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Introduction

The total grapholinguistic fact – Outlining a research program for the study of (not only Germanic) writing systems and literacies

Dimitrios Meletis

1 The subject

Even in 21st century linguistics, it remains uncommon for a handbook to include a chapter dedicated to writing (systems), let alone for a series of handbooks to devote an entire volume to the linguistic study of writing. For example, *The Cambridge Handbook of Germanic Languages* (Putnam and Page 2020) addresses phonology, morphology, syntax, semantics and pragmatics, as well as language contact and nonstandard varieties, but neglects written language. Similarly, the extensive series of over 70 linguistics-focused *Oxford Handbooks* still lacks a volume devoted to writing.[1] This marginalization is undeniably a consequence of influential but reductive assessments by prominent 20th century linguists, such as Ferdinand de Saussure's "[t]he linguistic object is not both the written and the spoken form of words; the spoken forms alone constitute the object" (Saussure 1916: 28 [23–24][2]) and Leonard Bloomfield's claim that "writing is merely a way of recording language by means of visible marks" (Bloomfield 1933: 21). While this is not the place for an extensive critique of the longstanding disregard of writing in linguistic scholarship (see Meletis and Dürscheid 2022: 5–11), the fact that this handbook explicitly centers on writing systems and literacies as worthy subjects of linguistic study underscores the importance of addressing and contextualizing their marginalization and the consequences it has had for the field.

In the footsteps of the cited authorities of linguistics, many traditionally trained linguists continue(d) to believe that the modality of writing is merely derivative of the spoken modality, entailing that there are no – or at best only negligible – idiosyncratic features of linguistic interest to be discovered in the world's writing systems. This assessment is already inaccurate when it comes to the structural or systematic level, which was most often in focus, but it is especially misguided with respect to the acquisition of literacy, the physiological and cognitive processing of reading and writing as well as the cultural embedding of writing systems and literacy practices, all of which point to the profound impact literacy has (had) on language and its users. It is indeed true that writing is a 'secondary' modality in that it is contingent upon a pre-existing modality in the form of a spoken or a signed language. Accordingly, speaking or signing but not writing can be the first modalities *acquired* (vs. *learned*) by children. However, that does not make writing 'secondary' as in 'less important', and – to phrase it programmatically – it would be foolish to reduce linguistic or interdisciplinary research on writing to assessing phoneme-grapheme correspondences, i.e., the way the sounds of a language are 'depicted' by units of writing. Writing is a cultural technique that not only complements

[1] There are, however, some very specific handbooks such as *The Oxford Handbook of Vowel Harmony* (Ritter and Van der Hulst 2024) or *The Oxford Handbook of Southeast Asian Englishes* (Moody 2024). Admittedly, there also exist exceptions such as the *Routledge Handbook of the English Writing System* (Cook and Ryan 2016) or the *Handbuch Laut, Gebärde, Buchstabe* (Domahs and Primus 2016), but they focus on English and German writing, respectively. An early outlier was the *Handbook of Linguistics* (Aronoff and Rees-Miller 2001), which featured a chapter on writing systems (Daniels 2001).

[2] The page numbers in square brackets indicate the corresponding pages in Wade Baskin's English translation (1959) of Saussure's *Cours de linguistique générale*.

(spoken) language but shapes it – its structures (from phonology to morphology to syntax) but also users' established and emerging communicative practices, their language awareness and language ideologies, individual identities and collective identities (in the form of literate communities) and processes of language standardization that most often form the very core of language policies, which in turn have a tangible impact on people's lives. Against this background, disregarding writing is not an option, and neither is treating it as derivative or ancillary to spoken language. It is an integral part of language systems that have a written modality. "Therefore", as Berg (2019: 4, my translation) puts it, "writing should be an integral part of a model of language". This conviction forms the foundation of the *Handbook of Germanic Writing Systems and Literacies*.

This introductory chapter outlines a comprehensive research program for the study of writing, using Germanic literacy as an exemplary focus. It begins by sketching key paradigmatic and theoretical trends in the field and proposing a framework for systematizing interdisciplinary research on writing (Section 2). Next, it contextualizes the Germanic languages and research on their writing systems and literacies, providing brief profiles and examining how concepts like 'language family' and 'language type' shape the study of writing (Section 3). The chapter then explains the handbook's structure and its selection of topics, drawing on the concept of the 'total (grapho)linguistic fact', which addresses not only the structures of writing but also its use and associated ideologies (Section 4). Finally, the handbook's goals are summarized and critical desiderata for future research are identified (Section 5).

2 The field

This section being titled '*the* field' ought not obscure the fact that there is, indeed, no coherent 'field' studying writing and literacy as of yet. Not for a lack of trying, however: despite the phonocentric doctrine leading to an overemphasis on spoken language (see above), within linguistics (and sometimes incorporating elements of bordering disciplines), myriad attempts have been made at consolidating and establishing a (sub)discipline devoted to writing. The sheer number of such proposals is perspicuously reflected in the multitude of suggested labels for a study of writing, which include but are not limited to *grammatology*, *graphonomy*, *graphology*, *graphem(at)ics*, *orthography*, *writing systems research*, *grapholinguistics*, *script(ur)ology*, and *philography* (see Meletis 2024a for details on the contexts in which they were coined and used). These designations, much like the paradigmatic (theoretical, methodological, …) tenets tied to them, co-exist and are, more or less, in competition, even if their frequency of use varies. When I use one of these names below, this is not meant to insinuate that the associated tradition has ultimately 'won out'; indeed, the field remains very much in flux as core aspects continue to be under negotiation. Thus, what follows can only be a brief (and necessarily selective) sketch of trends in the history of linguistic research on writing, focusing on two lines of development that have fed considerably into the existence and conception of this handbook.

2.1 Trends in the development of the study of writing

The first of them is the German tradition of studying writing in a systematic and theoretical fashion, which dates back to the late 1960s and was initially – if only to some degree – fueled by the motivation to serve a potential reform of German orthography. In 1971, an issue of the

respected German journal *Linguistische Berichte* included several articles on theoretical topics of graphematics, marking the beginning of a more serious engagement with them. In one of those articles, Brekle (1971) references several prior graphematic studies by Anglo-American scholars rooted mostly in American descriptivism.[3] Around that moment, the center of what little theoretical linguistic interest there was in writing appeared to shift from dominant English-language linguistics to the German-speaking realm.[4] Two research groups devoted to matters writing were founded in the politically separated parts of Germany: the *Forschungsgruppe Orthographie* in the GDR in 1974 (see Nerius 2012), and the *Studiengruppe Geschriebene Sprache* in the FRG in 1981 (see Günther 1993). The members of these groups published prolifically: Nerius (1988: 1–2) lists 15 monographs and edited volumes (two in English and 13 in German) published between 1980 and 1987 alone, some of them based on habilitation theses,[5] and concludes that "such works document the current interest of international linguistics in this research topic and demonstrate that an independent linguistic subdiscipline, *Schriftlinguistik* or *Grapholinguistik*, has emerged" (Nerius 1988: 1–2, my translation). Notably, in this quote, Nerius also picks up terms he had previously coined to name the discipline (Nerius 1986; see Meletis 2024a for details). The German tradition would go on to produce the two-volume handbook *Schrift und Schriftlichkeit/Writing and its use* (Günther and Ludwig 1994/1996) with around 150 chapters (most of them in German, some in English) written by German and international scholars, *Einführung in die Schriftlinguistik*, a discipline-defining textbook (Dürscheid 2002; now in its fifth edition of 2016), and, most recently, the comprehensive German-language dictionary *Schriftlinguistik* (Neef, Sahel, and Weingarten 2024). In the spirit of self-reflexivity it should be acknowledged that the present handbook, too, stems from a German context as the series editors (Richard Wiese and Ingo Reich) are both German scholars. Evidently, in German-language linguistics, *Schriftlinguistik* has not only become a well-known term but the discipline it designates has been firmly established as an accepted subdiscipline of linguistics that stands alongside others.[6]

German Schriftlinguistik has always placed a strong emphasis on theory, focusing primarily on questions about how to model the relationship between spoken and written language – specifically, the extent to which writing depends on or is independent of speech – and, relatedly, how to accurately describe the various levels of writing systems. These theoretical concerns are most notably reflected in decades-long, in-depth, and fine-grained debates about the concept of the grapheme, as well as detailed analyses of it (for an overview,

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[3] Among them are Abercrombie (1949), Bazell (1956), Bolinger (1946), Hall (1960), Hamp (1959), McIntosh (1956), Pulgram (1951), and Stetson (1937).

[4] There are, of course, also other important traditions of the study of writing, such as one in France surrounding Nina Catach and the research group *HESO* (*Histoire et structure des orthographes et systèmes d'écritures*); see, for instance, Catach (1990). However, there is a lack of historiography concerning the study of writing, and (individual) linguistic barriers hinder a cross-linguistic reception of important non-English or non-German publications (see Meletis 2021). An accessible historiography of different grapholinguistic traditions from around the world including their theoretical and methodological trends, notable scholars, and significant works remains a desideratum.

[5] In German-speaking countries, the habilitation is the highest academic qualification, typically required for a full professorship. It involves meeting a university's rigorous standards in research, teaching, and advanced scholarship, mostly through a second dissertation, the habilitation thesis. For Günther (1990), the fact that several German scholars devoted their highest academic qualification to topics of writing – which continued well into the 2000s with works like Neef (2005), Fuhrhop (2007), Bredel (2008), or Berg (2019) – echoes a paradigm shift in which a serious engagement with writing no longer needed to be justified.

[6] Although I try to describe these developments as neutrally as possible, given that I myself was socialized in German-language linguistics, I may not be free of biases; cf. Barbarić (2023) for a description of grapholinguistics 'from the outside'; for a critical reflection on biases in the study of writing, see Meletis (2021).

see Kohrt 1986; Meletis 2020: 78–92). Although this was seldom an explicit tenet of works published by German grapholinguists, their theoretical considerations were predominantly based on the writing system of German, making them not only alphabeto- but in many cases specifically Germanocentric, resulting in one of the obvious drawbacks of this tradition: many of its achievements are not readily applicable to a treatment of writing systems other than German, especially typologically non-alphabetic or even non-phonographic writing systems. Cue the second line of development.

This second line is less coherent in that it is – at least initially – less institutionalized and driven more by individuals and their works rather than a 'community' that formed or that can be reconstructed historiographically. One of the most important works on writing long pre-dates German Schriftlinguistik: Ignace J. Gelb's (1952) *A study of writing*. While its assumption of a teleological development of writing through typological stages was ultimately misguided (and has since often been refuted, see Daniels 2018: 133–135), Gelb's book was successful in laying important foundations for the study of writing – and, at a metalevel, highlighting the importance and feasibility of studying it. Following this tradition, starting in the 1980s, several books took a similar approach in that they treated multiple different (types of) writing systems by describing them in dedicated chapters: Sampson (1985, second edition 2015), the volume edited by Daniels and Bright (1996), Coulmas[7] (1989, 2002), Rogers (2005), Gnanadesikan (2009), and Daniels (2018) are important examples. Their focus is descriptive and typological but not comparative in a narrower sense: The descriptions of the individual systems (such as Chinese and Japanese, which feature prominently) are fine-grained, as is the question of how they fit into a typology of writing systems based on the question of which unit of language the smallest units of writing relate to (the 'dominant level of representational mapping', Joyce and Meletis 2021). However, the methods of description remain largely system-specific, as no overarching theoretical questions are posed – such as those regarding comparative concepts that could enable a unified description of all writing systems, regardless of their functional or material diversity.[8]

Given the respective shortcomings of a theoretical, Germanocentric Schriflinguistik on the one hand and a descriptive, 'theory-light' and typological study of writing represented by book-length works published in English on the other, one could conclude that "a mixture of the two approaches appears most fruitful: careful descriptions of vastly diverse writing systems can only inform theoretical work, including models, concepts, and, in general, abstractions" (Meletis 2020: 7). This paradigmatic marriage has been a long time coming: In 1997, the first workshop of the *Association for Written Language and Literacy* was held in the Netherlands. It started a workshop series that would take place and bring together scholars from around the globe, and the associated John Benjamins journal *Written Language & Literacy* was founded in 1998. What the workshop series as well as the journal can be credited with is a push for interdisciplinarity and collaboration, as from the start, not only linguists but also psycholinguists and cognitive linguists (among others) have contributed on issues of the processing of writing. Disciplines and academic traditions were further mingled when scholars of German Schriftlinguistik like Beatrice Primus, Martin Neef, and Nanna Fuhrhop attended

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[7] Florian Coulmas marks a special case as he is a German scholar and was a member of the *Studiengruppe Geschriebene Sprache* but soon started publishing (mostly) in English, with his works exhibiting traits of both lines of development – which is evident in Coulmas (1989) including a general theoretical chapter before the system-specific descriptions.

[8] This is arguably in part due to Peter T. Daniels, an influential authority in the study of writing who has published widely on historical and typological issues, rejecting the possibility of a 'structural graphemics' (Daniels 1991) and with it the use of linguistic tools and concepts in the study of writing in general (Daniels 2017, 2018).

the workshops and, in some cases, became integral parts also of an international community.[9] A similar feat has been achieved by the more recent conference series *Grapholinguistics in the 21st Century*, whose inaugural iteration was held in 2018 in France and whose proceedings are published in the associated book series *Grapholinguistics and its Applications* edited by Yannis Haralambous. Scholars from a wide range of disciplines with an interest in writing are invited and actively participate, presenting their research and creating a dynamic forum that reveals the current state of the ever-evolving study of writing.

What the developments sketched above have amounted to is a current state of scholarship on writing that is characterized by remarkable diversity in various respects: As of yet, at least on an international level,[10] there are no dominant theoretical frameworks (and sometimes not even a consensus on the very basic axioms[11]), no clear methodologies, no uniform concepts or terminology. Because writing has been 'shut out' of linguistics for a long time, research on writing is often independent of any prevalent paradigms, making it theory-neutral or framework-free (see Haspelmath 2009) and thus versatile in allowing a potential integration into existing linguistic theories. What I present in the following section is a recent proposal for a relatively framework-free systematization of writing-related research that can serve as the foundation of an explanatory theory and field of writing – a so-called *grapholinguistics* – and is useful for both atomistic questions concerning specific phenomena of writing or literacy and holistic questions regarding entire writing systems or literate cultures – or writing and literacy in general (see Meletis 2020: 391). It is grounded in both lines of development outlined above, with central features being interdisciplinarity and multiperspectivity.

2.2 A sketch of an interdisciplinary grapholinguistics

Although no exhaustive overview of an interdisciplinary grapholinguistics can be given in the scope of this chapter (for that, see Meletis 2020; Meletis and Dürscheid 2022), its primary principles shall be presented to allow for a contextualization of research on Germanic writing systems. Grapholinguistics involves two interrelated main pillars: (1) description and (2) explanation.

(1) Description focuses on *how* writing systems are structured. This requires a comprehensive description-comparison approach (Haspelmath 2023) that incorporates comparative concepts suitable for analyzing the multiple dimensions of the most diverse writing systems. A descriptive – and in large part structural(ist) – grapholinguistics encompasses three major subfields eponymous with the respective subsystems of writing systems that they study (see Meletis 2020, but also more recently Bredel 2024 for this tripartite division):

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[9] For example, from 2008 to 2015, Martin Neef was General Editor of *Written Language & Literacy*.

[10] In the German-speaking region, a certain line of research appears to have manifested its dominance: It is founded on the tenet that graphematics must be studied (relatively) independently of phonology (and other levels of language) as this is the only way to uncover both parallels as well as interrelations (see, for instance, Fuhrhop and Peters 2023, and also Fuhrhop, this volume). This is also evident in Reinken's (2022: 101, my translation) claim that "this debate can now be considered settled, with hardly any graphematician still adhering to a purely autonomous or phonographic perspective". While this may be true for the German tradition, it is inaccurate when considering the state of international research on writing (see also the next footnote).

[11] This is nowhere as evident as in the different uses of the term *grapheme* (see Henderson 1982): in one case it denotes functional units of the writing system that relate to other structures of language (granting writing a certain independence), in the other it merely refers to depictions of phonemes (treating writing as derivative), echoing a discord regarding the most basic theoretical and methodological level of the study of writing. Both uses can still be found in new publications more than forty years after Henderson observed this distinction.

- *Graphetics* examines the material, i.e., visual and tactile aspects of writing, such as the form of shapes, the spatial arrangement of texts, and tools or materials used in production and perception processes.
- *Graphematics* investigates the systematic relationship between written units (e.g., graphemes) and linguistic units (e.g., phonemes or morphemes), as well as how these written units are combined into larger elements like written words and sentences (and the written phenomena that are relevant at these levels, such as word spacing and punctuation).
- *Orthography* addresses the normative conventions or rules that dictate the correct usage of a writing system, frequently but not necessarily imposed by (semi-)official external authorities of language policy. While graphematics deals with what is systemically *possible* and/or occurs in actual usage, orthography determines what is deemed *correct* or *appropriate* within a norm that is – most often, but not always – codified in regulatory works such as spelling rulebooks and/or official dictionaries.

A writing system, now, consists of at least the first and the second subsystems: it must have a material substance (graphetics) that is related to language (graphematics); this conception also highlights that what is adhered to here is a narrow, i.e., glottographic definition of writing in which only graphic marks that relate directly to language are considered to be writing (see Daniels 2023 for a recent discussion of what counts as writing).

(2) Explanation, then, seeks to understand *why* writing systems take their particular forms. To investigate this question, it is important to acknowledge that writing systems fulfill multiple roles simultaneously: they serve as semiotic systems linking graphic marks to language, media for written communication that must be processed by users, and sociocultural tools and symbols of identity, to name only a few. Examining these roles requires insights from diverse perspectives, encompassing not only linguistic structure but also usage-based evidence from psycholinguistics, the cognitive sciences, sociolinguistics, and anthropology, among others.

Furthermore, different writing systems prioritize these roles to varying degrees, leading to the concept of evaluative explanatory categories for comparing systems, which here are named 'fits'[12] (cf. Meletis 2018, 2020):

- The *linguistic fit* evaluates how effectively a writing system aligns with the linguistic structure(s) of the language it is based on.
- The *processing fit* considers the system's suitability for human cognitive and physiological processing, including its learnability.
- The *sociocultural fit* examines how well the system meets its users' social, cultural, communicative, identity-related, etc. needs.

[12] What I learned as an editor of this handbook is that 'fit' had already been used in this evaluative sense with respect to writing by Belgian philologist and runologist René Derolez (1921–2005), who spoke of a 'perfect fit' of the 'one grapheme—one phoneme' relationship exhibited by runes (Derolez 1952: 31–33; see also Bauer, this volume). This relationship is, of course, still frequently treated as an ideal with respect to the makeup of writing systems (and its processing, cf. the concept of *orthographic depth*), and it is a subaspect of what I call the *linguistic fit*.

The latter two fits can help in providing a working definition for the complex and ambiguous term of literacy (see also Perry, this volume), which here is read in a dynamic, process- and practice-oriented view to contrast with the more static and structural 'writing system'. Specifically, the processing and sociocultural fits highlight that literacy not only encompasses reading and writing as learned (cognitive) skillsets but also acknowledges the perspective of the multitude of literacy practices that are embedded in sociocultural, historical, political and, most importantly, ideologically fueled contexts that cannot (or should not) be separated from our understanding of 'literacy' (Meletis 2024b).

By integrating these descriptive and explanatory approaches, we can approximate the 'total grapholinguistic fact' (see Section 4.2 for more detail), aligning a writing system's structure with its use and the ideologies surrounding it. This framework enables both in-depth analyses of individual systems and meaningful cross-system comparisons. To illustrate it further, Table 1 collects sample research questions that are explored in this handbook's chapters (for more general research questions on writing, see Section 4.2). Note that the assignment of a question to any one sublevel and/or fit is heuristic and due to the limits of tabular presentation; often, questions concern more than one level and actually showcase the complex interaction of the three fits. Also, this systematization into descriptive subfields and evaluative explanatory fits is not yet widely received (at least explicitly); this means that the individual chapters of this handbook do not necessarily adhere to it, whereas it has definitely shaped the conception of the handbook, i.e., its macrostructure and the choice of topics (see Section 4.2).

Table 1: Interaction of description and explanation in grapholinguistics illustrated by selected research questions; numbers in parentheses indicate chapters of the handbook in which these or related questions are treated

explanation / **description**	**linguistic fit** How does the writing system fit the language?	**processing fit** How does the writing system fit users' physiological and cognitive processing?	**sociocultural fit** How does the writing system fit the literate community's sociocultural wishes and expectations?
graphetics (material) studies the formal and material aspects of a writing system (and their functions)	How did typesetters' practices influence spelling? (23) How does the feature of 'length' visualize graphematic syllable structures? (2, 23) How can the non-linearity of sign language be represented in notation/writing systems? (9)	How do different scripts used in literacy instruction influence the acquisition of handwriting? (24) How did the adaptation of different media and writing tools influence the shapes of writing? (12)	Why does Yiddish use Hebrew script (vs. Latin script)? (7) How is (non-standard) typography used for auto- or hetero-references? (22) What are the motivations for the creation of a new script? (11)
graphem(at)ics (linguistic/systematic) studies the genuinely 'linguistic' aspects of a writing system, i.e., how	How transparent are grapheme-phoneme correspondences? (1–8) How is 'foreign' material (e.g., foreign words, loan words) integrated into	How does orthographic depth influence the acquisition of literacy (14), spelling (16), reading (17), and disorders of reading and writing (18)?	How does language contact influence the systematics of a writing system? (1, 21) How may an exoglossic standard influence the

graphic resources relate to language	the writing system? (1–8, 10) Which linguistic functions (in a narrow or broad sense) does punctuation serve? (2, 4)	How does the choice of a specific target unit (phoneme, syllable, word, …) in literacy instruction shape literacy acquisition? (15)	development of a writing system? (13) Which pragmatic functions are fulfilled by variation in digital writing? (25) Do minority languages create their own writing system from scratch or do they adopt existing graphematic principles from a dominating language – if so, which? (8)
orthography (normative) studies normative aspects of the writing system (including externally codified rules governing its 'correct' use)	What linguistic arguments are raised in the discussion of spelling reform proposals? (20) How suitable are proposals of orthographic standards for the representation of a specific language? (21)	What role do education and educational reforms and discourses surrounding the acquisition of literacy play in the consolidation and dissemination of norms? (19)	How do language ideologies shape decision-making with respect to the orthographic standard? (20, 21) How are perceptions of one's own literacy influenced by the mastery of conventional orthographic knowledge? (26)

3 The language family, its writing systems and literate communities

This section will scrutinize the role of language families and types in the study of associated writing systems (3.1) and present the state of research regarding different Germanic languages (3.2) before providing brief descriptions of the languages that feature prominently in this handbook (3.3).

3.1 'Language family' and 'language type' and their meaning for writing

This handbook, of course, is not about writing systems and literacy in general but centers around a specific language family, the Germanic languages. Figure 2 (printed in the appendix) gives a selective overview of genetic relationships among the Germanic languages, with the most meaningful subdivision being the one in East Germanic languages – all of which are extinct – on the one hand and North and West Germanic languages on the other (see the chapters in Part II for a diachronic overview of these branches). From a typological perspective – and depending on the dimension one is looking at – marginally different groupings may emerge, a notable example being Norwegian, which is frequently grouped as a Continental Scandinavian language together with the geographically proximate Swedish and Danish rather than with its genetically closer relatives Icelandic and Faroese, which often receive the typological label Insular Scandinavian (Askedal 2005). Crucially, genetic relationships as well as typological

affiliations mainly affect modality-indifferent characteristics of a language (such as morphological features like gender or case or syntactic features like word order) as well as its main modality, the spoken one, which is why they may not have a significant impact on the associated writing systems. The reason for this is that different tendencies or principles are at play in different literate traditions, with English or Elfdalian, for example, being rather conservative, preserving historical and etymological spellings, while other writing systems like Afrikaans allow for more innovation and remain closer to their spoken equivalents. Afrikaans, of course, is much younger than English, highlighting that the question of how long literacy has existed in/for a language – i.e., the 'age' of a writing system and literate tradition – is relevant, as are aspects such as the (degree of) standardization and regulation and their main aim of unifying and curbing the literate practices of users in a language community.

Consequently, concepts such as 'language family' or 'language type' do not necessarily have much impact on the study of writing systems, as the latter often develop along different lines based on a multitude of criteria. With regard to typology, a comparison of language types and types of writing systems is enlightening: when compared with, for instance, the number of morphological language types (e.g., agglutinative, fusional, isolating) and the diversity among the members assigned to them, writing system typology appears, at first glance, almost impoverished (which also makes it much more manageable). With the major subdivision in primary[13] (1) *phonography* vs. primary (2) *morphography* and only few major subtypes of the former – (1a) *segmentaries* characterized by different degrees of representation of vowels, as well as (1b) *syllabaries* – there exist only about a handful of important types of writing systems (see Figure 1). The Germanic languages, now, despite their genetic and typological diversity, all belong to one type: they are fully vowelled segmentaries – which traditionally are called 'alphabets'. Due to their segmental phonographic nature, alphabets usually exhibit small grapheme inventories and are, as the only type of writing system, characterized by bicamerality, i.e., the existence of corresponding sets of upper- and lowercase letters (see Meletis 2024c). An exception is Yiddish, the only Germanic writing system that does not use a version of the Latin script (often augmented or modified; see Table 6 in the Appendix).[14] Another noteworthy case is braille, a distinct script and type of writing used for all Germanic languages, which is only partially alphabetic (see Spitzmüller and Klein, this volume). A descriptive focus is put on grapheme-phoneme correspondences, which from a psycholinguistic processing perspective translate to so-called *orthographic depth* (Katz and Frost 1992), a phonocentric measure capturing phonographic transparency and yielding, very simply put, the hypothesis that phonographically transparent writing systems are easier to learn.

[13] For the difference between primary and secondary phonography/morphography, see Meletis and Dürscheid (2022: 216–217).

[14] An exception outside of the Germanic branch is Georgian. On the other hand, non-alphabetic writing systems that do have a case distinction are the Warang City abugida and the Cherokee syllabary.

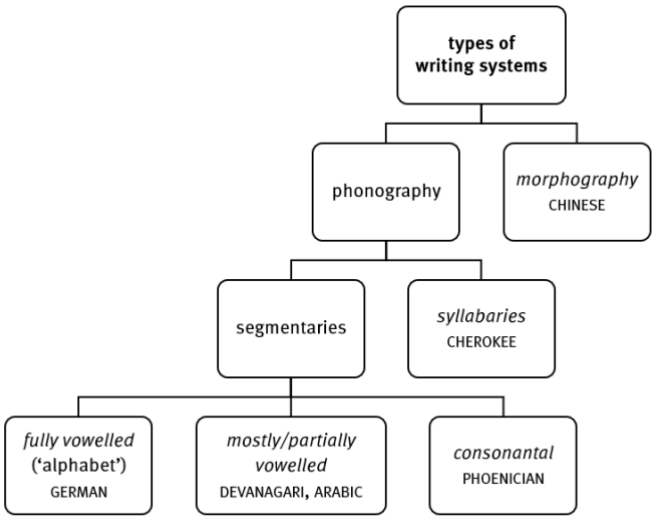

Figure 1: Simplified typology of writing systems. Macrotypes are set in roman font, types in *italics*, example systems in SMALL CAPITALS. For the definition of 'segmentary' and the proposal of subtypes, see Gnanadesikan (2017).

3.2 Research on Germanic languages and writing systems

Germanic writing systems are widespread and overrepresented in research, especially the two most widely used ones: English is a global lingua franca being used by over 1,5 billion people (around 400 million of those are L1 speakers) and has cemented itself as *the* language that linguistic theories and paradigms are based on. Research on writing is no exception here, be it structuralist or, for instance, psycholinguistic: Psychologist David Share therefore speaks of "the Anglocentricities of current reading research and practice" and the associated "perils of [an] overreliance on an 'outlier' orthography" (Share 2008). Typologically – both with regards to language typology and writing system typology – English is just that: a ubiquitous outlier that in many respects is unsuited to serve as a theoretical base line; if it is still used as such, we run the risk of skewing the picture. As already mentioned in Section 2, due to the rise of *Schriftlinguistik* in the German-speaking realm, something similar applies to German, which is used by around 130 million people around the world, making it the second most widespread Germanic language: many proposed concepts (such as the graphematic syllable, see Fuhrhop and Buchmann 2009) are catered to German and thus characterized by their limited applicability to other, especially typologically different and non-Latin script-based writing systems. At the other end of the spectrum, we find Yiddish, which is (with the exception of minority languages, see below) possibly the most underrepresented of the Germanic languages in (grapho)linguistic research; this, as Schäfer (2023) notes, is likely related to its use of Hebrew script, which acts as a scriptual barrier and highlights, on the other hand, the taken-for-granted accessibility of Latin script-based systems.

The number of speakers of a language – especially L1 speakers, a core factor of the vitality of a language, is, of course, contributing to the quantity of research devoted to it. Intricately related to vitality are also aspects such as standardization, institutionalization and (other) language political issues. Unsurprisingly, thus, research on minority languages such as Elfdalian – spoken by around 2,400 people – or the severely endangered Wymysorys – spoken by under 100 people – is sparse, even more so research published in a language other than the minority language itself (see Bergqvist, this volume).

Almost entirely marginalized by (grapho)linguistics are non-prototypical forms or systems of writing: this concerns notation and writing systems created to represent sign languages, which are not genetically related to the spoken languages used in the same area(s) and show different kinds of genetic relationships among each other that do not parallel those of spoken languages (see Abner et al. 2024). In this handbook, Bianchini highlights systems for transcribing or writing those sign languages that are used in the 'Germanic area' (see also Vermeerbergen and Engberg-Pedersen 2024). Also marginalized is braille, which is a type of script based on raised dots in cells that is used to write the Germanic languages (among myriad other languages), thus contributing to a situation of a very conditioned biscriptality (see Bunčić 2016 for this concept). Linguistically, these two types of writing are unique in that they rely on non-prototypical and understudied aspects of writing such as non-linearity and tactility, both of which challenge traditional, linear and visuocentric definitions of writing. Also, their peripheral status in (grapho)linguistic research undeniably echoes a marginalization and even discrimination of their primary users – or what we assume to be their primary users and the (dis)abilities we naively ascribe to them (see also Spitzmüller and Klein, this volume).

3.3 Short profiles of covered languages

The following languages will be covered in the handbook through an exploration of their respective writing systems. The dedicated chapters give more detailed information, but for the sake of an overview and contextualization, short descriptions shall be given here (see Table 6 in the Appendix for a tabular presentation). These are focused on the modern languages and are grouped by genetic/typological affiliation (with the exception of minority languages and non-prototypical forms of writing); the extinct East Germanic branch is not mentioned here but does feature in the diachronic part of the handbook (Falluomini, this volume).

West Germanic

English, spoken by approximately 1,5 billion people globally, is the most widely used Germanic language. While its native speakers primarily reside in countries such as the United States, the United Kingdom, Canada, Australia, and New Zealand, non-native speakers far outnumber native ones. English employs the basic set of Latin script, consisting of 26 units, and its orthography is notable for irregular spelling patterns. These inconsistencies arise from historical influences, including borrowings from Norman French and other languages, as well as phonological shifts such as the Great Vowel Shift. Despite lacking a central regulatory body, institutions like the *Oxford English Dictionary* and *Merriam-Webster* serve as de facto authorities for British and American English, respectively.

German is spoken by around 90 million native speakers, predominantly in Germany, Austria, and Switzerland, with an additional 40 million speakers using it as a second language. Its writing system, also based on Latin script, includes unique graphemes such as the umlauted vowels (<ä>, <ö>, <ü>) and – with the exception of Swiss and Liechtenstein varieties – the Eszett (<ß>). In the late 20th century, controversial reforms were implemented to simplify spelling rules. Recently, standardization efforts have been led by the Council for German Orthography (*Rat für deutsche Rechtschreibung*). The German writing system exhibits notable features such as stem constancy and capitalization of heads of noun phrases, both of which contribute to its distinctiveness and complexity.

Dutch is spoken by approximately 23 million people in the Netherlands and Belgium, with an additional 2 million second-language speakers worldwide. The Dutch Language Union (*Nederlandse Taalunie*) oversees standardization, ensuring consistency in spelling and grammar. The Dutch writing system is relatively phonetic, facilitating literacy acquisition, though learners may encounter challenges with, for example, (de)gemination, compound words, and verb spelling.

Afrikaans, a daughter language of Dutch, has about 7 million native speakers, primarily in South Africa and Namibia, with over 10 million additional speakers using it as a second language. Its writing system is regulated by the Language Commission of the South African Academy for Science and Arts (*Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns*). Syllable structure plays a crucial role in structuring spelling.

Yiddish, spoken by around 1,5 million people worldwide, is unique among Germanic languages for using the Hebrew script. The YIVO (יִיוואָ) Institute for Jewish Research promotes standardization, particularly the YIVO orthography, which balances historical fidelity with modern needs. Yiddish literacy practices reflect its fusion of Hebrew, German, and Slavic influences, making it a linguistic testament to its speakers' diverse heritage.

Luxembourgish,[15] spoken by approximately 400,000 people, is the national language of Luxembourg. Its writing system, regulated by the Permanent Council for the Luxembourgish language (*Conseil permanent de la langue luxembourgeoise*) and the Centre for the Luxembourgish language (*Zenter fir d'Lëtzebuerger Sprooch*), employs the Latin script with additional diacritics, such as the circumflex. Standardization efforts have aimed to codify grammar and spelling, supporting its use in education and administration.

North Germanic: Continental Scandinavian

Norwegian is spoken by approximately 5,5 million people and exists in two official written standards: Bokmål (used by 90% of people) and Nynorsk (used by 10%, see Nesse 2023). Bokmål is heavily influenced by Danish, while Nynorsk derives from rural Norwegian dialects. The Language Council of Norway (*Språkrådet*) oversees both forms. This duality reflects historical tensions and presents challenges for learners, although both standards are relatively phonetic.

Danish, with around 6 million speakers, primarily in Denmark, employs the Latin script supplemented by the letters <æ>, <ø>, and <å>. Its orthography is regulated by the Danish Language Council (*Dansk Sprognævn*). Danish is known for its complex relationship between spelling and pronunciation, with significant phonological changes over time creating orthographic opacity and more morphographic spellings.

Swedish is spoken by approximately 10 million people in Sweden and parts of Finland. Its writing system uses the Latin script, including the letters <å>, <ä>, and <ö>. The Swedish Language Council (*Språkrådet*) and the Swedish Academy (*Svenska Akademien*) oversee its standardization. Swedish orthography is largely phonetic, though irregularities exist, particularly in distinguishing similar-sounding words.

North Germanic: Insular Scandinavian

Icelandic, spoken by about 321,000 people, has a highly phonetic writing system rooted in Old Norse. The Árni Magnússon Institute for Icelandic Studies (*Stofnun Árna Magnússonar í íslenskum fræðum*) regulates the language. Notable features include the retention of medieval characters like <þ> (thorn) and <ð> (eth), reflecting a strong connection to its linguistic heritage.

Faroese, with approximately 48,000 speakers, uses the Latin script with additional letters such as <ð> and <ø>. The Faroese Language Board (*Málráðið*) oversees its standardization. Faroese orthography is etymologically driven, often diverging from pronunciation, which poses challenges for literacy acquisition.

Minority languages[16]

The Frisian languages include the mutually unintelligible West Frisian, North Frisian, and Saterland Frisian, with a combined speaker base of around 500,000. West Frisian, the most standardized of them, is regulated by the Frisian Academy (*Fryske Akademy*). Each variety

[15] Because it is a prime example of the effects of language and writing system contact, Luxembourgish is treated in detail in precisely this context in Part IV (*Practices and ideologies*) instead of having its own chapter in Part I (*Synchronic structure*). This placement can – and maybe should – be critically evaluated.

[16] Another notable minority language that is, unfortunately, not treated in the handbook is Low German.

employs the Latin script and faces challenges in promoting literacy due to limited use in formal education.

Elfdalian, spoken by approximately 2,400 people in Sweden, uses a modified version of Latin script. Efforts to standardize its writing system are relatively recent, driven by local initiatives and the Elfdalian Language Council (*Råðdjärum/Älvdalska språkrådet*). Its orthography reflects phonetic principles but faces challenges due to limited institutional support.

Wymysorys, spoken by fewer than 100 people in Poland, employs a Latin-based alphabet influenced by both Germanic and Polish conventions. With no formal regulatory body, revitalization efforts are grassroots-driven, focusing on creating educational resources and fostering community use.

'Non-prototypical' writing

Sign languages in the Germanic region, such as German Sign Language (DGS) and British Sign Language (BSL), lack widespread written systems. Notation systems like HamNoSys aim to transcribe these languages, supporting linguistic research and education. Adoption of actual writing systems such as SignWriting remains limited, highlighting the challenges of creating practical, accessible writing systems that adequately capture signed communication (including its complex spatiality, i.e., non-linearity).

Braille, a tactile script with various variants, is used across Germanic languages, with the primary goal of enabling literacy for visually impaired individuals. It employs a dot-cell structure, adapted for each language's orthography. Regulatory bodies ensure consistency in its application, with electronic braille displays expanding access. Braille underscores the inclusivity of writing systems, bridging sensory modalities for literacy, but highlights the visuocentrism of (grapho)linguistics and exclusion of non-visual modes of writing.

4 The handbook and its topics

4.1 Choice and plurality of approaches

As of yet, no approaches to studying writing – at least not ones accessible to international, English-speaking scholarship – have established themselves as dominant or standard approaches. Thus, the authors of the present handbook were free to approach the topics they were invited to cover in whatever way they saw fit. This, of course, has obvious disadvantages: as a reviewer rightfully criticized, it diminishes comparability. The findings yielded by Part I's chapters on modern writing systems, for instance, cannot as readily be compared with one another as would be the case had they followed the same blueprint. However, it can be countered that this adequately and realistically captures the current state of the field: it is still under negotiation, with different traditions – especially in geographically distinct parts of the Germanic area (and beyond)[17] – coexisting and/or competing. Thus, at this point in time, any decision to favor an approach would be an intervention that resulting in a rather arbitrary monopolization of that approach at the hands of a few editors.[18] Let us not forget practical

[17] The authors of the following chapters come from/are affiliated with institutions from 14 countries.

[18] This is arguably what was done in the case of the *Handbuch Laut, Gebärde, Buchstabe* (Domahs and Primus 2016). Rooted in a German(ist) context and featuring authors who had collaborated in establishing a certain (suprasegmental) approach to studying (German) writing, it focused on the analysis of certain structures in writing

considerations: it is often challenging enough to generally find an author willing to write the chapter covering a given topic; finding authors willing to first familiarize themselves with a theoretical or methodological approach hitherto foreign to them is, arguably, almost unfeasible. As a consequence, this handbook highlights the plurality and diversity of approaches to writing coexisting at the time of its publication. Needless to say, in 10–20 years, a comparative handbook on writing featuring contributions by international scholars may already look drastically different.

Another decision that needed to be made was whether to dedicate chapters to descriptions of individual languages (like in König and van der Auwera 1994 for Germanic languages, Daniels and Bright 1996 for writing systems, or Evertz-Rittich 2024 for West Germanic writing systems) or the comparative treatment of specific structures and phenomena (like Herbert 2007 or Putnam and Page 2020 for Germanic languages, Domahs and Primus 2016 for the German writing system, and Meletis 2020 for writing in general). In the end, both approaches feature in the handbook: Partially due to the lack of researchers who felt comfortable both in the comparison of a large range of Germanic languages *and* the study of writing, Part I features chapters on individual writing systems (1–8) as well as specific forms of writing, which are analyzed comparatively (9–10). Part II, with its chapters on the diachronic development in the three branches of Germanic languages, inherently blends the individual with the comparative. Finally, Parts III and IV are comparative: psycholinguistic and sociolinguistic topics like literacy acquisition or contact between writing systems are explored either with data from a breadth of Germanic writing systems (if such data exist) or with case studies or comparisons of selected systems.

4.2 System, use, and ideology: The total grapholinguistic fact and the handbook's parts

Looking at only the structures of a writing system would fail to do justice the fact that this system is shaped by and shapes its use, and this use is embedded in complex contexts and dependent on users. This is undeniably true also for language in general, which is why linguist Michael Silverstein, in seeking to acknowledge aspects usually ignored in traditional (structure-focused) linguistic research, proposed exploring the 'total linguistic fact'[19], accounting for the "unstable mutual interaction of meaningful sign forms, contextualised to situations of interested human use and mediated by the fact of cultural ideology" (Silverstein 1985: 220). In other words, the three pillars of the total linguistic fact are the *system* (consisting of the signs), its *use* by human users, and the mediation of both system and use by *ideology* (or rather plural ideologies). In the context of writing systems and literacies, these pillars and a corresponding 'total grapholinguistic fact' largely overlap with and can be studied with the help of the proposed grapholinguistic fits – linguistic, processing, and sociocultural – as well as the interactions between them (Section 2.2).

System, use, and ideology were also the driving force in deciding on a structure and selecting the topics for this handbook: systems and their structures are primarily treated in Part I, titled *Structure*, as well as – from a diachronic perspective – in Part II, *History and*

– such as individual letters, syllables, feet, etc. This is warranted and sensible when the authors are familiar both with the approach used to exemplify these structures and the language(s) they should be exemplified in/with. On the other hand, it is doubly restrictive by singling out one approach and, in this case, applying it to only one or few languages that the approach had been based on all along.

[19] See Pennycook (2023) for further developments and modifications of this approach that contribute to the study of a more broadly defined 'total semiotic fact'.

development. Psycholinguistic and didactic aspects of use – from literacy acquisition and the necessary literacy instruction to healthy and disturbed spelling and reading processes – are attended to in Part III, *Learning, teaching, and use*. In a broad sense sociolinguistic aspects of use as well as the impact of ideologies are then the core of Part IV, *Practices and ideologies*, which is the most selective and thus arguably least exhaustive of the four parts, covering topics such as standardization and reform, typography, handwriting, digital writing, and ideologies on/of literacy. Realistically (and ideally), a study of any of the three pillars of system, use, and ideology must acknowledge their interaction and bleeding into each other. For instance, questions of the system often cannot feasibly be answered without a consideration of its use. The importance of all three pillars in all parts of the handbook is emphasized by the (selective) collection of research questions regarding writing and literacy collected in Tables 2 to 5 and their (heuristic) assignment to one of the pillars. Note that these are general research questions that are not only of relevance to and addressed by this handbook, but which form the very center of the research program that is grapholinguistics.

4.2.1 Part I: Structure

Geoffrey Sampson investigates the evolution of the English writing system, tracing its development from Old English runes to its present-day complexities. He examines the initial phonetic nature of Old English orthography, where the principle of "one sound – one symbol" prevailed. Sampson analyzes transformative events, such as the Norman Conquest and the Great Vowel Shift, which disrupted phonetic clarity and introduced irregularities. He also compares the absence of a central language authority in English to regulated systems like French. Finally, the chapter addresses contemporary challenges in literacy education and the global dynamics influencing English spelling today.

In her chapter, Nanna Fuhrhop provides an in-depth analysis of the German writing system, demonstrating how Roman-based graphemes (e.g., <ä>, <ö>, <ü>, and <ß>) and principles such as stem constancy, noun capitalization, and compound formation shape written German. She emphasizes that these systematic features, governing over 95% of native vocabulary, yield a remarkably consistent system. Fuhrhop illustrates how morphological relationships, syllable structures, and syntactic functions intersect to create regularities that benefit both linguists and learners.

Anneke Neijt's contribution traces the evolution of Dutch spelling, focusing on the historical forces, political decisions, and linguistic principles that have shaped the system. She explores pivotal standardization efforts, notably "De Vries en Te Winkel" in the nineteenth century, and reviews subsequent reforms from 1934 through 2006. Neijt also discusses the role of the Taalunie, showing how debates over phonology, morphology, and cultural identity continue to shape spelling conventions. By revealing the tension between preserving tradition and adapting to modern needs, her chapter sheds light on the complexity and ongoing relevance of Dutch orthography among the Germanic writing systems.

Ernst Kotzé turns his attention to Afrikaans, a language with deep Dutch roots that has evolved into an independent system spoken primarily in South Africa and Namibia. Codified by Act 23 in 1921, Afrikaans orthography aligns closely with its phonology, accommodating monographs, digraphs, and trigraphs. Kotzé's chapter examines how syllabic structure, historical reforms, and loanword integration have shaped a writing system that balances adaptability with consistency. He also considers the sociolinguistic implications of Afrikaans'

global reach. Overall, this examination demonstrates the language's enduring ability to negotiate changes while preserving its distinct identity.

Steffen Höder investigates the modern Continental Scandinavian languages – Norwegian, Swedish, and Danish – through their intertwined historical roots and distinctive phonological and orthographic evolutions. He focuses on Norway's dual standards of Bokmål and Nynorsk, the medieval origins of Swedish and Danish norms, and the cultural resonance of graphemes like <å>, <æ>, and <ö>. By analyzing phonological variation – particularly in Danish – Höder illuminates ongoing debates surrounding language identity and standardization. Ultimately, his chapter shows how historical legacies, socio-political transformations, and divergent practices shape these Scandinavian writing systems and their communities.

Shedding light on Old Norse legacies, Haukur Þorgeirsson examines the diverging orthographic paths of Icelandic and Faroese. He explores how both languages, shaped by 19th-century standardization efforts, balance historical fidelity with modern utility. While Icelandic retains medieval spelling distinctions that challenge learners, Faroese's etymological elements often obscure pronunciation. Þorgeirsson investigates key factors such as medieval roots, Rasmus Rask's influence, and evolving vowel and consonant systems that complicate written forms. Ultimately, his chapter delves into how orthographic decisions reflect cultural identity and raise questions about accessibility, education, and the tension between tradition and linguistic change.

In their contribution, Lily Kahn, Sonya Yampolskaya, and Kriszta Eszter Szendroi explore the evolution of Yiddish orthography from its 11th-century roots to its modern forms, emphasizing the pivotal role of the Hebrew alphabet. Through Max Weinreich's periodization (Early, Old, Middle, and Modern Yiddish), they analyze shifts in vowel representation, the impact of printing conventions, and contrasting orthographic systems, including YIVO and Soviet variants. By examining the influence of social, political, and linguistic forces, the authors reveal how Yiddish spelling serves as both a marker of Jewish cultural identity and a testament to the language's resilience across history.

Exploring lesser-known Germanic languages, Simon Bergqvist investigates the diverse writing systems of Frisian (West, North, and Saterland), Elfdalian, and Wymysorys. Each case provides unique insights into how spoken varieties, often lacking robust written traditions, have been codified and standardized through graphization processes. Bergqvist examines the role of community acceptance, historical legacies, and linguistic diversity in shaping orthographic practices. Whether addressing dialectal variation in North Frisian or the reintroduction of writing for endangered tongues like Saterland Frisian, his analysis highlights how graphization is both a technical and cultural endeavor in preserving these minority languages.

Turning her attention to sign languages used in Germanic regions, Claudia S. Bianchini outlines the unique notational challenges they present. She distinguishes transcription systems for linguistic analysis – such as Stokoe Notation and HamNoSys – from writing systems like SignWriting, which enable broader communication among deaf communities. Bianchini examines how cultural factors, technological constraints, and users' practical needs influence the development of these systems. While no single system has achieved universal adoption, her chapter demonstrates how these efforts reflect a deeper cultural movement to expand sign languages' presence in education and literature.

Braille is more than a tactile code: in their chapter, Jürgen Spitzmüller and David Klein explore its historical origins, systemic features, and sociolinguistic dimensions within the Germanic languages. They investigate the script's standardization processes, its role for users who are often underrepresented, and its significance beyond transcription. By framing braille

as a full-fledged script with sociocultural and linguistic dimensions, the authors challenge traditional views of writing and reading. Their discussion advocates for broader script-theoretical recognition and inclusive policies that reflect its enduring relevance in literacy and identity.

Table 2: Selected questions treated in Part I (*Structure*)

system	**use**	**ideology**
How do writing systems fit their languages – and which developmental stage of a language? What is the degree of phonography, morphography, and what are the other 'principles' at work in the system? How standardized is the writing system? How is foreign material dealt with? How is 'writing' defined and what are the limits of the definition? How do 'outlier' cases such as braille or writing systems for sign languages challenge traditional definitions of writing with aspects such as tactility and non-linearity?	Why is Yiddish the only Germanic writing system to use a different script?	

4.2.2 Part II: History and development

Carla Falluomini focuses on the literacy practices of East Germanic peoples, particularly the Goths, tracing how runic, Latin, and Greek alphabets shaped their written heritage. She examines Wulfila's critical role in developing the Gothic script, which was used to translate biblical texts and establish a literary tradition. By analyzing limited but significant evidence – ranging from runic inscriptions to the Codex Argenteus – Falluomini charts the emergence, growth, and eventual decline of the Gothic script under Latin influence. Her chapter highlights the cultural and linguistic interplay that defined East Germanic literacy.

Alessia Bauer presents a comprehensive historical account of how the North Germanic languages evolved from Proto-Norse runes to predominantly Latin-based writing systems. She shows how Icelandic retained much of its Old Norse structure, while Danish, Swedish, and Norwegian experienced significant morphological and lexical changes, often driven by Latin literacy and Low German influence. Bauer's analysis reveals the cultural and linguistic dynamics shaping Scandinavia's written heritage, from the adaptability of the Younger fuþark to the intellectual contributions of medieval Icelandic scribes. Her chapter illuminates the diverse paths that led to today's modern North Germanic languages.

Annina Seiler examines how West Germanic languages transitioned from runic inscriptions to Roman-based alphabets under the influence of Latin literacy. She explores the impact of phonological shifts, dialect variation, and evolving conventions on these scripts, culminating in increasingly standardized norms, such as Old English's West Saxon standard. Seiler also discusses the role of printing in promoting uniformity while preserving regional features. Her chapter illustrates how linguistic and societal factors intertwined to shape modern orthographies in English, German, Dutch, and Frisian, leaving a legacy of medieval innovations.

Table 3: Selected questions treated in Part II (*History and development*)

system	**use**	**ideology**
How did writing systems in the different genetic branches develop? Do relationships of the (spoken) languages reflect the development – including differences and commonalities – of/in the respective writing systems? How is language change reflected or dealt with in writing systems? How did the geographic distribution of languages shape writing systems?	What scripts were used/adopted – when and why? Which modifications were made and on which grounds? What influence do different media and technologies play? What about different writing tools and surfaces? Different methods of inscription? How important is language contact/how does it manifest in writing? Which developments prompted and facilitated standardization?	How are religion and politics related to/how do they influence literacy? Why was Latin literacy so successful?

4.2.3 Part III: Learning, teaching, and use

Karin Landerl and Elisabeth Beyersmann analyze how children in Germanic languages learn to read and spell, focusing on phonological transparency, morphological awareness, and orthographic depth. They compare "shallow" systems like German and Dutch – where grapheme-phoneme consistency facilitates decoding – to "deep" systems such as English and Danish, which demand greater reliance on lexical retrieval. Through cross-linguistic research, they illustrate how structural features influence literacy development and advocate for tailored educational practices that address each language's specific orthographic challenges and linguistic characteristics.

Surveying literacy instruction across Germanic languages, Stefanie Frisch explores how structured approaches and child-led methods combine to support reading and writing skills. She examines traditional debates, such as whether phonics-based or whole-word strategies should take precedence, and emphasizes the role of phonological awareness in alphabetic systems. Frisch discusses how orthographic depth influences instructional strategies, showing that "shallow" and "deep" languages require distinct pedagogical interventions. By addressing emergent literacy, process writing, and assessment methods, she proposes a balanced teaching model that integrates technical skill-building with meaningful engagement and cultural understanding.

Shifting the focus to writing, Holger Juul delves into the intricate processes of spelling in Germanic languages. He demonstrates how phonological, morphological, lexical, and graphotactic knowledge converge when encoding spoken language into script. While acknowledging the challenges posed by orthographic depth, Juul explains how skilled spellers draw on multiple linguistic cues to navigate inconsistencies. Using comparative evidence and error analyses, he illustrates the multifaceted nature of spelling and shows that even when grapheme-phoneme correspondences are inconsistent, learners rely on morphological structures and orthographic conventions for accuracy.

Victor van Daal investigates the cognitive underpinnings of reading in adults, examining how word recognition and comprehension evolve through repeated exposure and self-teaching. Drawing on the Reading Systems Framework and the Simple View of Reading, he assesses the interplay of orthographic depth, vocabulary knowledge, and phonological recoding across Germanic languages. By comparing systems like English, German, and Dutch, van Daal

underscores the value of cross-linguistic research in understanding literacy development and calls for further investigation into how writing systems shape reading outcomes.

Peter F. de Jong and Madelon van den Boer examine reading and spelling disorders in Germanic languages, analyzing how orthographic transparency, phonological awareness, and rapid naming influence literacy acquisition. They highlight that opaque systems like English and Danish exacerbate challenges in accuracy and speed, while more transparent systems such as German and Dutch primarily affect fluency. By distinguishing between proximal and distal cognitive factors, the authors reveal the underlying causes of reading and spelling difficulties. Their chapter calls for integrated research approaches to improve interventions, particularly for spelling deficits.

Table 4: Selected questions treated in Part III (*Learning, teaching, and use*)

system	**use**	**ideology**
How does the orthographic depth (i.e., phonographic transparency) of a writing system influence its acquisition and processing? How important are other 'dimensions' of writing systems like morphography, capitalization etc.? How important are graphotactic regularities?	How is literacy/how are writing systems acquired? What role do different kinds of linguistic awareness (phonological awareness, morphological awareness, …) play? What influence does instruction play, and how do different methods affect it? How universal are models of reading and writing? How do different groups of users (e.g., beginning and advanced readers) write and read and how does the optimal writing system for them look like? What are the symptoms and causes of disorders of reading and writing?	What are ideologies influencing the choice of a method of literacy instruction? How does Eurocentrism skew models of reading and writing?

4.2.4 Part IV: Practices and ideologies

Andreas Krogull and Anna D. Havinga explore the interaction between language policy and top-down spelling reforms during the late 18th to early 20th centuries, examining their impact on Germanic languages. They situate these reforms within the context of nationalist ideologies, showing how states and educational institutions sought to standardize orthographies to reinforce linguistic identity. Focusing on Dutch and German, the authors analyze the contributions of figures like Matthijs Siegenbeek and Konrad Duden, as well as the mixed reception these efforts received. Their chapter highlights the complexity of standardization, revealing the interplay of compliance, resistance, and cultural negotiation.

Florence Feiereisen investigates how spelling reforms in Germanic languages reflect broader social, political, and educational dynamics. She examines historical attempts to simplify literacy, strengthen national identity, and reduce foreign influence, focusing on examples from German and American English. By analyzing debates and case studies, Feiereisen illustrates how reforms often encounter resistance due to concerns about tradition, aesthetics, and cost. Her chapter emphasizes the delicate balance between meeting linguistic needs and preserving cultural heritage, revealing how orthographic changes mirror shifting societal priorities.

Focusing on the relationship between German and Luxembourgish, Constanze Weth and Peter Gilles analyze how contact phenomena – such as borrowing, code-switching, biscriptality, and *schriftdenken* – shape both writing systems. They explore Luxembourgish's evolving

orthographic norms, which have long incorporated features from German and French, and discuss how German benefited from earlier standardization processes. By examining spelling reforms, failed proposals, and sociopolitical influences, Weth and Gilles highlight the ways multilingual contexts drive orthographic evolution. Their chapter underscores the tension between preserving linguistic identity and adapting practical elements from neighboring languages.

Irmi Wachendorff examines the socio-semiotic role of non-standard orthography and typography in Germanic writing systems, analyzing unconventional grapheme uses in contexts such as packaging, fashion, and public signage. By exploring script choice, grapheme borrowing, and typographic styles like blackletter, she reveals how these visual elements convey cultural identity, authenticity, and nostalgia. Her chapter investigates practices like "graphematic crossing," where symbols such as <ø> and <ä> evoke foreign appeal without phonetic accuracy. Wachendorff's analysis highlights how written forms and design intersect to shape perceptions of products, brands, and social belonging.

In her chapter, Anja Voeste examines the transformative role of early printing in establishing modern spelling conventions. She discusses how practical considerations, such as text layout and space constraints, prompted typesetters to modify word forms, thereby fostering orthographic consistency. Voeste highlights innovations like syllable segmentation and refined punctuation, which improved text readability and accelerated comprehension. By exploring the interplay between technological advancements, economic factors, and reader needs, she demonstrates how early printing left a lasting imprint on Germanic writing systems.

Nadja Kerschhofer-Puhalo investigates the evolving role of handwriting in an increasingly digital society, emphasizing its cognitive, motor, and social dimensions. She contrasts the embodied processes of pen-and-paper writing with the less motor-intensive act of keyboarding, exploring how these differences influence literacy development, memory retention, and education. Drawing on insights from neurocognition, pedagogy, and cultural studies, she highlights handwriting's continued relevance even in the digital age. Her chapter advocates for flexible, inclusive approaches that recognize handwriting's enduring importance within a broader literacy landscape.

Florian Busch explores the dynamic landscape of digital writing in Germanic languages, examining how nonstandard orthography and spelling practices fulfill diverse communicative purposes. Using a cross-linguistic approach, he analyzes phonostylistic and graphostylistic variations, such as playful letter duplication and creative misspellings that signal in-group identity. Busch challenges the dichotomy between standard and nonstandard writing, showing that these forms are deliberate linguistic strategies rooted in social and stylistic goals. His chapter uncovers the rich tapestry of contemporary digital spelling and highlights fresh avenues for future research.

Kristen H. Perry explores the social dimensions of literacy, challenging narrow definitions that prioritize school-based practices while overlooking everyday literate activities. She contrasts autonomous and ideological models of literacy, revealing how policy, power, and cultural norms shape perceptions of who is considered literate. Through cross-cultural examples and student investigations, Perry demonstrates how language, community contexts, and societal expectations influence the meaning and value of literacy. Her chapter calls for a more inclusive understanding of literacy in diverse Germanic-language settings and beyond.

Table 5: Topics and selected questions treated in Part IV (*Practices and ideologies*)

system	**use**	**ideology**
Linguistic policy and orthographic standardization		
	How were norms disseminated? What were the roles of schools and textbooks?	How does nation building influence standard language ideology and standardization (and vice versa)? How did linguistic authorities form and who were/are they? When did metalinguistic discourse start and what was its role? How did education and educational reforms influence writing systems and orthographies? How is personal and national identity tied to orthography?
Spelling reforms		
How are different (spoken) varieties of the same language distinguished in their respective writing systems?	How does the difference between status and corpus planning relate to spelling reforms?	What are arguments for and against orthography reforms? Why are there emotional reactions to reforms? What are non-linguistic considerations in reforms?
Language contact		
	How does contact between writing systems and literate communities look like? How does it influence an *ausbau* language? What conditions of use are associated with biscriptality? How do borrowing and code-switching work in literate contact situations?	How do language attitudes contribute to the failure or success of an orthography? How do different proposals for norms coexist and compete with each other? What are the ideologies underlying *schriftdenken*?
Non-standard orthography and typographic meaning-making		
	How does grapholinguistic crossing work (at various levels)? How does writing contribute to linguistic landscapes?	How can 'non-standard' typography be socio-semiotically indexical? How does graphic knowledge/do graphic ideologies manifest in textual artifacts and their reception? How is identity tied to typography and the appearance of writing? How do people position themselves with (non-)standard writing?
Early typography and spelling history		
How does the visuality of syllables and morphemes (i.e., polysegmental	What role did typesetters play in the development of writing and spelling conventions?	Which considerations and ideologies influenced typesetters' decisions?

structures) play a role in reading and how did it affect the development of writing? How can we distinguish between text vs. list mode?	How did the materiality of writing and the processes involved in producing it influence spelling? How did reading habits/practices shape writing?	
Handwriting		
	How do different types of writing (handwriting on paper vs. a screen with a pen/stylus or finger, typing on a physical vs. physical keyboard, etc.) compare with respect to different aspects? What role does embodied cognition play in the physical interaction with writing tools and its influence on cognitive processes? What are the challenges in acquiring handwriting? What are different methods and tools (e.g., handwriting styles) used in handwriting instruction? What role does multimodality play in/for writing?	What are discourses and ideologies surrounding handwriting and typing?
Spelling variation in digital communication		
What is 'non-standard' orthography? Why is a binary distinction standard vs. non-standard (too) simplistic?	How has digital technology/writing shaped variation in spelling? How has collaborative/interactive writing shaped literacy practices and the structures and forms used in writing? What are different grapho- and phonostylistic strategies employed in digital writing? How do registers affect or constitute variation?	How does variation index (in-)group membership and sociolinguistic (regional, social etc.) identities? What are positive or negative ideologies with respect to written variation in digital registers?
Public perceptions of literacy (practices)		
	What are literacy events and literacy practices?	How is 'literacy' defined in autonomous vs. ideological models and how do official institutions define it? What are literacy myths? What are 'public' attitudes towards literacy?

		How do different contexts – e.g., family, school – shape one's perception of (one's own) literacy? What is 'illiteracy' and what negative stereotypes are associated with it? How are literacy/literate competence and power and (in)equality related?
Colonialism[20]		
What are strategies in the formation of (new) writing systems that are based on the writing systems of colonial powers?	How are indigenous writing systems and colonial writing systems mixed – how does the use of one influence the use of the other?	How has colonialism shaped writing systems and literate communities? How do colonial writing systems shape ideologies surrounding indigenous writing systems (and vice versa)?

5 The goals and the future

This handbook aims to establish a comprehensive foundation for the study of Germanic writing systems and literacies by integrating diverse linguistic, historical, psycholinguistic, and sociolinguistic perspectives. By offering detailed analyses of structures and principles found in individual writing systems, the diachronic development of literacy in the three branches of North, West, and East Germanic, the processes involved in literacy acquisition and use, as well as the sociocultural ideologies underpinning literacy practices, the following chapters seek to foster a holistic grapholinguistic understanding. They highlight not only the diversity within Germanic languages as well as the plurality of approaches in studying them but also underscore shared patterns and connections, setting the stage for further interdisciplinary dialogue and cross-linguistic exploration.

Looking to the future, the handbook invites researchers to address critical desiderata. These include expanding studies of underrepresented Germanic writing systems and minority varieties, investigating the implications of continuing digitalization on traditional and emergent writing practices, and exploring the intersections of multimodality and writing systems.

[20] Unfortunately, as things go with projects of this breadth and with such a long makespan, authors sometimes have to drop out, as did the author who was supposed to write a chapter on colonialism and/in Germanic writing systems and literacies. Given that this topic is of paramount importance but research on it is still sparse, some remarks as well as references for further reading shall be given here: The historical imposition of Germanic writing systems in colonial contexts reflects a complex interplay of language, culture, and power. For instance, in Namibia, German colonial rule (1884–1915) introduced German as an administrative and educational language, disrupting indigenous linguistic traditions and oral practices. Missionary schools promoted German literacy, particularly during the era of the Herero and Nama genocide (1904–1908). Although German's dominance waned after World War I, it left a lasting cultural and linguistic imprint (see Shah and Zappen-Thomson 2017; Deumert 2018). Similarly, Danish colonial influence in Greenland from the 18th century marginalized the indigenous language, its main variety being West Greenlandic (or Kalaallisut), as Danish dominated administration and education. The Greenlandic writing system was shaped by Danish orthographic principles, with contemporary efforts focusing on linguistic decolonization (see Jacobsen 2003). In South Africa, Dutch colonization in the 17th century led to the emergence of Afrikaans, later institutionalized as a tool of apartheid-era oppression, complicating its modern role (see Van der Waal 2012; Hamans 2021). In the Caribbean and Suriname, Dutch dominance suppressed indigenous and African languages, while pidgin and creole languages like Sranan Tongo emerged, often stigmatized and lacking formal orthographies (see St-Hilaire 1999; Borges 2017; Muysken 2017). These examples highlight how Germanic writing systems and literacy practices marginalized indigenous languages, necessitating postcolonial strategies to decolonize literacy while balancing global communication needs – and of course emphasizing the need for more detailed and nuanced exploration of colonialism in/of writing and literacy in general.

Additionally, there remains a pressing need for research on the sociopolitical dimensions of the normativity and prescriptivism intricately tied to writing, particularly in multilingual contexts. By emphasizing the linguistic versatility and cultural significance of writing systems, this handbook hopes to inspire innovative research that bridges theory and practice, ensuring that the study of (not only Germanic) writing systems and literacies continues to evolve in response to new linguistic, cognitive, and technological developments and challenges. In doing so, it aims not only to enrich the field of grapholinguistics and consolidate its rightful place within linguistics but also to illuminate broader questions about the role of writing in shaping human communication and identity.

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Appendix

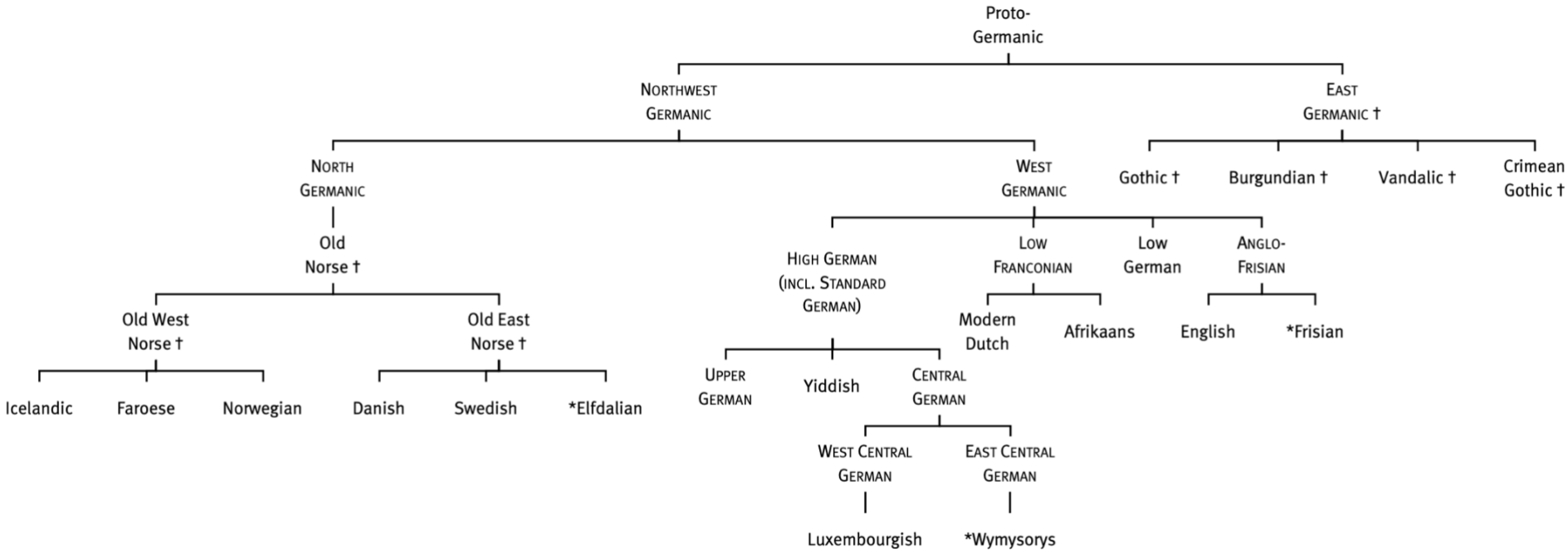

Figure 2: Genetic affiliations of Germanic languages treated in this handbook; language families in SMALL CAPITALS, languages in normal font (where double assignments are possible, a decision was made).

Table 6: Information on the Germanic languages treated in this handbook; References: a = Page and Putnam (2020); b = Louden (2020); c = Ethnologue (2024)

Language `iso-code`[c] **Autonym(s)**[c]	**Number of speakers**	**Status**[c]	**Digital support**[c, 21]	**Language Political Authority/Institution Status, Website, Date of Inception**	
Icelandic `isl` Íslenska	≈ 321,000 speakers[a] ≈ 300,000 in Iceland; total users in all countries: 326,320 (as L1: 325,910; as L2: 410)[c]	national language	vital	Árni Magnússon Institute for Icelandic Studies (*Stofnun Árna Magnússonar í íslenskum fræðum*)	
				official	
				https://www.arnastofnun.is/	
				1962	
Faroese `fao` Føroyskt	≈ 48,000[a] 48,000 in Faroe Islands; total users in all countries: 69,000[c]	national language; co-equal with Danish for official purposes	vital	Faroese Language Board (*Málráðið*)	
				official	
				https://www.malrad.fo/	
				1985	
Norwegian `nor` Norsk	≈ slightly more than 5 million[a] ≈ 5,5 million, 90% Bokmål, 10% Nynorsk (Nesse 2023) ≈ 5,280,000 in Norway (2021). Total users in ≈ all countries: 5,416,130 (as L1: 5,411,430; as L2: 4,700)[c]	de facto national language	thriving	Language Council of Norway (*Språkrådet*)	
				official	
				https://www.sprakradet.no/	
				2005	
Danish `dan` Dansk	≈ 5,6 million[a] ≈ 6 million (Skafte Jensen 2023) ≈ 5,640,000 in Denmark; total users in all countries: 5,812,800 (as L1: 5,809,100; as L2: 3,700) (Ethnologue 2024)	de facto national language	thriving	Danish Language Council (*Dansk Sprognævn*)	
				official	
				https://dsn.dk/	
				1955	
Swedish `swe`	≈ 9,6 million L1, 3,2 million L2[a]	national language	thriving	Swedish Academy (*Svenska Akademien*)	Language Council of Sweden (*Språkrådet*)

[21] "The degree to which a language is digitally supported is summarized on a five-level scale. The following are not the formal definitions of the levels, but in practice they roughly correspond to the following kinds of support:

- Still — The language shows no signs of digital support.
- Emerging — The language has some content in digital form or some encoding tools.
- Ascending — The language has some spell checking or localized tools or machine translation as well.
- Vital — The language is supported by multiple tools in all of the above categories and some speech processing as well.
- Thriving — The language has all of the above plus virtual assistants." (Ethnologue 2024; https://www.ethnologue.com/methodology/#DLS, accessed 22 January 2025)

Svenska	≈ 10,5 million L1; 3 million L2 in Sweden and Finland (Petzell 2023) ≈ 9,500,000 in Sweden; total users in all countries: 13,246,270 (as L1: 10,048,870; as L2: 3,197,400)[c]			official	
				https://www.svenskaakademien.se/	https://isof.se
				1786	1941
***Elfdalian** ovd Övkallmåḻeð	≈ 2,400[a,c] (also Bergqvist, this volume)	shifting (to Swedish)	emerging	Elfdalian Language Council (*Råådjärum/Älvdalska språkrådet*)	
				official	
				https://www.ulumdalska.se/alvdalskan/radjarum/	
				2004	
Standard German deu Deutsch	≈ 130 million[a] ≈ 87,5 million L1, 8,5 million L2 (Pickl 2023) Total users in all countries: 133,908,920 (as L1: 76,398,010; as L2: 57,510,910)[c]	de facto national language	thriving	Council for German Orthography (*Rat für deutsche Rechtschreibung*)	
				official	
				https://www.rechtschreibrat.com/	
				2004	
Yiddish yid (East Yiddish ydd, West Yiddish yih) יִידיש	≈ 1,5 million (Fishman 2007, cited in Schäfer 2023); only about 0,5 million use it (Schäfer 2023) East Yiddish: 166,000 in Israel; Total users in all countries: 429,887 (as L1: 423,287; as L2: 6,600); West Yiddish: no known L1 speakers. Last speakers likely died in the mid-20th century[c]	developing (East Yiddish) dormant (West Yiddish)	vital	YIVO Institute for Jewish Research (ייִוואָ	
				de facto	
				https://www.yivo.org/	
				1925	
Luxembourgish ltz Lëtzebuergesch	≈ 400,000 L1[a] 416,400 in Luxembourg, all users. L1 users: 330,000 in Luxembourg (2021). L2 users: 86,400 (2021). Total users in all countries: 529,300 (as L1: 442,900; as L2: 86,400)[c]	educational; statutory language of national identity (1984)	vital	Permanent Council for the Luxembourgish language (*Conseil permanent de la langue luxembourgeoise*)	Centre for the Luxembourgish language (*Zenter fir d'Lëtzebuerger Sprooch*)
				official	
				https://cpll.lu (not any longer accessible)	https://portal.education.lu/zls/
				1998	2018
***Wymysorys** wym Wymysiöeryś	≈ fewer than 40[b] ≈ no more than 100 (Bergqvist, this volume)	nearly extinct; elderly only, shifted to Polish	emerging		

	Population: 20[c]			
Dutch nld Nederlands	≈ 23 million[a] ≈ 25 million (van de Velde 2024) 16,400,000 in Netherlands. Total users in all countries: 25,305,790 (as L1: 23,655,290; as L2: 1,650,500)[c]	de facto national language	thriving	Dutch Language Union (*Nederlandse Taalunie*) official https://taalunie.org/ 1980
Afrikaans afr	≈ 7 million[b] (also Kotzé, this volume) 17,540,000 in South Africa, all users. L1 users: 7,240,000 in South Africa, decreasing. L2 users: 10,300,000. Total users in all countries: 18,093,000 (as L1: 7,778,400; as L2: 10,314,600)[c]	national language	vital	Language Commission of the South African Academy for Science and Arts (*Taalkommissie van die Suid-Afrikaanse Akademie vir Wetenskap en Kuns*) official https://www.taalkommissie.co.za/ 1909
***Low German** nds Nedderdüütsch, Plattdüütsch	2,201,000 in Germany, all users. L1 users: 1,000 in Germany. L2 users: 2,200,000 (2016). Total users in all countries: 2,502,460 (as L1: 302,460; as L2: 2,200,000)[c]	shifting, statutory language of national identity (1998)	ascending	
English eng	≈ 1,12 billion; 370 million L1[a] ≈ 2 billion; 400 million L1, 500 million L2 (Kortmann 2024) Total users in all countries: 1,515,231,760 (as L1: 380,196,920; as L2: 1135,034,840)[c]	de facto national language	thriving	none, but the *Oxford English Dictionary* (OED) and *Merriam-Webster* serve as de facto authorities for British and American English, respectively https://www.oed.com/ — https://www.merriam-webster.com/
***Frisian** — ***West Frisian** fry Frysk	≈ 400,000 (Winter 2022) ≈ 450.000 (Bergqvist, this volume) 718,000 in Netherlands, decreasing. Total users in all countries: 720,840 (as L1: 720,100; as L2: 740)[c]	provincial; statutory provincial language in Friesland (1996)	vital	Frisian Academy (*Fryske Akademy*) official https://www.fryske-akademy.nl/ 1938
***Frisian** — ***Saterland Frisian** stq Seeltersk	≈ 2,000[b] ≈ 1,000 (Winter 2022) ≈ 2,000 (Bergqvist, this volume) 2,000[c]	shifting; statutory language of provincial identity	ascending	

			in Niedersachsen (1997);		
	***North Frisian** `frr` Friisk	≈ 8,000 to 10,000[b] ≈ 4,000 (Winter 2022) ≈ 4,000 (Bergqvist, this volume) 8,000[c]	shifting; statutory language of provincial identity in Schleswig-Holstein (2014)	ascending	Frisian Council Section North (*Frasche Rädj*) unofficial https://friesenrat.de ?