = 803), *callen* (C1a, n = 722), *lēten* (CC3ac, n = 715), *sēchen* (CC2, n = 635) *dwellen* (CC3, n = 516), *casten* (A1, n = 425), and *brennen* (C2c, n = 367). Four out of these ten lemmas are categorised as showing only decreasingly secure evidence for Norse derivation (CC), based on a material (CC2) or semantic (CC3) contrast to a native cognate; only three show secure evidence based on derivational (C1) or material (C2) contrast with a native cognate. Merely a further one lemma each are securely proposed as Norse-derived copies with a contrasting native cognate (A*), without a native cognate (A) and with native cognates in at

concerns exactly these verbs that appear as highly frequent in the raw data set. Some of these verbs, e.g. ME *yēven* and *brennen*, subsume both a native cognate variant and a Norse-derived variants in a single lemma entry in the MED, which is the basis of the lemmatisation of the ME corpora (Percillier 2016, 2018; Percillier & Trips, 2020). These decisions are of course fully justified from the diachronic lexicographic and computational linguistic perspectives. Still, for the investigation of structural integration of Norse-derived verbs, manual disambiguation between the variants of these lexically merged lemmas in the dataset was necessary to distinguish between native forms and senses as representing the native cognate and Norse-derived forms and senses as representing the copy. For example, for ME *yēven* attestations of <y> forms were the data input for the copy and <g> forms for the native cognate verb and for ME *brennen* data disambiguation distinguished between native metathesised forms and Norse-derived non-metathesised forms (cf. Contribution D & Elter, 2023b, September 7). This step made contrastive analysis of their argument structural patterns and morphosyntactic integration possible. In this research programme, such highly frequent cognate verbs (e.g., ME *brennen*), reflected stable transmission of cognate argument structures (cf. Contribution D). Moreover, even non-cognate lexical copies well-attested in the data, like ME *callen*, show a prevalence of cognate argument structure patterns shared between the model code etyma and their basic code near-synonym equivalent (cognate and non-cognate) lexemes (Contribution B).

In summary, these caveats on the data and method limit the conclusions that can be drawn from this work regarding the cumulative impact of Norse-derived verbs on the argument structures of the Middle English verb lexicon. Based on the available data, abstractions concerning the system of ME argument structures made in Sections 8.2 and 8.3 below remain derivative for now. Still, despite this caveat, the analyses in the present collection effectively span the existing breadth of possible cognacy relationships between Norse-derived copies and native equivalent verbs as well as covering various points on the scale of lemma type attestation frequencies.

least one West Germanic language (B2). For lexically merging lemmas of the A* type, here ME *yēven* specifically, and all investigated lemmas of the C type, e.g. ME *brennen*, one must note that the material, semantic and combinational contrasts between the copied and native cognate variants are not reflected by their separation into multiple lemma entries in the MED. This results in the lemmatised extraction of these verbs from the combined ME corpora including both the native and copied variants of these verbs under the same lemma. While manual disambiguation of variants was done in individual qualitative case studies, this reflex of lexicographic research and corpus data lemmatisations skews how frequent some Norse-derived verbs of different Gersum categorisation types initially seem from the raw data.

Fundamentally, this limitation is a reflex of the close genealogical, typological and lexical closeness of the languages in contact (cf. Sections 3 & 5.2). With these factors also being the ones making this contact situation a highly interesting subject of research in contact linguistic studies, they have become somewhat of a double-edged sword to this research programme.

8.2 Factors influencing the modelling of lexical copying and argument structure assignment

While covering a range of lexical verbs, verb classes, and constructions and alternations, the contributions in this collection remain focussed on the higher-level question of how the linguistic closeness of the languages in contact impacts the integration of verb lexis on these three levels. Operationalising this closeness between languages as cognacy relations in lexis and morphosyntax, the present work explores how the factors of cognacy and its (non)-identifiability by speakers (Section 8.2.1) and the status of receptive bilingualism of speakers conditioned by the mutual intelligibility of the languages in contact (Section 8.2.2) impact how verbs are structurally integrated into the basic code. This is the abstract conceptual elaboration of RQ 1. The following sections discuss the results of the present research programme from the perspective of these factors and draws generalisations from them regarding the modelling of verb copies and argument structure assignment to them.

8.2.1 Identifiable cognacy

Concerning the outcomes of lexical copying, the high number of cognates between Old English and Old Norse complicate the task of securely identifying lexical material as of Scandinavian origin. As laid out in Section 6.1, the present research programme takes the detailed assessment of the *Gersum* project (Dance, Pons-Sanz & Schorn, 2019) and Dance (2003, 2011, 2019) as its lexicographical basis for operationalising cognacy relations between Norse-derived copies and native West Germanic lexis and combined them with lexicographic resources like the BTASD, MED and OED. However, throughout the project, the differences in closeness of pairs of cross-linguistic cognates regarding their material, semantic, combinational and frequential properties has led to a more speaker-focussed perspective on cognacy between linguistic units. As Gooskens abstracts from her analyses,

"a large overlap (a small lexical distance) between vocabularies does not guarantee a high level of intelligibility since the pronunciation of cognates in two languages may sometimes be so different that the listener may not recognize them as being

cognates [...]. In other words, lexical overlap is a necessary condition – without lexical overlap, none of the other measures make sense – but not a sufficient condition – the overlap needs to be recognizable for it to be useful to listeners" (Gooskens, 2024, p. 108–9).

As regards code-copying, different kinds of semantic and material closeness relations between cross-linguistic cognates, where they exist, result in significant differences in whether these cognacy relations between cross-linguistic units are recognisable to speakers in communication situations characterised by mutual intelligibility and societal over individual bilingualism (cf. Gooskens, 2024, ch. 5.2). Consequently, differences in cognate identifiability rather than the mere (non-)existence or OE currency of a native cognate morpheme, however distant it may be materially, semantically, derivationally and combinatorily from the ON etymon being copied, will thus have resulted in different copying outcomes (Contributions A, B, C & D; cf. Gooskens, 2024). Gooskens' (2024, p.116ff.) results show which phonological and morphological features are relevant in modern speakers' identification of cognates.

Transferring these insights on cognate recognition to the Anglo-Scandinavian contact, we can discuss etymological cognates between these languages regarding their material and semantic identifiability in this mutually intelligible contact. These considerations on the identifiability of cognate relations are reflected in the results of the present collection concerning how argument structure is assigned on different models to these different kinds of copies. In the context of whether native cognates existed in OE and how recognisable the relationship between them and an ON etymon was to speakers, this work conceptualises three subgroups of Norse-derived copies which show similar behaviour in how they are integrated structurally into the basic code:

Table 2: Re-categorisation of Norse-derived verbs as per integration patterns as based on cognate closeness and likely co-identifiability to speakers. (Gersum summary categories are given in parentheses to illustrate contrasts).

Categorisation	Assessment per identifiability of cognacy relations
Non-cognate copies	Copied verbs showing no reliable account of a native cognate or a native cognate that is materially, derivationally and semantically not co-identifiable, e.g., <i>scare</i> (A1c), <i>cast</i> (A1), <i>thrive</i> (B1), <i>take</i> (B2), <i>call</i> (C1a/C5), <i>busk</i> (A2*)
Contrasting-cognate copies	Copied verbs with an attested native cognate that show significant material and derivational, semantic, frequential or distributional evidence for Norse influence, e.g., <i>raise</i> (A1*c), <i>neven</i> (A1*c). Whether this cognacy was identifiable to speakers is idiosyncratic and depends on the cross-linguistic closeness of the form-meaning pairings (i.e., contrasting and possibly intransparent material, derivational or semantic properties)
Cognates in contact	Co-identifiable shared cognate verbs showing only selective property evidence for Norse influence. This can be material only e.g., <i>give</i> (A1*c), <i>burn</i> & <i>run</i> (C2c) or derivational, semantic or frequential evidence, e.g., <i>miss</i> (C3/C5), <i>dream</i> (C3ac), for Norse influence that does not result in long-term coexistence of two lexemes.

To illustrate the abstractions drawn in Table 2, let's discuss some of the lexical verbs investigated in the collected contributions from this perspective of recognisability of cognacy as impacting copying. First, whereas cognate verbs like OE *giefan* 'give' and the copy of ON *gefa* 'give' merge lexically as variant forms of ME *yēven* (> PDE *give*) and are recorded as contrasting materially, but not significantly in their semantic or indeed combinational properties by Dance, Pons-Sanz & Schorn (2019, *gif* v.),⁵⁵ cognate sets like OE *rāeran* 'raise, rear' and the copy of ON *reisa* 'raise' also contrast materially but do not merge lexically and result in the ME competitors or at least near-synonyms *reran* and *reisen* (Contribution A & references therein). Of these, ME *reisen* later becomes prototypical in most shared senses (OED, *rear* v.1). While ON *reisa* 'raise' and OE *rāeran* 'raise, rear', originally derived from the same root by *-ja*-causativisation, conform to the metrics of *etymon identity* and derivationally also *word identity* (cf. Gooskens, 2024, p. 111; Kessler,

⁵⁵ See Section 8.1 and footnote 54 for details on disambiguation of native and Norse-derived variants of lexically merged or merging but frequent verbs that are subsumed under one lemma entry in the MED.

1995, p. 62), this identity is formally not recognisable to speakers. The materially closer but derivationally and semantically contrasting cognate base verb OE *rīsan* 'rise' seems to have been more identifiable to speakers as a closely related cognate of ON *reisa* 'raise' than the semantically and derivationally equivalent native OE *rāran* 'raise, rear', as Contribution A shows. On the other hand, cognates in contact like OE *giefan* 'give' and ON *gefa* 'give' also are etymon and word identical cognates. However, unlike the previous pairing, they seem to have been semantically and materially recognisable as cognates across the phonological distance between the palatalised /j/ on OE and non-palatalised /g/ in ON and stem vowel variation. Hence, while the MED lists these variants under a single ME lemma, only the orthographic forms in the ME corpus data represented as with initial <g> were directly relevant for the investigation of argument structural integration of the Norse-derived cognate copy.⁵⁶

Other cross-linguistic cognate pairs in contact result in stabilising dialectal variant lexemes like copied ME *nevenen* 'name, mention', which is predominantly attested in the North-East (Dance, Pons-Sanz & Schorn, 2019, *neuen* v. (wk.); cf. MED, *nevenen* v.; OED, *neven* v.) and the native cognate ME *nemnen* (< OE *nemnan*). Such variant lexeme pairs of a native cognate and a regionally attested Norse-derived contrasting cognate copy thus also reflect the varying strength of Norse influence between high- and low-intensity contact areas (cf. Dance, Pons-Sanz & Schorn 2019, *neuen* v. (wk.); cf. Contribution B & references therein). These examples alone already show that the material, semantic and derivational closeness of cognates coming into contact may significantly impact the outcomes of lexical copying. Moreover, the existence of a likely co-identifiable shared cognate unit which is the derivational base of a copy's etymon, like the shared cognate OE *būan* and ON *būa* for the ME copy *busken* (Contribution C), does not imply that the formal and semantic derivation of the copied lexeme or indeed the connection to the cognate base would be recognisable to speakers (cf. Gooskens, 2024; Sections 5.1 & 5.2). In the terms of Kessler (1995), OE *būan* and the etymon of the ME copy *busken*, namely ON *būask* do share *etymon identity*, but not *word identity*. They are separated by the reflexivising -sk inflection on the ON etymon, an inflection which OE did not have, making the relation formally unrecognisable to speakers. Moreover, as Contribution C lays out, the relationship

⁵⁶ The corpus data of the PPCME2, PLAEME and PCMEP generally differentiate only between *yogh* and *Carolingian g* and do not additionally differentiate forms of *Insular g* or other, more idiosyncratic, related orthographic variants. The edition of the *Ormulum* (Johannesson & Cooper, 2023) utilised in Contribution D differentiates additional variants.

between the cognates was also not recoverable semantically (Contribution C, p. 14, 23). As Contributions B and C show for ME *callen* and *busken*, existing cognacy relations being non-recognisable to speakers results in lexical copying of these non-identifiable cognate verbs being more akin to the copying of non-cognate verbs like *casten* rather than to that of identifiable cognates like *yēven*, *reisen* or *nevenen*. Another example for the material, frequential and indeed combinational, in this case also lexico-categorical, distance between proposed cognacy of model and basic code units making their relationships unidentifiable to speakers in mutually intelligible contact is the example of ME *callen* (Contribution B). The native cognate proposed for OE, is a content morpheme attested only very infrequently and as part of a nominal compound (Contribution B & references therein; Dance 1999). Due to the fact that speakers will most likely only have encountered the native cognate morpheme as (part of) a noun and in combinations, if at all, any co-identification of these units as *etymon identical* (Kessler, 1995) with the verbal cognate of the model code ON *kalla* by speakers is implausible. Consequently, any assignment of any verbal semantic, combinational and frequential properties from the native cognate morpheme to the copied verb is rejected as impossible in Contribution B. This holds, by logical extension, for all Norse-derived verbs in ME for which the cognacy relations between their model code etyma and their materially, semantically, derivationally or combinationally distant native cognate are equally unidentifiable.

8.2.2 Receptively bilingual speakers as the agents of copying

The factors of cognate recognition discussed above reflect the material and semantic levels of what Johanson (1999, 2002, 2008) refers to as insertion of copies at subjectively perceived equivalence positions in the basic code. These equivalences may of course be identifiable to only receptively bilingual speakers by lexical cognacy and the implicated and accompanying semantic equivalence of materially close cognates (like ME *nevenen* and *nemnen* or *reisen* and *reren*). On a more abstract level, however, speakers of mutually intelligible languages may during prolonged and intense contact also be able to identify such equivalence positions not only at a lexical categorical and semantic level, but also in the semantic and combinational properties of larger linguistic units, like predications and constructions, at the levels of morphosyntax and event structure. I do not take OE speakers to have had similar access to the abstract representational layers of the language that is not their L1, ON, as more balanced bilingual speakers would have had (cf. Myers-Scotton, 2002). As Section 5 has laid out, the Anglo-Scandinavian contact situation is characterised by societal rather than widespread individual bilingualism and second language learning,

especially during the settlement and conquest phases. However, I take the linguistic closeness between the languages involved in this contact situation (Eythórsson, 2002; Keller, 2020; Townend, 2002), together with the prolonged and intense contact, to suggest that the factors of mutual intelligibility, increasing exposure to the other language and the sociolinguistic factors of communicative needs, power, prestige and attitude would have interacted to increase speakers access to equivalences between the codes over time (cf. Gooskens, 2024). In this way, receptively bilingual speakers **are** bilinguals, albeit very imbalanced and with limited receptive and likely negligible productive proficiency.⁵⁷ Moreover, as discussed in Section 3.2 above, the more inter-lingual congruencies speakers were able to identify in the structures and patterns of the related languages in contact, the more extensive their code-mixing could become. Thus, in addition to RL agentive copying, the use of the mutually intelligible foreign language as the *embedded language* (Myers-Scotton, 2002) and consequently code-switching as a mechanism for the copying of *core borrowings* (Myers-Scotton, 2002, p. 41, 243) would have also been available to them to a very limited degree (cf. Muysken, 2000, p. 9ff.;). Depending on the level of bilingualism this may have escalated up to the employment of congruent lexicalisation between the codes (cf. Section 3.3.2., footnote 24). In the same vein, Millar (2016, p. 169f.) argues for RL agentive English speakers code-switching between ON as their embedded language and OE as their matrix language as being the bilingual agents of the koinéisation of a convergent variety in northern England.⁵⁸

8.2.3 Modelling argument structure assignment and types of copies

The perspective on the linguistic units and which of their properties may be characterised as stemming from cognacy or indeed being copied or not as being determined by the possibility of cognate recognition by receptive bilinguals motivates this work's approach to describing copying and argument structure assignment. As has been operationalised in Section 6.1, the descriptive assessment of the type of copy is made at the fine-grained level of a verb's main senses rather than at the level of the lexeme. This decision on the

⁵⁷ Compare tools for the assessment of bilingualism in psycholinguistic research that include receptive proficiency as equal to productive proficiency and include sociolinguistic and language-biographical measures like attitudes towards the other language and amount and intensity of exposure to arrive at a score of balancedness of bilingualism (cf. Gertken et al., 2014). Disregarding these factors in the conceptualisation of what makes a speaker bilingual to a certain degree in historical contact linguistics simply because we cannot test the speakers directly would obfuscate the multilingual reality of speakers everywhere throughout human history (cf. Lüdi, 1996, p. 234ff. on the global and historical prevalence of multilingualism).

⁵⁸ Compare also Braunmüller (2002a, 2009) arguing for code-mixing as the outcome of contact between closely related languages.

conceptual and methodological operationalisation of the present work is motivated by the natural and ever-developing polysemy of lexical units (see Section 2) and the segmental nature of linguistic units (see Section 3). Additionally, it accounts for research on mutually intelligible languages (Gooskens, 2024; Gooskens et al., 2017; *inter alia*) showing that speakers employ semantic clues for cognate recognition as well as material correspondences. This approach ensures that the lexical sets and verb classes for the investigation of argument structure assignment are made up of semantic near-equivalent units and that code-copying is described for individual argument structures of lexical verbs as representations of mapping pairs between the semantic and syntactic subcategorization of verbs. This way, the licensing of multiple argument structures for Norse-derived verbs and their participation in alternations as varying from or matching the model and basic codes can be accounted for in the modelling of the copy as global, selective or mixed. As laid out above (Sections 2, 3.1 & 6.1), this also accounts for the possible effects of polysemy of these lexical verb copies and its how this can be reflected in modelling their copying and integration.

This fine-grained descriptive approach of verbs cognacy on the level of form, LCS, argument structure and morphosyntactic realisation is in line with Harris & Campbell's safeguards for cognacy (Harris & Campbell, 1995, p.349; cf. Harris 2008). While Walkden (2013, p. 105) asserts, and I agree, that the Double Cognacy Condition cannot fully hold for syntax as it is unclear how many of such safeguards must be met and that, consequently, syntactic reconstruction is not **fully** reliable, it is paramount that we control for cognate lexis, cognate event structures and cognate morphosyntax in verb class-oriented studies on the argument structural integration of Norse-derived verbs in ME. This way we can ensure useful comparisons at least in the historical synchronic dimension and enable conclusions about the most likely source of argument structure assignment to these new verbs as being vertically (inherited) or horizontally transmitted (copied).

As Section 3.3.2 laid out, a small number of strategies are at work when new verbs are assigned argument structure realisation patterns in the replica language's basic code (Barðdal & Eythórsson 2020, p. 216; cf. Barðdal 1999a, 2001, 2008, 2012). It is the current consensus that the integration of loan verbs on all levels of the linguistic system and thus also the strategy employed for the assignment of argument structure realization in the replica language depends both on the material, semantic and structural equivalence between the languages and on which features of the verb are copied from one language to another (see Section 3 & references therein). Based on the modelling of loans in Johanson's Code-

copying Framework, the identifiable existence of attested cognates in either language, and the resulting differences between types of loan verbs in this contact situation, the present research programme originally hypothesizes that loan verbs showing no identifiable cognates in the OE basic code employ these assignment strategies rather differently than supposed loan verbs showing co-identifiable cognates in both languages, including different default strategies for resolving integration conflicts. This has been indeed borne out by the results of the works presented above. The present collection shows that the strategies employed in the structural integration of loan verbs in contact situations between closely related languages like OE and ON indeed correlates with the (non-)identifiability and closeness of native cognates. Further, the class-oriented studies revealed that non-cognate near-synonymous verbs in the basic code are likely models for argument structure assignment to Norse-derived verbs in the Anglo-Scandinavian contact, especially where cognacy relations do not exist or are opaque to speakers.

As Barðdal and Eythórsson (2020) demonstrate, cognate structures in syntax and argument structure can be identified not only on the basis of cognate lexical material of verbs, cognate argument realization patterns and cognate case morphology, but also on the basis of non-cognate synonymous predicates, specifically loan verbs of the same semantic field. The results of the present work show that cognates are indeed pervasive in all four of these contexts and that the contact situation between languages as closely related as Old English and Old Norse is interwoven with all of these types of cognates. Cognate lexis is transferred both horizontally from ON to OE and vertically from OE to ME. The same is true for cognate argument structures, as these cognate patterns can be transferred horizontally both with cognate and non-cognate lexis in this contact. This does not only pertain to default and canonical cognate patterns, which may seem a trivial result to some, but also to cognate patterns non-canonical in the basic code, like intransitive inherent reflexives. Moreover, research on modern multilingual acquisition and foreign language learning shows that learners draw on identifiable cognacy relations for the structural integration of new verbs and resort to translation equivalents and near-synonyms if none are available (Hall et al., 2009, cf. Lijewska, 2020).⁵⁹ Thus the high lexical, morphosyntactic and structural closeness of the languages in contact is taken to facilitate the conflict-free transmission of cognate patterns even with non-cognate lexis. Because

⁵⁹ Further cognacy effects have been shown to be stronger in imbalanced bilinguals than in balanced bilinguals (Rosselli et al., 2014).

these cognate argument structures shared by both languages as inherited from early Germanic it is simply impossible to discern from the data whether these cognate patterns are assigned to new verbs on the basis of global copying of Norse lexis or by assignment from the basic code (by default or via cognate lexis or near-synonyms).

The results of the collected works presented above suggest that argument structure assignment from near-synonyms and by default in the basic code as well as global copying is possible for all non-cognate copies. Myers-Scotton (2002, p. 43, 242ff.) proposes that lexical units, like verbs, may only be copied with their model code argument structure (strategy (i), Section 3.3.2) if the levels of predicate-argument structure and morphological realisation patterns are sufficiently congruent with equivalents in the basic code. With these properties being possibly cognate in contact between languages so closely related as Old English and Old Norse, whether argument structure is assigned to non-cognate copies in the area of core borrowings (cf. Myers-Scotton, 2002, p. 41) as copied from the model code or as assigned from native near-synonyms may also partly depend on semantic factors. Future research on verb copying and structural integration should investigate the significance of factors like the prototypicality of the copied verb's meaning in its respective semantic field (e.g., PDE *die*, *take*, *cast*) and the currency and semantic closeness of native near-synonyms existing in the basic code prior to contact. For the second group of verbs, contrasting-cognate copies, assignment of argument structure by global copying as well as by assignment based on analogy to the identified contrasting native cognate or other native equivalents is possible. Default assignment is of course also possible. Finally, assignment of argument structure from native cognates is the most likely strategy for the cognates in contact which are non-contrastingly co-identifiable with their native cognates in the basic code. In line with the findings of psycholinguistic research on cognate effects in multilingual learning and processing (cf. Hall et al., 2009, Rosselli et al., 2014; *inter alia*), the present work proposes that assignment of cognate argument structure by assignment in analogy to known L1 (or L2) cognates or translation equivalents (i.e., near-synonyms) incurs the lowest processing cost to speakers.

Overall, the lexical and structural closeness of the codes in contact as well as the extralinguistic factors of the contact situation allow speakers in the Anglo-Scandinavian contact to make not only global copies of verbs including their complex internal properties of argument structure, but also allow for a large number of selective (material and semantic properties) and especially mixed (only some of the combination pattern(s) associated with the unit's (multiple) semantic properties) lexical verb copies, because they can be assigned

argument structure from the inventory of the basic code without conflict. There is no communicative pressure or advantage for speakers to globally copy those combinational properties of a model code verb that are cognate to those of basic code equivalent units, cognate or otherwise.

8.2.4 Conclusion on the assignment of argument structure to Norse-derived verbs

To summarise: as Contributions A–D, but especially B and C, discuss, whether the Norse-derived copied verb was co-identifiable with a contrasting or non-contrasting cognate in the basic code significantly is an idiosyncratic characteristic of individual lexical copies. This depends on the cross-linguistic material, semantic and derivational closeness of the linguistic units in which the cognate roots occur in the model and basic code. In turn this identifiability of cognacy relations determines the structural outcomes of copying. Verbs whose cognacy relation to a native verb was not recoverable to speakers due to material, semantic, derivational or lexico-categorical contrasts consequently behave during integration like verbs for which no cognate is recorded at all. This means that verbs proposed by etymological research to show a cognate in the basic code might behave structurally as if they have none (e.g., ME *callen*, *busken*) if the cognate is materially, derivationally or semantically too distant. On the other end of the spectrum of identifiability of cognates, a copied cognate verb might indeed merge with the native cognate (e.g., ME *yēven*, *brennen*) if the cognates are materially, derivationally and semantically close enough to be analysed as variants of the same lexeme by speakers. These factors of cognate recognition come to bear in a contact situation which is characterised by mostly receptively bilinguals communicating across two somewhat mutually intelligible languages. To account for these factors, the descriptive modelling of lexical verb copies adopted in the present research programme differs from the lexicographic research on Norse-derived lexis in medieval English. It expands the focus from etymological evidence for Norse-derivation of loan verbs to how their structural integration into the basic code was achieved by mostly receptively bilingual speakers of a mutually intelligible language through the exploitation of recognisable cognacy as well as material, semantic and combinational similarities between the codes.

8.3 Structural stability resulting from contact between closely related languages

The most abstract deduction to be drawn from the present collection concerns the research question whether the lexical copying of Norse-derived verbs into medieval English lastingly changes the argument structures available in the linguistic system (cf. RQ 2,

Section 6). While the identification of contact-induced language change has long been the main objective of diachronic contact linguistic investigations, recent work asserts that "there may also be linguistic stability in spite of language contact, and that it may, in some cases, even be contact-induced (e.g., Trudgill, 2011; Braunmüller et al., 2014)" (Bouzouita et al., 2019, p. 1).

As noted in Section 3.2, the concept of stability can be defined from two perspectives: Firstly, that a system or feature is stable when it does not change (Backus, 2004; Kühl & Braunmüller 2014, p. 14). Secondly, stability can be taken to mean that a feature of a system is stable if its expression is unlikely to be transferred from another language as a result of contact (Parkvall, 2008, pp. 234–5; van Coetsem, 2000, p. 32; cf. Stein et al., 2019). While the first definition of stability is applied – among others but most notable for the present work – in research on the syntactic reconstruction of Proto-Germanic and Indo-European (e.g., Barðdal, 2013; Barðdal & Eythórsson, 2012, 2020; Harris, 2008; Lightfoot, 2002a, b; Walkden, 2013; Watkins, 1964, 1976), the second definition is applied first and foremost in the investigation of linguistic stability under the language contact hypothesis (cf. Stein et al., 2019). From the viewpoint of linguistic contact studies, the present work agrees with Backus in the opinion that "stability in structure, i.e., demonstrating what does not change, is an overlooked but important topic in any theory of change" (Backus, 2004, p. 180). Similarly, Barðdal (2013, p. 442) postulates that reconstructing diachronic stability is not trivial, both for canonical and non-canonical structures (see also Barðdal & Eythórsson, 2012, 2020). Regarding the argument structural outcomes of the Anglo-Scandinavian contact situation, questions of where the causes and sources of the stability of or indeed change in the argument structural system lie intertwine these perspectives of contact-induced effects and reconstructible common inheritance on the features of medieval English at the transition point from OE to ME. This is why the present work specifically takes stability to mean the non-change of a structure in the basic code as the outcome of language contact. Whether this non-change is the end state of horizontal transmission of a shared cognate structure during contact or indeed of vertical transmission of this structure in the basic code and its assignment to a new verb by analogy is not always discernible in the case studies of the present collection. This is because, as Kühl and Braunmüller note, "stability of inter-systemically congruent patterns due to contact is difficult to study, as no change will take place in the languages involved." (Kühl & Braunmüller, 2014, p. 31).

Regarding the overall outcome of Anglo-Scandinavian contact concerning the argument structure of verb copies, I argue that the lexical copying of verbs between these lexically and structurally so similar and closely related languages represents "a force for stability in the argument structural patterns of verb classes"(Contribution B, p. 217) in Middle English. The results of the contributions presented above offer detailed insights into the argument structural outcomes of the Anglo-Scandinavian contact. While both change and stability are possible outcome scenarios of code-copying in this contact, especially for non-cognate lexical verbs and non-canonical argument structures being copied from ON into the English basic code, the present work provides evidence for stability being the main outcome of contact in the argument structural system of English. In line with Kühl and Braunmüller's (2014, p. 31) conceptualisation of stability due to contact, the present work gives evidence to how this kind of stability is realised through verb copying: Existing cognate argument structures are strengthened in the English system through the insertion of Norse-derived lexical copies of with parallelly inherited cognate argument structures.

As Contributions B and C evidence, and also, albeit transiently for ME *reisen*, Contribution A, this can be achieved not only by global copying of cognate and non-cognate model code lexis realising cognate patterns in the model code, but also by selective copying of cognate and non-cognate lexis and assignment of argument structure to these copied from their analogy to native cognates or near-synonyms in the basic code.

The pervasive nature of cognate argument structures identified in this research programme with non-cognate copies (Contributions B, C & D), contrasting cognate copies (Contributions A, B, C & D) and cognates in contact (Contributions C & D) in ME points to contact between closely related languages reinforcing stability of the argument structural system of the basic code (see Section 8.2.1 on re-categorisation of Norse-derived verbs by identifiable cognacy). In all of these reported cases, the most likely inherited cognate argument structures of the basic code are bolstered by the selective and mixed copying of lexical material taking cognate structures, increasing the type frequency of these patterns in the verb classes and overall lexicon of English. While lexical verbs were of course copied, on the structural level of argument structures this finding is in line with other research on this contact (Cole & Pons-Sanz, 2023; Versloot, 2023; Walkden et al., 2023) arguing that "the outcome of the contact situation in English was not transfer in the literal sense but rather reinforcement of competing West Germanic variants that were formally and functionally more similar to what was found in Old Norse" (Walkden et al., 2023, p. 255). The Anglo-Scandinavian contact therefore is a historical example of contact

between mutually intelligible languages being a source for type-frequential reinforcement of cognate morphosyntax and argument structure. Due to the qualitative nature of the contributions' results, additional quantative investigation is necessary to further test this hypothesis.

Overall, the copied verbs investigated in Contributions A–D do not realise any argument structures that are previously ungrammatical in the basic code. The results do however show that RL agentive speakers can reinterpret existing realisation patterns of their L1 basic code and assign them to new units with adequately equivalent LCS or predicate-argument structure during code-copying (Contribution C). This is in line with Percillier et al.'s (2024, p. 295, 297) findings on RL agentive copying of verbs and predicate-argument structure from Old French into ME.

This stability as the argument structural outcome of the Anglo-Scandinavian contact is the combined result of two factors. First, the factors of linguistic closeness between the languages in contact discussed in Section 5.2 above. As I will return to below, I follow Kühl and Braunmüller (2014) and Gooskens (2019, 2024) in the assertion that the communicative mode of receptive multilingualism and the active accommodation processes of semi-communication (Trudgill, 1986; Braunmüller, 2002a) are available to speakers in contact between mutually intelligible languages. Because of this, OE speakers experiencing the Anglo-Scandinavian contact will have been able to transfer lexical material as the result of this communicative situation but would not have needed to permanently accommodate or codeswitch to the ON model code or even to acquire the full system of it as their L2 and become productively proficient bilinguals. I assume this *status quo* specifically for the intense and prolonged settlement and conquest phases of the contact.

Second, while the contact situation between these closely related languages provided ample equivalence positions and opportunities for linguistic transfer (see Sections 3.2 & 5.2 & references therein; cf. Kühl & Braunmüller, 2014, p. 27), assigning cognate structures to newly copied verbs and thus reinforcing stability of argument structures in the basic code may also be a cost-saving strategy in language processing for the speakers copying Norse-derived lexical verbs into their basic code (cf. Kühl & Braunmüller, 2014, p. 31; Section 8.2.3). According to Kühl and Braunmüller, following Höder's (2012) diasystematic view, "[i]t is [...] probable that corresponding structures or features already existing are chosen more frequently, in order to keep the cognitive costs of language processing as low as possible" (Kühl & Braunmüller, 2014, p. 31). Such a

preference for cognate materials and structures as *interlingual equivalences* (cf. Höder, 2012) on multiple levels of the linguistic system results in stability due to, not despite of, contact (Kühl & Braunmüller, 2014, p. 31). A preference for structures known and stable in the L1 over diverging and conflicting structures between codes in contact is also supported by Percillier et al. (2024) who find that "[c]opies from an L2 model code have to compete with stable L1 structures of the basic code, [...] thus being at a disadvantage and less likely to be selected by the speech community, i.e., nativized" (Percillier et al., 2024, p. 298).

Overall, these two factors catalyse each other: Lexical cognacy between the codes facilitates lexical copying of cognate and contrasting cognate lexis, which oftentimes will realise cognate argument structures and thus are cases of no- or low-conflict integration. In turn, structural and morphosyntactic cognacy between the codes in contact facilitates the assignment of such cognate argument structures to new copies, even in the copying of non-cognate lexis. The integration of copies with cognate argument structure in the basic code does not result in structural conflicts this way. As we see from these two factors of non-conflict in the Anglo-Scandinavian contact, the conflicts between the codes, specifically argument structural differences as regards the present investigation, would need to be considerable to cause speakers to diverge from the stable components of their basic code through transfer (cf. van Coetsem 2000, p. 58), as the present collection and Percillier et al. (2024) show on the example of different contact scenarios.

Considering the Anglo-Scandinavian contact under the theory of stability in contact also necessitates a return to the likely status of bilingualism of speakers discussed in Section 5. Braunmüller's (2002a, 2009; Braunmüller et al., 2014) and Höder's (2012, 2014) works on modern contacts between dialects and closely related languages assume that speakers are to some degree bilingual and will employ varyingly intense strategies of accommodation depending on the degree of prototypicality of semi-communication to achieve successful communication in contact. However, concerning contacts between highly mutually intelligible languages, where widespread and productively proficient individual bilingualism cannot be assumed (cf. Section 3.2 & 5.2), Kühl and Braunmüller assert that because the processes of prototypical semi-communication are available as a sufficiently successful communicative strategy to speakers in these contacts "[...] there is no need for permanent accommodation, and the linguistic systems will remain stable and homogenous, **despite** contact" (Kühl & Braunmüller, 2014, pp. 29–30, my own emphasis). By permanent accommodation they mean strategies like L2 learning, code-mixing and

language shift (Braunmüller, 2002a, p. 9). Consequently, the present work does not take this statement to suggest that the speakers experiencing the Anglo-Scandinavian linguistic contact would **not** have needed to actively accommodate *ad hoc* for the existing differences between their native code and the mutually intelligible code with which they came into contact to achieve communication in every-day interactions (cf. Trudgill, 1986, p. 21ff.). As Townend (2002, p. 183) convincingly argues, the languages in contact were in fact only adequately, or pragmatically, mutually intelligible. Still, this situation is not as clearly cut what Braunmüller would describe as a situation of "prototypical semi-communication" (Braunmüller, 2002a, p. 8). Thus, I argue that speakers indeed actively employed face-to-face accommodation strategies on all levels of the linguistic system during the Anglo-Scandinavian contact (cf. Braunmüller, 2002b; Trudgill, 1986, 2011). They did this by exploiting the wealth of recognisable correspondences, i.e., existing convergences, between the systems and also by producing more of them where they did not originally exist (cf. Braunmüller, 2002a, p. 8–9, 21). In the area of verb argument structure, this is achieved by speakers increasing their usage of co-identifiable cognate lexis, morphosyntax and argument structures, especially with increased exposure to the mutually intelligible language (cf. Gooskens, 2024, p. 79ff.). Corroborating this view, the results of the contributions presented above show stable transmission of cognate patterns (Contributions A–D) and some instances of code-convergent restructuring of argument structure mappings between shared structures in the new context of copied verbs (Contributions A & C). Thus, the stabilising long-term effects of this sustained situation of actively accommodating receptively multilingual speakers in contact and the additional RL agentive transfer of adequately equivalent material and structures are evidenced for the area of verb argument structure by the present research programme.

Overall, I maintain that active accommodation would have sufficed in ensuring successful communication during the intense and prolonged settlement phase of the Anglo-Scandinavian contact situation in high-contact regions and during the later expansion of this contact to dialects areas outside of the Danelaw in the conquest phase. The end of Scandinavian rule in England after 1042 CE and the following historical events of the Norman conquest however shifted the sociolinguistic dynamics between English and Old Norse varieties again (cf. Section 5). This change in the contact situation resulted in speakers employing more permanent accommodation strategies for communication (cf. Braunmüller, 2002a, p. 9). Consequently, speakers of Old Norse varieties in England shifted to English in this final phase of Anglo-Scandinavian contact, ultimately resulting in

the eventual language death of these varieties in England (see Section 5.3 & references therein).

This analysis of how extensively speakers in this contact accommodated in the different phases of this contact, also leads me to briefly revisit the general description of the contact outcomes laid out in Section 5.3. While multiple outcome scenarios have been discussed for this contact situation, the present work still finds that transient and unfocussed koinéisation can be proposed only in areas of intense prolonged contact (cf. Dawson, 2003; Warner, 2017). The nature and scope of the present research programme does not allow for new conclusions about the possibility of regionally stabilised koinéisation and its long-term effects on argument structure. Connecting the results presented above to previous accounts, I find that they are consistent with Millar's (2016, p. 157; cf. Millar, 2000) statement that any convergences and simplifications made in the formation of a northern English-based koine would only ever become present as lesser effects in the other ME dialects by secondary convergence between them and the original koiné. This assertion is in line with the observed results of the present work which show only a preference for convergent and equivalent structures between the codes rather than any true structural innovations transferred from ON. The systematic qualitative comparative analysis of the stability or indeed code-mixing and convergence of argument structures during late OE texts from high-contact varieties might be a promising future endeavour in historical dialect contact linguistics. Still, as discussed above, such a venture would be similarly restricted by general as well as cross-linguistic data poverty and, consequently, also subject to the correspondence problem.

Overall, the proposed late language shift of ON speakers to OE in the final phase of contact (Hansen, 1984; Townend, 2002, p. 201ff.) which resulted in the language death of ON varieties in England (cf. Miller 2012, p. 101) is still the most reasonable and differentiated scenario that can capture the contact-induced structural stability observed in the present work. In addition to the pervasive existence of cognate argument structures in interlingual comparison between the codes in contact from the beginning, the pervasive and stable transmission of cognate argument structures via the integration of cognate and non-cognate Norse-derived verbs with cognate argument structure evidenced in this work simply do not necessitate such a drastic and disruptive explanation of developments as a scenario of creolisation would imply.

Finally, some would reject the notion of stability as a main contact outcome in favour of focussing on previous research on the structural and morphosyntactic changes

resulting from the Anglo-Scandinavian contact (see Walkden et al., 2023 for an overview of these changes). While these works have revealed the rather substantial influences of this contact, this is not in conflict with the present work, as "[n]either language change nor stability necessarily change varieties *in toto*. It may also be the case that only some specific features are affected, implying that language change and stability can take place both sequentially and simultaneously in one and the same language contact situation" (Kühl & Braunmüller, 2014, p. 34). This has also been shown by recent work on another historical contact situations affecting medieval English (Percillier et al., 2024). The novel findings of the present research programme thus add to the wealth of research on the Anglo-Scandinavian contact outcomes by evidencing the non-trivial assertion that this contact helped stabilise the argument structural system of English at the transition between OE and ME rather than leading to extensive restructuring of argument expressions through lexical verb copying, even as the language system as a whole underwent extensive morphosyntactic changes.

9 Conclusion

The fact most central to the present research programme is that the languages in contact are very closely related genealogically. This is concretely reflected in high lexical closeness, many systematic phonological and morphological correspondences and high morphosyntactic overlap. As research on this historical contact situation (Eythórsson, 2002; Keller, 2020; Townend, 2002) and research on modern language contact between closely related Germanic languages (Gooskens, 2007, 2019, 2024; Gooskens et al., 2015; Gooskens et al., 2017; Gooskens & Swarte, 2017) shows, these factors all speak to OE and ON being adequately mutually intelligible during the time of direct contact. Specifically, the impact of lexical closeness as determined by identifiable lexical cognacy as the main predictor for mutual intelligibility in research on modern language contact between closely related Germanic languages (Gooskens, 2007, 2019, 2024; Gooskens et al., 2015; Gooskens et al., 2017; Gooskens & Swarte, 2017) and the effects of identifiable cognacy of linguistic units and structures on the structural integration of loan verbs revealed in the present research programme indicate a transitive deduction to be made from the presented results (Sections 7 & 8) concerning contact between closely related languages: The resultant communicative situation during the longest phases of this contact would have been one of what has traditionally been coined semi-communication (Braunmüller, 2002a;

Haugen, 1966; see ten Thije, 2018 for an overview of terminological and conceptual development), and more recently framed as the concept of receptive multilingualism (Gooskens, 2019; 2024; *inter alia*), between extremely imbalanced, mostly receptively bilingual speakers of adequately mutually intelligible languages (cf. Townend, 2002). While the present work does not aim to reassess the communicative strategies speakers might have employed overall, the strategies of verb integration observed for this language contact do suggest that speakers applied processes of active accommodation like the exploitation of existing interlingual congruencies and the generation of more such congruencies by RL agentive copying of sufficiently congruent units and patterns, while employing receptive multilingualism (Gooskens, 2024), where possible.

The results presented in Contributions A–E and discussed in Section 8 show that the Anglo-Scandinavian contact situation is characterised not just by cognate lexis – both contrasting and non-contrasting – but also by pervasive cognate morphosyntax and cognate argument structures. It was shown that lexical verb copies of all observed kinds of cognacy relationships to native units showed a preference for such cognate structures as they are integrated in the English basic code. Consequently, the integration of Norse-derived verbs in Middle English is achieved without significant integrational conflicts between model and basic code argument structures. As such it also does not necessitate restructuring of the argument structures of medieval English verb classes or available structural alternations. While individual lexical copies lead to transient form-function ambiguities effecting their argument structures in the basic code (e.g., ME *reisen* and *brennen*), and other lexical copies indeed innovate on the argument structures available to their model units by licensing additional patterns in the basic code (e.g., ME *busken*), all of these cases observed in A–D involve cognate patterns shared by the model and basic codes. These convergent patterns did not necessarily occur as the canonical pattern with cognate units of the Norse-derived copies in the basic code before integration of the copy, but without exception were existing grammatical patterns in the basic code occurring with verbs of adequately congruent event structure. Overall, the case studies all support the position that Anglo-Scandinavian contact and lexical verb copying reinforce the stability of the English verb argument structural system (Section 8.3).

As the contributions in this collection and Section 8.2 discuss, the strategies of how argument structure is assigned to these verb copies varies depending on a number of factors, especially the identifiability of lexical cognacy relations and the availability of cognate structures with cognate and near-synonymous lexis. In summary, the application of active

ad hoc accommodation strategies by receptively multilingual speakers in contact combined with the (non-)identifiability of both lexical and structural cognates can account both for the more lasting (Contribution C) and short-lived (Contribution A & D's case study on ME *brennen*) restructurings of verb argument structures found with Norse-derived copies in ME **and** for the seamless argument structural integration of lexical copies with cognate argument structure patterns in ME. To conclude, the investigated situation of contact between two adequately mutually intelligible languages is a source for type-frequential reinforcement of cognate argument structure in English via the lexical copying of cognate and non-cognate lexis and the assignment of cognate argument structures to these copies in the basic code. The overall structural outcome of verbal copying of Old Norse lexis abstracted from the results of the present research programme is the stable transmission of cognate argument structures, both horizontally and vertically into Middle English. This stabilising contact effect of a communicative situation between receptively bilingual speakers of mutually intelligible languages on verb argument structure is argued to be a driver of structural stability in contact between closely related languages during the longest phases of the Anglo-Scandinavian contact, as Section 8.3 discusses.

From a wider etymological and phylogenetic perspective on contact-induced change, the present research programme has helped illuminate the roles of cognacy of lexis, cognacy of morphosyntax and cognacy of argument structures in the possible long term-effects of verbal copying between two closely related languages. Its approach should be applied to comparable historical and modern contact situations, like the ones I propose below, among others, to verify and possibly generalise the impact of these factors of cognacy in verbal and structural copying across historical and modern language contact situations. This endeavour is left to future research.

At this time, the present work is the first to have investigated the structural outcomes of a historical, concluded contact situation of this specific kind diachronically. While likewise historical and concluded language contacts like the medieval Anglo-French contact situation are documented in more detail and data and have also recently been investigated from a perspective of argument structural copying (Percillier et al., 2024), the higher lexical and typological distance between such language pairings and the differences in the extralinguistic properties of this contact situation prohibits implications drawn from

these contacts' outcomes regarding contacts between more closely related languages.⁶⁰ This has been shown by the significant differences in morphosyntactic verb accommodation across the variable of etymology in Contributions D and E. The qualitative results of the present research programme (Contributions A–D) corroborate this contrast when set into relation to the argument structural contact outcomes revealed by the work of the BASICS project (Percillier et al., 2024; Schauwecker & Trips, 2018; Trips, 2020a, b; Trips & Stein, 2019; *inter alia*). The Anglo-French contact situation under investigation in the BASICS project required bilingual speakers to employ code-switching, a more extensive and permanent accommodation strategy that has also been argued to be active to achieve communication in contacts between mutually unintelligible languages (cf. Braunmüller, 2002a, p. 7). This necessary extensive and permanent communicative accommodation between codes resulted in significant lexical copying, but also grammatical replication and argument structural restructuring of the ME basic code (Percillier et al., 2024). Contrastingly, the argument structural perspective on the verbal loan lexis entering English via contact with Old Norse taken in the present research programme shows that code-switching and code-shifting and the resulting restructurings of the basic code by L2 speakers were not the predominant processes for the longest phases of the Anglo-Scandinavian contact situation.

As this short illustrative comparison of the difference in contact factors and contact outcomes between two historical language contact situations involving English shows, the present research programme and its results have wider implications for contact linguistic research into verbal copying specifically and structural copying overall: The examination of the Anglo-Scandinavian contact outcome provides a sound diachronic, methodological basis for modelling different structural outcomes of lexical verb copying in contact situations which show comparable linguistic characteristics of linguistic, lexical and typological closeness. Consequently, especially language contacts between languages, for which a similar situation of mutual intelligibility and bilingualism can be argued to exist, are contexts to which the approach and insights of the present work may be transferrable under the assumption of the *Uniformitarian Principle*, i.e., in the form of *methodological "actualism"* (cf. Walkden, 2019, p. 11, his emphasis). However, the degree of transferability of course also varies depending on the extra-linguistic features of contact laid out in

⁶⁰ See Contribution E and references therein for a more detailed comparison of these historical contact situations.

Section 3. It remains to be seen in future research whether the insights of the present research programme hold true for other historical and modern language contacts arguably employing receptive multilingualism for communication between somewhat mutually intelligible languages. Historical contacts employing "receptive multilingualism [...] as a common mode of communication for trade and political consultations" (Gooskens, 2024, p. 213) are for example the contacts between speakers of Low German and Scandinavian languages (Braunmüller, 2007), early North Frisian and Danish (Hoekstra, 2021) and contacts in the Romance language area (Blanche-Benveniste, 2008; Carlucci, 2020) during the late Middle Ages. Modern contact situations to which the present methodology and hypotheses might be applied, pending careful comparison of the match for the linguistic and extra-linguistic properties of the contact situations, are the contact between closely related and somewhat mutually intelligible Czech and Slovak (Nábělková, 2007; cf. Gooskens, 2024) and modern dialect and language contacts in border regions like those between speakers of Dutch and Frisian (cf. Muysken, 2000, p. 135ff.; see also Gooskens, 2007, 2017, 2024; *inter alia*), speakers of Dutch and German (Snijkers, 2014), German and Danish (Höder, 2012, 2021; *inter alia*), and between speakers of Scandinavian languages like Danish, Swedish and Norwegian (Braunmüller, 2002b, *inter alia*) or possibly between varieties of Portuguese and Spanish both in Europe and South America (Jensen, 1989). Modern language contacts as well as their study differ from historical language contacts in a number of ways like speakers' access to language education and literacy, social structures, norms and mobility and of course the data sources and amounts available and producible to linguistic researchers, to name just a few. These differences must be taken into account when attempting the transfer of the present approach to modern contacts. Still, in contact situations that are deemed comparable to a high degree to the Anglo-Scandinavian contact situation, verb and argument structure copying may be investigated applying the corpus-based approach of the present research programme. I propose that the application of this approach should complement the use of (adapted) modern sociolinguistic and psycholinguistic methods of assessing language contact effects and structural integration of verb copies wherever the available and generatable data allows.⁶¹ In combination, these approaches may begin to bridge the methodological gap between the investigations of

⁶¹ See for example Townend's (2002, p. 13 ff.) discussion of how contemporary methods available for modern linguistic research may or may not be available to or adaptable for historical linguistic research due to the types and overall poverty of the available data. On parallel limitations in the present research programme see Sections 6.2 and 8.1.

diachronic contact-induced change and L2 acquisition research in modern contact situations and reveal both how individual speakers of mutually intelligible languages processually integrate verbal and structural copies into their basic code depending on the factors of contact between closely related languages identified in Gooskens (2024, *inter alia*) and, at a wider temporal scope, how such verbal and structural copies are integrated and adapted into the basic code over time during and after such mutually intelligible language contacts.

Backmatter

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