Ellert Thor Johannsson and Thordis Ulfarsdottir

THE ROLE OF SEMANTIC FIELDS IN CONTEMPORARY ICELANDIC DICTIONARIES

Abstract This paper accounts for a system of semantic fields that was developed in Iceland around the turn of the century. The purpose of the system was to help describe the semantic properties of the Icelandic vocabulary and to be a practical tool in lexicographic work. The system categorizes words into semantic fields, enabling nuanced organization and practical applications in monolingual and bilingual dictionaries. The article details the system's origins, structure, and implementation, including its role in producing specialized glossaries and enhancing dictionary editing efficiency. While the system has proven valuable, some inconsistencies in classification and level of detail are noted, suggesting areas for improvement. Lastly closing observations are presented.

Keywords lexical semantics; semantic domains; semantic fields; Icelandic; dictionary editing

1. Introduction

The topic of this article is a specific system of semantic fields designed to describe lexical and semantic relationships within the vocabulary of Icelandic. When the Institute of Lexicography (later The Árni Magnússon Institute = ÁMI) in Reykjavík, Iceland, started compiling web-based dictionaries in 2004, this system was from the start integrated into the lexicographic work. This means actively using certain semantic information in dictionary editing and for other purposes such as producing specialized glossaries.

In this article, we account for this system, showcasing its properties and usefulness in lexicographic work. We give some examples of its practical use in contemporary lexicography where it has been employed in a monolingual Icelandic dictionary as well as several bilingual dictionaries. We divide our discussion into subsections. In Section 2, we give a background on Icelandic and online lexicographic and linguistic resources. In Section 3, we proceed to account for the system itself and how it is organized. We discuss key attributes of the system and its practical application. In Section 4, we demonstrate how the semantic fields function in practice in the lexicographic work and how they are used in dictionary editing. Furthermore, we show how the system can facilitate creation of specialized glossaries. We also mention some inconsistencies in the system that we are aware of. Finally, there are concluding remarks.

2. Background

Icelandic is a North-Germanic language with about 350 thousand native speakers. It is closely related to Norwegian, Danish and Swedish. Icelandic is the only official language in Iceland, and despite its relatively few speakers it is not considered endangered.

Icelandic is widely used in all aspects of daily life at all levels of society. Icelandic is the language of the parliament, the courts, the government and the municipalities, the schools at all levels and other institutions that engage in and provide public services. Icelandic authorities pursue an active language policy that aims to preserve Icelandic and ensure its continued prosperity in the digital age, e.g., promoting language standards and the coining of Icelandic neologisms (cf. Kristinsson, 2014; 2020).

The Árni Magnússon Institute serves a key role in implementing the language policy as a research center for the Icelandic language. The institute is entrusted with a range of language related roles and activities, such as preserving medieval Icelandic manuscripts and other valuable collections, as well as dictionary publishing and actively conducting scholarly activity related to the language and its text sources.

The lexicography of Icelandic has a rich tradition and is actively pursued today, mostly within the realms of ÁMI (cf. Úlfarsdóttir & Bjarnadóttir, 2017). In recent years the Institute's main lexicographic focus has been on modern web-based online dictionaries. Publications include ISLEX, a multilingual dictionary project involving Icelandic and five other Nordic languages, Danish, Swedish, Norwegian, Finnish and Faroese (cf. Úlfarsdóttir, 2014), *Íslensk nútímamálsorðabók* (Dictionary of Contemporary Icelandic (DCI)) (cf. Jónsdóttir & Úlfarsdóttir, 2019), which is the only monolingual dictionary of Icelandic that is continually updated, as well as several bilingual unidirectional dictionaries, e.g., Icelandic-French, Icelandic-English and Icelandic-Polish. Besides these online dictionaries the Institute manages other web-based linguistic resources that have been developed for Icelandic, such as a large database of terms within various disciplines (term bank), a database of inflectional patterns (BÍN), a reference website for orthographic guidelines, and more (cf. the web portal *malid.is* (Jónsdóttir et al., 2018)).

3. The Semantic System

3.1 Origin

At the core of the lexicographic endeavors of the past decades lies a system for semantic classification that was originally developed by Jón Hilmar Jónsson, an Icelandic linguist and lexicographer. This system arose from Jónsson's extensive work on collocations and fixed expressions where the meaning of every phrase was mapped out by a specific semantic label, or "concept," such as *anger*, *poverty*, *freedom*, *time span* and *distance*. Jónsson employed a system of semantic fields that is not connected to individual words, but to phrases and fixed expressions. The results of his efforts were published as printed onomasiological works (dictionaries of concepts) (Jónsson, 2002; 2005). These printed works later formed the foundation for the online resource *Orðanet* (ordanet.arnastofnun.is), which demonstrates the relationship between different concepts and the vocabulary that represents them in a wide variety of ways.

3.2 Semantic Fields

Jónsson's system of concepts was designed to categorize the lexis of the contemporary language and was developed from scratch. The process involved identifying and

classifying the semantic content of almost all lexical items (cf. Jónsson, 2002; 2005). His approach is rooted in the understanding of shared semantic features and conceptual relationships between the lexical items. His work provided a structured framework for organizing the Icelandic vocabulary, and in principle capturing both single-word entries and multi-word expressions. This system was designed only with Icelandic in mind and has no relation to other broadly used systems based on semantic criteria, like the well-known WordNet (cf. Feldbaum, 1998), which has been used to describe the semantic components of some related languages such as Danish (cf. Nimb et al., 2014).

The original system for semantic classification served as an impetus for continued lexicographic work. In the early 2000s, foundations were laid for compiling a new Icelandic–Nordic digital dictionary that later would become ISLEX (Úlfarsdóttir, 2014). As a first step in the process of starting this new project, a word list was compiled from existing sources, which was intended to serve as the basic lemmalist for the new dictionary. Jónsson took on the task of providing semantic labelling to this core vocabulary that was to serve as material for future dictionaries. Each word was assigned to one or more semantic fields and this information was registered with all the other lexical information as part of the dictionary database.

The resulting system employs a network of semantic fields. Each lemma is assigned to one or more of these fields depending on the number of senses that have different semantic properties. In the first version of the system there were over 6000 semantic fields defined, but many of those only contained 1 or 2 items (i.e., words) and were therefore of limited use in categorizing the lexis. About 3000 semantic fields can be considered useful in defining semantic information and of those around 1500 are significant as they contain ten or more items.

3.3 The System in Practice

To better account for the system, it is good to take a closer look at how it is employed in the lexical description of the Icelandic vocabulary in practice. For those purposes we will look at a particular lexicographic project, namely the monolingual dictionary DCI. This dictionary currently contains 56,000 words. All nouns, verbs and adjectives are categorized as belonging to one, two or more semantic fields. As a result, the vocabulary can be grouped in various ways and targeted in specific lexicographic work.

The data from DCI illustrates how the semantic information is associated with particular words and meanings. For example, the noun *gitar* 'guitar' is classified as belonging to only one field, namely "musical instrument" whereas *gulrót* 'carrot' belongs to two fields, "plant" and "food". The word *brúðkaup* 'wedding' has a more nuanced meaning and is classified as belonging to several fields: "wedding", "marriage", "gathering" and "amusement".

The semantic fields receive a heading (indicated here with double quotation marks ""). The heading usually consists of one or two descriptive nouns that represent the semantic characteristics of a particular field. As the headings are part of the regular vocabulary of

Icelandic, the words selected as headings also appear as headwords in dictionaries and as such are analysed for semantic properties like other words. As a result, the heading of a semantic field is often included as one of the words belonging to that particular field. For example, the semantic field "wedding" contains wedding-related words such as *bride*, *groom*, *wedding banquet*, etc. and also the event itself, i.e., *wedding*, which has been chosen as the representative heading for this particular semantic field.

There are great variations in how many words fall under each field, e.g., less than 10 words are part of the field "flag", around 100 are found under "competition" and over 1000 are labelled "animal" or "medicine". Table 1 gives an overview of the 25 largest semantic fields, i.e., those that have the most items. For clarity, the names of the fields as well as the example words have been translated from Icelandic into English.

Table 1: The 25 largest semantic fields in the system

Field (Icelandic)	Translation	Words	Example words in translation
Læknisfræði	Medicine	1337	psychosis, optic nerve, screening
Matur	Food	1217	caviar, cardamom, chestnut
Mannlýsing	Personality trait	1110	naive person, bastard, drunkard
Dýr	Animal	1044	sheep, cat, goldfish, spider
Ástand	Condition	953	outdated, decrepit, adversity
Gras	Plant	939	oak, basil, dandelion
Starfsheiti	Profession	906	pharmacist, architect, chauffeur
Tími	Time/Period	837	advent, delivery time, teatime
Atvinnustarfsemi	Job related	818	farming, upholstery, bookseller
Tal	Speech/ talk	767	message, insinuation, reprimand
Fatnaður	Clothing	678	sock, uniform, close-fitting, rag
Húsbúnaður	Household item	600	armchair, toaster, spoon
Skóli	School	584	college, graduation, pupil
Lögfræði	Law	584	legacy, main proceedings, verdict
Eiginleiki	Characteristic	563	modesty, determination, aggressiveness
Fjármál	Finance	547	interest, current account, financial crisis
Tæki	Equipment/Tool	536	bread maker, winch, megaphone
Íþróttir	Sport	518	badminton, martial art, referee
Tónlist	Music	511	bass guitar, jazz, pop song
Líkamshluti	Body part	501	shoulder, nose, foot
Samfélag	Society	467	bourgeois, pensioner, private sector
Veður	Weather	429	headwind, storm, heatwave
Tölvur	IT/Computer	428	backup, bandwidth, update
Hljóð	Sound	424	footsteps, racket, squeak
Húshluti	Part of building	413	balcony, kitchen, main entrance

¹ The data from DCI refer to the state of the dictionary in 2022. As there are continuous additions and revisions made to the lemmalist, the numbers are subject to change.

As seen in Table 1, "medicine" and "food" are the semantic fields with the most numerous items. Closely following are "personality trait", "condition", "animal" and "plant".

Nouns (40,000 lemmas) constitute about 70% of the vocabulary of DCI, so the numbers in Table 1 principally apply to nouns and their semantic properties. The other two big word classes are adjectives, 9,200 lemmas (16%), and verbs, 4,500 lemmas (8%). Regarding adjectives, their semantic fields tend to be different from those of the nouns. In many cases, they are more precise which often results in a number of small or very small groups, e.g., "loneliness" to which only three adjectives belong, and "recklessness" with six adjectives.

In addition, when Jónsson came up with the system, he first divided the adjectives into two main categories: "relating to persons" and "non-persons". Each of these two main categories was then divided into smaller subcategories with a varying number of items. Examples of the semantic fields of adjectives relating to persons are "eye colour" (e.g., blue-eyed), "selfishness" (selfish, egocentric) and "financial status" (wealthy, broke). Non-person adjectives include "temperature" (warm, cold), "landscape" (flat, mountainous) and "usefulness" (useful, useless). Of course, many adjectives can either describe persons or inanimate things, in which case they were labelled as both, e.g., the semantic fields "messiness" (messy, untidy) and "strangeness" (eccentric, odd).

Obviously, each word class does not have its own specific semantic properties independent of other word classes. However, there are some definite trends, such as the semantic field "animal" which consists almost exclusively of nouns. Semantically, there is a great deal of overlap between lemmas belonging to different word classes, e.g., deception (noun), deceptive (adjective), deceive (verb); this also includes adverbs, deceptively. All these lemmas have been assigned to the semantic field "deception" as the heading for the field is always a noun.

Verbs have their own semantic characteristics, and their semantic fields tend to be some kind of action or activity, e.g., "change", "movement" and "fighting". In this context, "sleep" and "death" are also a form of activity. When the lemmas were processed (given a definition, etc.), it seemed natural to treat cognate words together as a single 'package': sleep (verb), sleep (noun) and sleepy (adjective). More words belonged to this semantic field, such as slumber and doze.

The sixty largest verbs (large as measured by their frequency in texts, the number of senses in the dictionary and the number of verbal phrases) were not processed in the same way as other lemmas. These verbs include (Icelandic verbs translated into their English equivalents) *take, come, go, say, stand* and *lie.* Instead of labeling the relevant lemmas with many different semantic field headings, these verbs were simply categorized as multisense lexical items. Due to their semantic complexity it turned out to be more effective in the lexicographic work to process them as a special group of lemmas separate from the main semantic field system, where the semantic properties of each verb could be analysed individually. Similar method was also applied to basic function words like prepositions, conjunctions and pronouns, where the general semantic classification simply did not work. Such words were processed based on formal properties of their particular part of speech.

4. Semantic Fields in Dictionary Editing

As is clear from the discussion above, the semantic field assignment creates manageable groups of words that share certain semantic traits. This has been extremely useful in practical dictionary work. In this section, we focus on the role and relevance of the system of semantic fields in the compilation of actual contemporary dictionaries that have been published in recent years or are currently being produced by ÁMI (cf. Section 2). All the above-mentioned dictionaries share a similar microstructure and a common source vocabulary that has been categorized by semantic fields.

4.1. The Semantic Fields as Part of the Lexical Data

The semantic field system was from the very start used to add important semantic information to the lexical data found in the dictionaries. Even if the classification originally focused mainly on phrases and other multi-word units, the semantic labelling was soon extended to span the whole vocabulary, as there was an ongoing and prolific development of bilingual dictionaries at ÁMI.

The following examples are from one of the unidirectional bilingual dictionaries, an Icelandic-English dictionary, which is currently being compiled and where this system is employed in the editing work. Figure 1 shows a simple lemma and demonstrates how various lexical information is conveyed.

S	<u>stikilsber</u> nn			
1	FRAMB	ogg,mp3 framburður		
2	BEYGING	⇒ <u>BEYGING</u>		
<u>3</u>	HLUTAR	STIKILS-BER		
4	SKÝRING	ber stikilsberjarunnans		
<u>5</u>	LATINA	(lat. Ribes uva-crispa)		
<u>6</u>	MYND			
7	EN-jafn	gooseberry		
8	MSVIÐ	ber/gras/ávöxtur/matur		
9	STIG	I-1 E-1 MN		

Fig. 1: The entry word stikilsber 'gooseberry' in the Icelandic-English dictionary as it appears to the editor

When we look at the entry in Figure 1, we notice that apart from the lemma itself *stikilsber* (at the top) it contains 9 types of data: 1) FRAMB pronunciation, given as a link to an audiofile; 2) BEYGING inflection, a link to the inflectional paradigm; 3) HLUTAR information on word division of compounds; 4) a definition in Icelandic: 'ber stikilsberjarunnans'; 5) Latin name of the plant; 6) illustration; 7) English equivalent, 'gooseberry'; 8) four semantic field labels: "ber" 'berry', "gras" 'plant', "ávöxtur" 'fruit' and "matur" 'food'; 9) STIG is an indicator of the stage of processing where E-1 means that the lemma has received an English translation and has been approved for next level of editing.

The semantic field label is placed near the bottom in each dictionary entry, as seen in Figure 1. In the dictionary writing system, the labels are defined as a special data type in the relational database, so that lemmas that share a label can easily be grouped together as a special data set which is relevant to the editorial work.

4.2 Editing Work Using Semantic Fields

4.2.1 Target Language Processing

By utilizing the semantic field system, editors can streamline the editing process, focusing more efficiently on semantically related words and concepts. The system allows editors to address interconnected lexical entries within shared semantic fields, thereby enhancing both accuracy and coherence in the definitions. This also ensures that an editor of a given target language does not repeatedly type in the same equivalent in the case of near synonyms. For example, Icelandic has several words meaning 'endless, incessant', like óendanlegur, takmarkalaus, stöðugur and sífelldur. By processing the target language by the semantic field "varanleiki" ('durability, duration'), the editor of the English target language may choose to add a range of equivalent synonyms where they exist. In this case, he/she might use the words endless, relentless, perpetual, ongoing, incessant, continual, constant, consistent, ceaseless, unremitting and uninterrupted. This variety in the vocabulary is important because even though the dictionary is conceived of as a unidirectional dictionary, the interface allows the user to search for words not just belonging to the source language (Icelandic) but also the target language (English). This enhances the usefulness of the dictionary and opens it up to a broader user base.

4.2.2 Glossaries

The semantic field system can offer quite nuanced representation of lexical and semantic relationships. By identifying lexical and semantic correspondences between Icelandic and the paired languages, semantic details that exist in the vocabulary of non-Icelandic target languages are revealed. This means that glossaries can be generated focusing on specific semantic domains. So far, such efforts have resulted in the publication of bilingual glossaries of law (Icelandic-French and Icelandic-Spanish) and Economy and Finances (Icelandic-French). The Icelandic-French glossary of law contains 600 entries which all are part of the larger online dictionary LEXÍA. Glossaries of law are particularly important because the legal system has an urgent need for such aids, and Icelandic dictionaries usually do not have a great coverage of such terms. In court cases, Icelandic is always spoken, with the service of interpreters when needed, for example, when dealing with immigrants. Legal paperwork is also done in Icelandic which sometimes needs to be translated into other languages, normally by certified translators. These specific glossaries were compiled as online publications in pdf-format that could be downloaded for quick reference. They have also been used as teaching material in university courses in Iceland.

ákæra v [fallstjórn: þolfall] inculper poursuivre en justice hún er ákærð fyrir fíkniefnasmygl elle est poursuivie pour trafic de stupéfiants hann hefur verið ákærður fyrir morð il a été inculpé de meurtre ákærandi n m procureur de la République procureur général ákærði adj inculpé ákærði neitaði sök la personne inculpée a nié son crime

Fig. 2: Three entries from the Icelandic-French glossary of law (2018)

Besides this, some other specific data sets have been generated by using the semantic information. For example, a list of words related to wind and weather conditions was created at the request of the Icelandic Meteorological Office, with the intention of displaying the "weather word of the week" on their website.

4.3 Room for Improvement

As described in 4.2.1, the semantic fields have been of great help to the lexicographers during the editorial process of both the monolingual and the bilingual dictionaries. However, it is clear that the system does have some drawbacks that likely are due to its extremely short developmental phase and the fact that the system was initially implemented while still being worked on. This includes some structural issues we have identified which relate to inconsistencies in the semantic field assignment. It seems to us that many of these issues can be dealt with through simple adjustments and as a result the system as a whole would be improved. We will now discuss some examples of this.

The classification of words according to semantic fields has varying degree of nuances. In some respects, it is normal due to the lexical variety within the vocabulary, but in other cases it seems to be somewhat haphazard. This can be demonstrated by the category "animal", which is one of the largest semantic fields. In many cases, both hypernyms (broader terms) and hyponyms (narrower terms) share the same semantic field label which then is only able to capture the broad semantic strokes. "Animal" may include individual species (*blackbird*) as well as their family (*thrush*) and the class (*bird*). In fact, the whole taxonomy of animals and plants is something that could be worked on to ensure better consistency.

In other instances, the classification is more fine-grained than necessary, so, for example, the noun *kokteill* 'cocktail' belongs to three semantic fields: "drinks", "alcohol" and "blend"; and *hárgreiðsla* 'hairstyle' belongs to "hair", "hairstyle", "grooming" and "looks". As is evident from the latter example, there are cases where hypernyms and hyponyms appear at the same level in the semantic field headings. Optimally the entire system could be revised to eliminate such apparent discrepancies.

Furthermore, in some cases we are aware of a certain lack of consistency in the scope of the semantic fields. Words denoting diseases (*plague*, *epilepsy*, *heart disease*) are assigned to the fields "disease", "medicine" or a combination field "medicine/disease", which appears superfluous. Words that refer to value generally have the semantic field label "verðmæti" (59 lemmas) but two lemmas are assigned to the field "dýrmæti", which is synonymous to the main field and appears quite unnecessary. Such examples indicate that the names of the semantic fields themselves require a closer look and perhaps some further revisions.

5. Concluding Remarks

In this paper, we have accounted for the system of semantic fields developed for lexicographic work in Icelandic. Overall, the discussion has illustrated the significance of the semantic field system in organizing and enriching contemporary Icelandic dictionaries, particularly highlighting its role in enhancing the efficiency of dictionary editing processes and facilitating the identification of semantic correspondences between Icelandic and other languages. The discussion emphasizes the practical utility of the system for generating specialized glossaries, thereby contributing to a nuanced understanding of semantic relationships within and across languages. It is possible that the system could be useful in lexicographic work in other languages beside Icelandic, especially languages that share some structural similarities. However, it would require some revision and streamlining as the system in its current form has some known discrepancies and lacks uniformity when it comes to the level of details of each semantic field.

Language learners, researchers, and lexicographers benefit from the enhanced semantic classification that sheds light on various lexical relationships. This paper contributes to the ongoing discourse on lexicographical methodologies and highlights the relevance of language specific linguistic frameworks.

References

BÍN = Beygingarlýsing íslensks nútímamáls. Bjarnadóttir, K. (Ed.). The Árni Magnússon Institute for Icelandic Studies. Retrieved May, 2024, from bin.arnastofnun.is

DCI= Dictionary of Contemporary Icelandic. *Íslensk nútímamálsorðabók.* Jónsdóttir, H., & Úlfarsdóttir, Þ. (Eds.). The Árni Magnússon Institute for Icelandic Studies. Retrieved May, 2024, from islenskordabok.is

Fellbaum, Ch. (1998). WordNet: An Electronic Lexical Database. MIT Press.

Icelandic-English Dictionary / Íslensk-ensk orðabók. Úlfarsdóttir, Þ. (Ed.). The Árni Magnússon Institute for Icelandic Studies. Retrieved May, 2024, from enska.arnastofnun.is

ISLEX, Íslensk-norræn veforðabók [Icelandic-Nordic Dictionary]. Úlfarsdóttir, Þ. (Editorin-chief). The Árni Magnússon Institute for Icelandic Studies. Retrieved May, 2024, from islex.is

Íslenskt-franskt fjármálaorðasafn [Icelandic-French glossary of finance]. (2020). Retrieved May, 2024, from https://lexia.arnastofnun.is/media/uploads/fjarmalaord.pdf

Íslenskt-franskt lögfræðiorðasafn [Icelandic-French glossary of law]. (2018). Retrieved May, 2024, from https://lexia.arnastofnun.is/media/uploads/logfraedi2.pdf

Íslenskt-spænskt lögfræðiorðasafn [Icelandic-Spanish glossary of law]. (2020). Retrieved May, 2024, from https://lexia.arnastofnun.is/media/uploads/ISL-SPAENSKT-logfrordasafn.pdf

Jónsdóttir, H., Kristinsson, A. P., & Steingrímsson, S. (2018). Málið.is: A Web Portal for Information on the Icelandic Language. In J. Čibej, V. Gorjanc, I. Kosem, & S. Krek (Eds.), *Proceedings of the XVIII EURALEX International Congress: Lexicography in Global Contexts* (pp. 841–845). Znanstvena založba Filozofske fakultete Univerze v Ljubljani.

Jónsdóttir, H., & Úlfarsdóttir, Þ. (2019). Íslensk nútímamálsorðabók – kjarni tungumálsins. *Orð og tunga*, 21,1–25. https://doi.org/10.33112/ordogtunga.21.2

Jónsson, J. H. (2002). Orðaheimur. JPV.

Jónsson, J. H. (2005). Stóra orðabókin um íslenska málnotkun. JPV.

Kristinsson, A. P. (2014). Ideologies in Iceland: The Protection of Language Forms. In A. K. Hultgren, F. Gregersen, & J. Thøgersen (Eds.), *English in Nordic Universities: Ideologies and Practices* (pp. 165–177). John Benjamins Publishing Company.

Kristinsson, A. P. (2020). Between Scylla and Charybdis: On Language Situation and Language Policy in Contemporary Iceland. *Bendrinė kalba – Standard Language*, *93*, 1–19. https://journals.lki.lt/bendrinekalba/article/view/900/11

LEXÍA. Íslensk-frönsk orðabók (Icelandic-French Dictionary). Úlfarsdóttir, Þ. (Editor-in-chief), Davíðsdóttir, R. E. (Editor of French). The Árni Magnússon Institute for Icelandic Studies. Retrieved May, 2024, from lexia.hi.is

Nimb, S., Trap-Jensen, L., & Lorentzen, H. (2014). *Den danske begrebsordbog*. Det Danske Sprog- og Litteraturselskab.

Úlfarsdóttir, P. (2014). ISLEX – a Multilingual Web Dictionary. In N. Calzolari, K. Choukri, T. Declerck, H. Loftsson, B. Maegaard, J. Mariani, A. Moreno, J. Odijk, & S. Piperidis (Eds.), *Proceedings of the Ninth International Conference on Language Resources and Evaluation (LREC'14)* (pp. 2820–2825). European Language Resources Association (ELRA).

Úlfarsdóttir, T., & Bjarnadóttir, K. (2017). The lexicography of Icelandic. In P. Hanks, & G.-M. de Schryver (Eds.), *International Handbook of Modern Lexis and Lexicography* (1–12). Springer. https://doi.org/10.1007/978-3-642-45369-4_104-1

WordNet. Retrieved May, 2024, from wordnet.princeton.edu

Contact information

Ellert Thor Johannsson

The Árni Magnússon Institute for Icelandic studies ellert.thor.johannsson@arnastofnun.is

Thordis Ulfarsdottir

The Árni Magnússon Institute for Icelandic studies thordis.ulfarsdottir@arnastofnun.is

