LITERARY GEOGRAPHIES

Location and Dislocation in Pentti Haanpää's Novel *Korpisotaa*:

Notes on the Landscape of War

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Abstract:

Pentti Haanpää (1905-1955) was one of the most important Finnish authors in the first half of the twentieth century. His short stories and novels frequently describe life in the north-western part of Finnish countryside, but his collected works also include many other themes. Among his works, for example, are three novels and two short story collections that describe either military life or war. His first war novel *Korpisotaa* (Haanpää 1940) describes the Finnish Winter War of 1939-40. The novel is generally considered as the first realistic war novel published in Finland (Karonen 1985, 1999), and its reception was generally favourable (Koivisto 1998: 272). In this study we focus on an analysis of geographic space and (dis)locations in *Korpisotaa*. We analyse usage of locations, geographic space words and names of locations in the novel. We have available a digital version of the novel and make systematic searches and analyses out of the novel's text. We use corpus software AntConc (Anthony 2019) and a semantic tagger for Finnish to be able to locate expressions of location and geographic space systematically in the novel. Our methodological starting point is keyness analysis. We extract the most distinguishing semantic classes of words out of *Korpisotaa* in comparison to a reference corpus that consists of five other works of the author. The methods we use in the study are familiar from linguistic corpus studies, which have also been used to some extent in literary studies. Using a semantic tagger systematizes the findings of geographic space words in the novel

and comparison texts, and enables us to perform keyness counts for semantic word groups instead of single words. Our work contributes especially to the use of digital methods in literature analysis and the creation of literary study corpora. The availability of a digital version of the text helps detailed analysis very much, as will be shown in our analysis of *Korpisotaa*.

Keywords: Pentti Haanpää; *Korpisotaa*; Finnish war novel; keyness; keywords; semantic tagging; geographic space; landscape; locations.

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Introduction

Pentti Haanpää (1905-1955) was one of the most important Finnish authors in the first half of the twentieth century. His short stories and novels frequently describe life in the north-western part of Finnish countryside, but his collected works also include many other themes. In his biography of young Haanpää, Eino Kauppinen (1966) mentions that Haanpää was not 'a proper regionalist', who wrote only about regional themes and details. Among his works are three novels and two short story collections that describe either military life or war. His first war novel *Korpisotaa* (published in 1940, 'War in the backwoods') describes the Finnish Winter War of 1939-40. Haanpää wrote the novel based loosely on his own war experiences for a competition of a best Winter War novel arranged in 1940 by Prentice-Hall together with the Finnish publisher Otava, and the novel won third place in the competition.

In the canon of the Finnish 20th century literature Haanpää is highly appreciated as an author (Karonen 1985; Koivisto 1998). *Korpisotaa* could be characterized as a turning point within his career after 15 years of working as an author. After a successful start in the mid-late 1920s, Haanpää was not able to publish part of his works during 1930-1935, as his world view went against the general political and mental atmosphere in Finland (Karonen 1985; Sinnemäki 2014). But as the Finnish Winter War (re)-joined Finns against the common enemy, *Korpisotaa* rehabilitated Haanpää as a writer. The novel is generally considered as the first realistic war novel published in Finland (Karonen 1999), and its reception was favourable in general (e.g. Koivisto 1998: 272). These historical and nation-building reasons alone merit revisiting the novel from a new, literary geographical perspective.

Korpisotaa describes the Finnish Winter War, which lasted for 105 days. It is a novel, but part of its descriptions is based on the experiences of the author in the 6th battalion of the Infantry Regiment 40 (Karonen 1985, 1999; Haanpää 1977, 2005; Viirret 2005: 126-132[1]). The Finnish Winter War was fought in the backwoods during the climatically worst

part of the year in the North: late autumn and winter. The winter of 1939-1940 was also exceptionally cold (Keskisarja 2012).[2] *Korpisotaa* does not describe individual soldiers much; only a few of them are even named. Jokinen (2019) interprets Haanpää's description of war in *Korpisotaa* so that the novel describes a collective of soldiers, who live under the harsh winter conditions without a possibility to have any influence on the events. According to Jokinen *Korpisotaa* differs from the mainstream literary descriptions of the Winter War, as there is no room for individual braveness or initiative in the novel.

Korpisotaa can be considered as part of the nation-building project of Finland after the devastating civil war of year 1918. One example of this is when the narration gives the Finnish soil a voice and it proclaims that the Finnish 'race' will always live on it. This tendency towards nation-building is supported by the fact that, while Haanpää was generally critical or ironic towards the Finnish establishment and its institutions, in *Korpisotaa* criticism is mainly absent. Martikainen (2013: 248), who has studied war discourse in Finnish literature of 1917-1995, states that *Korpisotaa* belongs to the category of 'hegemonic discourse' in the publications of 1940s. Finns are seen as a nation of heroes in this discourse, and the 'spirit of the Winter War' is not broken in the novel. Lastly, as a war novel, the action naturally takes place variously on and proximate to the national border between Finland and the Soviet Union. Of course, the border and the battlefield do not always coincide, but borders being central to the goals of warfare, the border is a focal space in the war novel as well. These historical and nation-building reasons alone merit revisiting the novel from a new, literary geographical perspective.

Korpisotaa refuses to individuate most of its characters. The novel mentions only a few soldiers repeatedly: a young second lieutenant, whose name is not given and who dies, and a foot soldier named Puumi. Other soldiers are mentioned by name only occasionally, and they are almost exclusively foot soldiers, which is typical of Haanpää's military descriptions.[3] The enemy is mostly called 'vihollinen' ('enemy', 153 times), and 11 times 'iivana' (a derivation from the Russian name Ivan). The word 'ryssä' (a derogatory name for a Russian) was used more in the original manuscript, but Haanpää was made to change it due to censorship (Karonen 1999: 207-208; Viirret 2005: 138).[4] Five mentions of 'ryssä' were left in the first printing, but they were removed from the second printing in 1941, as the letter from the publisher Hannes Reenpää shows (Haanpää 2005: 248; Pilke 2009). Soldiers of the Finnish side are repeatedly referred to collectively as 'meikäläinen' ('one of us'), not as Finns or Finnish soldiers. The word 'meikäläinen' has altogether 42 mentions in the novel. The use of the word brings a sense of collectiveness to the narration: Finns are among themselves; the Russians are outsiders. Perhaps the lack of a common slur, in combination with 'meikäläinen', is a subtle way of drawing the border: not only are the characters divided into 'us and them', but in the act of reading the novel, the deictic 'meikäläinen' also identifies the reader as one of 'us' against 'them'.

Data Acquisition, Semantic Tagging and Keyness Analysis

Texts of Haanpää Used in the Study

Our study is a corpus-driven study of literature inspired by corpus linguistics, where 'research questions emerge from iterative analyses of corpus data' (Rayson 2008). We started data acquisition for this study by first collecting available digitisations of Haanpää's work on the web pages of the National Library of Finland's (NLF) Finnish classics library.[5] After obtaining the works as pdf files, we transformed the pdfs to text files using the pdftotext utility.[6] We corrected the text files after pdftotext conversion by removing line ending hyphens and thus joining the beginning and end of the words on adjacent lines. Publication and printing information in the front and back of the books and extra empty lines were also removed. This improved the quality of the text files slightly, but we did not try to correct any possible errors of Optical Character Recognition (OCR).

Our data includes six works of Haanpää: the actual target of the study, *Korpisotaa*, and five other works that constitute the comparison data. For comparison texts of our method, keyness analysis, we chose five works of Haanpää from the 1920s and 1930s. In the publication order the works are the following: *Maantietä pitkin* (a short story collection published in 1925), *Hota-Leenan poika* (a novel published in 1929), *Isännät ja isäntien varjot* (a novel published in 1935), *Lauma* (a short story collection published in 1937), and *Taivalvaaran näyttelijä* (a novel published in 1938). The works are from the same period or 10-15 years earlier than *Korpisotaa* and do not mainly describe anything related to war or the armed forces. The only exception is *Taivalvaaran näyttelijä*, where the main character is supposedly a person, who was lost in a battle and thought dead, and war is mentioned in 14 sentences of the novel.

Altogether these five comparison works have c.133,670 word tokens. The size of *Korpisotaa* is c.27,850 word tokens. Thus, the size of our reference corpus is along the lines suggested by Berber-Sardinha (2000). According to Berber-Sardinha, a reference corpus of five times larger than the study corpus is ideal. A larger reference corpus could be used, but keyword analysis method should be robust and produce plausible results anyhow (Scott 2010). A different reference corpus with a few more texts could perhaps bring a slightly different set of keywords, but it would produce a common core of keywords (Scott 2010, see also endnote 11). Thus, our selection should be both representative of Haanpää's writing of the time and large enough to fulfil the requirements of being a suitable reference text collection in keyness analysis.

Semantic Tagging of the Texts

Semantic tagging or marking of the literary texts is used in our study to enhance the analysis of *Korpisotaa*. Semantic tagging is defined here as a process of identifying and labelling the meaning of words in a text according to some semantic schema. This process is also called

semantic annotation, and, in our case, it uses a semantic lexicon to add labels or tags to the words (Leech 2004; Löfberg 2017; Wilson and Thomas 1997). Our semantic tagger, FiST (Kettunen 2019, 2022; Kettunen and La Mela 2022), is based on the USAS semantic annotation schema of Lancaster University.[7] The lexical semantic description of the USAS framework is based on the modified and enriched categories of the Longman Lexicon of Contemporary English (McArthur 1981).

The semantic lexicon of FiST builds on the idea of semantic (lexical) fields. Wilson and Thomas (1997: 54) define a semantic field as 'a theoretical construct which groups together words that are related by virtue of their being connected – at some level of generality – with the same mental concept'. According to Dullieva (2017) 'a semantic field is a group of words, which are united according to a common basic semantic component' (cf. also Geeraerts 2010; Gliozzo and Strapparava 2009; Lutzeier 2006). For example, words that are related to the notion of time belong to one semantic field – labelled as T – in the USAS schema. This field is subdivided into four different meaning classes for words that describe time from different viewpoints. Figure 1 shows this semantic class. Alphanumeric abbreviations in front of the meaning classes are the actual hierarchical semantic tags used in the lexicon.

T TIME

T1	Time
T1.1	Time: General
T1.1.1	Time: General: Past
T1.1.2	Time: General: Present; simultaneous
T1.1.3	Time: General: Future
T1.2	Time: Momentary
T1.3	Time: Period
T2	Time: Beginning and ending
T3	Time: Old, new and young; age
T4	Time: Early/late

Figure 1. Semantic field of time in the USAS classification. (https://ucrel.lancs.ac.uk/usas/USASSemanticTagset.pdf)

The descriptive approach taken in the USAS framework is quite generic: although the lexical meaning classes in the USAS cover phenomena of the world quite extensively, the inner structure of the semantic classes may vary in specificity. Some classes are more developed and fine-grained, whereas some have only an elementary classification. For example, semantic classes in field M, Movement, Location, Travel and Transport, are not divided to subclasses, as Figure 2 shows.

M MOVEMENT, LOCATION, TRAVEL & TRANSPORT

M1	Moving, coming and going
M2	Putting, taking, pulling, pushing, transporting &c.
M3	Movement/transportation: land
M4	Movement/transportation: water
M5	Movement/transportation: air
M6	Location and direction
M7	Places
M8	Remaining/stationary

Figure 2. Semantic field of Movement, location, travel and transport in the USAS classification. (https://ucrel.lancs.ac.uk/usas/USASSemanticTagset.pdf)

The whole semantic lexicon of USAS is divided into 232 meaning classes or categories, which belong to 21 upper-level fields. Figure 3 shows the upper-level categories of the lexicon.

A	General & Abstract Terms	N	Numbers & Measurement
B	The Body & the Individual	O	Substances, Materials, Objects & Equipment
C	Arts & Crafts	P	Education
E	Emotional Actions, States & Processes General	Q	Linguistic Actions, States & Processes
F	Food & Farming	S	Social Actions, States & Processes
G	Government & the Public Domain	T	Time
H	Architecture & Building, Houses & the Home	W	The World & Our Environment
I	Money & Commerce	X	Psychological Actions, States & Processes
K	Entertainment & Sports and Games	Y	Science & Technology
L	Life & Living Things	Z	Names & Grammatical Words
M	Movement, Location, Travel & Transport		

Figure 3. Top level domains of the USAS tag set. (https://ucrel.lancs.ac.uk/usas/)

Löfberg (2017) has compiled a Finnish semantic lexicon of 46,226 lexemes using the USAS annotation schema.[8] Löfberg's thesis also evaluates the lexical coverage of the lexicon with several different types of texts. Kettunen (2019) introduced a prototype semantic tagger based on this lexicon and analysed its lexical coverage with a variety of Finnish texts from different genres. At best, lexical coverage of the tagger was 91-92%. With several high-quality fictional prose texts of the early twentieth century the tagger achieved lexical coverage of c.90-91% (Kettunen 2019).

Figure 4 depicts creation of the study corpora and its different representations used in the study.
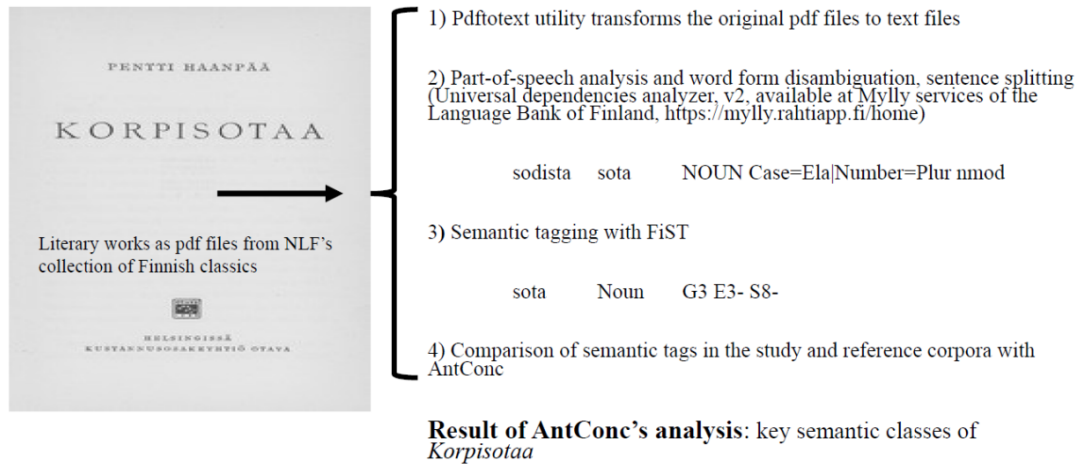
Figure 4. Creation and analysis of the corpora.

After tagging the text files with FiST, we measured lexical coverage of the semantic tagging in the data: the tagger reached lexical coverage of c.79.7-87.5% in our corpus of Haanpää. In the novel *Korpisotaa* the lexical coverage is 87.15%. This can be considered an adequate coverage, considering that the texts contain OCR errors and Haanpää's language is somewhat archaic and slightly dialectal.

Our most general analyses are based on semantic tag classes of the texts (phase 4), based on the output of AntConc's keyword list feature. Besides that, we can make word-level searches to the semantically tagged corpora (text representations of phase 3). Out of these, we can easily search for word-forms that belong to a specific semantic class. In addition to these, we also have sentence-by-sentence versions of the texts (the results of Universal dependencies v2 analyses, phase 2), out of which we can locate original example sentences from *Korpisotaa*.

On the word analysis sample of Figure 4. (phase 3) we can see several meaning tags marked for the word 'sota' ('war') in the analysis result. Multiple tags are marked in the lexicon of the tagger for semantically ambiguous words, and FiST does not resolve this ambiguity. In most cases the first tag is probably the right one, as the most frequent tag for each word is the first one in the semantic lexicon (Löfberg 2017: 74). When we analyzed the texts, we only used the first tags marked for the words. In the literature of word-sense disambiguation, this is known as the most frequent meaning baseline, a method that is difficult to outperform with disambiguation methods (Bevilacqua et al. 2021; Navigli 2009). Many of the disambiguation methods also have a bias towards the most frequent sense of the word (Postma et al. 2016; Preiss 2006).

Keyness

In our analysis of *Korpisotaa,* we use the automated *keyness* (also known as *keyword)* method first introduced for this specific purpose in Scott (1997). We prefer term keyness instead of keyword, as our primary analysis unit is semantic class, not concrete words, but we do use both terms. Scott (1997) uses term keyword, and keyness is used as the overall term: 'keyness is a quality possessed by words, word-clusters, phrases etc.' (Scott 2010: 43). The method has been used mainly in corpus linguistics, but it has also gained some status in general text analyses (Gabrielatos 2018) and literary studies (cf. Bondi and Scott 2010; Culpeper 2002, 2009; Fischer-Starcke 2010, among others). Simply put, keyness or keyword analysis is a statistical comparison method for texts. With this method one text, the study or target text, is compared to a larger text or group of texts, the reference text(s). Keywords of the study text are distinguished through statistical comparison: they are the words which occur with unusual frequency in the study text (e.g., Scott 1997; Fischer-Starcke 2010: 65; Culpeper and Demmen 2015; Brezina 2018: 79-86). Keywords reveal the 'aboutness' of the study text by highlighting the words that are specific to it in comparison to the reference text(s) (Bondi 2010; Scott 2010). The comparison of texts in keyness analysis uses statistical measures to distinguish statistically significant differences between the texts. The differences can relate to word, word cluster, phrase, or some other level if the texts have linguistic annotation. Rayson (2008), for example, extends keyness method to parts-of-speech and semantic tag classes, beyond word level.

Statistical measures used in keyness analysis may vary. Log-likelihood (Dunning 1993) is commonly used as the statistical significance measure for keyness, but other measures are also used (Gabrielatos 2018). In the corpus software AntConc, several different statistical measures can be chosen. We used log-likelihood for keyword statistics and Gabrielatos's %DIFF measure as the keyword effect size measure (Gabrielatos 2018). Figure A1 in Appendix 1 shows the settings of AntConc we used.

Keyness in Literary Studies

Keyness can be considered as a general method of textual comparison that can be applied to different types of texts. Much of the work using keyword analysis has used different factual texts as its data.[9] Different ways of using the method in analysis of fiction are provided, for example, in Archer et al. (2009), Culpeper (2002, 2008), Fischer-Starcke (2010) and Mahlberg and Smith (2010).

Archer et al. (2009) use the UCREL Semantic Annotation System to explore the concept of love in three Shakespearean tragedies (*Othello*, *Anthony and Cleopatra* and *Romeo and Juliet*) and three Shakespearean comedies (*A Midsummer Night's Dream*, *The Two Gentlemen of Verona*, and *As You Like It*). Their approach of using semantic labelling in keyness analysis enables them 'to provide empirical support for the kinds of conceptual metaphor put forward by cognitive metaphor theorists when studying Shakespeare.' Their analysis shows that the analysis of key semantic domains 'is a useful methodology in that it enables

us to discover links across different semantic fields that may not become readily apparent when using a key words analysis or analysing texts manually' (Archer et al. 2009). They observe marked differences in the occurrence of love in their two datasets.

Culpeper (2002, 2009) has analysed William Shakespeare's *Romeo and Juliet* with the keyness method. His work belongs mainly to stylistics, and he considers keywords as style markers in the texts. Culpeper analyses the dialogue of different persons in *Romeo and Juliet* by using keywords. According to Culpeper, some of the findings show evidence for what one might have guessed, e.g., Romeo's frequent use of keywords such as 'love' and 'beauty', but some reveal keywords that would have been hard to guess, like Julia's keywords 'if' and 'then'. (Culpeper (2009: 54) pinpoints two specific strengths of keyword analysis:

> keyword analysis has two other valuable aspects compared with traditional qualitative analyses. Firstly, it can reveal features that are less obvious and therefore less easily observable (and thus often overlooked) but which cannot safely be assumed to have a negligible effect. Secondly, it can reveal lexical and grammatical patterns without reliance on intuitions about either which parts of the text to focus on or what the relevant dimensions or features are.

Fischer-Starcke (2010) analyses Jane Austen's novel *Northanger Abbey* using key word analysis. Fischer-Starcke's approach is very systematic and thorough, and it uses two different reference texts: six novels of Austen's and literary texts that are contemporary with Austen's. As specific new interpretative insights in the study of *Northanger Abbey*, Fischer-Starcke mentions the characterization of the protagonists of the novel by way of their reading habits and the dominant role of irony in the novel (Fischer-Starcke 2010: 65-108, 195-201). These findings grew out of key word analysis and have not been mentioned in earlier Austen studies or critique. In their study of Austen's *Pride and Prejudice*, Mahlberg and Smith (2010) find that the noun 'civility' is among the keywords of the novel. According to them finding '"civility" as a key word for *Pride and Prejudice* is in line with the fact that the novel deals with misunderstandings and misjudgements that result from a mismatch between outward civilities and true virtues of characters.' (Mahlberg 2010: 296).

The examples mentioned here show the use of keyness analysis in literary studies. However, the potential of semantic tagging and keyness in digitally-oriented literary geographical research has not been realised thus far. Our study hopes to demonstrate the usefulness of this method for literary geographical analysis.

Semantic key classes in *Korpisotaa*

Rayson (2008) suggests that extending the keyness method to part-of-speech categories and semantic fields provides a macroscopic analysis level for texts. As Rayson puts it, 'collecting together words into their semantic fields allows us to see trends that are invisible at the word level'. A similar style of analysis is used also in Archer et al. (2009). Our analysis of *Korpisotaa* follows the analysis style of Rayson (2008) and Archer et al. (2009) in using

semantic classes as the unit of keyness analysis. This means that semantic tags (not word forms or lemmas/base forms) in the study and reference texts are compared with AntConc's keyword list feature. The list of key semantic classes is then studied further, and some of the semantic fields are given a more detailed analysis on the textual and word level of *Korpisotaa*. As benefits of this type of analysis Rayson lists the possibility of identifying textual trends more easily and the possibility of seeing trends that are invisible at word level.

Table 1 lists the 10 top semantic keyness classes found in *Korpisotaa*, and all the found 37 semantic keyness classes are shown in Appendix 1 as Table A1. Table A2 in the appendix lists the 50 top keywords in *Korpisotaa*.

Table 1. The most significant ten semantic classes in Korpisotaa according to rank and keyness using five comparison texts.[11]

Rank	Number of class occurrences	Keyness value	Semantic class[10]
1	585	+750.68	G3 Warfare, defence and the army; Weapons
2	295	+169.78	O4.6 Temperature
3	112	+112.73	K5.1 Sports
4	185	+90.95	W4 Weather
5	167	+75.08	S1.2.1 Approachability and Friendliness
6	323	+72.99	W3 Geographical terms
7	555	+70.02	M6 Location and direction
8	120	+56.81	L3 Plants
9	673	+48.25	B1 Anatomy and physiology
10	213	+47.96	O2 Objects generally

G3, the class of warfare, defence and the army (including weapons), is the most distinctive class, as one would expect in a novel that describes war. This is very clearly reflected in Table A2's 50 top keyword list of the novel: over half of the keywords are military terms or directly war related.

Frequent mentions of temperature (O4.6) and weather (W4) are natural in the context of the Winter War, too. That the semantic class of sports (K5.1) is high on the list sounds odd at first, but becomes clearer when we realize that words 'hiihtää' and 'hiihto' ('to ski', 'skiing') and 'suksi' ('skis') are part of the class, and the Finnish army moved by skiing during the war. The occurrences of class S1.2.1 in *Korpisotaa* consist mostly of the word 'vihollinen' ('enemy'), even if the name of the semantic class happens to be 'Approachability and Friendliness'. The sixth class on the list is the class of geographical terms, W3, and after that is the class of location and direction, M6. The rest of the three classes refer to plants (L3), anatomy and physiology (B1) and objects generally (O2).

If we consider our options for detailed text analysis based on the semantic key class analysis, we can see that the top-10 list is quite heterogenous beyond the most obvious class of warfare. As we do not wish to analyse the word level occurrences of all key classes, we need to choose some classes for further analysis. Temperature together with weather would make one natural point of view for a detailed analysis, as would geographical terms and location and direction. Out of the whole list of key classes (Table A1), class M7 (places, 31st on the list) is congruent with W3 and M6 on the top-10 list. Altogether, they form a more general semantic sphere of locations, the physical and notional sphere where the war happens. In addition to these classes, one more semantic class in the USAS tag set is worth mentioning: Z2, names of locations, are part of the notional geographical space. This class is not among the key semantic classes, but analysis of it may bring forth something of interest.

We have, tentatively, four semantic classes of interest for our study: W3, M6, M7 and Z2. With further inspection, however, the class of location and direction (M6), seems to contain mainly locational adverbs and very few interesting content words for our analysis, and thus it is left out.[12]

A semantic lexicon of Finnish developed by Löfberg (2017) and used in the semantic tagger FiST provides us a systematic way of marking the content of texts. Semantic tagging together with keyness analysis offers a way to distinguish essential elements of the texts so that further analysis of the texts becomes feasible. In our work we wish to show how the analysis of location and geographic space can be done in the framework of a semantic categorization and how these findings could be interpreted in a specific novel.

We will analyse in detail usage of semantic key classes W3 and M7 in the novel and supplement these classes with analysis of names of locations (Z2), even if this class is not among the key classes. We assume that together these three classes describe geography of war description in *Korpisotaa*. We start by showing how names of locations are used in *Korpisotaa*.

Names of Locations in Korpisotaa

Starting our analysis with named locations highlights one contribution this study brings to the field of digital literary geography. One of the most common, if not the most common, digital approach to geographical space in literature is some variety of digital cartography,

where novelistic spaces are graphed on a map. Famously, Franco Moretti analyses texts with maps in Atlas of the European novel 1800-1900 (Moretti 1998). Later applications of this approach are, for example, by Barbara Piatti (2017) and Pérez Isasi and Sequeira Rodrigues (2021), as well as the Romantic Cartographies project headed by Asko Nivala (https://romcar.fi/).

This approach, however, would prove unfruitful at best and misleading at worst for *Korpisotaa*. *Korpisotaa* refuses to name its geographical locations, which is to say locales that would likely be intimately familiar to its readers: the Finnish Winter War ended in March 1940, and the novel was published later in the same year. This temporal closeness is especially notable in *Korpisotaa* and does contribute to its spatial and geographical effects as well since as a considerable part of its assumed contemporaneous readership had really been there in those places, as combatants, refugees, and support personnel.

However, if we were to create a map of locales that do get named, *Korpisotaa* would look odd indeed – faraway places like Egypt, Abyssinia, Spain, and China would show on the map of a book that is set exclusively in Finland – and none of the real Finnish localities of the war would be there. Despite this, names of locations bring to light one aspect of the treatment of geography and location in the novel. Locations that are mentioned are most often either spatially or mentally quite distant from the actual geographical setting of the novel, while some, like Moscow, relate directly to the events of the novel.

Moscow, capital of the USSR*,* is mentioned three times as a place of negotiations before the Winter War. Haanpää is here alluding to the news of the autumn of 1939, when the Soviet Union demanded areas from Finland and the demands were negotiated in Moscow in October and early November without a result. Two of the uses of Moscow repeat the same sentence:

Moskovassa neuvoteltiin. (Haanpää 1940: 6)

There were negotiations going on in Moscow.[13]

The third mention states that 'all the roads led to Moscow' ('Kaikki tiet johtivat Moskovaan.'), describing the importance of Moscow before the war. Moscow is not mentioned after the first chapter, and thus its mention sets mainly the background for the novel's description of the war.

At the beginning of the novel, war is still a remote event, happening somewhere else. China, Spain, and Abyssinia are mentioned once in the prologue of the novel in the same sentence, each as a location of a war that is still far away. China is characterized as fabulous, Abyssinia mythical and Spain remote, even if it is geographically the nearest place of the three. The novel degrades these countries to districts or localities by stating that

Nuo   uutiset   kaukaisilta   *paikkakunnilta*   tekivät   vain   elämän   ikäänkuin mielenkiintoisemmaksi. (Haanpää 1940: 5)

The news from these remote *localities* only made life more interesting.

At the beginning of the first chapter war is far away, but at the end it is local, and this change in the state of the affairs happens within just three printed pages.

Two quite vague mentions are given to 'Europe', with the same sentence repeating that Europe is eating its children. This is a general reference to the ongoing war in other parts of Europe. *Balkan* is mentioned once, referring to a well-known song that describes the Crimean war of 1853-1856. The song had been part of the soldiers' song book in the 1930s. The soldiers are being transferred from the front, and they are represented as relaxing from the dangers of war, which they could now sing about almost like they might sing about the faraway mountains of the Balkan peninsula.

Egypt sounds like a peculiar place to be mentioned in a war novel describing the Finnish Winter War. It is mentioned three times in Biblical parables, which are used frequently in Haanpää's prose in general (Koivisto 1998). Koivisto has found at least 700 Biblical quotations or allusions in Haanpää's works. The three mentions of Egypt in *Korpisotaa* are quite typical in this respect: one is for tombs of Egypt; another mentions the deep backwoods of Egypt and the third one the locusts of Egypt. The first two are the thoughts of foot soldier Puumi, when he is lost in the forests and has grim thoughts. Like Moses and his followers in the deserts of Egypt, Puumi is lost, wandering the endless plains of snow. However, the function of this Biblical allusion, and the explicit geographical name, is to transport the focal character Puumi away from reality:

> Monta kertaa häneen änkäytyi luulo, että tämä ei ole oikeata… Miten hän lienee joutunutkin tällaiseen Egyptin korpeen, jossa ei ole laitoja ensinkään? (Haanpää 1940: 142)

> Many a time he was overcome by the thought that this was not real… How had he got lost in such limitless Egyptian backwoods?

In the passage about locusts, an unnamed soldier comments that 'we (i.e., the Finnish soldiers) are like the locusts of Egypt' when he has seen destructions of war out of a train window, referring to another Biblical tale.

The battlefront space is real, or real-and-imagined, to use Edward Soja's (1996) term to refer to spaces that are both in the real world and experienced by people via their representations. The battlefront space is real, mappable, but via its geographical naming, it is relocated in a fantastical, faraway place, the Biblical Egypt. The narrator describes Puumi's thoughts:

> Hänet valtasi suuri orpouden tunne, salamyhkäinen ja taikamainen. Ei, tämä ei ollut enää oikeata… — Tuo musta purokin oli kuin mikäkin Tuonelan joki. (Haanpää 1940: 141)

He was overcome by a sense of obscure, supernatural homelessness. No, this was not real anymore… — That black brook, too, looked like the river of the Hades.

'Tuonelan joki' ('the river of the Hades'), is another mythological place. It is mentioned twice. The first mention is quoted above. In the second mention, a group of dirty soldiers who are returning from the front are said to look as if they were coming from beyond the river, in a revisitation of the unreality of the battlefront:

Kaiken kaikkiaan tuo repaleinen, nokinen ja likainen, karvainen ja kuurettunut hiihtojoukko olisi vaikuttanut juuri ihmisten ilmoilta tulleeseen, puhtoiseen ja levänneeseen katselijaan melkoisesti kuvatusmaiselta, jostakin henkimaailmasta, Tuonelan joen takaa karanneelta. (Haanpää 1940: 156)

All in all that tattered, sooty and dirty, hairy and hoarse group might have seemed, to a bathed, well-rested person, like a horde escaped from the spirit world beyond the river of Tuonela/Hades.

This unreality acquires an ironic tone, as Niemi interprets Haanpää's Biblical allusions (1988: 72). Karonen (1985: 209, 215) interprets the general impression of war given in *Korpisotaa* as hell, citing an essay of the Finnish author Veijo Meri (1976). The word 'helvetti'[14] ('hell') is found five times in the novel used as a location and four times as an adjectival derivation 'helvetillinen' or 'helvetinmoinen' ('hellish') and once as a part of a compound 'helvetinvoimat' ('powers of hell'). Nine times hell allusions are describing the horrors of war. The last mention of hell,

Ei auta ajatella, sillä ei helvettikään niin paha paikka ole kuin siitä saarnaillaan: on vain hieman sumuisempi ilma ja vaikeampi hengittää… (Haanpää 1940: 198)

which is the third last sentence of the novel, is clearly ironic, even humorous: the war is over, 'and even hell cannot be as bad, as is preached, the air there is only a bit foggier and harder to breath'. The mostly unnamed soldiers of the novel have lived the hell and survived, so it seems that the narrator can have some fun.

The next mentions of names approach mappability but fail, nonetheless. 'Pohjola' ('The North') is mentioned ten times mainly as a general reference to the north or northern area. One mention of Pohjola is in the mythological context of *Kalevala*, the Finnish national epic poetry collection compiled in the nineteenth century by Elias Lönnrot. The text mentions 'the house of Pohjola', which is a major location in *Kalevala*. In *Korpisotaa*, a room in a house where tired soldiers celebrate Christmas is compared to the house of Pohjola in Kalevala in its size. In addition to providing another, positive, facet to the fantasticality of the battlefront, the comparison elevates the situation and location: tired soldiers are so satisfied with getting rest and receiving their Christmas packages from home that the narrator likens the room to a mythological place.

'Suomi' ('Finland') is mentioned nine times in the novel. Four times this is denoting Finnish people by using a phrase 'Suomen rotu' ('Finnish race'), drawing attention to the local bonds of the people whom the novel follows. Other mentions refer mainly to the Finnish nation, which has been battled for either earlier or now. One mention refers to the vastness of Finland, when soldiers are travelling in train transportation from the front. The last mention,

Suomesta, isänmaasta, oli viilletty kappaleita. (Haanpää 1940: 197)

Pieces had been cut off from Finland, homeland.

communicates the fact that Finland lost areas in the peace negotiations of the Winter War. Suomi is a real, material presence in the here and now, in contrast to the previous geographical names. Even here the novel eludes mappability, as the references to Pohjola or the entire nation are too generic.

The most 'mappable' location name in the novel is 'Niemi' ('cape, horn'). It straddles the divide between ostensibly fantastical or faraway and real and near geographical locations. It is mentioned two times as a location name for battles. As such it is slightly unspecific; usually 'niemi' is used in Finnish only as a general reference to a geographic formation, not as a place name without some compound modifier (e.g., 'Hankoniemi', 'Cape of Hanko'). As such it is used more as a surname than a name of a location. In *Korpisotaa*, 'Niemi' could be an allusion to Pelkosenniemi, the actual location of battles (Karonen 1999: 207), but this is not certain. When it is first mentioned, a Russian soldier gets killed in Niemi. In the other mention, the Russian front at Niemi is mentioned in a peculiar context: a soldier is asking for coffee from canteen ladies and says that their hearts cannot be as hard as those of the Russians. The soldier gets his coffee, but the moment is hard to interpret; it is unclear whether the Niemi front is hard or simply that the canteen lady's heart is soft. Niemi is not an actual place name found on the Finnish map, and is not a geographic formation, since it is capitalized as a place name; it can thus be understood to represent a shift from the specific to the generic. It is perhaps supposed to stand in for Pelkosenniemi, where Haanpää himself served, but it could be someplace else, any given cape in Finland. As in the case of 'Suomi', even when the novel comes close to putting its events on a map, it still falls just short.

The Finnish Winter War does not seem to happen in any specifically named place in *Korpisotaa*, but somewhere in the Finnish forests. Karonen (1999) states that the lack of exact names of geographic locations in the actual description of war in the novel is not due to the war time censorship, as one could suspect. According to Karonen, the lack of place names is typical of Haanpää's prose, even if he used them in his notebooks (Karonen 1999: 207; see also Ridanpää 2000). In his biographically-oriented book about Haanpää, Karonen (1985: 209) states that Haanpää generalizes his own war experiences by leaving names of persons and locations out of *Korpisotaa*. Our detailed analysis of location names in

Korpisotaa confirms this finding, but, based on our analysis, Karonen's interpretation should be given more depth.

As we have shown, the specific geographical names are used not only to generalize but also, and perhaps even more significantly, to create a sense of dislocation. They relate only distantly to the actual war. In addition to concrete names of distant locations (Moscow, Spain, Niemi, China, and Abyssinia) there are names of mythological or Biblical locations (The River of Hades, The North, Egypt). Suomi is seen as a place of historic and current people and battles, and at the end it loses some of its ground. As the case of Niemi demonstrates, the shift from the specific to the generic in place names is paralleled by a general lack of named characters in the novel: unnamed characters wage war in unnamed locations in *Korpisotaa*.

Semantic Key Classes W3 and M7: Geographical Terms and Geographical Space

This section illustrates how the semantic tagging scheme that we use is suitable, and full of potential, for literary geographical studies that want to look outside mapping for various reasons. As we saw, *Korpisotaa* is not amenable to mapping because its spaces are rarely explicitly named, and when they are, it is often to create a sense of displacement on the map.

Despite this, geographic space is tremendously important in the novel. The novel rather deals in detail with spaces like foxholes, villages, and forests. This is reflected in the key semantic classes shown in Table 1 and Table A1. These spaces are concrete and experientially real but cannot be put on a map. One example of approaching space and place using digital methods without maps is offered by Yi-Tenen (2018), who analyses space in literature digitally by looking for words that signal space as it is experienced, as 'objects of attention' which 'radiate from the subject outward' (2018: 126). He further writes: 'Diegetic expanses […] stretch between 'things that are important' […] The spotlights of narrative description pick out distinct objects, which the reader subsequently weaves together into a unified locality, 'filling in' the gaps" (2018: 126-127). This describes the geographical space in *Korpisotaa* as well: various spatial microphenomena populate the pages of the novel as objects of attention for the characters. In our tagging scheme, words referring to such experiential spaces and places are in the classes W3 and M7.

In the class W3 are words that denote geographical terms. Löfberg (2017) mentions as prototypical examples of this class such words as 'joki' ('river'), 'aallokko' ('waves'), and 'aarniometsä' ('primeval forest'), among others. The words of this class describe mainly nature and its elements and formations. The Finnish semantic lexicon contains 330 words, which have as their first semantic tag W3. 28 more words have as one of their semantic tags W3. Class M7 contains words which refer to geographical or conceptual spaces. Examples of these are e.g., 'kirkonkylä' ('village centre'), 'mantere' ('continent'), and 'osavaltio' ('state'). The Finnish semantic lexicon contains 294 words, which have as their first semantic tag M7. 35 more words have as one of their semantic tags M7.

In *Korpisotaa* class W3 is the 6th most frequent key semantic class with 323 occurrences and keyness value of 72.99. M7 is the 31st most frequent key semantic class with 200 occurrences and keyness value of 12.08 (Table 1 and Table A1). Tables 2 and 3 show the top-10 words in these two categories in *Korpisotaa*, with their rank in the frequency list, absolute frequency, and normalized frequency per 10,000 words and rank out of the lemmas of the whole novel. Words in bold are keywords that also appear in AntConc analysis when lemmas of the words are used without tagging.[15]

Table 2. Top-10 words of the class W3.

W3 word	Meaning	Absolute frequency	Normalized frequency (per 10 000)	Rank out of 5593 lemmas of Korpisotaa
metsä	forest	70	25.12	39
kuoppa	pit, foxhole	32	11.48	104
erämaa	wilderness	27	9.69	136
ranta	shore	20	7.18	192
järvi	lake	19	6.82	216
joki	river	17	6.10	243
korpi	backwoods	15	5.38	274
pelto	field	11	3.95	375
rinne	hillside	9	3.23	454
meri	sea	8	2.87	518

Table 3. Top-10 words of the class M7.

M7 word	Meaning	Absolute frequency	Normalized frequency (per 10 000)	Rank out of 5593 lemmas of Korpisotaa
maa	ground, soil, country	83	29.79	30
kylä	village	50	17.94	55
paikka	location, place	19	6.82	211
kaupunki	town	12	4.31	347
pohjola	North	9	3.23	456
raja	border	7	2.51	567
isänmaa	homeland	7	2.51	606
tila	space	6	2.15	639
alue	area	4	1.44	1147
sija	position	3	1.08	1284

As can be seen, words denoting forest and ground are the most frequent words of these two meaning classes. Their rank is also high in the whole vocabulary of the novel. In the class W3 after forest come pit and wilderness, and in M7 village and location. We shall analyse usage of the top-3 words in both classes.

W3 Words: Metsä ('Forest')

Forest is a self-evident location for a literary description of the Finnish Winter War, as much of the war took place in forests. As such, the forest is also the most immediate experiential space for the soldiers in the story, and most of the narrative activity takes place in it. As Yi-Tenen (2018: 127) puts it, the 'spotlights of narrative description' foreground the most salient aspect of the soldiers' immediate environment to the reader as well. This is also reflected in the results produced by the tagger. The most common characteristics of forest in the novel are darkness and snow, which is understandable. The Finnish winter is usually quite snowy in the areas where the Winter War happened, and winter is the darkest time of the year, even if days begin to lengthen slowly after the winter solstice on December 21.

Altogether, 15 mentions of forest are connected to darkness in the forest: either dark/darkness/black is an adjacent attribute of forest or mentioned in the same sentence with forest. Soldiers move in the dark forests, and this darkness has two functions. It can be threatening because vegetation and darkness together obscure enemy activity which can mean death:

> Tulijoitten ei sentään suoraa päätä tarvinnut lähteä tuonne mustiin metsiin, jossa laukaukset räsähtelivät ja luodit vingahtelivat. (Haanpää 1940: 16)

> … shots and bullets are heard in the dark forest.

But it can also be protective for the same reason, since the enemy cannot detect the soldiers' movements as easily as on a well-lit open field, which can save their lives:

> Pimeys ja metsä suojelivat. (Haanpää 1940: 84) | Viimeinkin aava loppui, ja vainottu sotamies hiihtää hoippuroi metsän suojaan. (Haanpää 1940: 144) | He hiipivät suksilla eteenpäin tiheän metsän suojassa. (Haanpää 1940: 120)

> Soldiers ski in the cover of the forest or get there after an open space.

The forest often also seems endless to the soldiers who move there, highlighting the experiential effect it has in the narration:[16]

> Aina riitti pimeätä metsää ja upottavaa lunta. (Haanpää 1940: 111) | He marssivat kilometrimääriä pimeitä metsiä ja nevoja. (Haanpää 1940: 31) | Rannattomia metsiä… (Haanpää 1940: 185)

> The forest lasts for kilometres or seems endless.

Snow is mentioned eleven times with forest, and mostly it seems to have a quite general function in the forest description: forests are covered with snow. However, its experiential aspects are brought to the fore as a few mentions are given to the visual effect of snow, its whiteness and lightness in the forest, which helps the soldiers by either providing better visual conditions or shelter. At one point the sinking of snow underfoot is mentioned, and at another point the snow squeaks underfoot, but it does this only when it is cold enough.

Snow is especially relevant for the characters' movement. Skiing was the main means of moving for soldiers in the forest during the Winter War, and it is the primary means of movement for the characters as well. Reflecting this, skiing is also a major part of the third ranked key semantic class (K5.1 Sports) in the whole novel. However, skiing is mentioned explicitly in relation to forest only four times, but altogether 70 times in the novel in other ways. Often the context implies the forest without mentioning it directly. Thus, the forest

is more present in the novel than the plain wordcount reveals, emphasising its significance as an experiential space.

W3 Words: Kuoppa ('Pit')

The word 'kuoppa' ('pit, foxhole'[17]) is the second most frequent word in W3. It is used 32 times as such, and several more times in compounds like 'lumikuoppa' ('a hole in the snow') and 'pommikuoppa' ('a pit made by a bomb'). Mostly it is used in the meaning of a foxhole where soldiers take shelter or are on guard. The pit, especially the foxhole, is arguably a central place – and not a space – in the novel. This is because even if the foxholes are shallow, they give shelter to the soldiers. According to Tuan (1977), a place is space that humans have altered and made significant for themselves. The foxhole is a place of refuge, and together with snow and forest topology, it shelters the thankful soldiers. But at the end of the novel, at the last moments of the war after peace has been declared, the sheltering foxhole betrays the soldier. Only a chance trip to borrow tobacco from a neighbouring pit saves him from being blown away in a direct hit from a grenade. Note the description of the pit as 'pretty' and 'upholstered' (or clad) in sprigs. This description is reminiscent of the archetypical human place, the house. The pit has been altered by the soldier and thus made a significant place. The narrative then goes on to say that the pit does not exist anymore as it has been replaced by – another pit.

> Tuota somaa havuilla verhottua lumikaivantoa ei ollut enää olemassakaan. Oli vain ruma kranaattikuoppa ja noen tahraamaa lunta. Eikä noita kahta toveria ollut enää olemassa. (Haanpää 1940: 194)

> That pretty snow pit, upholstered with spruce sprigs, did not exist anymore. There was only a pit left by a grenade and sooty snow. And those two friends did not exist anymore either.

In a double move, the pit is made more human, but the soldiers crouching in the pit are metaphorically aligned with animals:

> Tällaista lienee villien metsänelukoiden elämä, tuollainen alituinen, kyyryinen, valpas jännittyneisyys. — Ihminen voi verraten helposti saavuttaa tuollaisen metsäneläimen kyyryisen, velton jännittyneen, uneliaan valppaan sieluntilan (Haanpää 1940: 110)

> This must be the life of wild animals of the forest, this constant, crouching vigilance. — A human can, quite easily, .attain such a crouching, languid state of tension, this sleepily vigilant state of mind.

Perhaps this tension between the human and the animal is intended to highlight the cruelty and physical demands of the experienced space of war: despite the constant, crouching

vigilance, death is random. Disaster may strike anytime, anywhere, even in the most human of places, and even at the very end.

W3 words: Erämaa ('Wilderness')

Much of the Winter War happened in the backwoods or wilderness, and it is not a surprise that word 'wilderness' ('erämaa') is the third most frequent word in the semantic class W3. The wilderness has three major experiential elements to it in the novel. Firstly, it is hostile, cold, and dark. Secondly, it is calm and soothing, and thirdly, wide and empty. Its facets are quite reminiscent of the forest. However, forest and wilderness are not interchangeable. Unlike forest, wilderness acts as a special contrast to the landscapes of war. In the untouched wilderness, the signs and traces of warfare stick out more than in the forest, which does not have the association of being pristine. The soldiers experience the space of the wilderness as pristine, and it is thus especially marred and destroyed by the war. As the soldiers march or ski in the endless wilderness, they lament the marks that artillery and bombs have left on the ground:

> Nuo pommikuopat erämaassa, mustunut lumi ja silpoutunut puu olivat tosin jollakin tavoin hyvin kaameata, salamyhkäisen ilkeätä nähtävää, varsinkin juuri täällä. (Haanpää 1940: 107)

> Those pits left by the bombs in the wilderness, the blackened snow and the shredded tree were somehow very horrifying, mystifyingly nasty to see, especially here [in the wilderness].

> Mikä mahtava, mielipuolinen voima oli täten mullistanut ja töhrinyt hiljaista erämaata? (107)

> What was this this terrible, insane force that had had devastated and smeared the quiet wilderness?

M7 Words: Maa ('Earth/Ground/Country/Soil')

Word 'maa' is the most common word of the meaning class M7 in Korpisotaa. 'Maa' is a polysemous word, which has several different meanings. *Nykysuomen Sanakirja* (1954) lists four main meanings for it – 'globe', 'ground', 'soil', and 'area' (with one submeaning of 'country', 'state') – and states that these meaning groups have fuzzy boundaries. The referents of the word in Finnish vary interestingly from very concrete real spaces like ground and soil, to abstract conceptual spaces like country, state, and area. All noted meanings are in use in *Korpisotaa*, but in very different proportions. The novel uses word 'maa' only once in the meaning 'globe':

Ellei tästä sodasta mitään muuta hyvää siunautuisikaan, niin onhan komea maine kuulumassa ympäri maan piiriä. (Haanpää 1940: 167)

A grand reputation will be heard all around the globe because of this war.

About a quarter of the usages of the 'maa' are in the meaning of country or state:

Maassa tapahtui liikekannallepano. (Haanpää 1940: 7) | Maahan oli hyökätty, ja sellaisen seikan varalta oli suomalaisella ammoiset valmiit kaavat: taistella, vaikka joka kynsi kylmenisi... (14) | Mitä lienee siitä naurusta ajatellut väijyksissä makaava vieraan maan mies? (129)

The country was mobilized. | The country had been attacked, and for this eventuality, the Finn had ancient routines ready: fight even until every nail grew cold [everyone was dead]... | What did the man from a foreign country think of that laugh as he was lying in wait?

Some of the uses of 'maa' mix real and conceptual space in their use, perhaps for a political effect. Through experiential engagement with the real space, the ground, the citizens of a country engage with the conceptual space of the country, fusing them into a real-and-imagined space. While the prevailing meaning in the examples below is 'country', there is a hint of the concreteness of 'ground', in the ideas of physically owning a piece of land, of crops growing out of the ground, and literally taking something out of the ground. War, of course, also intermingles these two meanings as the conquest of another country is achieved by overtaking some of its ground.

Ja kuitenkin tämä oli hänen maansa. (Haanpää 1940: 86) | Ne luottivat siis siihen, että ensi kesänäkin on vilja heiluva tuulessa, että maa meidän on ja olla täytyy. (184) | Vihollinen on saava tästä maasta vain tulta ja tuhkaa. (185)

Anyhow, this was his country/ground| They counted on the fact that crops will sway in the wind even next summer and the country/ground is ours and it must be | The enemy will only get fire and ashes out of this country/ground.

One sentence in the novel uses word 'maa' three times with three different meanings:

Maata ne lähtivät valloittamaan ja joutuivat itse *maahan* ja muuttuvat *maaksi*. (Haanpää 1940: 90)

They came to conquer the country but were put in the ground and will become dust.

Notably, however, most of the usages of 'maa' belong to the group that includes ground and soil. These meanings are the most concrete and most easy to engage experientially with: soldiers dig the frozen ground, they lay on the ground looking for shelter; they feel that the ground is their protection, and the ground is characterized as good a few times in this connection. When ammunition hits the ground, the ground shakes. Both Finns and Russians have carved their dugouts into the frozen ground. Despite its multitudinous meanings, the 'earthy' aspect in the meaning of 'maa' grounds the narrative solidly into the embodied experience of the soldiers.

M7 Words: Kylä ('Village')

'Village' is the most frequent word that refers to civilization and settlement in the novel. In the first part of the twentieth century, Finland consisted still mainly of rural areas with central villages, and this is reflected in the urban spaces of the novel as well. The village is a humanly altered built environment, and thus constitutes a place. It is a place of rest and refuge, as soldiers are fed and take their time off from the front there. It is also a place of devastation when the war empties it out and bombings physically alter it.

The first mention of village in the beginning of the novel characterizes it as a place of civilization the soldiers leave behind for the front in the first example, and is characterized as the opposite of and respite from wilderness when the soldiers return from the front in the second:

> Kylä jäi taakse, suuri kylä katumaisine kujineen ja maalattuina taloineen. (Haanpää 1940: 9)

> The village was left behind, a large village with its street like alleys and painted houses.

> Jokainen talo ja mökki ja olletikin kylä teki hyvää erämaihin väsyneelle silmälle. (Haanpää 1940: 182)

> Every house and cottage and presumably village was a pleasure to the eye that was tired of wilderness.

Several mentions suggest that the village is the place of rest and feeding for the soldiers:

> He saivat luvan palata kylään lepäämään, paitsi muutamia, joille lankesi kova arpa jäädä kenttävartioon. (Haanpää 1940: 46) | Niin, he olivat jo sotineet, ja nyt he palasivat kylään hieman huoahtamaan, ruokailemaan. (20) | Lopulta tuli ilmoitus, että he pääsevät lähtemään kylään, syömään ja ehkä huoahtamaankin. (30) | Kylästä löytyi lämpimiä huoneita, ja löytyipä onnen suosiessa ruokaakin. (46)

They were allowed to go back to the village to get rest, except those, who had to stay on guard. | Yes, they had battled, and now they came back to the village to have rest and eat. | At last, they got the notice that they could start out to the village, to eat and perhaps to have rest. | There were warm rooms in the village, and perhaps, with some luck, also food.

In all these sentences, rest and/or food are mentioned. However, in the last example, the availability of food is not certain and in the third sentence rest is not certain. In the first sentence most of the soldiers can go back to the village to rest, but a few ones are left behind for guard duty. These are the conditions of war: nothing can be taken for granted. The village bears a promise, but it is not certain whether the promise will be wholly fulfilled. Due to war time restrictions, villages (in general) look empty and dark:

Pimeys oli peittänyt maan kaikki kylät jo viikkokausia… Verho peitti jokaisen akkunan, jokaisen sytytetyn lampun, ja kaamea, pahanunenomainen tuntu täytti kaupunkien kadut ja kylien kujat (Haanpää 1940: 9)

Darkness had covered all the villages of the country already for weeks… Curtains were drawn to cover every window and a ghostly feeling filled streets of towns and alleys of villages.

Villages are often seen destroyed. In the following sentences, for example, the houses of the village are either in the midst of attack, on fire or have been demolished:

Kylän rakennuksissa rysähteli, harmaita kattopäreitä lepatteli ilmassa kuin varisparvia. (Haanpää 1940: 73) | Kaikki helvetinvoimat tuntuivat olevan irti tuossa autiossa kylässä. (73) | Kylästä oli jäljellä vain savupiippuja ja kellareita, kuten tavallisesti. (157) | Idän taivaalla punotti outo rusko, sodan rusko: kylät ja kaupungit paloivat. (186)

Buildings crashed around the village, grey shingles flew like crows through the air. | All the powers of Hell seemed to be let loose in that deserted village. | Chimneys and cellars were all that was left of the village, as usual. | A strange dawn was breaking on the eastern sky, the dawn of war: villages and cities on fire.

When the soldiers are returning from the front, they look astonished through the train window at villages that are intact:

Ehjät talot ja kylät ihmetyttivät heitä. Värikkäitä ja harmaita seiniä, välähteleviä akkunoita, kokonainen koskematon kylä loistavien maaliskuun hankien keskellä. (Haanpää 1940: 184)

Intact houses and villages astonished them. Colourful and grey walls, flashing windows, a whole intact village amid shiny March snowdrifts.

Villages have a varied function as a place in *Korpisotaa*. Soldiers start their war journey from a village, they are nourished and get rest in the villages, but they also see the destruction of the war in ruined villages, which is represented as inevitable. At the end of the novel, the two last mentions of village relate to the lost war:

Sotasapeli oli kulkenut poikki metsien, halki kylien, tuima miekanrauta, ja erottanut toisistaan sen, mikä näytti yhteen kuuluvalta. (Haanpää 1940: 197) | Tiet olivat tulvillaan monenlaisia matkueita kiirehtimässä rajaa kohti, joka piirrettäisiin, jonka miekka oli jo piirtänyt halki metsien, poikki peltojen ja kylien, halki elävän maan. (199)

The narrative suggests that the sword of war has gone through forests and villages and separated things that previously seemed to belong together. People, i.e., civilians, are seen to rush towards the new border, 'which the sword had already drawn between forests, fields, villages, and the living country'.

M7 Words: Paikka ('Place')

Word 'paikka' ('location', 'place')' is a noun, but it is frequently used adverbially. This seems to be the case in most of the uses of the word in *Korpisotaa*. The word is used on a general level or way to locate persons or actions, to situate them in a specific situation and environment. As such, it points towards the immediate experience of what is seen and felt but generally it is semantically too broad to be of special interest.

Paikalla oli ollut sairaala. (Haanpää 1940: 17)

There had been a hospital at the place (the building where soldiers are lodging, had formerly been a hospital).

Lyhkäisen päivän ilta alkoi hämärtää, ketju makasi yhä paikoillaan, ja tarkoituksettomalta tuntuva ammuskelu jatkui. (25)

…the line of soldiers laid in their place…

Mutta ketju ei sittenkään liikahtanut paikoiltaan. (36)

The line did not move from its place.

Mies yritti vain saada aseensa lipasta paikoilleen hätäisin, tempoilevin liikkein. (Haanpää 1940: 40)

The man only tried to get the ammunition magazine in its place.

A more specific geographically locational meaning of place/location is present in the following examples. Here, the place is a spot on the ground, as fit for laying down dead as any other, or rough and thus difficult to ski over, and, lastly, located away from the site of an explosion and thus certain death:

Eikö tämä paikka ole yhtä hyvä kuin jokin muukin? (Haanpää 1940: 135)

Isn't this place as good as any other? (Foot soldier Puumi is thinking of dying if that would happen)

Sitten tuli epätasaisia paikkoja. (Haanpää 1940: 149)

There were also uneven places (while skiing in the forest when the terrain is rough).

Sotamies sytytti sätkän, joka oli ehkä pelastanut hänen henkensä, vienyt hänet toiseen paikkaan turmankranaatin ajaksi. (Haanpää 1940: 194)

The soldier lit his cigarette, which probably had saved his life, (as it had) taken him into another place.

As such, word place does not bring anything special to analysis; it is instead used on a general level or in a way to locate persons or actions.

In conclusion, the novel uses words describing the immediate environment, like forest, pit, wilderness and village, to create a sense of embeddedness in the space, and the metaphorical alignment of the soldiers with animals underscores this: just as the rabbits and grouse do, the soldiers die or survive in the forest space, as the novel notes when the soldiers are putting on white clothing:

Pohjolan lumi suojelisi heitä valkoisella pinnallaan kuten jänistä tai tunturin riekkoa. (Haanpää 1940: 17)

The whiteness of the northern snow would protect them like it protects the rabbit and the grouse.

Discussion

We have analysed in this study usage of locations and geographic space words in Pentti Haanpää's novel *Korpisotaa* by means of corpus analysis. We had available a digital version of the novel and could make systematic searches and analyses out of the novel's text. We used keyness analysis to extract the most distinguishing semantic classes out of the novel in comparison to a reference corpus that consisted of five other works of the author. Keyness analysis revealed 37 semantic classes in the novel (Table A1, Appendix 1). Our detailed analysis concentrated on three different semantic classes in the USAS semantic schema: Z2 (geographical names), W3 (geographical terms), and M7 (places). We can summarise usage of location related words and word classes in the novel as follows.

 Exact names of geographical locations (Z2) are mentioned seldom in the novel. Many of these mentions are also either mythological, Biblical or create only general background to the narration. Niemi is the only battle related location name, but it is at least partly generalized from a toponym to a geographical formation. Names of geographic locations relate only distantly to the actual war description in *Korpisotaa*, and partly they seem to create a sense of dislocation, especially of the battlefront.

 Words in the two locational USAS classes W3 and M7 in the novel describe either Finnish natural landscape, civilization, or various geographical spaces. Mentions of political space are not very frequent, but they exist (border, homeland/country). Usage of locational words seems to be mostly concrete, related to immediate experiential spaces of the war. The most frequent two words in the classes W3 and M7 are 'metsä' ('forest') and 'maa' ('globe/ground/soil/area/country'). Forest is one of the main scenes of the war and it is described both as threatening and protective. Many times, the forest of the novel seems endless. 'Maa' is a polysemous word with four main meanings. Part of them relate to the country or state, but 'maa' is primarily used in its concrete meanings of ground and soil. Soldiers take shelter on the ground and feel the ground shaking in bombings and grenade fire. Narration related to the wilderness offers three main viewpoints in the novel: first, wilderness is hostile, cold, and dark; second, it is calm and soothing; third, it is also wide and empty. Soldiers ski in the endless wilderness and artillery or bombs have left their marks on the ground, which seems unacceptable: the peace of the wilderness has been disturbed badly. Village is the most frequent word denoting civilization and settlement in the novel. Villages are seen as places of rest and nourishment for soldiers, and they are also seen as an opposite to wilderness. Soldiers start their war journey from a village which is seen as a place of civilization, but during the war they see the destruction of the war most clearly in ruined villages.

 Generally, our work contributes to the usage of corpus methods in literary analysis. Digital methods have been recently contrasted with a prevailing trend in literary analysis named symptomatic reading, for example by Best and Marcus (2009) and Felski (2015). Symptomatic reading looks at the text for what is *not* there at the level of the text's apparent surface. The 'true' meaning of the text is taken to be transcendent, or to exist beyond or behind the surface of the text, and is only retrievable by the researcher, present only as a

trace or absence. However, for an omission or a trace to exist, there must be something to make the holes and the traces visible. One way of understanding the place of digital methods in this context is to bring to the foreground this extant material and invite us to ask if and how the fact that it *is* there could make it significant. Meaning is understood to reside within the text, immanent, and digital tools are useful in drawing this out.

On the other hand, such tools might be understood as more effectively enabling us to engage in acts of surface reading because they do not rely to the same extent on heroic acts of interpretation by individual critics. We argue that digital tools support both modes of critical engagement: the trace that truly exists is made even more significant for the sceptical symptomatic reader, while the unprobed depths of the surface of the text provide ample opportunity for the surface reader. In this case, analytical interest in spatial and literary geographical issues lends itself well for alternatives to symptomatic reading – digital or otherwise. Even if *Korpisotaa* is not very amenable to mapping, the textual givenness of the spatial milieu, the textual phenomenon and reality of where the narrated events are set, are well suited for digital methods specifically because they are on the surface of the text. Indeed, when the givenness of the milieu is taken as a cipher or symbolical stand-in for something else, the specificity of spaces and places as they are narrated is in danger of being interpreted away. More to the point, it is of utmost importance to a novel like *Korpisotaa* that it is set in places that have experiential reality because the novel wants to say something specifically about the experiences of the real, historical war – as previous scholarship has made clear. The statistical significance of geographical formations and space (W3, M7), and the paucity of geographical names (Z2), gestured towards this, and our analysis confirmed it.

Instead of various mapping methods we used another well-known computational method, keyness. Even for a relatively small data set, a single novel, the availability of a digital version of the text helped detailed analysis greatly. However, even though everything we analysed was on the explicit, 'surface' level of the text (cf. Best and Marcus 2009), working with digital methods does not limit the researcher to just surface-level phenomena in a novel. In fact, digital methods are used to perform a rather traditional task: to bring to the fore of the scholar's attention something that was invisible in the text but, crucially, not beyond it (for another example, see Eve 2019).

The fundamental approach to texts remains - there is something under the surface we need methods to get to. But the nature of that something has changed: no longer can the text only yield its *true* meaning through the act of critical reading (vigorous interrogation) where historical, social, or critical context is everything. Digital methods, at least yet, do not yield contexts out of texts, and so the new something must also be understood as a textual phenomenon. And for us in this study, too, using a semantic tagger of the Finnish language enabled us to reach a more general, or, if one wishes, deeper level of analysis than plain words: we were able to pinpoint systematically whole groups of words related to geographic space in the novel.

Complete works of even one author can consist of thousands of pages, and mere systematic human reading of the works becomes challenging fast, let alone when one wants

to study large collections of fiction. Methods like keyness used in this study do not substitute close reading of literary works, but they can help the reader to focus on the most relevant themes and parts of the texts. Computer-aided ways of going through the works are thus needed, and digital methods like corpus tools can offer 'semi-distant' reading aids for literary scholars, allowing us to understand texts at what Eve calls 'narrow depth' (2019: 21).

The possibility and results of fully automatic literary analyses have been criticized heavily e.g., by Da (2019) and Fletcher (2021). In keyness analysis, computing works as a starting point to human analysis, pointing out potentially interesting topics for study by using textual statistics (Fischer-Starcke 2010: 105-107). In our study, one facet of keyness pointed towards the analytically rich and thematically central areas of geographical space and location, both being among key semantic classes in AntConc's keyness analysis. Crucially, however, the keyness analysis did not indicate their interconnectedness, the specific function, and significance, they have in the novel. The inclusion of the non-key semantic class Z2 in analysis demonstrated how the different geographic spatial aspects of the novel occupy radically different positions in the novel: one distancing and dislocating on a map, the other enmeshing in an experiential, immediate space and environment. This was only revealed in the analysis of the specific semantic classes. Thus, the actual analytical work is left for the human analyst, as it should be.

Notes

[1] Viirret (2005) interviews Paavo Svala, who was in the same regiment as Haanpää in the Winter War. Svala describes some real counterparts of events described in Korpisotaa, for example a failed attempt to destroy a Soviet tank.

[2] Keskisarja describes one of the main battles, the so-called Road of Raate Battle, of the Finnish Winter War, based on ample previous research. As such, Keskisarja's book is a concise description of the general conditions of the Winter War and is used for this purpose here.

[3] The word 'sotamies' ('foot soldier') is mentioned 103 times in Korpisotaa. 'Vänrikki' ('second lieutenant') is mentioned 39 times. After these frequent mentions, reference to soldiers drops heavily. For the most part general military terms, not specific ranks, are used: 'soturi' ('warrior', 'fighter') is used seven times, 'upseeri' ('officer') five times, 'sotilas' ('soldier') four times. 'Komentaja' ('commander') is used four times, 'rintamamies' ('battlefront soldier') is used twice, and 'kenraali' ('general') once. This means that foot soldiers are mentioned roughly twice as much as officers, and the only officer that is really talked about is the second lieutenant. But as army troops de facto consist mostly of foot soldiers, sheer counting of different ranks mentioned in the text does not tell us very much yet, and a more detailed approach would be needed to show that Haanpää's view of the war is foot-soldier-centred.

[4] According to Viirret (2005) 25 mentions of 'ryssä' were removed from the text and changed either to 'vihollinen' ('enemy') or 'iivana'.

[5] https://digi.kansalliskirjasto.fi/collections?id=21&set_language=en.

[6] https://www.xpdfreader.com/pdftotext-man.html

[7] http://ucrel.lancs.ac.uk/usas/

[8] All available USAS style lexicons for different available languages are here: https://github.com/UCREL/Multilingual-USAS

[9] Map Cf., e.g., list of publications using Mike Scott's corpus software WordSmith Tools at   https://www.lexically.net/wordsmith/corpus_linguistics_links/ articles_using_wordsmith.htm

[10] http://ucrel.lancs.ac.uk/usas/usas_guide.pdf

[11] We also created a keyness list with seven comparison texts adding two short story collections, *Karavaani* (1930) and *Ihmiselon karvas ihanuus* (1939) to the reference texts. This changed the order of some of the top classes with a rank or two. W3 and M7 are still among the chosen classes. W3 is the seventh on the list and M7 still 31st. The size of the set of keyword classes was also smaller with seven comparison texts: 33 versus 37.

[12] Almost half of the words in this class are quite general locational adverbs like 'siellä' ('there'), 'täällä' ('here'), 'keskellä' ('in the middle'). It is possible that some interesting words for location are coded in this class, but they would need to be picked out one by one. For example, compass points seem to be in this class and could be of interest. Their usage, however, seems to be quite infrequent in Korpisotaa. 'Etelä' ('south') and 'pohjoinen' ('north') are mentioned altogether seven times, and 'itäinen' ('eastern') once.

[13] Translations or glosses of *Korpisotaa* are by the authors of the article. Page references for the Finnish text are to the second printing of *Korpisotaa*, which is also the electronic version we have used.

[14] 'Helvetti' is categorised into the category of S9 in the USAS schema, religion and the supernatural, but obviously it could be sub-categorised to M7, too.

[15] It should be noted that these figures may slightly underestimate occurrences of these words. OCR errors in the text hamper lemmatization and part-of-speech tagging, and the figures are based on the automatic analysis of positive cases. No attempt to include misspellings of the words after OCR has been performed.

[16] The word 'korpi' ('backwoods'), which is seventh on the list, also refers to forest, but it is semantically more specific, carrying connotations of remoteness and, to a degree, gloominess. It may be used partly as a synonym of 'forest' or 'wilderness' in the novel to avoid repetition of these two words.

[17] There is a specific military word for foxhole in Finnish, 'potero', but it is not used in Korpisotaa.

Works Cited

Anthony, L. (2019) AntConc (Version 3.5.8) [Computer Software]. Tokyo, Japan: Waseda University. [Online] [Accessed 20 December 2021] https://www.laurenceanthony.net/software

Archer, D., Culpeper, J., and Rayson, P. (2009) 'Love - 'A familiar or a devil'? An exploration of key domains in Shakespeare's comedies and tragedies.' In *What's in a Word-list?: Investigating Word Frequency and Keyword Extraction.* Aldershot, England: Ashgate, pp. 137-157.

Best, S. and Marcus, S. (2009) 'Surface Reading: An Introduction.' *Representations*, 108(1), pp. 1-21.

Bevilacqua, M., Pasini, T., Raganato, A. and Navigli, R. (2021) 'Recent Trends in Word Sense Disambiguation: A Survey'. *In* Z-H Zhou (ed) *Proceedings of the Thirtieth International Joint Conference on Artificial Intelligence, IJCAI-21.* Vienna: International Joint Conference on Artificial Intelligence, pp. 4330-4338.

Berber-Sardinha, T. (2000) 'Comparing corpora with WordSmith Tools: How large must the reference corpus be?' In *CompareCorpora '00: Proceedings of the Workshop on Comparing Corpora*, October, pp. 7-13. [Online] [Accessed 28 March 2024] https://www.aclweb.org/anthology/W00-0902/

Bondi, M. (2010) 'Perspectives on keywords and keyness. An Introduction.' *In* Bondi, M. and Scott, M. (eds) *Keyness in Texts.* Amsterdam: John Benjamins, pp. 1-18.

Bondi, M. and Scott, M. (2010) *Keyness in Texts.* Amsterdam: John Benjamins.

Brezina, V. (2018) *Statistics in Corpus Linguistics. A Practical Guide.* Cambridge: Cambridge University Press.

Culpeper, J. (2002) 'Computers, language and characterisation: An Analysis of six characters in Romeo and Juliet.' *In* Melander-Marttala, U. Östman, C. and Kytö, M. (eds) *Conversation in Life and in Literature: Papers from the ASLA Symposium.* Association Suedoise de Linguistique Appliquée (ASLA) 15. Uppsala: Universitetstryckeriet, pp.11-30. [Online] [Accessed 28 March 2024] https://lexically.net/wordsmith/ corpus_linguistics_links/Keywords-Culpeper.pdf

Culpeper, J. (2009) 'Keyness: Words, parts-of-speech and semantic categories in the character-talk of Shakespeare's Romeo and Juliet. International.' *Journal of Corpus Linguistics*, 14(1), pp. 29-59.

Culpeper, J. and Demmen, J. (2015) 'Keywords.' *In* Biber, D. and Reppen, R. (eds) *The Cambridge Handbook of English Corpus Linguistics.* Cambridge: Cambridge University Press, pp. 90-105.

Da, Nan Z. (2019) 'The Computational Case against Computational Literary Studies.' *Critical Inquiry*, 45(3), pp. 81-108.

Dullieva, K. (2017) 'Semantic Fields: Formal Modelling and Interlanguage *Comparison.' Journal of Quantitative Linguistics*, 24(1), pp. 1-15.

Dunning, T. (1993) 'Accurate Methods for the Statistics of Surprise and Coincidence.' *Computational Linguistics*, 19(1), pp. 61-74.

Eve, M. P. (2019) *Close Reading with Computers: Textual Scholarship, Computational Formalism, and David Mitchell's Cloud Atlas*. Stanford: Stanford University Press.

Felski, R. (2015) *The Limits of Critique*. Chicago: Chicago University Press.

Fischer-Starcke, B. (2010) *Corpus Linguistics in Literary Analysis. Jane Austen and her Contemporaries*. London: Continuum.

Fletcher, A. (2021) 'Why Computers Will Never Read (or Write) Literature: A Logical Proof and a Narrative.' *Narrative*, 29(1), pp. 1-28.

Gabrielatos, C. (2018) 'Keyness Analysis: nature, metrics and techniques.' *In* Taylor, C. and Marchi, A. (eds) *Corpus Approaches to Discourse: A critical review*. Oxford: Routledge, pp. 225-258.

Geeraerts, D. (2010) *Theories of Lexical Semantics*. Oxford: Oxford University Press.

Gliozzo, A. and Strappava, C. (2009). *Semantic Domains in Computational Linguistics*. Berlin, Heidelberg: Springer.

Haanpää, P. (1940) *Korpisotaa*. Helsinki: Otava.

Haanpää, P. (1977) *Kirjeitä kahdesta sodasta* ('Letters from two wars'). Second printing. Helsinki: Otava.

Haanpää, P. (2005) *Kirjeet* ('Letters'). Edited by Karonen, V. ja Viirret, E.. Helsinki: Otava.

Jokinen, A. (2019) *Isänmaan miehet: maskuliinisuus, kansakunta ja väkivalta suomalaisessa sotakirjallisuudessa*. Edited by Soikkeli, M. ja Kivimäki, V. Tampere: Vastapaino.

Karonen, V. (1985) *Haanpään elämä*. Pieksämäki: Suomalaisen Kirjallisuuden Seura.

Karonen, V. (1999) 'Pentti Haanpään talvisota ja Korpisotaa.' *In* Haanpää, P. *Korpisotaa*, Helsinki: Otava, pp. 182-222.

Kauppinen, E. (1966) *Pentti Haanpää I. Nuori Pentti Haanpää 1905-1930* ('Pentti Haanpää I. Young Pentti Haanpää *1905-1930*'). Helsinki: Otava.

Keskisarja, T. (2012) *Raaka tie Raatteeseen. Suurtaistelun ihmisten historia*. Helsinki: Siltala.

Kettunen, K. (2019) 'FiST – towards a Free Semantic Tagger of Modern Standard Finnish.' *In* IWCLUL2019 [Online] [Accessed 28 March 2024] http://aclweb.org/anthology/W19-0306

Kettunen, K. (2022) 'Geographic Space in Pentti Haanpää's Novel Korpisotaa – where does the War Happen?' *In* Berglund, K., La Mela, M., Zwart, I. (eds) *Proceedings of the 6th Digital Humanities in the Nordic and Baltic Countries Conference* (DHNB 2022). Uppsala, Sweden, March 15-18, 2022, pp. 297-307.

Kettunen, K. and La Mela M. (2022) 'Semantic Tagging of Political Concepts: the Case of Everyman's Rights in Finnish Parliamentary Discussions of 1940-2000.' *Digital Scholarship in the Humanities*, 37(2), pp. 483-496.

Koivisto, J. (1998) *Leipää huudamme ja kiviä annetaan. Pentti Haanpään 30-luvun teosten kytkentöjä aikansa diskursseihin, todellisuuteen ja Raamattuun*. Helsinki: SKS, 284

Leech, G. (2004) '*Developing Linguistic Corpora: a Guide to Good Practice Adding Linguistic Annotation*'. [Online] [Accessed 19 December 2021] https://users.ox.ac.uk/~martinw/dlc/chapter2.htm

Lutzeier, P. R. (2006) 'Lexical fields.' *In* Allan, L. (ed) *Concise Encyclopaedia of Semantics*. Oxford: Elsevier, pp. 470-473.

Löfberg, L. (2017) *Creating large semantic lexical resources for the Finnish language.* Doctoral dissertation, Lancaster University.

Mahlberg, M. (2010) 'Corpus Linguistics and the Study of Nineteenth-Century Fiction.' *Journal of Victorian Culture*, 15(2), pp. 292-298.

Mahlberg, M. and Smith, C. (2010). 'Corpus Approaches to Prose Fiction: Civility and Body Language in Pride and Prejudice.' *In* McIntyre, D. and Busse, B (eds) *Language and Style.* Palgrave Macmillan, pp. 449-467.

Martikainen, E. (2013) *Kirjoitettu sota. Sotadiskursseja suomalaisessa kaunokirjallisuudessa (1917-1995).* Tampere: Tampere University Press.

McArthur, T. (1981) *Longman Lexicon of Contemporary English.* London: Longman.

Meri, V. (1975) *Kuviteltu kuolema.* Helsinki: Otava.

Moretti, F. (1998) *Atlas of the European novel, 1800-1900.* London, New York: Verso.

Navigli, R. (2009) 'Word Sense Disambiguation: A Survey.' *ACM Computing Surveys*, 41, pp. 10-69.

Niemi, J. (1988) *Viime sotien kirjat.* Helsinki: SKS.

Nykysuomen sanakirja (1954) Helsinki: Werner Söderström Osakeyhtiö.

Pérez Isasi, S. and Sequeira Rodrigues, C. (2021) 'Cartography as a Tool for Studying Iberian Literary Relationships: Evaluation of a Practical Experiment.' *Literary Geographies*, 7(2), pp. 189-213.

Piatti, B. (2017) 'Literary Cartography: Mapping as Method.' *In* Engberg-Pedersen, A. (ed) *Literature and Cartography; Theories, Histories, Genres.* Cambridge: MIT Press.

Pilke, H. (2009) *Etulinjan kynämiehet: suomalaisen sotakirjallisuuden kustantaminen ja ennakkosensuuri kirjojen julkaisutoiminnan sääntelijänä 1939-1944.* Helsinki: SKS.

Postma, M., Izquierdo W., Agirre, E., Rigau, G. and Vossen, P. (2016) 'Addressing the MFS Bias in WSD systems.' In *Proceedings of the Tenth International Conference on Language Resources and Evaluation (LREC'16),* pp. 1695-1700. [Online] [Accessed 28 March 2024] https://www.aclweb.org/anthology/L16-1268.

Preiss, J. (2006) 'A Detailed Comparison of WSD Systems: An Analysis of the System Answers for the SENSEVAL-2 English All Words Task.' *Natural Language Engineering*, 12(3), pp. 209-228.

Rayson, P. (2008) 'From Key Words to Key Semantic Domains.' *International Journal of Corpus Linguistics,* 13(4), pp. 519-549.

Ridanpää, J. (2000) 'Pentti Haanpää's *Kairanmaa* in Cultural Transformation'. *In* Leppänen, S. and Kuortti, J. (eds). *Inescapable Horizon; Culture and Context.* Jyväskylä: The Research Unit for Contemporary Culture 64, pp. 133-154.

Scott, M. (1997) 'PC Analysis of Key Words – and Key Key Words.' *System*, 25(2), pp. 233-245.

Scott, M. (2010) 'Problems in Investigating Keyness, or Clearing the Undergrowths and Marking Out Trails.' *In* Bondi, M. and Scott, M. (eds) *Keyness in Texts.* Amsterdam: John Benjamins, pp. 43-57.

Sinnemäki, A. (2014) *Sota kentästä ja kasarmista.* Second printing. Helsinki: Paasilinna.

Soja, E. (1996) *Thirdspace: Journeys to Los Angeles and Other Real-and-Imagined Places*. Hoboken, N.J.: Wiley-Blackwell.

Tuan, Y. F. (1977) *Space and Place: The Perspective of Experience*. Minnesota: University of Minneapolis Press.

Viirret, E. (2005) *Haanpään siivellä*. Oulu: Pilot-Kustannus Oy.

Wilson, A. and Thomas, J. (1997) 'Semantic Annotation.' In Garside, R., Leech, G. and McEnery, T. (eds) *Corpus Annotation: Linguistic Information from Computer Text Corpora.* New York: Longman, pp. 53-65.

Yi-Tenen, D. (2018) 'Toward a Computational Archaeology of Fictional Space.' *New Literary History*, 49(1), pp. 119-147.
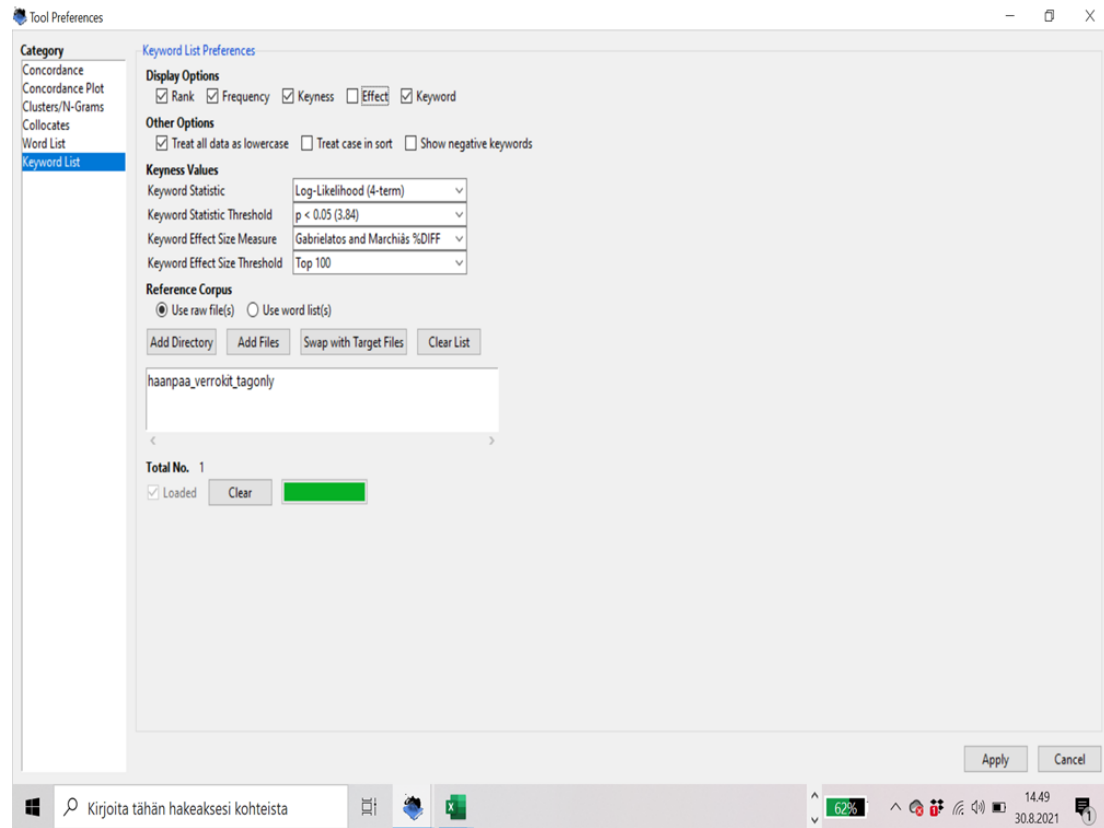
Appendix

Figure A1. Settings used with AntConc in semantic key class extraction.

Table A1. All the semantic classes found in keyness analysis of Korpisotaa in compariso to five other works of Pentti Haanpää. 37 key semantic classes with 7,602 occurrences.

Rank	Number of class occurrences	Keyness value	Semantic class1
1	585	+750.68	Warfare, defence and the army; Weapons G3
2	295	+169.78	Temperature O4.6
3	112	+112.73	Sports K5.1
4	185	+90.95	Weather W4
5	167	+75.08	Approachability and Friendliness S1.2.1
6	323	+72.99	Geographical terms W3
7	555	+70.02	Location and direction M6
8	120	+56.81	Plants L3
9	673	+48.25	Anatomy and physiology B1
10	213	+47.96	Objects generally O2
11	73	+42.62	Substances and materials generally: Gas O1.3
12	37	+38.4	Means of transport (Air) M5
13	92	+36.58	Numbers N1
14	259	+34.56	Calm/Violent/Angry E3
15	117	+32.01	Damaging and destroying A1.1.2
16	934	+31.28	Moving, coming and going M1
17	167	+27.49	Colour and colour patterns O4.3
18	74	+24.92	Inclusion/Exclusion A1.8
19	50	+24.36	Cleaning and personal care B4
20	166	+24.16	Light W2
21	76	+23.03	Substances and materials generally: Solid O1.1
22	94	+20.37	Measurement: Distance N3.3
23	44	+20.14	Trying X8
24	308	+19.08	Linear order N4
25	54	+16.87	Texture O4.5
26	18	+16.73	Cigarettes and drugs F3
27	254	+16.16	Sensory: Sound X3.2
28	109	+15.85	Clothes and personal belongings B5
29	373	+15.63	General actions, making etc. A1.1.1
30	83	+14.18	The universe W1
31	200	+12.08	Places M7
32	462	+11.88	Time: Beginning and ending T2
33	190	+10.8	Putting, taking, pulling, pushing M2
34	29	+10.72	Music and related activities K2
35	63	+10.35	Toughness; strong/weak S1.2.5
36	5	+7.55	Business: Generally I2.1
37	43	+7.25	Time: Momentary T1.2

Table A2. Top 50 keywords found in keyness analysis of Korpisotaa in comparison to five other works of Pentti Haanpää using lemmatized versions of the texts. Altogether 852 keyword types found with 10,329 occurrences.

Rank	Number of occurrences	Keyness value	Lemma	Translation
1	145	+441.45	vihollinen	enemy
2	103	+319.26	sotamies	soldier
3	93	+197.96	lumi	snow
4	96	+193.2	sota	war
5	39	+137.55	vänrikki	first lieutenant
6	34	+119.91	Puumi	Puumi (last name)
7	44	+113.55	suksi	ski
8	42	+110.58	meikäläinen	one of us
9	28	+98.75	rintama	front
10	26	+83.51	luoti	bullet
11	23	+81.11	tykki	piece of artillery
12	36	+79.96	hiihtää	to ski
13	21	+74.05	partio	patrol
14	39	+73.22	eteenpäin	forwards
15	20	+70.53	kranaatti	grenade
16	25	+70.22	lentokone	aeroplane
17	47	+67.02	tuli	fire
18	27	+66.18	suomalainen	Finnish
19	32	+65.8	ampua	to shoot
20	32	+65.8	kuoppa	pit
21	20	+62.86	pommi	bomb
22	21	+61.22	teltta	tent
23	17	+59.95	konetuliase	machine gun
24	19	+59.44	latu	ski track
25	20	+53.84	kylmyys	coldness
26	15	+52.89	lumipuku	soldier's white camouflage suit (literally 'snow suite')
27	36	+51.07	taistelu	combat
28	14	+49.37	konekivääri	machine gun
29	14	+49.37	konepistooli	submachine gun
30	13	+45.84	edetä	to proceed
31	13	+45.84	iivana	Ivan (a colloquial name for Russians)
32	13	+45.84	pesäke	nest
33	15	+45.79	haavoittua	be wounded
34	28	+45.47	taistella	to combat

35	21	+45.2	suunta	direction
36	12	+42.31	kenttävartio	field guard
37	12	+42.31	komppania	company
38	12	+42.31	laukaus	shot
39	45	+41.77	kohti	towards
40	18	+41.27	marssia	to march
41	27	+39.99	ase	gun
42	47	+39.3	pimeys	darkness
43	57	+39.19	hyvin	well
44	11	+38.79	vaihto	shift
45	11	+38.79	vartija	guard
46	15	+37.8	ketju	chain
47	21	+37.01	hahmo	figure
48	31	+36.06	kaatua	be killed in action
49	17	+35.8	nuotio	camp fire
50	10	+35.26	panos	cartridge