The paper describes the state of the art of monolingual lexicography in Estonia. Firstly, we describe the current situation in Estonia and the main public functions performed by the Institute of the Estonian Language. Secondly, we provide an overview of the primary types of monolingual academic dictionaries (dictionaries of Standard Estonian and explanatory dictionaries) published in Estonia since the 20th century. Monolingual learner’s lexicography has emerged as a new field in the 2010s, focusing on basic vocabulary and collocations. Thirdly, we give a short overview of accessibility policy and availability of language resources for Estonian. Finally, we envisage the future work in the field of lexicography in the Institute. Within the framework of the new dictionary writing system Ekilex the Institute is moving away from presenting separate interfaces for different dictionaries towards a unified data model in order to provide the data in the aggregated form.

Keywords: lexicography, dictionaries, Estonian

1 THE CURRENT SITUATION IN ESTONIA

Since the autumn of 2015, the Institute of the Estonian Language\(^1\) is the only compiler of major academic dictionaries in Estonia.\(^2\) The Institute is funded by the Ministry of Education and it performs a number of public functions: (a)

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1. [https://www.eki.ee/EN/](https://www.eki.ee/EN/)
2. There is one exception: the Estonian Wordnet is being compiled by the University of Tartu. Retrieved from [https://www.cl.ut.ee/ressursid/teksaurus/](https://www.cl.ut.ee/ressursid/teksaurus/).
compiling and upgrading dictionaries and databases essential for the country and national culture, incl. Estonian dialects and Finno-Ugric languages, (b) language care and language planning, (c) coordinating nationwide terminological work, (d) providing services for people with special needs and language learners, (e) developing speech synthesis for Estonian.

The compilation and editing of dictionaries and making them accessible online as a public service are almost fully funded by the Ministry of Education and Research. Some dictionary projects have received (partial) funding from other national programs. The Institute (in 2018) owns and hosts more than 70 dictionaries and terminological databases, which altogether contain about 1.5 million words or concept-based terms. Users make about 7.8 million queries per year on the Institute’s website. Research and other activities of the Institute are financed on a project basis mainly through institutional and personal research funding, national programs, and target funding and orders.

All lexicographic work on contemporary Estonian is based on corpus analysis and we provide the links to corpora when presenting dictionary content within the Institute’s new dictionary portal Sõnaveeb (‘WordWeb’).3

The biggest corpus of Estonian at the moment is the Estonian National Corpus 2017 (1.1 billion tokens). It is available through the Sketch Engine4 (Kilgarriff et al., 2004) interface. In order to facilitate corpus-based analysis of Estonian within the Sketch Engine special modules for the Word Sketch (Kallas, 2013), the Term Extraction (Kallas et al., 2017), and the Good Dictionary Example (Koppel, 2017; Kosem et al., 2018) functions were developed. Estonian Web corpus is crawled on a regular basis in every two years.

The last decade has been the so-called transitional period in Estonia where dictionaries are mostly published on paper as well as electronically. So far the majority of online versions have been almost exact copies of the paper dictionary. However, speech synthesis, audio files, hyperlinks, and navigable picture material have been included in the electronic version of the Basic Estonian Dictionary5 (Kallas et al., 2014). Within the framework of the new dictionary

3 https://sonaveeb.ee
4 https://www.sketchengine.eu/
5 http://www.eki.ee/dict/psv/
writing system Ekilex (Tavast et al. 2018) we are moving on from presenting separate interfaces for different dictionaries towards a unified data in order to provide the data in the aggregated form.

At present, most online dictionaries are only browser based (without responsive design). For two of the monolingual dictionaries—the Dictionary of Standard Estonian ÔS 2013 and the older version of the Explanatory Dictionary of Estonian—apps exist. Apps are created by private entrepreneurs, not in cooperation with the Institute, and they do not work well for small mobile phone screens as not much has been done to achieve a more user-friendly layout: the long text just flows into the mobile phone screen and needs to be scrolled and scrolled to reach the end of the entry.

In the near future, near all dictionaries being compiled at the Institute are planned to be released only digitally (for example the new explanatory Dictionary of Estonian 2018 (Langemets et al., 2010; Langemets et al., 2018), the Estonian Collocations Dictionary 2018 (Kallas et al., 2015), and the Associations Dictionary (to be published in 2019). One exception is, for example, the Dictionary of Standard Estonian (published both in print and on the web) since it has to be available on paper for state examinations as no electronic devices are allowed.

According to data from Statistics Estonia, in 2017 88% of households had internet access and 82% had mobile internet access. This shows that access to the internet in Estonia is above average for EU countries (Pärson, Ait, 2017).

According to W3Techs, World Wide Web Technology Surveys, Estonian is used by 0.1% of all the websites on the web. One in every thousand seems like an almost non-existent number, but that puts Estonian in 38th place in the world. If English is overrepresented online by a factor of two when comparing

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6 http://portaal.eki.ee/dict/qs2013
7 http://www.eki.ee/dict/ekss/
8 https://sonaveeb.ee
9 https://sonaveeb.ee
11 https://www.stat.ee/en
12 https://w3techs.com/technologies/overview/content_language/all
the amount of speakers to the representation online, then for Estonian it is a factor of ten, accounting for rounding errors.

2 GENERAL MONOLINGUAL DICTIONARIES


Since 1918 up until the 1980’s the main dictionary was the prescriptive (spelling) dictionary of Estonian, following the tradition of the German Duden, i.e. it focused on form (spelling and word formation) rather than senses of Estonian words. The first dictionary of Standard Estonian ŕS 1918³³ (20,000 head-words), published in revolutionary times, was a contemporary of the Estonian state born in 1918.

In the 1960s, compilation of the first comprehensive explanatory dictionary of Estonian was initiated—roughly 200-300 years later than those of French, English, or German, and 100 years later than in the Nordic countries—it appeared in 27 fascicles between 1988 and 2007. The descriptive dictionary contains about 150,000 words. It is a typical dictionary of its kind: it abounds with literary examples (approx. 50,000) and usage examples devised by lexicographers; the entries are long as there are many polysemous words (especially verbs), have been subjected to a really thorough meaning differentiation. The dictionary took 50 years to prepare. The 2nd, updated edition (in 6 volumes) appeared in 2009.

We have been following these two lines of lexicographic tradition ever since. In 2018, the compilation of two dictionaries was completed, differing in style and electronic format: the new explanatory Dictionary of Estonian 2019 (Langemets et al., 2010; Langemets et al., 2018) and the Dictionary of Standard Estonian 2018.

Firstly, the next higher ‘lexicographic storey’, the new explanatory Dictionary of Estonian 2018 (over 100,000 entries) is published on the web as a part of the dictionary portal Sõnaveeb (‘WordWeb’), following, broadly, the example

http://www.eki.ee/dict/qs1918/
of several European languages. The focus lies on rewriting sense definitions based on corpus evidence and on better explaining the meaning, not only listing the synonyms as was quite often done previously, as well as grounding ourselves more theoretically, e.g. using patterns for systematic polysemy. There will be considerably more multi-word units based on real usage detected in the corpus. The ordering of senses as well as the headword inclusion relies on corpus frequency (Langemets et al., 2018).

Secondly, the Dictionary of Standard Estonian ŐS 2018 is published both in print and on the web, providing guidance and recommendations for practical language usage.

3 THE DICTIONARY OF STANDARD ESTONIAN ŐS 2018

Practical language usage in Estonia is regulated by the Law on Language and the legislation based thereon. In 1989, the Law on Language declared Estonian the sole official language of Estonia. According to a government regulation in 2006, the literary norm should be based on the most recent Dictionary of Standard Estonian (then ŐS 2006) issued by the Institute of the Estonian Language—an interesting fact, probably not common to many languages. The new edition of the Dictionary thus became the “updated” official norm of the standard language (Langemets, 2013).

Language care and language planning has played a crucial role in compiling the Dictionary of Standard Estonian throughout the century (Raadik, Tuulik 2018). The first prescriptive monolingual dictionary (ÕS 1918; 20,000 words) focused on spelling in order to help standardize and fix the literary norm and introduced a long tradition of dictionaries of this special type (with many reprints up to the Dictionary of Standard Estonian ŐS 2018). As for the principles of language planning, they have changed with time: at one time emphasizing system and purpose (1920s), later the vernacular or actual usage (ÕS 1933). ŐS 1960 and 1976, published during the Soviet occupation, resisted Soviet totalitarianism by imposing even stricter linguistic norms. Thus language remained one of the most powerful tokens of Estonian identity. The most recent dictionaries (ÕS 1999, 2006, 2013, 2018) represent a more moderate trend in language standardization, providing recommendations rather than strict norms.
4 MONOLINGUAL LEARNERS’ DICTIONARIES

There is a need in society for learners’ dictionaries for different levels according to the Common European Framework of Reference for Languages.\(^{14}\)

The Basic Estonian Dictionary\(^ {15}\) (BED, Kallas et al., 2014) is aimed at learners of Estonian as a foreign language or as a second language at the elementary and intermediate levels (A2 to B1). The dictionary contains about 5,000 headwords, including single items and multi-word lexical items. The BED provides information on pronunciation, declension/conjugation, definitions, word formation, government and collocation patterns, multi-word phrases, semantically related words, and usage notes. It is an innovative project in Estonian lexicography since, in addition to traditional information, the dictionary contains sound recordings (MP3 audio files) for basic form of headwords; also, speech synthesis is integrated. It allows users not only to read but also to listen to example sentences.

The second monolingual learners’ dictionary is the Estonian Collocations Dictionary\(^ {16}\) (ECD, Kallas et al., 2015). The ECD is aimed at learners of Estonian at the upper intermediate and advanced levels (B2 to C1). The dictionary contains about 10,000 headwords, including single and multiword lexical items. The collocates within each headword are grouped according to the lexicogrammatical structure formed by the collocational phrase, and for collocations example sentences are provided. The project is interesting from the perspective that it is the first dictionary for Estonian for which the database was generated automatically. For the automatic generation of the ECD database, the Sketch Engine functions Word List, Word Sketch, and Good Dictionary Example (GDEX) were used. The data were automatically extracted in an XML format from the 463-million-word Estonian National Corpus 2013 and imported into the Institute’s in-house dictionary writing system EELex (Langemets et al., 2006; Jürviste et al., 2011).

The monolingual learners’ dictionary aimed at learners of Estonian at the advanced levels (C1 to C2) is yet to come, but planned for the near future.

\(^{14}\) https://www.coe.int/en/web/common-european-framework-reference-languages
\(^{15}\) http://www.eki.ee/dict/psv/
\(^{16}\) https://sonaveeb.ee
5 THE AVAILABILITY AND ACCESSIBILITY OF LANGUAGE RESOURCES

There are four main websites offering access to different Estonian language resources. Three of four are free of charge for the public.

On the Institute’s website\(^\text{17}\) one can find online dictionaries and databases (altogether approx. 70) as well as corpora, language and speech technology applications, the termbases, etc. The Language Hotline “e-keelenõu”\(^\text{18}\) receives about 100,000 queries per month. Dictionary portal Sõnaveeb (‘WordWeb’) is the new service of the Institute. The information displayed comes from Ekilex, a new dictionary and terminology database maintained and developed by the Institute (Tavast et al., 2018). In 2018 WordWeb displays data from seven dictionaries and databases, it contains about 130,000 words and phrases in Estonian. 70,000 words of them are supplied with Russian equivalents. The versions of WordWeb are updated and archived once a year.

All electronic resources, applications, and services of the Institute are available to the public for free. Some dictionaries’ data is freely available also for download,\(^\text{19}\) mostly by the terms and conditions of Creative Commons BY 4.0 licence.

The website Keeleveeb\(^\text{20}\) links different dictionaries and corpora and performs searches in all selected language resources (via each one’s home page).

The Center of Estonian Language Resources\(^\text{21}\) creates and manages infrastructure to make the Estonian language digital resources (dictionaries, corpora—both text and speech—, various language databases) and language technology tools (software) available to everyone working with digital language materials. One can access Estonian resources (altogether 116) in the META-SHARE repository.\(^\text{22}\) Corpora, however, are familiar to specialists and linguistics students in Estonia rather than the general public.

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17 https://www.eki.ee/EN/
18 http://kn.eki.ee/
19 https://www.eki.ee/litsents/
20 http://www.keeleveeb.ee/
21 https://keeleressursid.ee/en/
22 https://metashare.ut.ee/repository/search/
The website Keelevara\textsuperscript{23} has been the only paid dictionary portal in Estonia, however, it is currently in the process of ending its activity. The portal offers general language dictionaries, translation dictionaries, and terminological dictionaries. Different packages are offered as well as access to specific dictionaries. For example, the basic package is 30 euros per year, the translator’s package 70 euros and the professional’s package 220 euros.

\textbf{6 \ ON DICTIONARY USE}

In the national curriculum for basic and upper secondary schools\textsuperscript{24} it is generally described how pupils at different levels should use dictionaries. Students in 4–6th grade know how to find information about the meaning and spelling of a word. Students in 7–9th grade can read unfamiliar texts and understand them by using dictionaries. Students in 9th grade should know how to find information about the meaning and spelling of a word, its field of use, and the inflectional paradigm of the word.

At universities special courses on lexicography have been offered (usually by the specialists of the Institute) to students of Estonian (and Finno-Ugric languages) and Translation Studies.

In Estonia the research of dictionary use is not extensive, but some studies exist, e.g. Jürviste (2010) monitored how the The Dictionary of Standard Estonian is used among Estonian language editors. Veldi (2014) has summarized his experiences of teaching a course that focuses on the skills of dictionary use.

For a new dictionary portal Sõnaveeb (‘WordWeb’), we have interviewed the representatives of different groups in an attempt to capture the needs of different users.

\textbf{7 \ CITIZEN SCIENCE}

Using crowdsourcing or citizen science is not that common in Estonian lexicography. Over time there has been two projects at the Institute of the Estonian Language where language users have been asked to provide lexical content. There is an ‘Add a new word’-section on our homepage where, in approximately 10 years, people have added 439 words. These words are mostly

\textsuperscript{23} http://www.keelevara.ee/
\textsuperscript{24} https://www.riigiteataja.ee/akt/174787
coinages and lexicographers have not taken them into account. The project has not been successful as the feedback by the lexicographers had not been worked out properly.

In 2016, the Institute started a compilation of the Dictionary of Word Associations (1,000 keywords) where citizen science was implemented (Vainik, 2018). It only took 6 months to involve 400 partners and collect material for the dictionary. The feedback from partners was positive and they were willing to participate in the Institute’s future crowdsourcing projects.

In the coming projects connected to language learning, we are planning to implement crowdsourcing and gamification more actively.

8 CONCLUSIONS

Lexicography is considered a practical or an applied discipline rather than an independent scientific discipline in Estonia. Of course, the lexicographers pay attention to theoretical issues, but the result of their work—the dictionary—is not scored as highly as other academic publications. Or even when it is scored, it counts as one publication and is unable to compete with the numerous scientific articles that could be produced in the same amount of time.

The theoretical and language technological issues are discussed at the annual conferences of Applied Linguistics. Papers on lexicography, corpus linguistics, etc. appear in the peer-reviewed journal of the Estonian Papers in Applied Linguistics.25

The status of lexicography is tightly connected to the Institute of the Estonian Language, as, since the autumn of 2015, the Institute is (with the exception of WordNet) the only compiler of major academic dictionaries in Estonia. The Institute has authority to compile, collect, and upgrade dictionaries and databases essential for the country and national culture.

Long-term operation as an independent institution has brought the Institute an Estonia-wide reputation as the center of Estonian studies (the Corporate image Survey by TNS Emor, 2015). The name of the Institute of the Estonian Language on title pages and on the web has been a mark of quality.

The Institute’s website receives approx. 7.8 million user queries annually, reaching 40,000 queries per day for the Estonian-Russian dictionary, 20,000 queries for the general monolingual dictionaries of Estonian (Dictionary of Standard Estonian, Explanatory Dictionary), as well as 12,000 queries per day for the English-Estonian dictionary. When googling an Estonian word one will most likely end up on the website of one of the dictionaries of the Institute.

The future work of the Institute is strongly connected with the Institute’s new Dictionary Writing System Ekilex (Tavast et al. 2018) and the Ekilex-based dictionary portal Sõnaveeb (‘WordWeb’). The long-term vision is to have a single data source (Ekilex) that provides (also via the API) consistent and comprehensive information about Estonian words, combining the research done at all departments and working groups of the Institute.

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STANJE ENOJEZIČNE LEKSIKOGRAFIJE: ESTONIJA

Prispevek opisuje stanje enojezične leksikografije v Estoniji. Najprej opišemo trenutno situacijo v Estoniji in osrednje javne funkcije Inštituta za estonski jezik. Nato podamo pregled primarnih tipov enojezičnih akademskih slovarjev (slovarjev standardne estonščine in razlagalnih slovarjev), ki so bili objavljeni v obdobju od 20. stoletja. Enojezični slovarji za tujce so se pojavili v zadnjem desetletju, osredotočeni pa so na bazično besedje in kolokacije. V nadaljevanju podamo kratek pregled z vidika politike dostopnosti jezikovnih virov za estonščino, na koncu pa predvidimo nadaljnje aktivnosti Inštituta na področju leksikografije. V okviru novega leksikografskega sistema Ekilex se Inštitut odmika od posameznih vmesnikov za različne slovarje in se usmerja k poenotenemu podatkovnemu modelu in podajanju informacij v celostni obliki.

Ključne besede: leksikografija, slovarji, estonščina

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