

## 17TH CENTURY ESTONIAN ORTHOGRAPHY REFORM, THE TEACHING OF READING AND THE HISTORY OF IDEAS

Aivar Põldvee

*Institute of the Estonian Language, Tallinn, and Tallinn University*

**Abstract.** Literary languages can be divided into those which are more transparent or less transparent, based on phoneme-grapheme correspondence. The Estonian language falls in the category of more transparent languages; however, its development could have proceeded in another direction. The standards of the Estonian literary language were set in the first half of the 17th century by German clergymen, following the example of German orthography, resulting in a gap between the ‘language of the church’ and the vernacular, as well as a discrepancy between writing and pronunciation. The German-type orthography was suited for Germans to read, but was not transparent for Estonians and created difficulties with the teaching of reading, which arose to the agenda in the 1680s. As a solution, Bengt Gottfried Forselius offered phonics instead of an alphabetic method, as well as a more phonetic and regular orthography. The old European written languages faced a similar problem in the 16th–17th centuries; for instance, Valentin Ickelsamer in Germany, John Hart in England, the grammarians of Port-Royal in France, and Comenius and others suggested using the phonic method and a more phonetic orthography. This article explores 17th century Estonian orthography reform and the reasons why it was realized as opposed to European analogues.

**Keywords:** 17th century, spelling systems, literacy, phonics, Estonian language

**DOI:** 10.3176/tr.2011.4.03

### 1. The problem

In the Early Modern era, several universal processes took place in the history of European languages. The processes were stimulated by both religious targets and the needs of society, such as education and effective communication. Latin gradually gave way to vernaculars, the art of printing made the written word cheap and widely available, and reading changed from a privilege of the elite into a general skill, or even a requirement. The promotion of vernaculars and the widespread teaching of reading were most consistently required by the Reformed

Church, one goal of which was to make scripture available to all members of the congregation in their mother tongue. Thus began the translation of the Bible into many national languages, which led to the harmonization of written languages and the standardization of spelling but, for several nationalities, the written language was only just being created (see Burke 2004).

More serious attention to the issues of orthography began to expand in the 16th century and this triggered a sharp language dispute in several countries. The issue of conformity of writing and pronunciation arose as the central problem, especially in countries where the gap between writing and pronunciation had become large and the methodology of writing followed a tradition, etymology or the writer's discretion, rather than any fixed rules. As alphabetic writing is a code, the degree of complexity of which depends not only on a particular sound system but also, to a large extent, on orthography, reading – and especially learning to read – depends on how easy it is to decode the written word. Therefore, it is understandable that orthography issues emerged in the 16th and 17th centuries, often hand in hand with the teaching of reading, and that we find so many educators among innovative linguists. Due to the conservative nature of writing and the force of habit, orthographic innovation has encountered strong opposition almost everywhere, even when proposed amendments were well founded (Tauli 1968:135–144). Throughout history, one can find examples where good proposals, more efficient methods and best practices have been pushed aside and the opportune time for change has been missed. The consequences can be serious and even irreversible. This is the case, for example, in English-speaking countries, where dyslexia and other reading impairments are of an unusually broad scope and learning to read has become not only an educational, but also a social and a political problem. Therefore, the relevant literature is vast (see for introduction Stone 2004, Wood and Connelly 2009, Goulandris 2003, and Smythe et al 2004). An alarm was sounded in the United States by the book authored by Rudolf Flesch *Why Johnny Can't Read*, a chapter of which bears a title referring to excessive time consumption, “Two Years Wasted”, and in which, among others, the Estonian language is mentioned as a positive example (Flesch 1955:5). In the US in 1980, a wide-ranging dispute erupted over the methods of teaching students how to read (whole word or whole language versus phonics), and became known as the *Reading Wars*. A glance at history suggests that the war was lost as early as the 16th century, when the radical attempts at modernization of orthography failed in England (see Jones 1953, especially Chapter V, “The Misspelled Language”, Barber 1997:42–102).

The problems that emerged in the 16th–17th centuries are still relevant today. A study (Seymour et al. 2003; see also Furness and Samuelsson 2010) which compares the links between learning to read in thirteen European languages with orthography and the syllable structure applies well to the topic of this article. The English language is characterized by opaque (deep) spelling, as well as by a complex syllable structure, whereas on the other end of the scale the Finnish language has a transparent (shallow) spelling and a simple syllable structure. As expected, test

results confirm that the effectiveness of learning to read and the scope of reading difficulties are closely linked with spelling and the syllable structure, which gives a clear advantage to those languages with a transparent orthography and a simple syllable system. It is also one of the reasons why Finnish students achieve very high results in functional literacy on the PISA tests (Uusitalo and Malmivaara 2009:22–24), and the same is basically true regarding Estonian students. The Estonian contemporary literary language was created in the 19th century, following the example of Finnish orthography, but the Finnish literary language had already influenced 17th century linguistic innovations, even though the direction of development was not yet clear. Rather, a German-style form of writing was taking root, which was particularly and eagerly defended by German pastors in Estland (Pöldvee 2009). One of the initiators of issuing the Estonian Bible, the Superintendent-General of Livland Johann Fischer (1633–1705) called the conflict that flared up because of the form of writing *Buchstaben Krieg* (The Spelling War):

*First, he [Anton Heidrich, a supporter of the former way of spelling] initiated the spelling war and wanted Estonian words to be written according to the German language rather than to the Finnish language, from which the Estonian language descends. Thus, the Estonian language should adjust itself according to the German dialect and peasants should learn their mother tongue from him [Heidrich].<sup>1</sup>*

The fact that the Estonian form of writing was changed at the end of the 17th century to make it easy, regular and phonetic is rather unusual in the European context. This article regards the Estonian orthographic reform as being in a genetically inspired relationship with the phonic method (phonics), tries to find examples and parallels of the innovations performed here and examines them in a broader historical context.

## 2. The standardization of the Estonian literary language

The oldest surviving book in the Estonian language was printed in 1535, and the first grammar, *Anführung zu der Esthnischen Sprach*, was compiled by the pastor Heinrich Stahl a century later (1637). The Estonian language was the language of peasants at that time, aside from its use by the relatively small community in the otherwise mostly German-speaking towns (Kala 2005). On the basis of the two major dialects in the 16th–17th centuries, two Estonian written languages emerged, the ‘Tallinn’ and ‘Tartu’ written languages. In the creation of the Tartu language, the Jesuits operating in Tartu played an important role (Helk 1977). Because literacy was very rare among Estonians, only religious books were

<sup>1</sup> J. Fischer to Karl XI, 15 October 1691. RA, Livonica II:143 (published in Dunsdorf 1979:167–171). *Zuerst fing er einen Buchstaben Krieg an und wolte die Ehstnischen wörtern nicht nach der finnischen, davon die Ehstnische herstammet, sondern nach der deutschen Sprache geschrieben haben. Hernach solte die Ehstnische Sprache sich nach dem deutschen Dialecto richten, und solten die Bauern von ihm ihre Muttersprache erst lernen.*

printed in the Estonian language, and they were designed primarily to be read out loud. The educated elite, including the clergy, was composed mainly of Germans, among whom, instead of the former Low German, which was prevalent until the 17th century, the High German language had started to dominate. It was also spoken by Stahl, who was born in Tallinn (Reval), so his *Anführung* had in mind the needs of the language learner or reader with a High German language background.

While in the conventional understanding a distinction is made in the Estonian sound system between nine vowels and eleven consonants (in addition to the four palatalized consonants without a grapheme to indicate them, and the two foreign sounds *f* and *š*), the description of Stahl's language training began with seventeen consonants rather than vowels. In the case of consonants, he did not see any differences compared to the German language. The Estonian vowels, however, Stahl presented in a different order, ignoring the European grammar tradition, because they created problems for Germans, including Stahl himself. Stahl made a distinction between seven short vowels and added eight long vowels, which were marked with the help of the lengthening *h*, on the example of the German spelling, except for *ee*. In such orthography, the Germans were able to read texts out loud so that Estonians more or less understood what they heard. As to the vowels, in Stahl's alphabet there was no *õ*, which appeared in the Estonian literary language only in the 19th century, nor *ä*, which was marked according to its length using either *e* or *eh*. The German linguistic scholars considered the living vernacular to be uneducated and corrupted. Estonians resented the distorted pronunciation and incorrect syntax and the language heard in the church therefore came to be called 'the language of God' or 'the language of the Church' (*Jumala-Kel*, *Kircko-Kel*) (Moller 1755:53). But much more serious problems arose when the text coded in a typical German style needed to be learned in order to read. The first Estonian primer is believed to have been published in 1641 in Stahl's script, but sources indicate that the introduction of the book was arduous and the results of teaching reading were poor. In the teaching of reading at the time, the most common method was spelling out the letters (the alphabetic or ABC method; Germ. *Buchstabieren*), which consisted of reading the letters by their names; in this way, the acquisition of reading skills took two winters.

The following Estonian grammars were compiled by Johannes Gutsclaff (1648, *Observationes Grammaticae circa linguam esthonicam*) for the South Estonian dialect, and Heinrich Göseken (1660, *Manuductio ad Linguam Oesthonicam*) for the North Estonian dialect (see also Kingisepp, Ress and Tafenau 2010). In the South Estonian i.e. Tartu orthographic version, the letter *ä* had existed earlier, but in addition Gutsclaff offered the option of marking long vowels by using an acute and a circumflex, but agreed also with the extension-*h*, when it was easier for the printing house. Göseken pointed to several characteristics of Estonian pronunciation and offered new ways to mark them, but he himself continued to use the spelling of Stahl. In the development of the Estonian literary language, it is important to mention the Hymnal of the year 1656, with translations that follow

the rules of rhyme and rhythm of Opitz, and the prosody of which is more or less in place, whereas its orthography still follows Stahl's patterns. New challenges and opportunities emerged in the Estonian literary language of the early 1680s. Again, the translation and preparation for the printing of the Bible were started, for which the Swedish government allocated significant amounts of money, both for the disposal of the Bishop of Estland, Jakob Helwig, and of the Superintendent-General of Livland, Johann Fischer. Under the government of the latter, in addition to the Latvian areas and the southern parishes of Estonia, the area of the Tartu dialect was included. While the issuing of the New Testament in Tallinn Estonian was delayed in 1684, after the death of the Bishop and the fire of the Cathedral of Tallinn, the version of the New Testament (*Wastne Testament*) prepared in Riga using the Tartu language, which appeared in print in 1686, turned out to be the most efficient. At the same time, the establishment of peasant schools and the printing of the books necessary for them (a primer, a catechism and a hymnal) were started. For the first time, the local people became the main reader target group, rather than foreign language readers. Superintendent-General Fischer, who was also particularly active in promoting popular education, managed to not only ensure the public financing of the venture, but also to mobilize talented young men, such as Adrian Virginius (1663–1706) and Bengt Gottfried Forselius (ca. 1660–1688). Virginius, who translated and edited books in the Tartu language printed in Riga, gave up the use of several foreign letters (*f, q, y, x* and *ck*) and wrote the biblical names popularly (*Jahn* for Johannes, *Pahwel* for Paul, and *Teppan* for Stephanus), but continued to use the *h* as the vowel extension mark and typically German letters (*ch, sch, tz* and *sz*). This was the spelling of the 1686 New Testament, which had a great potential to become the norm in the Estonian form of writing, had Forselius not submitted his reform proposals.

### 3. The proposals of Forselius

Bengt Gottfried Forselius had a somewhat different background from the clerical linguistic scholars operating in Estland and Livland in the 17th century (Pöldvee 2010a). He grew up in a multilingual environment, because his father was a Swedish pastor in Harju-Madise and Risti (St. Matthias and Kreuz) parishes, the residents of which were comprised of Estonians, Swedes and Germans. Forselius studied law at the University of Wittenberg, but by a fluke became a schoolmaster. He started work as a schoolmaster in the winter of 1683/84 in Risti, where his Swedish brother-in-law, Deacon Gabriel Herlin, founded a school for the local Estonian and Swedish peasant children. Forselius's subsequent career was connected with Superintendent-General Fischer of Livland, as whose protégé he prepared Estonian schoolmasters and sacristans in 1684–1686 in Tartu (Dorpat). The schoolmasters were selected from about 160 to 200 peasant students. Forselius visited Stockholm twice for school-related issues. At the end of 1686, he attended the king's audience with two of his peasant boy students and

two years later he was appointed to the newly established post of Inspector of Estonian Schools in Estland and Livland. On his journey home in the autumn of 1688, Forselius perished in a shipwreck. His linguistic viewpoints and learning method are well known thanks to his primer in the Tallinn Estonian language (re-printed in 1694) and the records that have survived from the language dispute that broke out around the innovations (PK 2003). These records primarily represent the views of opponents, but still make possible to reconstruct, in sufficient detail, the proposals submitted by Forselius for editing the translation of the New Testament in the Tallinn Estonian language in the autumn of 1686 at the ‘Bible Conference’ in Liepa (Lindenhof) and in the three-sheet manuscript treatise delivered to the Consistory of Estland a year later (Põldvee 2010b:334–338). According to the proposals of Forselius, his nephew Johann Hornung drafted the Tallinn Estonian language instruction manual *Grammatica Esthonica* (Riga, 1693).

### 3.1. Orthography

The alphabet which Forselius provided in his primer consisted of 18 letters: *a ä e h i k l m n o ö p r f t u ü w*. The alphabets of the primers of German, Swedish, Finnish and Latvian languages of the same era had 28–29 letters of the German alphabet, including digraphs. The eight vowels include *ä*; among the ten consonants, missing are not only *c, f, q, x, z*, but also *b, d, g* (which, however, appear in the text, as well as *j*). Forselius was obviously inspired by the note found in the grammar of Göseken that in the Estonian language *b, d, g* are never found at the beginning of a word, but only *p, t, k*. According to opponents, Forselius allegedly wanted to add “a new character or a figure (*ein besonder neuer buchstab oder figur*) which is not as soft as *g* nor as strong as *k*”, but this proposal did not materialize. In addition, Forselius left unmarked the letter *h* at the beginning of a word (e.g. *iir* for *hiir*, and *unt* for *hunt*) but, due to the narrow dialect-related context, such form of marking was abandoned after some time. On the whole, the revised letter range of Forselius, which also lacks the short *s* that is unnecessary in terms of pronunciation, quite precisely corresponds with the phonemes of the Estonian language – only *õ* was missing (not counting the palatalized and foreign consonants). Forselius’s proposal to omit capital letters is also related to phonetics, as the capitals do not differ from the lower-case letters in terms of pronunciation. He suggested such a position at the Bible conference organized by Fischer in 1686, but the proposal turned out to be too radical. In Forselius’s primers, however, capital letters have been replaced by lower case letters in a slightly larger type.

The need to modify the current German type marking of long vowels became clear for Forselius when teaching the Estonian and Swedish boys in Risti, and one of his inspirations was the Swedish spelling of the time. Pastor Gabriel Herlin mentions in the demurral to the decision with which the Consistory of Estland on 12 January 1687 (PK 2003:88–101) rejected the modernization plan of Forselius that in the Swedish Bible the long vowels are marked double, as in *toom, haaff*,

*grääs, fröö, trää, baar* etc., and it is that way also “in all the Swedish books and posters. [...] What trouble I myself have seen with the [lengthening] *h*- letters that we [with Forselius] could not help [in school] but cross this letter out (*Wij struuko den bookstaffwen uth*), so that the boys had it a little easier with reading” (Wieselgren 1943:104, photocopy: PK 2003:97–98). Unlike contemporary Estonian orthography, Forselius marked long vowels in double only in a closed syllable (*kool*); the long vowel of an open syllable was designated by one letter (e.g. *ku* ‘kuu’). In multisyllabic words, a geminated consonant helped to distinguish between short and long vowels (e.g. *ko-li* ‘kooli’, *kol-li* ‘koli’ or ‘kolli’). This way of writing was not able to completely avoid the ambiguity of vowels and consonants, but was much simpler and more homogeneous than the earlier one.

### 3.2. The teaching method of Forselius

Conclusions can be drawn regarding the teaching method of Forselius on the basis of both his primer and of the scarce reports found in written sources. Unfortunately, the 1685 print of the primer of Forselius, which included a preface which probably explained the new orthography, as well as the teaching method, has not been preserved. The section of reading exercises in the primer of 1694 had an unconventional structure when compared to other contemporary primers; if analysed on the basis of orthographic innovations, we see that it is well reasoned, didactic and logical. On the first two pages of the primer, in a compressed form, the same principles as in the Hornung grammar are presented. Secondly, it must be pointed out that, in order to facilitate reading the text of the reading section of the entire primer, the Catechism has been syllabicated by hyphens. Thirdly, as mentioned, the lack of complex versals in the Gothic script helped students; capital letters were learned only after the acquiring reading skills. This also meant that, compared to German, Swedish, Finnish and Latvian children, who had to first learn 53 letters (29 small letters and 24 versals) or more,<sup>2</sup> the Estonian students got by with 22. Dean Chilian Rauscher from Sangaste (Theal) informed Forselius (on 20 May 1687) of the progress of the 15-year-old schoolmaster assigned by Forselius: “The majority learned the letters in an hour, in five weeks they had no more need for the primer and in ten weeks they could read pretty well” (Wieselgren 1943:99).<sup>3</sup> Thus, the new method reduced the study time from the previous two winters to one and allowed farm boys who had only recently learned how to read to act as teachers.

Indirect information about his method of study, which could explain the nature of the method, can be found in the writings of the opponents of Forselius. First: “He has received his new reading and spelling method from one of his former preceptors, who, however, was well aware that this has been long since abandoned

<sup>2</sup> The alphabets of the Swedish and Finnish primers also contained *â, ä, ö* and *ij*.

<sup>3</sup> *Das ABC lerneten die meisten in einer Stunde, nach 5 Wochen hatten sie die Fiebel nicht mehr nöthig, und innerhalb 10 Wochen konten sie ziemlich lesen.*

in Germany” (Wieselgren 1943:83).<sup>4</sup> Second, when teaching, Forselius used the new character names *ke, le, me, ne, re* etc. According to Gabriel Herlin, these names of characters were invented (*inventiret*) by him and his brother-in-law Forselius together.<sup>5</sup> Third, the proponents of the old teaching method mockingly called the new way of reading “the mumbling new spelling (*das mummelnde neue buchstabieren*)”.<sup>6</sup>

In current studies, contradictory speculation has been provided about the primer and the study method of Forselius. In the opinion of Lembit Andresen (1993:31–34), Forselius taught using the phonic method. At the same time, Andresen does not consider the primer in question to be the primer of Forselius, but rather a re-publication of an old clumsily compiled primer. Liivi Aarma (2000: [14–15]), in turn, believes that in the surviving copies the sequence of pages is wrong, as the primer is different in structure from the ubiquitous type of primer. The teaching method of Forselius has been associated with the guidelines of the Bishop of Turku Johannes Gezelius, Sr., *Methodus informandi* (1683) (Puksov 1933–1934:1128), and with the picture alphabet indicating sounds provided in *Orbis sensualius pictus* by John Amos Comenius (first edition 1658) (Andresen 1991:18). Gezelius issued the primer in both Swedish and Finnish (1666), but the teaching of the reading section was limited to the alphabet in three fonts on the front page, plus a partly syllabicated text of the Catechism. Gezelius advised learning the letters in alphabetical order, naming them in groups of four or five forward and backward, but nowhere are the new names of characters mentioned (Gezelius 1683:35–38). In Turku, Gezelius issued *Orbis sensualium pictus* with a Swedish translation (first edition in 1682) and it was used in the first grade of the Trivial School. For rural schools, however, the most famous textbook by Comenius remained unobtainable and, in the primer of Gezelius, there is no trace of its example.<sup>7</sup> *Orbis sensualium pictus* was no doubt familiar to Forselius, but its impact on the learning method of Forselius is difficult to fully assess. However, there is no evidence that Comenius would have used the names of the characters *ke, le, me* etc., and it seems implausible that one could have been able to say about the popular method of Comenius that it had long been abandoned in Germany (about the method of Comenius, see Schaller 1962:336–341).

<sup>4</sup> *Seine Neue Lesz- und Schreib-art hat er von einem seiner Vormaligen Praeceptoren, der doch wohl wuste, dasz dergleichen in Deutschland längst verworfen.* The quote originates from the explanations of the Estonian Consistory, mainly prepared by Anton Heidrich (draft letter, January 1688), which aimed to convince the reduction commissars of the harmfulness of the reforms of Forselius (EAA, 1187-2-4949, p 63–67v, here 66v).

<sup>5</sup> A. Heidrich to J. H. Gerth, 21 February 1690 (PK 2003:267); A. Heidrich to the Consistory of Estland, 22 November 1689 (EAA, 1187-2-373, p 250v).

<sup>6</sup> The Consistory of Estland to the Commissioners of *Reduktion*, 1 February 1688 (PK 2003:168).

<sup>7</sup> Markku Leinonen, who has studied the pedagogy of Gezelius as a follower of Comenius (1998:96–98), claims that the primer of Gezelius is based on old Finnish and Swedish sources and, based on this text, no references to confluence with Comenius can be made.

#### 4. Possible examples of Forselius

The reports that the *praeceptor* of Forselius used an old German method and the fact that the students of Forselius himself were ‘mumbling’ lead us in the same direction as the innovative language programme of the primer – to the phonic method. The inventor of the phonic method (Germ. *Lautiermethode*) is considered to be the 16th century German teacher Valentin Ickelsamer, who explained his language-related positions and his teaching method in the primer *Die rechte Weis, auffß kürtzist lesen zu lernen* (1527) and in his treatise *Ain Teütsche Grammatica* (ca. 1534). Reading, according to Ickelsamer, involved a sensitive and accurate enunciation of the letters, due to which he considered the familiar names of letters to be wrong. He considered these to be in conflict with the force and the manner of the letters (*krafft und art*), as this was the way superfluous syllables were uttered; in addition, he believed that learning to read was made more difficult by the fact that the German alphabet did not correspond exactly to the sounds. The most difficult aspect, according to Ickelsamer, was the pronunciation of stop consonants. He suggested placing a vowel after the letter and saying, for example, *ba*, “but stop before the *a* comes, and observe what happens in your mouth without [it,] and before the *a*-sound.” He believed that the pronunciation of glide consonants was easier, for example: “/m/ has a growling (*brummende*) sound, like [emit sounds] cows, bears or mutes; they press the lips together and mumble.” The same was repeated in the spelling manual “*ENchiridion*” by the Basel headmaster Johann Kolross (1530): when pronouncing the letter *m* there “remains nothing but mooing (*Mummeln*), like a cow, when she wants milking, or the sound of the hum of the big horn of a bagpipe (*Mummeln*), and in that way you can easily experience other sounds as well” (1889:44 Kehr, reference 1). From these descriptions, it should be clear why Forselius’s method of learning was called “a mumbling spelling”. A similar method is also represented in the primer with images by Jacob Grüßbeütel *Eyn Besonder fast nützlich stymmen büchlein mit figuren* (1533, facsimile: Fechner 1882), the illustrations of which do not refer to the first letter of the image, but to the voice. Ickelsamer had already recommended the use of such images for teaching. The seven picture motifs of the primer of Grüßbeütel are present also in the above-mentioned image alphabet of Comenius. Thus, similar ideas were presented by several German authors, but Ickelsamer is considered to have been the most consistent protagonist of the phonic method (Schaller 1967:339, Willke 1965:23–26).

Similar endeavours at innovation were also common elsewhere in Europe. In 16th century England, a proposal for the most systematically phonetic spelling was presented by John Hart (*An Orthographie*, 1569). According to Hart, in a literary language letters were abused in regard to sounds either by diminution, superfluity, usurpation or misplacing; he abandoned capital letters,<sup>8</sup> removed from the alphabet

<sup>8</sup> Hart’s argument was phonetic: as the versals represent the same ‘character’ of the capital letters and the small letters, they must be written in the same way. He recommended placing a slash in front of a small letter replacing a capital letter.

the letters *y*, *w* and *c*, added five or six new characters and marked long vowels with a point under the letter. In the case of loan words, he did not consider it necessary to follow their original shape, since the task of orthography is to indicate the pronunciation and not the etymology of the word. In Hart's estimate, a new way of writing would help to reduce the amount of paper necessary for printing books by a quarter and it would be easier to learn to read. To prove his point, he compiled a primer with a comprehensive introduction and a picture alphabet *A Methode or comfortable beginning for all vnlearned* (1570). Hart stressed that there was no reason to learn the letters in the Latin order and, for reading, considered the biggest obstacle the misnaming of the letters: "[Y]ou may not name the l. m. n. nor r. as you haue bene taught, calling them el, em, en, er: but giue them the same soundes you find in their portraytures, without sounding of any vowell before them" (Hart 1570:231, 240). The book has a separate chapter on syllables (*Of sillables*) and a Catechism section in a modernized form of writing, the text of which is syllabicated with the help of hyphens. More radical was the language instruction of William Bullokar's *Booke at Large* (1580), which presented a 41-letter phonetic alphabet. Bullokar experimented with his "true Orthography" at home on his children and, in his own words, gained good results in both reading and writing. The described proposals for reform encountered strong opposition in England, and did not materialize; thus the teaching of reading using the phonic method also retreated from the agenda.

In France, the most daring of all the endeavours for phonetic spelling was the proposal of Honorat Rambaud, a schoolmaster from Marseille (1578), to replace the Latin alphabet with a new, 52-character system (Rickard 1993:95). Proposals, which almost completely overlap with those of Forselius we can find in the 'Port-Royal grammar' prepared by Claude Lancelot and Antoine Arnauld (*Grammaire générale et raisonnée*, 1660) (Lancelot, Arnauld 1975:56–61). In Chapter V, entitled "Of letters considered as characters", logically derived rules of perfect phonetic spelling were provided:

- (1) *That every figure mark some sound; that is to say, that no thing is written which is not pronounced.*
- (2) *That every sound is marked by a figure; that is to say, that no thing is pronounced which is not written.*
- (3) *That each figure mark only one sound, either simple or double. For it is not an imperfection in writing that there be double letters, since they facilitate writing by abbreviating it.*
- (4) *That the same sound is not marked by different figures.*

The last rule is contrary to the distinction of capital and small letters, but the authors of the grammar concede that in the interests of a better understanding, especially in the case of languages derived from other languages, "it sometimes happens that it is to our advantage that these rules are not always observed, at least first and last rules". Capitalization of proper nouns and of the beginning of

sentences is useful, although it is not used in Hebrew, and ancient Greek and Latin were written in capital letters only.

In terms of this comparison, Chapter VI of the grammar, “Of a new method for easily learning to read in all sorts of languages”, is even more interesting. Lancelot and Arnauld show that setting the letters in a row by their names does not coincide with the pronunciation of the syllable which they form:

*It seems then, as has already been noticed by some discerning people, that the most natural way of teaching this would be for those who teach reading at first to children to recognize their letters only by sounds of their pronunciation. Similarly, consonants should be named solely by their natural sound, adding only the mute e which is necessary for pronunciation.*

The principal author of the chapter about teaching is Claude Lancelot (1615–1695), one of the leading teachers of the ‘small schools’ (*petites écoles*; see Delforge 1985) of the Jansenists of Port-Royal. Lancelot taught mathematics and languages and organised new language learning books of Latin, Greek, Italian and Spanish based on the new method. A comparative linguistic approach, which emerged from practice, is also reflected in the grammar. The other author of the grammar, Antoine Arnauld (1612–1694), is best known as the author of the ‘Port-Royal logic’ (*La Logique ou l’Art de penser*, 1662, with Pierre Nicole), but he also participated in the work of the Port-Royal French translation of the Bible. The originator of the described method of teaching reading is considered to be Blaise Pascal (1623–1662). An indirect proof of this is the letter from Jacqueline Pascal (1655) to her brother, whom she asks for clarification on the method, and one of the letters of Arnauld (1656), where the teaching method is called ‘la methode de M. Pascal’ (Barnard 1913:115; Hammond 2004:67). The same method is described at length by one of the teachers of the small schools, Thomas Guyot, in the preface to the book *Billets que Cicéron a écrit tant à ses amis communs qu’à Attique* (1668) (translation into English: Barnard 1918:146–148; Miel 1969:261–263). Pierre Coustel, who wrote down the rules of the schools of Port-Royal (*Les Règles de l’Éducation des Enfants*, 1687), mentions in this work a certain country schoolmistress who taught girls at the age of six to read perfectly in less than three months (Barnard 1918:149–150).

### 5. Borrowed or invented?

Although the data and the parallels presented here indicate unequivocally the phonetic spelling and teaching methods, it is impossible to say what specific role models Forselius adapted and to what extent he was original. True, the same can be said of Ickelsamer, Hart, Pascal and Lancelot, although their ideas are generally considered to be original. As mentioned above, the names of the characters *ke*, *le*, *me* etc. were allegedly ‘invented’ by Forselius, together with his brother-in-law. The tradition stemmed from Ickelsamer, who recommended uttering consonants using a mute *a* (*ba*, etc.) rather than an *e*. Similar ‘new names of characters’ –

formed by the first letter of the alphabet (*na, ma, la, or an, am, al* etc.) – are also offered, for example by Johann Gottfried Zeidler (1655–1711) in the primer *Neu-verbesserte vollkommene Schlüssel Zur Lese-Kunst* (around 1700). Alternative character names, such as *fe, le, me, ne* and *re* were proposed by Peter Jordan, a printer from Mainz, in his primer (which somewhat imitates Ickelsamer) *Leyenschul* (1533, facsimile: Fechner 1882), where it is recommended that letters be called by “their right natural names” so when reading one would not spell out the letters but pronounce the syllable immediately. Although the letter names, the teaching method and the principles of orthographic reform of Forselius coincide with the proposals of Chapter V and VI of the Port-Royal grammar, there are no data indicating that Forselius would have been familiar with the Port-Royal grammar. It cannot be ruled out, however, that Forselius could have been exposed to these ideas, for instance when studying at Wittenberg University (beginning in 1679), or via Johann Fischer. Alas, all these assumptions will have to wait for proof.

Since the problems were similar, it is not at all impossible that the same solutions could have been reached not by borrowing ideas, but through intuition or logic. The simple principle that letters and sounds could be in one-to-one correspondence characterizes the efforts of the orthography innovators in all the languages that use alphabetic script. Deeper justification for such an endeavour had already been presented by Aristotle (*De interpretatione*, 1): “Spoken words are the symbols of mental experience and written words are the symbols of spoken words.” This idea has been repeated by many linguists, including the Swedish writer Samuel Columbus in his manuscript treatise completed in Paris around 1678: “Speech is the image of a thought, the thought is the image of a thing, and writing is the image of both thought and the speech. Thus, the closer is the thought to the thing, the speech to the thought, the writing to the speech, the more perfect it, after all, is” (Columbus 1963: 45).<sup>9</sup> Another antique author who was often quoted in the Early Modern times in regard to orthography, correct pronunciation and the teaching of reading was Marcus Fabius Quintilian (ca 35–ca 100). In his work *Instituto Oratoria*, Quintilian did not directly present the phonic method and the names of letters, but recommended teaching in a playful style appropriate to age, such as using ivory letters. As regards orthography, Quintilian discusses the unity of writing and pronunciation, mentioning, among other things, such excessive letters as *k, q and x*, recalling the old writers who wrote the long vowels with two letters, the pronunciation of the letter *h*, the new characters of the Emperor Claudius and other issues which inspired many subsequent linguists and teachers (Quintilian 2001: I.2.23–37, I.4.6–17, I.7). Quintilian is mentioned with appreciation by Ickelsamer and Hart, as well as by the educators of Port-Royal. In addition, his work was highly appreciated by Martin Luther, Philipp Melanchthon, Erasmus, Petrus Ramus and others, and his work was a learning tool of rhetoric

<sup>9</sup> *Ett Språk är Tankens afbildning, Tankan Tingets: Skriften både Tankans ok Språkets. Altså, ju närmare Tankan kommer til Tinget, Språket til Tankan, Skriften til Språket, ju fullkomligare är däd.*

both at the University of Uppsala and the University of Tartu in the 17th century (Lindroth 1975:183; Piirimäe 1982:201). The described ideas lead to a justified desire that writing depict speech and that characters, in turn, depict sounds as closely as possible (for details see McLelland 2006, and Hundt 2000:183–242). Comenius also supported this position, keeping in mind the orthography reform: “Spelling should conform to pronunciation and pronunciation to spelling” (Schaller 1962:340).

In the case of the 16th–17th century orthography reform, besides the common sources we can also speak of the more widespread tendencies (one might even call them a fashion) which were supported by a comparison with other written languages, such as Dutch in the case of German and Swedish, or Finnish and Swedish for the renewal of Estonian spelling. Dutch orthography served as an example for Philipp von Zesen, although the most authoritative German linguist of the era, Justus Georg Schottelius, considered him a ‘language corrupter’ and his way of spelling ‘cacography’ (Fonsén 2006:274–275). Let us mention here only the attempts of Zesen in marking long vowels and that, referring to the ‘natural order’ (in the work *Rosenmând*, 1651), according to him, the German language could have managed with twenty one letters, so that the superfluous foreign letters *c, q, x, y* and *z* should be discarded and the correct alphabet would be “*a b v w / f p / g j h k : e / i : d t : u : l m n r : s o*” (see Schielein 2002:esp. 23–27). In the summer of 1654, Zesen visited Tallinn in order to meet with the then Governor of Estland, Count Heinrich von Thurn, who was a member of *Deutschgesinnete Genossenschaft*, which had been founded by Zesen. The impact of Zesen’s form of spelling can be found in the texts of some German clerical writers who worked in Estland, but without further research one cannot say whether they were the result of direct or indirect contact (Klöker 2005:466–475). Paradoxically, German reform orthography was used by one of the major opponents of the innovations of Forselius, the pastor of Keila (Kegel), Anton Heidrich, who edited Estonian-language publications in Tallinn.

The development of the Estonian and Latvian literary languages was supported by Johann Fischer, the Superintendent-General of Livland, on whose approval Forselius presented his proposals for reform in 1686. Estland’s most influential pastors, however, wanted to stick with the German-style orthography and not follow the peasant vernacular. In his letter to the Consistory of Estland in 29 August 1687, Fischer defended the innovations with the following logical and rational arguments: 1. The best way of writing is that where the student learns to read the best; 2. The letters that a local resident (*ein indigena*) does not know how to pronounce do not belong to the alphabet of the language, as evidenced in other languages; 3. Declension and conjugation of words, as well as structures, expressions etc. (*flexiones vocum, constructiones, idiotismos etc.*) are the elements which “I have to learn from the local people, not them from me” (PK 2003:135–139).

Fischer had studied at the Universities of Rostock, Helmstedt, Altorf and Leiden and, as a pastoral candidate, he translated into German a substantial work by the English Puritan Richard Baxter, *A Treatise of Self-Denyall* (1660), which

was published in Hamburg in 1665 (*Die Nothwendige Lehre von der Verläugnung Unser Selbst*). Before his arrival in Livland, Fischer was the Superintendent of Sulzbach (1667–1673), which was ruled by Pfalzgraf Christian August, who was widely known as an art and science patron (see Jaitner 1988; Wappmann 1998). Those years marked the appearance in Sulzbach of the famous work of Franciscus Mercurius van Helmont *Kurtzer Entwurff des Eigentlichen Natur-Alphabets der heiligen Sprache* (1667), which dealt with the inherent divine wisdom in the Hebrew alphabet and language (see Coudert 1999:58–75). On Fischer's initiative in 1675 in Riga, the Royal Lyceum (*Schola Carolina*) opened, and its rector was Johann Georg Kretschmann, the former rector of the Latin school of Sulzbach. And when Kretschmann returned to Germany, the management of the Lyceum was taken over by the former principal of the German School in Stockholm, Johann Uppendorff, a highly respected orientalist. Besides Latin and Greek, French, Hebrew, Syriac and the Coptic languages were taught in the Lyceum “so that those who came from this school did not need any more language teaching” (Moller 1755:49). Governor General Jacob Johann Hastfer, who had observed the exam at the Lyceum, conveyed his impressions in his letter to the king (14 June 1686): “Young boys aged 14–16 spoke Hebrew, Syriac and Chaldean, Greek and Latin languages, so I was very surprised and believed myself to be in the Orient, not in Livland” (Westling 1901:80).<sup>10</sup> Fisher had a first-class education, a wide knowledge of languages, considerable experience in translating and an acquaintance with outstanding orientalists. Therefore, when translating the Latvian and Estonian Bibles, he did not imagine any other way than translating it from the original languages, in contrast to the Estland clergy, who clung to Luther's German translation. Let us add that the translator of the Latvian Bible, Johann Ernst Glück, had continued his studies under the orientalist Esdras Edzardus in Hamburg (Glück and Polanska 2005:12–13).

Was Fischer the direct initiator of the Estonian orthographic reform? Although such an assumption may seem appealing, he probably was not. If he were, no such major differences would have occurred in the spelling versions of the Bible translations in Latvian, Tartu Estonian and Tallinn Estonian. In the Latvian orthography, for instance, the German-type lengthening *h* remained. It is also known that the Superintendent-General was not very familiar with the new method of learning closely related to the form of spelling of Forselius, which is why one of the most fierce supporters of Forselius, Dean Chilian Rauschert, visited Fischer in Riga in 1687 in order to introduce to him the advantages of this method, on the example of a school master who was a student of Forselius (Wieselgren 1943: 99–100). But Fischer who did not speak Estonian undoubtedly created a positive foundation for the language reform and probably mediated the fresh momentum of European linguistics to his translation team. In his print shop in Riga, the Tallinn Estonian grammar by Hornung was issued in 1693, and it introduced the

---

<sup>10</sup> [...] unga gossar på 14–16 år talade hebreiska, syriska och kaldeiska, grekiska och latin, så att jag förundrade mig däröver och trodde mig kommit från Livland till orienten.

Forselius's version of spelling which remained in use for more than 150 years, thus creating the basis for today's standard Estonian literary language. Most likely, the Estonian orthography reform was born based on experience and also by synthesizing the old sources, as well as more recent examples, employing the rationality so characteristic of the Cartesian era. In his letter to the Bishop of Estland, Forselius said (28 June 1687): "God has given me such a head, so that I (without boasting) would be able to think things through well" (Wieselgren 1943:97).<sup>11</sup>

## 6. Conclusion

What makes the Estonian 17th century orthography reform special? As we have seen, the local ideas and solutions were not unique; similar proposals were presented in many parts of Europe. Even if the innovative ideas were, to a greater or lesser degree, borrowed, it nevertheless is apparent that Forselius and other language reformers were thinking about the same problems and in the same direction as several big names in the history of language in Germany (e.g. Valentin Ickelsamer), in England (e.g. John Hart) and in France (e.g. Claude Lancelot and Antoine Arnauld) in the 16th–17th centuries. All of these men of letters supported the proposals of (more) phonetic and more regular spelling in the process of the practical solution in the task of simplifying the teaching of reading. Due to the conservatism of literary language and of the human mind, reform proposals were not generally met with enthusiasm and inertia was particularly strong in England and in France. Preserving conventional spelling was justified by the argument of communication and the comprehension of the existing literature. However, the same uneven form of writing helped to keep alive the time-consuming spelling method (*Buchstabieren*), which is suitable for the acquisition of a complex orthography or an orthography that is different from pronunciation.

The tenacious resistance to the spelling method based on the traditional names of characters led to an effective multiple 'invention of the bicycle'. In France, the phonic method resurfaced again in the 18th century. In the 1730s, Louis Dumas promoted his teaching system known as *Bureau typographique*, and in it used the new names of characters based on the example of Port-Royal (Grandière 1999:39). In the comments on the new edition of the Port-Royal Grammar (1754), the Secretary of the Academy Charles Pinot Duclos called Chapter VI excellent, praised the new natural character names and was surprised that so far common sense had not triumphed over "the absurdities of the ordinary method (*des absurdités de la méthode vulgaire*)" (Duclos 1810:426).<sup>12</sup> A more serious debate

<sup>11</sup> [...] mir Gott solchen Kopf verliehen, daß ich (ohne ruhm zu melden) Sachen wol nachdenken könne.

<sup>12</sup> The names of the letters *be, ce, de, fe, gue, je, he, ke, le, me* etc are known in the history of the French language as *l'épellation moderne* or *la nouvelle épellation*, which was never accepted in wider use. Such names of letters are in use in Romania as an alternative (Ulrich 1997:44).

over the methods of the teaching of reading, however, began only during the Enlightenment (see Chartier 2008:14–21). The phonic method remained marginal even in Germany, although after Ickelsamer it went through several rebirths and reinventions, including by the above-mentioned Johann Gottfried Zeidler. The harmonized character names *fe, ge, he, ke, le, me* etc. were suggested in Germany by Johann Bernhard Basedow (1724–1790) and other ‘philanthropists’, but without sustained success (Jacobi 1851:19, Willke 1965:22–23). According to Carl Kehr (1889:46), the inventor of the phonic method Ickelsamer was 300 years ahead of his time; Karl Pohl (1971:VIII), however, considered it peculiar that by establishing a foundation for German language instruction, in terms of didactics and teaching methods, Ickelsamer reached a level that would be repeated only in the 19th century. The spelling method (*Buchstabieren*) was legally banned in Prussia in 1872. In English-speaking countries, particularly in the US, as mentioned at the beginning of the article, the dispute over the methods of the teaching of reading has still not abated, and the rediscovery and promotion of the phonic method (phonics) continues (McGuinness, 2004; Ott 2007:36–54). In Great Britain, the decision to embrace phonics was made in 2005, and in 2010 *The Schools White Paper* declared: “Ensure that there is support available to every school for the teaching of systematic synthetic phonics, as the best method for teaching reading” (DfE 2010:11, see also 22–23, 41, 43–44).

The Estonian orthographic reform was characterized by the fact that it was born in the course of the teaching of reading and was adapted to the needs of the phonetic method of teaching. Although the proposals for reform were met with sharp opposition, the Estonian literary language was still fairly young and the culture of printing in the Estonian language was under-developed. Before the primer of Forselius, a little over 40 books had been published in Estonian (see ER 2000), so the conservative inertia was not comparable to that in the old literary languages of Europe. It can be said that the innovations of Forselius appeared at the ‘last moment’, and so neither Stahl’s form of writing nor that of the New Testament of the Tartu Estonian language (1686), but rather that of the Tallinn Estonian primer became the Estonian orthography standard. The Tallinn Estonian New Testament (1715) and the Bible (1739) were published in the reformed form of writing. The foundation of the phonic method remained, however, more narrow, being limited primarily to the Estonian areas of Livland, where schoolmasters trained by Forselius taught.<sup>13</sup> The last known primer by Forselius was published in Riga in 1741. The methodological level of the primer of Forselius was not again achieved until the year 1867, when Carl Robert Jakobson published a primer promoting the new Finnish form of writing and the phonic method.

---

<sup>13</sup> According to the linguist Paul Ariste, the names of the letters *le, me, ne* etc. were used in southern Estonia as late as before the Second World War (Wieselgren 1943:78, reference 39). The author of this article received confirmation from his colleagues-historians Ilje Piir and Ene Tannberg that their grandmothers had learned to read with the names of letters being *lii, mii, nii, sii, tii* etc.

### Acknowledgements

The research related to the article was completed within the framework of the Estonian Ministry of Education and Research grant no SF0050037s10, and the project EuroCORECODE 6/2010/1-5/2.

Address:

Aivar Põldvee  
Eesti Keele Instituut  
Roosikrantsi 6  
10119 Tallinn, Estonia  
E-mail: aivar.poldvee@tlu.ee

### References

- EAA = Eesti Ajalooarhiiv (The Estonian Historical Archives), Tartu  
RA = Riksarkivet (The National Archives), Stockholm
- Aarma, Liivi (2000) "Vanimad eesti aabitsad". [The oldest Estonian ABC-books. Facsimile.] In *B. G. Forseliuse aabitsad*, 5–18. [The ABC-books by B. G. Forselius.] Tartu: B. G. Forseliuse Selts.
- Andresen, Lembit (1991) *Kirjamees ja rahvavalgustaja B. G. Forselius*. [Man of letters and educator B. G. Forselius.] Tallinn: Eesti Raamat.
- Andresen, Lembit (1993) *Eesti aabits reformatsioonist iseseisvusajani*. [Estonian primers from Reformation to the beginning of independence.] Tallinn: Koolibri.
- Barber, Charles (1997) *Early modern English*. Edinburgh: Edinburgh University Press.
- Barnard, Howard Clive (1913) *The little schools of Port-Royal*. Cambridge: University Press.
- Barnard, Howard Clive (1918) *The Port-Royalists on education: extracts from the educational writings of the Port-Royalists*. Cambridge: University Press.
- Bullock, William (1580). *The amendment of orthographie for English speech*. London 1580. Facsimile Amsterdam and New York: Da Capo Press, 1968.
- Burke, Peter (2004) *Languages and communities in early modern Europe*. Cambridge: Cambridge University Press.
- Chartier, Anne-Marie (2008) "Cultural perspective on literacy teaching and methods for young readers". *Paedagogica Historica* 44, 1–2, 14–21.
- Columbus, Samuel (1963) *En svensk ordeskötsel*. Silvia Boström, ed. Stockholm: Almqvist & Wiksell.
- Delforge, Frédéric (1985) *Les Petites Écoles de Port-Royal, 1637–1660*. Paris: Editions du Cerf.
- DfE 2010 = Department for Education. *The Importance of Teaching. The Schools White Paper 2010*. Presented to Parliament by the Secretary of State for Education by Command of Her Majesty, November 2010. (<https://www.education.gov.uk/publications/eOrderingDownload/CM-7980.pdf>)
- Duclos, Charles Pinot (1810) "Commentaire". In Antoine Arnauld and Claude Lancelot, eds. *Grammaire générale et raisonnée de Port-Royal. Par M. Petitot*, 383–462. Paris: Chez Bossange et Masson, et R. Madame Mère.
- Dunsdorf, Edgars (1979) *Pirmās latviešu bībeles vēsture*. [History of the first Latvian Bible.] Minneapolis: Latviešu ev.-lut. baznīca Amerikā.
- Fechner, Heinrich, ed. (1882) *Vier seltene Schriften des sechzehnten Jahrhunderts. Mit einer bisher ungedruckten Abhandlung über Valentinus Ickelsamer von Friedrich Ludwig Karl Weigand*. Berlin: Wiegand und Grieben.

- Flesch, Rudolf Franz (1955) *Why Johnny can't read, and what you can do about it*. New York etc.: Harper.
- Fonsén, Tuomo (2006) *Kunstlöbliche Sprachverfassung unter den Teutschen. Studien zum Horrendum Bellum Grammaticale des Justus Georg Schottelius (1673)*. Frankfurt am Main etc.: Peter Lang.
- Furnes, Bjarte and Stefan Samuelsson (2010) "Predicting reading and spelling difficulties in transparent and opaque orthographies: a comparison between Scandinavian and US/Australian children". *Dyslexia* 16, 2, 119–142.
- [Gezelius, Johannes] (1666) *Yxi paras lasten tawara*. [The Best Children's Treasure.] Turusa: prändäty Petar Hannuxen pojalta. Online version <http://s1.doria.fi/helmi/bk/rv/gezelius/fem970033/slides/abc01.html> accessed at July 22, 2011.
- Gezelius, Johannes (1683) "Methodus informandi in pädagogiis tam ruralibus quam urbicis. [...] 1683". In *Finlandssvenska och baltiska läroverk: urkunder, undersökningar och minnen*, 33–48. Rudolf B. Hall, ed. (Årsböcker i svensk undervisningshistoria 1941, 2, 62.) Stockholm: Föreningen för svensk undervisningshistoria, 1942.
- Glück, Helmut and Ineta Polanska (2005) *Johann Ernst Glück (1654–1705). Pastor, Philologe, Volksschullehrer im Baltikum und in Russland*. Wiesbaden: Harrassowitz.
- Goulandris, Nata, ed. (2003) *Dyslexia in different languages: cross-linguistic comparisons*. London, Philadelphia: Whurr Publishers.
- Grandière, Louis (1999) "Louis Dumas et le système typographique, 1728–1744". *Histoire de l'éducation* 81, 35–62.
- Gutslaff, Johannes (1648) *Observationes grammaticae circa linguam Esthonicam / Grammatilisi vaatlusi eesti keelest*. Marju Lepajõe, ed. Tartu: Tartu Ülikool, 1998.
- Göseken, Heinrich (1660) *Manuductio ad Linguam Oesthonicam, Anführung zur Öhstnischen Sprache*. A.-L. Värri Haarmann, ed. Hamburg: Helmut Buske Verlag, 1977.
- Hammond, Nicholas (2004) *Fragmentary voices: memory and education at Port-Royal*. Tübingen: Gunter Narr.
- Hart, John (1570) "A Methode or comfortable beginning for all vnlearned [...] London: H. Denham, 1570". In Bror Danielsson *John Hart's Works on English orthography and pronunciation: 1551, 1569, 1570*. Part I. *Biographical and bibliographical introductions, texts and index verborum*, 230–249. Stockholm: Almqvist & Wiksell, 1955.
- Helk, Vello (1977) *Jesuiten in Dorpat (1583–1625). Ein Vorposten der Gegenreformation in Nordosteuropa*. Odense: University Press.
- Hornung, Johann (1693) *Grammatica Esthonica, brevis, perspicuâ tamen methodo ad dialectum Revaliensem*. Riga, 1693. Harald Haarmann, ed. Hamburg: Helmut Buske Verlag, 1977.
- Hundt, Markus (2000) "Spracharbeit" im 17. Jahrhundert. *Studien zu Georg Philipp Harsdörffer, Justus Georg Schottelius und Christian Gueintz*. Berlin and New York: de Gruyter.
- Ickelsamer, Valentin (1527 and 1534) *Die rechte weis auf kürztist lesen zu lernen [1527]. Ain Teütsche Grammatica [1534]*. Karl Pohl, ed. Stuttgart: Klett, 1971.
- Jacobi, Friedrich (1851) *Deutsche Schulmethodik. Ein Handbuch für Lehrer*. Nürnberg: Ebnersche Buchhandlung.
- Jaitner, Klaus (1988) "Der Pfalz-Sulzbacher Hof in der europäischen Ideengeschichte des 17. Jahrhunderts". In *Wolfenbütteler Beiträge. Aus den Schätzen der Herzog August Bibliothek*, 8, 273–394. Frankfurt am Main: Vittorio Klostermann.
- Jones, Richard Foster (1953) *The triumph of the English language: a survey of opinions concerning the vernacular from the introduction of printing to the Restoration*. Stanford: Oxford University Press.
- Kala, Tiina (2006) "Languages in a Medieval North European city: an example from Medieval Tallinn". In Outi Merisalo, ed. *Frontiers in the Middle Ages*. 585–603. Louvain-la-Neuve: Fédération Internationale des Instituts d'Études Médiévales.
- Kehr, Carl (1889) "Geschichte der Leseunterrichts". In A. Engeli, H. Fechner [u.a.], eds. *Geschichte des deutschen Unterrichts in der Volksschule*, 1–121. Gotha: E. F. Thienemann.
- Kingisepp, Valve-Liivi, Kristel Ress, and Kai Tafenau (2010) *Heinrich Gösekeni grammatika ja sõnastik 350*. Tartu: Tartu Ülikool.

- Klöker, Martin (2005) *Literarisches Leben in Reval in der ersten Hälfte des 17. Jahrhunderts (1600–1657)*. (Institutionen des Gelehrsamkeit und dichten bei Gelegenheit, 1.) Tübingen: Niemeyer.
- Lancelot Claude and Antoine Arnauld (1975) *General and rational grammar. The Port-Royal grammar*. Jacques Rieux and Bernard E. Rollin, ed. and transl. The Hague and Paris: Mouton.
- Leinonen, Markku (1998) *Johannes Gezelius vanhempi luonnonmukaisen pedagogiikan soveltajana. Comeniuslainen tulkinta*. [Johannes Gezelius the Elder as implementer of natural pedagogy. A Comenian interpretation.] Jyväskylä: Jyväskylän yliopisto.
- Lindroth, Sten (1975) *Svensk lärdomshistoria. Stormaktstiden*. Stockholm: Nordstedts.
- McGuinness, Diane (2040) *Early reading instruction: what science really tells us about how to teach reading*. Cambridge, Mass.: The MIT Press.
- McLelland, Nicola (2006) “Letters, sounds and shapes: reflections on the sounds of German in early modern linguistic awareness”. *Transactions of the Philological Society* 104:2, 229–258.
- Miel, Jan (1969) “Pascal, Port-Royal, and Cartesian linguistics”. *Journal of History of Ideas* 30, 2, 261–271.
- [Moller, Arvid] (1755) *Fata Dorpati. Den i förra tider Namnkunniga Staden Dorpts Öde*. Västerås: Johan Laur. Horrn.
- Ott, Philomena (2007) *How to Manage Spelling Successfully*. Abingdon, Oxon: Routledge.
- Piirimäe, Helmut, ed. (1982) *Tartu Ülikooli ajalugu 1632–1982*. Vol. 1. 1632–1798. [History of the University of Tartu.] Tallinn: Valgus.
- PK 2003 = *Piiblikonverentsid ja keelevaidlused. Põhjaeestikeelse Piibli tõlkimise ajaloost (1686–1690)*. *Allikapublikatsioon*. = *Bibelkonferenzen und Sprachstreitigkeiten. Quellen zur Geschichte der Übersetzung der Bibel ins Revalenische (1686–1690)*. Compiled by Leino Pahtma, Kai Tafenu, ed. Jürgen Beyer. Tartu: Eesti Ajalooarhiiv.
- Pohl, Karl (1971) “Ickelsamers Beitrag zur Begründung des Erstleseunterrichts”. In K. Pohl, ed. *Die rechte weis auf kürztist lesen zu lernen. Ain Teütsche Grammatica*, V–XXIV. Stuttgart: Klett.
- Pöldvee, Aivar (2009) “Eesti ‘tähesõja’ taust ja retoorika”. [The Estonian ‘Spelling War’: background and rhetoric.] *Keel ja Kirjandus* (Tallinn) 8–9, 642–667.
- Pöldvee, Aivar (2010a) *Bengt Gottfried Forselius ja rahvahariduse lätted Eesti- ja Liivimaal*. [Bengt Gottfried Forselius the origins of the Estonian schooling in Estland and Livland.] Tartu: Tartu Ülikool.
- Pöldvee, Aivar (2010b) “Bengt Gottfried Forselius ja tähed. Täiendusi vana kirjaviisi ja uue õppeviisi mõistmiseks”. [Bengt Gottfried Forselius and letters of the alphabet: addenda to understand the old spelling system and a new teaching method.] *Keel ja Kirjandus* (Tallinn) 5–6, 331–352, 419–429.
- Puksov, Friedrich (1933–1934) “Rahvaharidus”. [Education.] In Juhan Libe, August Oinas, Henrik Sepp, and Juhan Vasar eds. *Eesti rahva ajalugu*, 2, 1121–1156. [History of the Estonian people.] Tartu: Loodus.
- Quintilian (2001) *The orator’s education*. Donald Russell, ed. and transl. Cambridge, Mass.: Harvard University Press.
- Rickard, Peter (1993) *A history of the French language*. London, New York: Routledge.
- Schaller, Klaus (1962). *Die Pädagogik des Johann Amos Comenius und die Anfänge des pädagogischen Realismus im 17. Jahrhundert*. Heidelberg: Quelle & Meyer.
- Schielein, Chrystèle (2002) *Philipp von Zesen. Orthographiereformer mit niederländischen Vorbildern?* Erlangen and Nürnberg: Universität Nürnberg.
- Seymour, Philip H. K., Mikko Aro, and Jane M. Erskine (2003) “Foundation literacy acquisition in European orthographies”. *British Journal of Psychology* 94, 2, 143–174.
- Smythe, Ian, John Everatt, and Robin Salter, eds. (2004) *International book of dyslexia: a cross-language comparison and practice guide*. New York: John Wiley & Sons.
- Stahl, Heinrich (1637) *Anführung zu der Esthnischen Sprach*. Brampton: Maarjamaa and Tartu: Johannes Esto Ühing, 2000.
- Stone, C. Addison, ed. (2004) *Handbook of language and literacy: development and disorders*. New York: Guilford Press.

- Tauli, Valter (1968) *Introduction to a theory of language planning*. Uppsala: Almqvist & Wiksell.
- Ulrich, Miorita (1997) *Die Sprache als Sache. Primärsprache, Metasprache, Übersetzung*. (Untersuchungen zum Übersetzen und zur Übersetzbarkeit anhand von deutschen, englischen und vor allem romanischen Materialien). Tübingen: Gunter Narr.
- Uusitalo-Malmivaara, Lotta (2009) *Lukemisen vaikeuden kuntoutus ensiluokkalisilla. Kolme pedagogista interventiota*. [Remediation of reading difficulties in grade 1. Three pedagogical interventions.] Helsinki: Helsingin yliopisto.
- Wappmann, Volker (1998) *Durchbruch zur Toleranz. Die Religionspolitik des Pfalzgrafen Christian August von Sulzbach 1622–1708*. Neustadt a. d. Aisch: Degener.
- Westling, Fredrik (1901) “Bidrag till Livlands kyrkohistoria 1621–1656”. *Kyrkohistorisk årskrift* (Upsala) 1, 43–107.
- Wieselgren, Greta (1943) *B. G. Forselius und die Grundlegung der estnischen Volksschule. Urkunden und Kommentar*. Lund: Gleerup. [Särtryck: Vetenskapssocieteten i Lund. Årsbok 1942.]
- Willke, Ingeborg (1965) *ABC-Bücher in Schweden. Ihre Entwicklung bis Ende des 19. Jahrhunderts und ihre Beziehungen zu Deutschland*. Lund: Scandinavian University Books.
- Wood, Clare and Vincent Connelly, eds. (2009) *Contemporary perspectives on reading and spelling*. Abingdon, Oxon: Routledge.