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Reduce, Reuse, Recycle: Adaptation of Scientific Dialect Data for Use in a Language Portal for Schoolchildren

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Abstract

The children's language portal *Franček*, currently under development, will consist of eight modules providing pupils and secondary-school students with a variety of lexical information. The entries in the dialect module consist of onomasiological and semasiological sections, and an optional commentary. The dialect module was derived from dialect data contained in the two already-published volumes of *Slovenian Linguistic Atlas* (SLA), a dialect atlas aimed primarily at qualified readers. As the original presentation was deemed too complex for direct use in education, indices of morphological analyses were used instead. They were first transformed into a custom XML format, following which descriptive data from SLA was used to mark some dialect forms for exclusion, to assign frequency labels to others, and to add commentaries. Finally, secondary entries, which form the basis of semasiological sections, were generated. Beside links to original dialect maps and entries in SLA, the dialect module will also include a recording interface through which pupils will be encouraged to record and submit dialect lexemes from their own dialects.

Keywords: Slovene dialects; Slovenian; Franček; lexicography; children's dictionary; dialect data

1 Introduction

Franček (*www.franček.si*, currently in beta version) is a language portal aimed at Slovenian schoolchildren – the name is a diminutive of *Fran* (*fran.si*), the central Slovenian dictionary portal –, currently under development within the scope of a European Social Fund project *Portal Franček, Language Counselling Site for Teachers of Slovenian and School Dictionary of Slovenian* (2017–2021), led by the Research Centre of the Slovenian Academy of Sciences and Arts, Fran Ramovš Institute of the Slovenian Language. The language portal will provide lexical information to pupils and students in elementary and secondary schools. It is structured around a central headword list, to which eight modules, i.e. databases with different types of lexical information, are linked. The modules provide information on the words' meanings, synonyms, morphological characteristics, pronunciation, pragmatics, dialectal variation, etymology, and historical usage. The content of the modules as seen on the web portal is directly visualized from an underlying database and not manually constructed per se, and based on the users' age group, certain modules are either visualized or omitted. The dialect module is based on dialect data gathered in the field as part of the compilation of the Slovenian Linguistic Atlas (SLA), the most comprehensive dialect atlas of Slovenian featuring a detailed analysis of spatial lexical variation of basic vocabulary and cultural heritage lexicon presented through the use of geolinguistic methods. Despite its heterogeneity and a few apparent drawbacks (see below), the dialect material gathered for SLA is to this day the richest and most extensive resource on Slovenian spatial linguistic variation.

2 Spatial Linguistic Variation in Slovenian

Slovenian is a dialectally highly diverse language, featuring more than 40 distinct dialect varieties spoken by approximately 2 million speakers on an area of roughly 25.000 km² (excluding the Slovene-speaking diaspora in non-neighbouring countries). Geographical, historical, societal, and political circumstances have brought about the emergence of different types of speech communities. These differ not only in use of dialect varieties, sometimes so distant from one another to impede mutual intelligibility, but also by the status of their respective dialects in the language repertoire of a community, their use in different (public and private) domains, and their role in building a local (and national) identity. Next to dialects with high prestige and a relatively stable structure (cf. Kenda-Jež, Bitenc 2015) there are also those more subjected to dialect levelling and merging into regional dialects (Lundberg 2013: 69–96). Many Slovenian-minority speech communities in Italy, Austria, and Hungary are characterized by weak intergenerational language transmission (Steenwijk 2003: 221–223; Pronk 2009: 4; Zorko 2009: 15); this is also true for suburbanized areas near large cities with higher levels of migration (Škofic 1998).

Given such diversity, complicated patterns of dialect use and prestige, and frequent diglossic relations with the standard language, depending on the dialect, finding a suitable way of presenting dialect data to children is at the same time very important and not without its difficulties. In addition to providing teaching support in accordance with school curricula, our main goal was to increase awareness of spatial language variation and the status of dialects in local communities.

The stereotypically negative attitude towards the use of dialects within educational settings has only in the second half of the 20th century been replaced with a gradual understanding of the relations between local nonstandard varieties and the spoken standard language (Gruden, in print) as used in formal domains. Due to differing linguistic situations in different microsettings it is reasonable to adapt curricula to specific circumstances of particular localities; this depends, to a large

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extent, on the ableness, or rather, differing relative difficulty of integration of local linguistic variety uses into a wider context of spatial variation of the Slovene language.

3 Slovenian Linguistic Atlas as a Resource

The main sources of information for the dialect module were the two published volumes of the most comprehensive dialect atlas of Slovenian, the *Slovenian Linguistic Atlas* (SLA) (Škofic et al. 2011; Škofic, Šekli et al. 2016), which focus on the semantic fields of *humans* (specifically: the body, illnesses, and family) and *farms*, respectively.

The concept for SLA was first formulated in the 1930s by Fran Ramovš. Its author developed the concept according to the principles of contemporary European linguistic geography adhering to the French model established by Gilliéron (ALF), which favoured the format of a "geographically arranged dictionary" (Ramovš 1934) with point-text maps. SLA was first envisioned as a preliminary survey of dialect variation; thus, neither the exact layout of the network of 312 research points nor its density were conclusively finalized at that time. After a decade of intense fieldwork research by Tine Logar (1946–1958), which also served to assess the validity of the proposed classification of Slovenian dialects, the project switched from short-term to long-term. Owing mostly to the complexity of the dialect matter, the French model preferring a single fieldwork researcher as a means of achieving university students. The related questionnaire (cf. Benedik 1999) remained the main tool for research of phonetic and phonological features of Sloven dialects well into the 1990s.

Each entry in SLA covers a single question of the afore-mentioned questionnaire. It consists of a dialect map, a list of all registered dialect lexemes as originally transcribed, arranged by research points, and a comprehensive commentary. The latter is divided into several subsections, most relevant of which for the purposes of this paper is the so-called morphological analysis. It serves to consolidate dialect variations (due to phonetic differences) of lexemes to their uniform standardized forms and segment them by morphemes to thus provide information on their word-formational characteristics as well as their origin (inherited or borrowed).¹ The morphological analyses also form the basis for cartographic representations. In contrast to the original concept, the dialect lexis is not presented by superimposing the transcribed data directly on the map but by various types of qualitative point-symbol maps, i.e. lexical, word-formational, and semantic maps. The symbols are chosen on the basis of morphological analyses in accordance with the methodology of the *Slavic Linguistic Atlas* (OLA 36–38, 55–59) and sometimes supplemented with isoglosses. Maps with abstract presentation of cross-lexemic and intralexemic relations require a skilled reader who is able to relate graphic representations with the relevant data from the commentary. As such, they are not well-suited for direct use in an educational setting.

Owing mostly to the longitude of the project, the underlying dialect database is very heterogeneous, which further complicates attempts at simplified, yet still accurate presentations. Through the years, the methodology has undergone a number of transformations, motivated by new findings on one hand and by theoretical and methodological developments on the other:

- At the beginning, a specially designed questionnaire consisted of 646 lexical and 170 grammatical questions; both the selection of the lexis and the selection of phonetic and morphological characteristics to be surveyed were based on the knowledge of dialectal differentiation available at the time. In 1961, the questionnaire was amended and restructured to enable a more structured approach. Following restructuring, the lexical part of the questionnaire currently consists of 802 onomasiological and 25 semasiological questions.
- The model of the preferred dialect speaker/informant has changed as well.² Based on early fieldwork experience, a two-fold model for surveying different age and socio-educational groups evolved, preferring: (1) children up to the age of 14 and speakers between the ages 46 and 70; and (2) the rural population and high-school or university-educated informants, mostly teachers (Kolarič 1954: 185–186; Logar 1958/59: 129). Until the year 1958, 42 children up to the age of 15 and 28 teenagers between the ages 16 and 20 participated in the research (vs. only 35 informants between the ages 71–95). After 1958, the described model was gradually replaced with one favouring speakers of the oldest generation. The distribution of informants by gender is balanced. The core group of informants was born between 1890 and 1930; the average interviewee age has risen by approximately 30 years between 1946 and 2000 (35 vs. 66, Kenda-Jež 2002: 155–160).
- The majority of the interviews by Tine Logar were conducted in the years 1946–1965. The intensity of fieldwork somewhat lessened due to a period of intensive fieldwork for OLA (1966–1975). Fieldwork again increased in the 1980s and again in the 2010s, just before print publications of the first two volumes of SLA.
- From 1975 onward, the dialect data is transcribed according to a standard Slovenian phonetic transcription, a derivative of the standard used in (OLA). Prior to this standardization, several formats of transcription had been used over the years. Because dialect data has been recorded through a longer period of time and because a retroactive harmonization especially of the older data would require significant rechecking in the field, it was decided to instead publish the dialect material as originally transcribed to avoid confusion or mistakes in the process of transliteration. Due to tradition and the already-mentioned connections to OLA, IPA has not been introduced into Slovenian dialectology on a systemic scale.

¹ Information on borrowed lexicon, i.e. which language (and which of its temporal or spatial varieties the lexeme was borrowed from), is, to list but one example, useful for assessing language contact in the past and present, aiding cultural, historical, ethnological, sociological etc. studies.

 $^{^{2}}$ The model is not consistent with the generalized notion of the "ideal speaker" of classic Anglo-Saxon dialectological studies based (NORM = non-mobile older rural male; Chambers, Trudgill 2002: 29).

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Figure 1: Boxplot presentations of the median years of interviews – left to right: all interviews (n=520, Me=1962); interviews conducted within Republic of Slovenia (n=436, Me=1960); interviews conducted in neighbouring countries in communities where Slovene is spoken as a minority language (n=84, Me=1965,5).³

4 The Franček Dialect Module

The module providing information on word usage in Slovene dialects is intended for pupils older than 10 years. Entries in the dialect module have a three-part structure:

- an onomasiological section ("Which words are used to describe this concept and in which dialects?"),
- an optional commentary,
- a semasiological section ("Which concepts does this word (also) denote and in which dialects?").

1	Kako se reče <mark>babica</mark> v narečjih?	
	V nai oma	ečjih se reče najpogosteje stara mati, stara mama , ponekod babica, baba, babej , oziroma babi , omama , v primorski narečni skupini tudi nona .
		Besede nona, oma, omama in baka so prevzete iz sosednjih jezikov. V koroških narečjih se reče krajše tudi bica namesto babica .
2	Kaj	še pomeni <mark>babica</mark> v narečjih?
	Bese	la <mark>babica</mark> lahko ponekod pomeni tašča .
	\bigcirc	Kje govorijo tako? Poglej na zemljevidu.
3		Te zanima podrobnejši opis narečne rabe te besede? Poglej v Slovenski lingvistični atlas na Franu.
	Ļ	Ali tudi pri vas rečete babica? Ali kako drugače? Posnemi se in nam pošlji svoj posnetek.

Figure 2: Entry *babica* "grandmother" featuring an onomasiological section (1) with commentary (marked with a flag) and a semasiological section (2) with links (3) below.⁴

Each entry consists of at least one onomasiological or semasiological section, though combinations of the two types under the same entry are possible (as in the example in Figure 2). If an entry has multiple meanings, these are treated in separate iterations of sections.

The onomasiological section is introduced by a title question "How do we say (headword) in dialects?", followed by a typified list of normalized dialect lexemes equipped with so-called frequency labels or, in the case of geographically specific lexemes, with a corresponding listing from a simplified list of 40 (sub)dialects and 7 dialect groups. Headwords of onomasiological sections are the commonest standard-Slovene lexemes denoting concepts in question that are also used as keywords in the SLA questionnaire.

The optional commentary conveys various information of interest on the words' origins, their status as loanwords, on

³ The data was analysed in R by Kaja Hacin Beyazoğlu.

⁴ Graphic presentations from the portal *Franček* are not yet final and subject to potential change.

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phonetic, accentual, and morphological variation, etc.

The semasiological section is introduced by the question "What can (headword) also mean in dialects?" If original entries in SLA provide answers to the question: "Which words do you use to describe this concept?", then it follows logically that dialect lexemes inversely beg the question: "Which concept are you expressing by using this word?" Headwords of semasiological sections are standardized forms of dialect lexemes.

Links to original SLA maps and SLA entries on the portal Fran are provided in the footer (first and second lines under 3 in Figure 2). The final line of the footer encourages pupils and students to record and submit lexemes typical of their own dialect varieties (cf. Section 4.4).

Construction of the dialect module occurred in three basic stages, which we dubbed Reduce, Reuse, and Recycle.

4.1 Reduce

In the first stage, the amount of information provided by the original database was reduced. As the original dialect maps were meant as scientific presentations of dialect data, the originals were deemed too complex for school use (cf. Section 3). Because SLA was conceived as a primarily printed publication, some crucial data was edited or added to the maps manually and couldn't be faithfully replicated from the underlying database in an automated fashion without significant manual input. It was therefore decided to forgo them in favour of textual descriptions.⁵ The entries nevertheless include links to original cartographic material for advanced pupils or as teaching material.

Likewise, it was agreed that original lists of phonologically transcribed dialect data would be too difficult for users to understand and would make linking to the main headword list an impossible task. Instead, lists of standardized forms were extracted from the indices of morphological analyses, converted to a custom XML format by key of question codes from the SLA questionnaire, and normalized. This process yielded 238 entries containing a total of 5108 dialect lexemes which formed a basis for the onomasiological sections.⁶ Out of these, six so-called semantic entries were eliminated because they differed from the rest conceptually: instead of listing dialect expressions denoting their respective semantemes, these SLA entries were meant to probe for semantic variation of select lexemes in dialects; out of these six, five headwords are also included as normal entries in SLA in any case.



Figure 3: Extract from the indices of morphological analyses (left, with question codes underlined) and the entry *babica* "grandmother" (originally *stara mati* – multi-word headwords were changed to their usual single-word synonyms to enable linking to the main headword list) in custom XML code post-transformation (right, with dialect forms underlined).

⁵ A separate project is being pursued that would enable such a reworking and provide the public with an interactive and enriched presentation of dialect data, including interactive maps (Škofic 2013). A limited beta version is published at <u>http://gismo.zrc-sazu.si/flexviewers/Test_Vicic/SLA1/SLA_kmetija/</u>.

⁶ Three entries published separately in Jakop 2012 in the format of SLA entries were added to the database manually.

Afterwards, problematic forms, included in SLA for scientific accuracy and marked accordingly, were manually marked for exclusion. This included irrelevant forms ("wrong answers", e.g. nomen loci *gnojišče* "place where manure is kept" under the question pertaining to "manure" beside the answer *gnoj* "manure" in the same research point); unclear forms (e.g. hapax legomenon *gjam* "manure", limited to one research point); dubious forms (e.g. in modern standard Slovene the lexeme *truplo* (used as a question in the SLA questionnaire) denotes "cadaver", but it also used to carry the meaning of "body" in contemporary standard Slovene at the time of the earliest interviews; consequently, and also due to dialect lexical variation, it is not always clear which of the two meanings the informants provided answers for).

4.2 Reuse

Information from original commentaries and linguistic maps was reused to assign frequency labels to remaining dialect lexemes for each entry. The frequency labels range from *everywhere* for universally used lexemes through *most frequently* for commonly used lexemes, *in some parts* for lexemes used in more than one dialect groups and finally *rarely* for lexemes used in more than one dialect not in the same dialect group. Geographically specific lexemes limited to only one dialect group or only one dialect were labelled with the corresponding listing from a simplified list of 40 (sub)dialects and 7 dialect groups.

Based on the same data regarding frequency and distribution, particularly infrequent lexemes were marked for exclusion from onomasiological sections as well. This was necessary to achieve greater clarity, i.e. to avoid overly bloated entries, as almost half of the entries contained more than 30, and some as many as 80–90 different dialect lexemes.

The same information was finally reused to compose commentaries where deemed necessary, sometimes including some of the previously excluded forms as curiosities. Commentaries typically pertain to notable (i.e. recognized as locally typical by a wider populace) phonetic or accentual variation with lexically identical items, e.g. bilabial pronunciation of /l/ (e.g. vas as opposed to *las* "hair") or typical stress placement (e.g. *óko*, *babíca* as opposed to the more frequent *okó* "eye", *bábica* "grandmother"), notable semantic peculiarities (e.g. *hči* meaning also "female child" beside the more frequent "daughter"), origin of especially uncommon lexemes or loanwords from neighbouring languages (e.g. *lilahen*, *vilahen*, both "bedsheet", borrowed from Middle High German, or *baka*, *oma*, *nona*, all "grandmother", borrowed from Croatian, German, and Italian/Friulian, respectively) with the particular aim of increasing awareness about language contact and interaction, etc. The total count of all included dialect lexemes was brought down to 1706, and a total of 126 commentaries were added.

4.3 Recycle

As the last step before linking the dialect module with the main headword list, semasiological sections were added. As already mentioned, if onomasiological sections provide answers to the question: "Which words do you use to describe this concept?", it follows logically that dialect lexemes inversely beg the question: "Which concept are you expressing by using this word?" This was achieved by automatically generating new entries from dialect lexemes (or adding subsections to existing ones in the cases of separate (non-parent) homonymous entries) and the process yielded 1508 additional so-called secondary entries. In secondary entries, the dialect lexemes of "primary" entries become headwords and the headwords of their parent primary entries are carried over to be used as definitions (cf. Figure 4); the frequency labels are also copied. While such recycling might seem redundant within the scope of the dialect module itself, it comes to relevance when accessing the information through an outside source, i.e. the headword list, which might include headwords not included in the module as primary entries, but nevertheless present as dialect lexemes.



Figure 4: "Primary" entry *babica* "grandmother" (right) and its derived secondary entries (left). Dialect forms serve as headwords for secondary entries (underlined in red) except when they are homonyms of their parent headwords (the case of *babica*, underlined in blue on the left); the parent headwords serve as definitions in secondary entries (underlined in green).

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4.4 Renew

As previously mentioned, fieldwork gathering of dialect data for the purposes of compiling SLA began in 1946 and the majority of data was gathered in the 1960s (cf. Figure 1). As one anonymous reviewer of the extended abstract justly notes, these facts bring into question the currency of the presented dialect data. To partly mitigate this drawback, the dialect module will also provide the option for children to record and submit their own suggestions. In entries with onomasiological sections, the portal's visitors are prompted to record the dialect lexeme used in their local environments and submit it; in entries with semasiological sections, users are instead prompted to provide meanings for headwords, if they recognize them from their local environments. The submitted entries will be approved by a moderator and published for other users to listen to. Headwords with no entries in the dialect module will feature only the described prompt in order to, in time, fill the gaps in the module. Beside expanding and updating the current database with more recent dialect data – possibly beyond the scope of the portal itself –, this feature also aims to encourage interactivity in the school setting and children's participation.

5 Conclusion

Given the dialectal diversity of Slovenian, complicated patterns of dialect use and prestige, and diglossic relations with the standard language, depending on the dialect, finding a suitable way of presenting dialect data to children is very important and difficult at the same time. Despite providing dialect data that is in some cases potentially outdated for reasons outside the developers' control, the dialect module of the *Franček* children's' language portal will hopefully represent a major step in that direction. Further assessment in collaboration with 19 elementary and secondary schools is pending at the time of writing; it will guide additional fine-tuning of the presentation, and the module is expected to expand with the release of further volumes of SLA.

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