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English Studies

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Codeswitching in Business Documents

Finnish Working Instructions and Minutes of Meetings at Wärtsilä's Experimental Power Plant

Master's Thesis
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ABSTRACT

Englannin kieli on vakiinnuttanut asemansa tekniikan alan *lingua francana* eli yhteiskielenä. Kansainvälistyvässä maailmassa on tärkeää, että yhteistyössä toimivat eri maiden yritykset ja asiakkaat pystyvät kommunikoimaan keskenään. Muun muassa näiden yrityskontaktien myötä englanti on päässyt vaikuttamaan myös kansallisiin kieliin. Suomen kielessä englanti näkyy erilaisina ilmiöinä, esimerkiksi koodinvaihtona ja lainasanoina.

Tämä pro gradu -tutkielma käsittelee koodinvaihtoa liike-elämän asiakirjoissa. Tutkimusmateriaalina oli monikansallisen moottori- ja voimalaitosvalmistajan, Wärtsilän, kokouspöytäkirjoja ja työohjeita, jotka oli kirjoitettu erillisessä voimalaitoskonseptin kehittämisprojektissa Vaasassa. Tutkimuskysymyksinä oli, kuinka vahvasti englannin kieli on läsnä näissä kahdessa tekstityypissä, sekä eroavatko tekstityypit toisistaan koodinvaihtojen osalta. Olettamuksena oli, että koodinvaihtoja esiintyy runsaasti kummassakin tekstityypissä. Tutkimuksen kohteena oli materiaalista löydettyjen koodinvaihtojen määrä ja laatu. Löydetyt koodinvaihdot jaettiin rakenteellisiin kategorioihin Carol Myers-Scottonin kehittämän Matrix Language-Frame Model -mallin mukaan. Lisäksi koodinvaihtojen sanaluokat määriteltiin. Edellä mainittujen metodien avulla voitiin arvioida koodinvaihtojen funktio joko sosiaalisena tai transaktionaalisena.

Materiaalia oli yhteensä 62 sivua, joista 33 sivua oli kokouspöytäkirjoja ja 29 sivua työohjeita. Koodinvaihtoja löydettiin yhteensä 331, mikä vahvistaa sen olettamuksen, että kyseiset tekstityypit ovat saaneet vahvasti vaikutteita englannin kielestä. Yhtä poikkeusta lukuun ottamatta koodinvaihdot olivat substantiiveja. Koodi vaihtui niiden sanojen kohdalla, jotka ilmaisivat voimalaitoksen osia tai projektiin liittyviä ohjelmistoja tai dokumentteja. Tästä voitiin päätellä, että syy koodinvaihtojen käyttämiseen alkukielen sanaston sijaan oli tarvittavien alkukielisten sanojen puuttuminen sanastosta. Lisäksi selvisi, että yhtä lukuun ottamatta kaikki koodinvaihdot olivat funktioltaan transaktionaalisia.

KEY WORDS: codeswitching, planning session, matrix language, MLF model, Wärtsilä, ingroup language, text types, genres, lingua franca, LSP

1 INTRODUCTION

> And who in time knows whither we may went
> the treasure of our tongue, to what strange shores
> This gain of our best glory shall be sent,
> To enrich unknowing nations without stores?
> which worlds in the yet unformed Occident
> May come refined with the accents that are ours.
>
> Samuel Daniel: Musophilis (1599)

The English language has travelled far away from home, and stayed. The above excerpt from Samuel Daniel's poem written in 1599 foretells the future of the English language well. Today English is one of the three most spoken languages in the world, depending on the manner of counting. It has from 1.200 to 1.500 million speakers and it is an official language in over 70 countries (Crystal 1997: 3). According to the British Council, in 2004 another 2 billion people would begin to learn English within a decade, and by 2050 there would be over 3 billion speakers of English in the world (Wardhaugh 2006: 379). The impact of English on other languages has resulted in variety language contact phenomena. English is a widely established *lingua franca* in the world today, and its presence in foreign countries enables codeswitching, "the alternating use of two or more "codes" within one conversational episode" (Auer 1998: 1)".

This thesis studies codeswitching between Finnish and English in an LSP (Language for Special Purposes) context. The material consists of two different text types, minutes of meetings and working instructions of a power plant development project in a multinational company, Wärtsilä. I will examine how frequent the use of English codeswitches in the Finnish minutes of meetings and working instructions is, and does the use of codeswitches differ between the two text types. The quality of the codeswitches found will be studied with the help of the Matrix Language-Frame model, created by a renowned codeswitching scholar Carol Myers-Scotton. The model provides a tool for categorising codeswitches according to their structural qualities, and is therefore useful in resolving which language constituents can be switched. Further, based on the structural qualities of the codeswitches, the function of the codeswitches

can be analysed. It is of interest, what the purpose of the codeswitches in the documents studied is. I want to find out if the use of codeswitches is obligatory, that is, if the English words are used because no Finnish words exist. Therefore, this thesis situates not only in the field of codeswitching studies, but is also relevant in translation studies, where finding equivalent terms is a key issue.

I expect the documents to be heavily influenced by English, that is, to contain many codeswitches. This is because they are technological by nature, and the language of technology often is rather international. Some differences might occur between the two text types. The similar technological quality of the text types, however, suggests that no large differences will be found. The material of this thesis is described more precisely in section 1.1, and the method is presented in section 1.2. The company, Wärtsilä, whose documents are the material of this study is presented in 1.4. In what follows, I will examine the reasons that have lead to English being the lingua franca in the world.

There are many reasons why English has spread so widely and become a world language. Firstly, English has been formed of several languages and it has been open to the influence of other languages, which has advanced its mixing and coexisting with them. Secondly, English is not clearly any nation's "property" any longer. This has enabled its use in different historical contexts and situations. Historically, one of the most important reasons for the spreading of English is the British Empire. After that, the development of the United States into a super power with significant economical, technical and political supremacy has had a major impact on the status of English (Leppänen and Nikula 2008: 12). According to Crystal (1997: 53), this is the factor that continues to explain the global position of the English language also today. Another key reason is the cultural and economical globalisation, which has only accelerated in the past decades. Making a global language does not have so much to do with the number of speakers, as with the political and especially military power of the speakers (Crystal 1997: 5, 7).

The roots of the current position of English date back to the era of the Industrial Revolution. By the beginning of the nineteenth century, Britain had become the world's

leading industrial and trading nation: most of the innovations of the Industrial Revolution were made in Britain. Britain was called “the workshop of the world”. The linguistic consequences of the achievements were far reaching because the new terminology was in English. Besides the fact that thousands of new words were added to the English lexicon, these words also spread to foreign countries where the new innovations were brought into use. If people wanted to learn about, and benefit from, for example the harnessing of coal, water and steam, or about the development of new materials, techniques, and equipment in many manufacturing industries, they would have to learn English. A little later, the same developments took place on the other side of the Atlantic, and by the end of the century America had taken over Britain as the world’s fastest growing economy. (Crystal 1997: 5, 7)

It is estimated that half of the influential scientific and technological output between the years 1750 and 1900 was written in English. Steam technology revolutionised printing, and the development of rapid methods of transportation made the products of Industrial Revolution widely available. Several big organizations emerged in the USA at the end of the 19th century, among others Standard Oil, the newspaper empire of William Randolph Hearst, and the manufacturing, banking, and transportation empire of financier John Pierpont Morgan. The latter was one of the world’s most powerful financial institutions, supporting America’s allies in the First World War and financing post-war reconstruction in Europe. America was the sole economic dominant in the world. This economical imperialism greatly affected, and continues to affect the balance of linguistic power in the world. (Crystal 1997: 71–74)

The economical and political factors mentioned above were thus significant in the process of English becoming the lingua franca. There are various different ways in which English has entered different countries in the course of history. To illustrate this phenomenon, a figure created by the linguist Braj Kachru is presented below:

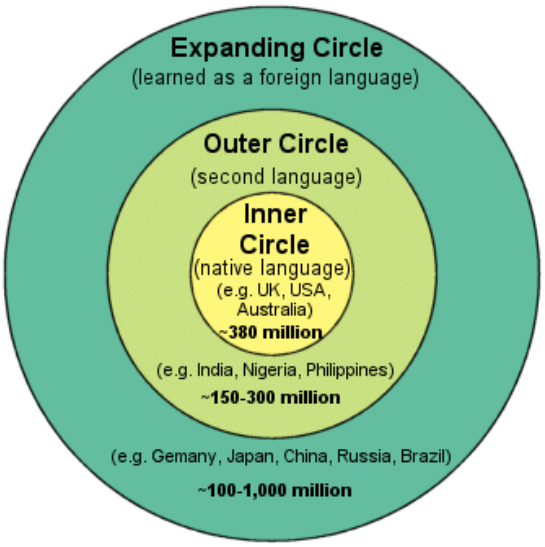


Figure 1. Kachru's Circle. (Mastin 2011)

In the Inner circle, there are the countries like the United Kingdom and the United States, where the traditional bases of English spoken as the mother tongue are. In the Outer circle there are the old colonies of the British Empire that have English in their language repertoire, usually as the second language. India, Nigeria and Philippines, for example, belong into this category. Finally, countries in the Expanding circle, such as Finland, have received English through education: people study English as a foreign language, it has no official status, but its significance is growing. This circle comprises the largest number of speakers, which is particularly interesting since it shows how English indeed is becoming the "property of everyone", as noted earlier. Together with the Outer circle, the Expanding circle forms a vast majority of people who are not native speakers of English. The natural outcome of this is the transformation of not only English, but also the national languages of the receiving countries, when the two languages come in contact.

The changes that occur when a language enters a new culture may take place in different domains. A domain is an abstract construct made up of a constellation of participants' statuses and role relationships, locales or settings, and subject matter. Examples of domains are family, work and education (Winford 2003: 111). In Finland,

English is used in many domains of life, and it is the language of many important fields of science. It is only recently that English has become the lingua franca in many domains in Finland. Formerly Latin was the language of science, and later Swedish was used. A look into the history of humankind suggests that the world is keen on finding a common language to be used as a means for intercultural, or global, communication.

Despite the need and will to have a common language, worries arise around the world concerning the power English as a lingua franca might acquire. In Finland, such worries are expressed in many forums. Usually the people who are worried about the state of the Finnish language are laymen, not professional linguists. Many professional linguists do not see the problem in a similar way as the critics do, but claim that languages do change constantly, and cannot be saved with rules and regulations. Strength is not a characteristic of a language itself, but given to a language by the economy and politics of the state that uses the language. (Hiidenmaa 2003: 59) In scientific context, the use of foreign words is sometimes seen as a positive aspect. This will be further discussed in chapter two.

English has become a global language either for geographical-historical or socio-cultural reasons. The first reason refers to the pioneering voyages into the new world and colonization, the second to the way people have become to depend on English and also to the domains that have become totally dependent on it (Crystal 1997: 24–25). Robert Phillipson lists an overwhelming number of domains that English has become dominant in. Among these are science, technology, medicine and computers; transnational business, and trade (1992: 6).

In the 19th century it was decided that Finnish would be the language of science in Finland. Today, most of the important research is written in English and researchers have difficulties discussing their studies in Finnish. Technical and medical terms are in English, and for the Finnish youth, no matter how competent it is in their mother tongue, it is impossible to get a university diploma without knowing English well (Hiidenmaa 2003: 114).

A language taking over a domain does not happen abruptly. For example, a company may have decided to operate only in a certain language in order to function better in the global market. As an example of this is Wärtsilä with English as its sole official language. According to Häkkinen (2006: 264), an old etymological rule is that the names of new phenomena come from where the phenomena themselves come. Through international trade new concepts and products are imported into many countries, and alongside them also foreign terminology enters the national languages and different domains. This happens, for example, when a new product is imported, and its original name is continued to be used in that country. As the English language enters more and more domains, the interest in its effects on other languages grows. At the core of this language contact phenomenon are codeswitching studies.

Despite the growing interest in language contact phenomena, in the field of codeswitching studies, still more research is needed. Many language use contexts of working life need to be studied. Research on codeswitching in written discourse is scarce. Especially in the area of technology, where the use of English is very common in Finland, few studies have been made. During the present research, no such studies were found. So far scholars have concentrated mainly on codeswitching in social situations and in conversation.

The creator of the theoretical model used in this study, Carol Myers-Scotton, has studied codeswitching extensively, focusing on language use in Africa. She has studied codeswitching in everyday conversation between Kenyan people, the languages spoken being English and Swahili. Macdolna Kovács has studied codeswitching and language shift in her dissertation from 2001. She compared Australian Finnish with Australian Hungarian, focusing on gender and generation differences of the speakers. Also her material consisted of discussions.

Anne Kankaanranta's (2005) dissertation focused on e-mail communication in lingua franca English in a multinational company. The use of English between Finnish and Swedish speaking employees was studied. This came closest to the subject of the present study. In *"Hej Seppo, could you pls comment on this!" – Internal Email*

Communication in Lingua franca English in a Multinational Company, Kankaanranta studied e-mail communication of Stora Enso's employees. She studied genres, and her material consisted of 282 e-mails. The languages of the employees were Swedish, Finnish and English, and also the e-mails were written in these languages. Kankaanranta used Johnson & Bartlett's model of features of international business English (IBE) as the theoretical tool in her study, and found the following features of IBE in her material: simplified vocabulary, pre/postpositions reduced, simplified question forms, simplified tense/mood system, simplified sentence structure/morphemes dropped, infinitives preferred to gerunds, and few relative clauses. The occurrences, however, were few, and according to Kankaanranta, there are at least three reasons for the lack of International Business Englis: first, the features may not have been as prevalent in written discourse as they are in spontaneous speech. Second, the proficiency [of English] of the Swedish and Finnish writers may have been on a higher level than that of the business people that Johnson & Bartlett, the inventors of the model, observed. Third, the writers were accustomed to using English at work, since English was already used both in Enso of Finland and Stora of Sweden before they merged in 1998. Even though Kankaanranta's study is similar with the present study in the sense that it situates in the business world and focuses on written English and Finnish, it still differs in several aspects: first, it studies a different genre than the present study. Second, it focuses on the characteristics of international business English in particular, whereas the present study examines the influence of English in general on the Finnish language of technology.

Since there are, to my knowledge, no previous studies on codeswitching in the type of business documents that comprise the material of this study, it is worth examining how lingua franca English is present in the specific language use domain. My research question focuses on how and why English codeswitches are used in the Finnish minutes of meetings and working instructions of Wärtsilä's experimental power plant in Vaasa, Finland. The codeswitching occurrences are calculated and quantitative and qualitative analyses are carried out. Moreover, I want to find out does the use of codeswitches differ between the two text types. By examining codeswitches in the material the characteristics of the language in Finnish business documents can be analysed: to what extent is Finnish influenced by English? What kinds of expressions are rather stated in

English than in Finnish, and why? What are the lexical groups of these expressions? By seeking answers to these questions, I want to define the professional language of business documents in the field of technology.

The results will be useful for translators of technical business documents. Translators aim at linguistic precision but most of all want to produce target texts that convey the information stated in the source text in an optimal way. Often finding the best corresponding term in another language is not easy: depending on the situation, the sender and the receiver, a term that is the closest equivalent to the original is not the best one in conveying information. In order to the communication function in an optimal way, additions or omissions might be needed, or sometimes even explanation. The present study engages in explaining the purpose of not only codeswitches, but also flags, which are an example of explanation.

The present study may also be valuable for the company in question in that it explains the language use in the company's official documents, therefore providing an opportunity to consider which language use conventions are profitable, and which are not and, thus, should be reconsidered. As this study will reveal, the choice of words may make a big difference in what comes to the security of employees at the plant. The results and analysis of this study can be applied in other companies as well, where Finnish documents are affected by English codeswitches.

In what follows, I will introduce the material and method of the study. In the next chapter, I will look into text types and their target users, and examine how language for special purposes (LSP) and language for general purposes (LGP) appear in different text types, and how this is related to the target users of different texts. I will look more thoroughly into codeswitching in an LSP context, and briefly into other language contact phenomena related to codeswitching, i.e. *borrowing* and *flagging*, in chapter three. Chapter four investigates codeswitching in the minutes of meetings and working instructions. The last chapter presents the conclusions of this study.

1.1 Material

The material that was studied in this thesis consisted of 22 business documents, which included 62 pages in total. 9 documents were minutes of meetings and comprised 33 pages. 13 documents were working instructions including 29 pages. The material concerned the construction and test-using of Wärtsilä's experimental power plant in Vaasa, Finland.

The power plant aims at developing a bio mass gasification system for an environmental friendly energy production. The official language in Wärtsilä is English. In the experimental power plant in Vaasa, however, mainly Finnish is used, because it is a separate project and under development.

The two types of texts in my study serve different purposes and they also have different end-users. The working instructions are written by engineers for mechanics, and their purpose is to guide the mechanics to assemble parts of the machinery and service them. The other text type, the minutes of meetings, serve a different function: they are written by engineers to engineers for a follow-up of the process of developing the power plant concept. The personnel at the power plant have joint meetings – with both the engineers and workmen participating. Other meetings are only attended by the engineers. The languages used in the meetings are Finnish and English. The nationality of the engineers and mechanics is Finnish. One person originally comes from Ireland and another from El Salvador. (Suokko 2013)

The occurrences of codeswitches were collected by reading through the documents and marking all foreign-sounding words. After collecting the codeswitches, they were placed into categories according to the Matrix Language-Frame model. Also the lexical categories of the codeswitches were defined. Then it was examined if the use of a codeswitch was highlighted in some way. Finally, borrowings (more established loanwords) were distinguished from codeswitches, and they were divided into established borrowings and LSP borrowings. The following sentence displays both codeswitching and borrowing:

(1)[1]

ST: "Kun häkäpitoisuus nousee yli 90 ppm, antaa turva-automaation hälytyksen."
Translation: [When the level of carbon monoxide rises above 90 ppm, safety automation alarms.][2]

The initial findings showed that the two text types did not differ largely in the use of codeswitches. This result is supported by the fact that the two end-user groups participate in the same meetings, which means that they share the same information discussed in the meeting, which is then written down either in the minutes of meetings and/or in the working instructions, according to the purpose of the information. The matters discussed in the documents of both of the text types were the same: safety instructions, how to construct the power plant and service it, and how to start a test drive. Therefore, even if the text type categories were different, the documents did not differ much.

1.2 Method

As previously stated, the focus of this thesis was on codeswitching in two types of business documents, the minutes of meetings and working instructions. The purpose was to study whether codeswitching occurred to the same extent in both text types, and the context of the switches in them. First, I identified all foreign-sounding items in the documents as codeswitches or borrowings. Then I counted them, and analysed them separately. The aspects of codeswitching which were of particular interest included 1) the distinction between codeswitches and borrowings, 2) the structural integration of codeswitches into Finnish, 3) the particular type of codeswitches as either LSP or LGP, and, finally, 4) the presence of flagging, that is, highlighting the codeswitch some way.

[1] For the sake of clarity, all examples taken from my material are placed within frames. Sources of the examples are given in Works Cited.
[2] All translations of the examples are mine.

The first question presented above was studied with the help of two online dictionaries, the monolingual Finnish dictionary *Kielitoimiston sanakirja*, and bilingual Finnish-English dictionary *WSOY Englannin tekniikka ja kauppa*. Codeswitches occur on a cline and may be moving towards being established as elements of Finnish. In LSP, some codeswitches might be considered borrowings, which means that they are part of the LSP terminology. The second question was studied with the help of Carol Myers-Scotton's Matrix Language-Frame model. The third question approached the use of codeswitches either as part of a particular LSP or LGP. The last question focused on flagging, that is, if the existence of a codeswitch was signalled some way (with a synonym, using "the so-called" etc.).

Since my intention was to collect only English codeswitching constituents from the material, a method for defining a word as English or otherwise foreign had to be acquired. A word that appears to be foreign in the Finnish texts does not necessarily originate from the English language. It might have come into a certain language from English, but to English from some third language. In fact, as many as 75 per cent of the English words are borrowed from some other language (Winford 2003: 29). Many English words originally come from Latin and Greek, the languages that have previously had dominance over other languages in certain domains. (Kelly-Holmes 2005: 14). For example, the Finnish word 'auto' comes from French or German (automobil)e), but the actual word stem has its origins in Greek.

In this study, words that have come to English from other languages and from English to Finnish were considered codeswitches, and were thus included in the study. English words that have been morphologically or phonologically adapted into Finnish were excluded as codeswitches, but included as borrowings. For example, words like "kompressori" (compressor) were considered to be Finnish, and were thus not treated as codeswitches. Only words that have pertained their English appearance and form were included as codeswitches (e.g. gasification air valve). Compounds and mixed words with at least one part English (e.g. heat up -tila) were also counted in as codeswitches, as well as acronyms and alphabetisms (e.g. PLC, Programmable Logic Controller).

Personal names were not included in this study.

After collecting the codeswitches from the material using the abovementioned method, the structure and function of the codeswitches were analysed. The analysis was carried out with the help of the Matrix Language-Frame Model (MLF) by Carol Myers-Scotton (1992, 1993). The model is called the Matrix language-Frame model because codeswitching takes place within a frame set by the matrix language. In this model, the dominant language is called the matrix language (ML), and the less significant language is called the embedded language (EL). Scholars have used different names for these concepts, but in the present study the names matrix language and embedded language are used. The model is useful in differentiating between codeswitching constituents, and analysing them. It goes beyond the surface level of languages, and calls on a suprasyntactic level to motivate its constraints. (Myers-Scotton 1993: 82) The switches are categorised according to their structure; they can be either matrix language + embedded language constituents (henceforth ML + EL constituents), embedded language lexemes (henceforth EL lexemes) or embedded language islands (EL islands).

The matrix language in the present study is Finnish, and the embedded language is English. In other words, the minutes of meetings and working instructions are in Finnish, but some English words or phrases occur in them. These occurrences are codeswitches, and they are categorised according to the Matrix Language-Frame model as either ML + EL constituents, EL lexemes, or EL islands. Simplified, ML + EL constituent in this study contains a language constituent from both Finnish and English. EL lexeme is an English word, and EL island a group of English lexemes in a Finnish text. An example of an ML + EL constituent would be “IPA-hana” (IPA tap). “IPA” is an acronym from “Iso Propyl Alcohol”. In this codeswitch, “IPA” is the embedded language constituent, and “hana” the matrix language constituent. A typical EL lexeme in the material of this study is a single English word, for example “auxburner”. EL islands found in the material were all similar. They were headnotes, information tables in the beginning of some documents, providing basic information about the document. Below is a headnote which is an EL island:

Table 1. Internal Procedure. Paineellinen näytteenotto
(2)

			INTERNAL Procedure
Title:	Paineellinen näytteenotto	**Doc.ID:**	DBAC552641
		Revision:	-.22
Author:	Aki Suokko	**Status:**	Draft
Draft by:	Aki Suokko / 07.03.2013	**Pages:**	16 (81)
Organisation:	- General Power Plants		
Project:	P/07099 – Gasification R&D project		

This English headnote is placed in the beginning of an otherwise Finnish document. Therefore, it is considered an EL island. The categorisation of EL islands in the present study was not, however, simple. A closer look at the problematic of fitting the headnotes into the category of EL islands will be discussed later in this thesis.

In the following section I will examine how English is used in the global business world. Chapter 1.4 presents Wärtsilä, the company that provides the material for the present study. This subchapter also discusses the language policy of Wärtsilä.

1.3 English as a Lingua Franca in the Global Context

English has entered our lives in several domains, but global English in Finland is best manifested in the variants of English used in companies. This multinational English has its own characteristic features that are dependent on the country and language it is set in (Moore and Varantola 2005: 149).

The role of English in Finland has changed during the recent decades. In the 1960–1980 English was but a foreign language for the Finnish people. It was studied in order to be able to communicate with foreigners. Today the role of English is different: in

companies, English is used even in situations where Finnish or Swedish could be used just as well. Reasons for this change are the same as in other countries in the world: the structural change of society, modernization, urbanization and globalization, global economical changes, internationalisation of working life, cultural currents over national borders, effective language education and modern communication channels offered by information and communication technologies. All these have made English a part of everyday life for many Finns in work and leisure. It has even been suggested that in Finland, English has become a second language instead of a foreign language. (Leppänen and Nikula 2008: 16, 425)

Especially in companies the importance of English has grown. It has become a lingua franca, a necessary tool in international communication. In some companies, English has become an internal language alongside Finnish (Leppänen and Nikula 2008: 20). In the multinational company Nokia, all minutes of meetings are in English, even if the meeting is held in another language (Moore and Varantola 2005: 149). Some companies have decided to rely purely on English, and have it as the sole official language of the company (e.g. Wärtsilä). Leppänen and Nikula claim that in the global market English is an easily accessible tool, and today in international companies it is expected that employees are able to communicate in English without the help of translators, interpreters or correspondents (2008: 12). Tiina Virkkula (2008: 393) examines in her article "Työntekijöiden kokemuksia englannista yritysmaailman kielenä" ["How do Employees experience English as the Language of the Business World"][3] the use of business English. In her study she found that although personal preferences affect the use of English, the strongest influence comes from the company policy. In communication between companies or between departments, the language policy of a company affects the use of English in written communication and e-mails more than personal preferences or recipient's mother tongue. Virkkula also notes that in some companies English has replaced all other languages that have previously been used.

An essential business tool for today's companies and corporations is the Internet. A

[3] My translation.

website is a gateway between the company and its present and potential customers. Sirkku Aaltonen notes in her article "Exploring Corporate Websites as a Setting for ELF Research: The Case of Ostrobothnian Export Companies" that it is an important decision for a company in which languages its website exists. The language choice relates to the needs of already existing markets and to interest in a particular new market area. It is undoubtedly clear that English is the most widely used language in the area of companies' and corporations' Internet communications. According to Aaltonen, the English-speaking world (Kachru's Inner circle) has the highest number of Internet users: of the total US population 68% have access to the Internet, and the percentage is roughly the same in Australia, Canada and the UK. Also the content of the websites is dominated by English: 68.4% of all websites were in English in 2004. The share of websites on languages other than English, such as Japanese, Chinese and Russian, varied from 1% to 6%.

As can be concluded from the above statistics, English is an important language for online communication. Furthermore, its position is self-expanding. People choose to learn English as a foreign language because they anticipate that others opt for it as well. (deSwaan 2001: 187 quoted in Aaltonen 2006: 195) Aaltonen believes that the same phenomenon takes place in corporations as well: business corporations choose English because they assume that others choose it too (2006: 191, 194–195). A visit to Wärtsilä's website shows that English indeed is the primary language, and the image of this multinational company is very global. Entering "Wärtsilä" in the URL bar of a web browser gives as the first result Wärtsilä's English website. Wärtsilä displays its site by default in English, the "country" in the language bar being "Global". The word choice is particularly interesting, since, as pointed out earlier in this study, English today is not seen as any nation's "property". 'English', therefore, is synonymous to 'global'.

1.4 English in Wärtsilä

Wärtsilä was established in 1834 in Tohmajärvi, Finland, and started as a sawmill. Today it is a multinational supplier of power solutions for the marine and energy

markets. The company operates in 160 locations in 70 countries employing over 17.500 people. Wärtsilä defines its mission, vision and values as follows:

> Values:
> Energy. Capture opportunities and make things happen.
> Excellence. Do things better than anyone else in our industry.
> Excitement: Foster openness, respect and trust to create excitement.
> Mission:
> We provide lifecycle power solutions to enhance our customer's business, whilst creating better technologies that benefit both the customer and the environment.
> Vision:
> We will be each of our customer's most valued business partner.

About its strategy Wärtsilä writes:

> Wärtsilä aims to be the leader in complete lifecycle power solutions for the *global* marine markets and selected energy markets *worldwide*. We see growth opportunities in gas power plants as part of our Smart Power Generation concept, as well as in gas-fuelled engines and related systems for the marine market. We also seek growth in environmental solutions, including scrubbers and ballast water treatment systems. Our strengths are our technological leadership, an integrated product and service offering, our close and long-standing customer relationships, and our *unparalleled global presence*. Our production and supply chain management serves both our end markets, and we constantly seek ways to maintain cost efficiency and high quality – often in co-operation with leading industrial partners in our key growth markets. Our R&D provides another source of synergies, allowing us to stay at the forefront of technology and innovation in our industry.[4]
>
> We are determined to capture growth opportunities within our end markets, while maintaining a solid profitability. (Wärtsilä 2014).

The above quotations reveal that Wärtsilä wants to be seen first and foremost as a global actor. Definitions such as an "integrated product and service offering", "our close and long-standing customer relationships", and "our unparalleled global presence" highlight the multinational, multilingual image that Wärtsilä possesses and wants to maintain. English is the official language in Wärtsilä. It is is used in internal documents as well as

[4] Italics are mine.

in client contacts. If a client wishes so, manuals and other documents are delivered in the client's language. Although the official language in Wärtsilä is English, Finnish is used at the experimental power plant, the documents of which comprise the material of the present study. At Wärtsilä's experimental power plant in Vaasa, no professional secretaries are used, but the minutes of meetings are written by one of the clerical workers (engineers), usually the convener. The spoken language used is Finnish, but if one or more of the participants does not have the sufficient knowledge of Finnish to be able to follow the conversation, the language is switched into English. No special decision about this is made, but the switching is fluent and spontaneous. In Vaasa, no command of English is required from the mechanics, although familiarity with technical terminology is an advantage. In a situation where understanding for example the fairly technical service instructions proves to be difficult, the mechanics and engineers look into it together. This is done not only to solve a specific problem, but also to improve the level of knowledge in the whole organisation. The mechanics in Vaasa also use an automation system that is in English. (Suokko 2013)

2 LANGUAGES FOR SPECIAL PURPOSES

In addition to a shared lingua franca, people communicating over national borders need a common understanding of how language is used inside the specific language use group that they function in. *Language for special purposes* (henceforth LSP or special language) is a language register used by a professional group. In order to be able to study the minutes of meetings and working instructions that comprise the material of the present study, it is worthwhile to first examine the different language use conventions that provide a context for professional discourse.

Every science develops a special purpose language for its major conceptions. Becoming a participant in the science requires learning that language: businesspeople have to acquire a profound knowledge of the terminology and other language use conventions of the business world, whereas mathematicians need to know a wide array of mathematical symbols and formulas in order to be able to function in their field.

LSPs are *artificial languages,* such as the language of symbols, like mathematics. Although LSP is regarded as a complete set of linguistic phenomena, it is not composed exclusively of its own resources. *Natural language* (for instance Finnish) contains all scientific discourse elements, whereas the scientific discourse comprises only its certain part. Every LSP relies heavily at least on one natural language. For example, different countries with their own judiciaries all have a LSP of law, but the LSP is based on the language of the country (Finnish in Finland and English in the United Kingdom, for example). Therefore, Between LSP and LGP, there is more of a continuum than division. (Beaugrande 1989: 3, 6; Grabarczyk 1989: 181, 184–185)

Consequently, no clear borders exist between different LSPs. Such borders do, obviously, exist between different natural languages, for example between Finnish and English. LSPs share resources not only with general languages, but also with each other, which is due to the fact that different fields often cooperate with each other. For example, some same terms are used both in the LSP of law and the LSP of business. Even special languages based on different natural languages may share cognate

resources. The frequent use of Latin terms is a specific characteristic of some LSPs, like the LSP of medicine, where Latin is used in many countries. Special languages are, thus, more international and universal than natural languages. This has said to be a positive feature, as the high frequency of international terms makes the comprehension of scientific texts easier. The result is the tendency to generalisations, and the transfer of meaning on international scale in the field of science, technology and communication. (Beaugrande 1989: 6; Grabarczyk 1989: 184)

In addition to the features mentioned above, LSP demonstrates such features as precision, a continuous exchange with standard language, exact definition of terms, a large use of different linguistic structures, use of figures, symbols and signs. Freedom of expression is much more limited in LSPs than in natural languages. Other characteristical features of LSPs are the predominance of content words, use of additional attributes leading to a greater precision, a complex system of interrelationships among particular utterances, high frequency of particular constructions, and frequent use of the present tense and passive form.

The predominance of content words is a feature strongly present in the material of the present study: the documents contain a large amount of content words, and they are the words that tend to be switched most often. This is of particular interest since the theory used in this study, the MLF model, distinguishes between *system* and *content morphemes* (system morphemes being quantifiers, specifiers and inflectional morphology, and content morphemes being verbs, prepositions, nouns, and descriptive adjectives) giving the distinction a defining role in the categorisation of codeswitches. An example of switched system morphemes is given in 3.2, where a case of *double morphology* is discussed.

In addition to being heavily loaded with content words, LSP texts are also monotonous, they lack stylistic variation and have a high degree of lexical repetition. In LSP texts, linguistic units that are typical of standard language rarely occur. Emotional and picturesque linguistic units are eliminated, and emphasis is on the content area of the language, not on language style and beauty. (Grabarczyk 1989: 181)

Instead of concentrating on beauty, LSP texts aim at being terminologically precise. Terminology constitutes 10–20 % of all the words in LSP texts. Ideally, one concept corresponds to one linguistic sign. In specialised vocabulary, standard language words have a special meaning and they form a specialised terminology complex. When a word from general vocabulary enters specialised vocabulary, it loses its equivalence and evokes many different associations.

LSPs often have a high frequency of nouns, and therefore the LSP literature is said to have a nominal style. Complicated nominal constructions aim at linguistic precision. In science texts there are relatively many verbal nouns followed by adjectives, and the verb has a secondary role, scientific style, thus, being deverbalised. (Grabarczyk 1989: 188)

Special purpose texts may be incomprehensible to laymen, but they describe perfectly meaningful scientific facts for professionals. (Grabarczyk 1989: 184–186) In the next sections, I will examine how LSP texts, the category in which the material of this study belongs to, are situated in the world of written professional discourse.

2.1 Text Types and Genres

Texts are divided into categories according to their function. The intended target user group of a text, alongside with the purpose of the text, define which text type category it belongs to.

Text type categories arise from conventionalised communicative situations. What makes them highly effective in conveying information is that they stem from common social and knowledge relationships between writer and reader. They have, thus, evolved for specific communicative situations. A writer formulates her/his text according to the occasion and the content. Regular repetitions of texts in particular circumstances have created expectations which formulate our ways of reading a text. Before starting to read a text we automatically define the text type, since it permits us to tune on the

appropriate mode of reception. (Sager 1997: 30–31)

Text types can be organised according to different typologies. Werlich's typology includes five text types: 1) description, 2) narration, 3) instruction, 4) argumentation and 5) exposition. (Trosborg 1997: 15) First, a descriptive text usually contains many adjectives, and, instead of an active player, has a narrator who describes something s/he sees or experiences. The description in this text type usually comes from a strongly emphasised viewpoint. The second text type, narration, is often used in news. Narration contains many active verbs and is often in the past tense. In a narrative text, something happens to an actor or the actor herself/himself does something. How causal relationships and the responsibility of the actor are presented in a narrative text type are interesting topics of research. Third, cookery recipes represent the instructive text type. Instructive texts are guiding, and may even be commanding. They use the imperative, and also passive and modal forms. The fourth text type in Weirlich's typology is the argumentative text type. It expresses opinions, and is often used when power and control are discussed. Typical features in an argumentative text are conjunctions and adjectives that express oppositions. The final text type often coexists with argumentative text type. This expository text type prototypically contains abstract concepts instead of describing the reality concretely. (Sager 1997: 30; Rouhiainen 2013)

The above categorisation is not rigid, and thus pure descriptive, narrative, expository, argumentative or expository text type cannot be found. Most texts are likely to contain characteristics of many of these text types, having one of them as dominant. In industrial environments documents are frequently the result of a multiple authorship, substantial editing and revision. Text types are related through alternate uses in a variety of communicative situations in order to be suitable for different purposes. (Trosborg 1997: 16) The minutes of meetings in the material of the present study are expository and descriptive by nature, containing also some instructive characteristics, while the working instructions are mostly instructive. They exemplify the overlapping existence of different text types well, since even though the documents do represent two different text types, they share numerous common characteristics with each other. Such factors

are for example terminology and the use of the passive form. In example 3, the similarity of the sentences A and B is evident. Sentence A is from the working instructions and sentence B from the minutes of meetings:

(3)

A.
ST: ”Mikäli halutaan pestä IPA-yhteestä Condense Collectoriin päin, niin ollaan AUTO-toiminnossa.”
Translation: [In case of wanting to wash from IPA pipe fitting towards condense collector, AUTO function will be turned on]

B.
ST: “[…]jos kaasutussysteemin paine on yli x[5] bar ja samanaikaisesti paineensäätöventtiili […]on auki enemmän kuin x %, niin aktivoidaan hälytys ”[…]Gas to aux burner valve control saturated”.
Translation: [if pressure in the gasification system is above x bar, and simultaneously the pressure regulating valve is open more than x %, the alarm “Gas to aux burner valve control saturated” will be activated.]

In both of the examples the passive form is used. Both sentences also contain several LSP terms. The similarity of the two text types is evident also in the occurrence of terms in all the documents studied. ‘Condense collector’, which here is present in a working instruction occurs in several minutes of meetings as well. Similarly, “aux burner” in the sentence taken from a minutes of meeting is a recurring term in both text types.

Text types exist to better transmit information about the world, in the world. A conventionalised way of perception makes it easier for the receiver to interpret information. Text types only exist when the language community recognises them, and when the sender can trust that the receiver identifies the signal (the conceptual system) correctly. The text type norm, thus, is common knowledge for the sender and the receiver in a specific culture.

[5] For confidential reasons, the pressure levels that occur in the examples are replaced with x.

Text type system is in a constant change at its bottom end of hierarchy. New subsystems are created, and they affect the top end. Species at the top end are the most stable and universal in the text type system. (Saukkonen 2001: 61, 71, 180)

Besides text types, there is another categorisation of discourse closely linked to them, namely *genres*. Bhatia defines a genre as follows: "[g]enres are recognizable communicative events, characterized by a set of communicative purposes identified and mutually understood by members of the professional or academic community in which they regularly occur" (2004: 23). A text may have characteristics of several different text types, and sometimes of different genres, but usually it can be stated in which genre a text belongs to. The difference between genre and text type is that genre is based on external, non-linguistic criteria and text type on internal, linguistic characteristics of texts themselves (Lee 2001: 37). To simplify, text types are ingredients of which genres are constructed. (Rouhiainen 2013) Genre is considered to be a class of poses, and the exemplars of genre exhibit various patterns of similarity in terms of structure, style, content and intended audience. (Evangelisti Allori 2011: 13) Examples of genres would be recipes, police reports and film reviews.

There are two different theoretical approaches on genre construction. New-rhetorical theories define genre as a social action in recurring socio-historical situation, rather than abstract categories. In this 'bottom-up' view, genres expire when the situations expire. This makes a multitude of genres, contained by the actual number of typical activities hosted by a socio-historical formation at any time. A more abstractive approach distinguishes only a small number of basic genres. In this view a hierarchical pedigree is established. (Giltrow & Stein 2009 :4)

Like text type categorisations, there are also various different genre categorisations. I will not, however, introduce them here. Depending on the categorisation, as stated above, there might be countless different genres. It is not essential to know all possible genres in order to be able to follow the theme of this thesis. Suffice it to say that the genre of the minutes of meetings and working instructions in the material of the present

study is business documents.

Certain factors attach genres into the world we live in. These factors that define the genre of a text range from discourse participants to texts written in the history. According to (Bhatia 2004: 118–119), essential factors in defining a genre of a certain text are:

1) the placement of the text in a situational context
2) the background knowledge of the disciplinary discourse community
3) the typical participants
4) the participants' knowledge of the background of the profession
5) awareness of the network of surrounding texts and genres
6) awareness of the relationship between the genre and the reality
7) the communicative purpose of the genre, and
8) the recipients of the genre.

The first factor has to do with the prior experience of the conventions associated with the professional culture that the text is seen to belong to. The second factor includes the shared objectives of the discourse community, their ways of doing business, concerns and constraints. The third factor refers to the participants' relationships and their goals. The fourth factor includes the professionals' knowledge of the historical, socio-cultural, philosophic and occupational background. Fifth is the awareness of other texts and genres that may have some impact on the construction and interpretation of the genre in question. The sixth factor is about the awareness of the relationship between genre and reality, and includes the topic, subject, and extra-textual reality that the genre is representing or changing. The seventh factor is the communicative purpose of a genre, i.e. what is tried to gain with the text. Finally, the sixth factor includes the most likely recipients of the genre in question. They can be either individuals, groups, organisations, or institutions. (Bhatia 2004: 118–119) These seven factors play an important role when texts of a certain genre are written. As noted earlier in this chapter, conventionalised discourse patterns help participants to produce and receive professional written information.

Having introduced text types and genres and the way in which texts are categorised, I will now proceed to a closer examination of professional discourse and genres in professional context.

2.2 Professional Discourse and Professional Genres

Professional discourse is a specific type of discourse. It is an entity comprised of all linguistic means obtained in a professionally limited sphere of human communication. Evangelisti Allori defines professional discourse as "discourse produced by professionals, in professional contexts, for professional purposes, either exclusively for professionals or also for non-professionals, at least one of the interactants being a professional". (Evangelisti Allori 2011: 12) Defining professional discourse will help in understanding the specific qualities of Wärtsilä's business documents, which represent a written form of professional discourse.

Evangelisti Allori (2011: 12–13) states that features of professional discourse that differentiate it from non-professional discourse are that it is 1) expert discourse related to different domains, 2) goal-oriented, situated discourse, 3) a conventionalised form of discourse, 4) discourse in a socially ordered group, 5) discourse dependent on various societal framework systems and 6) dynamically changing discourse. First, the minutes of meetings and working instructions relate to the domain of business world. Second, they both have their own goals, but also a shared one: the minutes of meetings are written in order to preserve information about meetings and procedures; the working instructions are primarily intended for guidance. The goal which is aimed at with both of these document types is a new power plant concept, which can eventually be taken into production. The fourth factor implies to the personnel at the power plant, which consists of professionals who are specialised in the field. Fifth, societal framework systems define the societal frames inside which the engineers and mechanics do their work. Finally, the dynamicity of discourse at the power plant is present in the flexible and changing discourse patterns that are adapted in order to function in the optimal way. Example of this would be the codeswitches used in the documents.

Professional discourse involves specific language use registers. Examples of these registers are sublanguage, restricted language, the language of science and technology, or scientific discourse. (Grabarczyk 1989: 180) The term used in this study is Language for Special Purposes, or LSP, which is an umbrella term for the terms above.

As mentioned earlier, professional discourse is goal-oriented. From a pragmatic perspective, all types of discourse can be identified as goal-oriented, but in professional genres this orientation is explicit, and often specified in documents. Much professional discourse is also the result of collaboration between professionals within the working group, between professionals from different working groups and from different levels within an organisation, and thus it is a collective responsibility. Behind many products are collective processes like the writing of a document or the creation of an advertisement campaign. (Gunnarsson 2009: 8)

Professions have their own specific areas of operation, and thus also genres that are characteristic to them. Genres in professional contexts are the result of collaborative activities of a number of professionals, who all have their own roles in genre construction. Professional genres are often products of established procedures that form an important part of the disciplinary culture within a profession. Professionals routinely engage in discursive practises in their daily work, and this results in a generic artefact with its typical identity. These discursive practices often involve more than one participant, and as stated earlier, assign multiple authorship to the resulting generic artefact. (Bhatia 2004: 129)

Expert members of professional communities usually stay inside the "generic borders" defined for their group. They tend to respect and maintain the *generic integrity* of specific professional genres. (Bhatia 2004: 114) Bhatia (2011: 33) defines generic integrity as

> a socially constructed typical constellation of form-function correlations, representing a specific professional, academic, or institutional communicative construct realising a specific

> communicative objective of the genre in question and often characterised in terms of text-internal as well as text-external features.

In addition to these defining features, generic integrity is dynamic, flexible, negotiable or even contested. It is always dependent on the situation and its participants, and norms constrain discursive practices within a professional group. Despite the flexibility of generic integrity, genres themselves are always constrained by allowable constraints in terms of their communicative purpose, and the use of lexico-grammatical and other discoursal resources. Generic intentions, norms and conventions are behavioural principles which are unstated but observed by professionals in their everyday activities in their professional lives. (Bhatia 2004: 114)

In business communities, different organisations display their unique identities through their organisational preferences in the matters of their choice of generic forms. The broad range of genres they exploit to further their organisational objectives, however, show remarkable similarities because it encompasses instances of similar genres. Genres are embedded in professional or social practices, and thus tend to derive additional meanings as a result of their association with professional or disciplinary cultures. (Bhatia 2004: 188, 198)

3 CODESWITCHING

In what follows, I will investigate codeswitching and other phenomena related to it more thoroughly. First, I discuss the various reasons that cause codeswitching. Then I present the structures of codeswitching, including the Matrix Language-Frame model. Third, I discuss functions of codeswitching and flagging and examine differences between borrowings and codeswitches. Finally, I discuss how codeswitching may be related to language death.

When a language is as wide-spread as English today is, it is inevitable that it affects other languages. To provide an example, in 1997, of all TV broadcasts 40 % in Finland were in English. The broadcasts included not only fiction, but also science and arts, and twice a day a 20-minute English-language version of EuroNews. As noted earlier, the position of English is self-expanding. This applies not only to company and other websites, which were discussed in the introduction to this study, but also other forms of media. It is expectable that when a foreign language enters the homes of the Finnish people several hours every day in the form of TV broadcasts, the language will gain status. It will be seen as a language worth studying since it is already so widely used in the world.

The flow of foreign language items runs from more developed communities to less developed ones. (Häkkinen 2006: 230). Language users make choices in ‘linguistic marketplaces’, where some languages are highly valued and some are lowly valued, these values being assigned through power relationships (Wardhaugh 2006: 205). English in its current position as a lingua franca is a highly valued language, and thus a major source of language items used in other countries in the world, Finland included.

Even though Finnish is a strong language in Finland, it is also, like many other languages in the world, adapting to the modern situation of English being the world language and the lingua franca of many domains. New concepts and products enter the Finnish culture, and most often their original names are used in the receiving country as

well. For example, when hands-free was brought to the Finnish market in the 90's, people tried to coin a Finnish name for it, unsuccessfully. Still today, hands-free is called nothing else but "hands-free" in Finland. (Battarbee 2002: 261–276) The existence of concepts and products with English names enables the language contact phenomenon called codeswitching. When a certain codeswitch becomes widely and regularly used in the receiving culture, it has become a *borrowing*, an established loanword. I will discuss borrowing in detail later in this chapter.

Let us now examine the reasons that have led into the current situation of English being the lingua franca in the world. This situation is historically unique. Up to the seventeenth century Latin dominated scientific research, very slowly leaving space for other languages. French was used alongside Latin, and later in the nineteenth century German, French and English were used for science and technology in international publications. During the mid-twentieth century the situation changed and the language used in international publications was mainly English. Alongside political reasons, what led to the survival of only one scientific lingua franca is simply that there are people from so many different countries functioning in the globalised world that it is not reasonable to ask them to learn so many languages. In the past it was common that people learned at least three languages: German for science, English for economy and French for cultural spheres. Today it suffices to know English, but naturally more widely as it is the language of all domains. (Björkman 2011:166)

Other names than lingua franca are also used to describe this phenomenon, depending on the purpose of use: a trade language, a contact language, an international language, an auxiliary language and a mixed language. (Wardhaugh 2006: 59). Although English is today the widest spread lingua franca, other languages, such as Arabic, Mandarin, Hindi and Swahili serve or have served as lingua francas in their own areas as well (Wardhaugh 2006: 60).

Codeswitching is not merely a phenomenon caused by the spread of English in the countries where it is a foreign language (Kachru's Expanding circle). The most studied context of codeswitching is spoken discourse of bilingual people who live in the

countries of the Inner circle, such as Canada and the United States. Finnish-English codeswitching has been examined in several works, such as Poplack, Wheeler and Westwood's (1989) study of the language of eight Canadian-Finnish women, and Halmari's (1997) research on the language of twenty-one American Finns, who were Finnish-English bilinguals. These studies concentrated on spoken discourse and LGP, as opposed to written discourse and LSP, which are in the focus of the present study. Therefore, this thesis opens a new area of research in the field of codeswitching studies.

As defined earlier in the introduction, codeswitching is "the use of several languages or dialects in the same conversation or sentence by bilingual people" (Gardner-Chloros 2009). Before moving on to the structures of codeswitching, I want to make two correctives to the above definition: first, codeswitching occurs also in written discourse. Second, bilingualism is a continuum, on which a range of speakers can be placed according to their language skills (Myers-Scotton 1993: 7). In this study, I will consider speakers who are not fully bilingual as being able to use codeswitches.

3.1 Structures of Codeswitching

In the following sections I will present the theoretical model used in this study, namely the Matrix Language-Frame model (MLF model). Since this thesis aims at defining the structural qualities of codeswitching in Finnish business documents, applying a theoretical tool, such as the MLF model, is essential.

The main goals of the MLF model are to predict the form of codeswitching utterances and to explain the differential appearance of matrix language (ML) and embedded language (EL) morphemes in *intrasentential* codeswitching. *Intersentential* codeswitching means switching between sentences. The MLF model is only applicable when codeswitching within a sentence is concerned, and therefore this study focuses on intrasentential codeswitching only. The following sentence from the material of the present study is an example of intrasentential codeswitching:

(4)

ST: ”Avataan *lock hopperin* pohjaventtiili ZGC011V002.”
Translation: [Open the base valve of lock hopper ZGC011V002.]

In this example, ‘lock hopper’ is a codeswitch, with the Finnish possessive suffix -in attached to it. This type of integration is typical when English words are embedded into the Finnish language.

The purpose of the MLF model is to predict which utterances containing codeswitching are considered to be well-formed, and which utterances are not well-formed and therefore do not occur, unless they are stylistically marked. The model also offers an explanation of the differential appearance of matrix language and embedded language morphemes in intrasentential codeswitching by fitting codeswitching into a larger theoretical model of language production. (Myers-Scotton 1993: 75–76)

Scholars have used different names for the concepts matrix language and embedded language. For example, Donald Winford (2003) names these two as recipient language and source language. In the present study the phraseology of Myers-Scotton is used.

The Matrix Language-Frame model (MLF) presents two crucial aspects of codeswitching. The first one is that codeswitching takes place within the constraints of a conceptual frame, which means that the matrix language sets the frame for codeswitching. In the business documents studied in this thesis, the matrix language that sets the conceptual frame for English codeswitching is Finnish. The second aspect is that the frame is set by semantic and morphosyntactic procedures provided by the matrix language. In other words, codeswitching takes place on the conditions of the Finnish language. Furthermore, the matrix language is identified as the language with more morphemes in the discourse sample. Myers-Scotton’s (1993: 75)

The MLF model makes a distinction between three different constituents in codeswitching. The first one is matrix language + embedded language constituents (ML + EL constituents). They consist of morphemes from both the matrix language (ML) and the embedded language (EL). A typical ML + EL constituent contains a singly occurring EL lexeme in a frame of any number of ML morphemes. The next sentence includes an example of an ML + EL constituent. It is italicised:

(5)

ST: "Laitetaan syöttöjärjestelmä *OFF-tilaan*."
Translation: [Turn the feeding system off.]

The sentence above displays an example of ML+EL constituent, where 'OFF' is an EL constituent (from the English language) and 'tila' an ML constituent (from the Finnish language). In this example the codeswitch includes the smallest unit that can present embedded language material. The size of true codeswitching material has been a widely discussed issue within codeswitching research circles. According to Myers-Scotton, embedded language material of any size, from a single morpheme or lexeme to several constituents is regarded as codeswitching material (1993: 5). Similar approach is taken in the present study.

The second group in the categorisation of codeswitches is embedded language islands (EL islands), which must be well-formed according to the embedded language grammar and show structural dependency relations. When the embedded language is English, EL islands must follow the English grammar rules. EL islands must be composed of at least two lexemes/morphemes in a hierarchical relationship, i.e. no single EL forms may be islands (Myers-Scotton 1993: 137–138). The following headnote from the material of the present study is an example of an EL island:

Table 2. Confidential Minutes of Meeting. Updraft projekti – suunnittelu palaveri (6)

CONFIDENTIAL Minutes of Meeting

Title:	Updraft projekti – suunnittelu palaveri – 10.11.2011	**Doc.ID:**	DBAB992693
		Revision:	-
Author:	[name]	**Status:**	Approved
Draft by:	[name] / 10.11.2011	**Pages:**	36 (1)
Organisation:	Wärtsilä Finland Oy Power Plants		
Project:	P/07099 – Gasification R&D project		

This English headnote is in the beginning of an otherwise Finnish document. It is a small template that occurs in the beginning of some documents studied in this thesis. It includes titles for the basic information of the minutes of meetings or working instructions that comprise the document in question. The information are: "Title", "Author", "Draft by", "Organisation", "Project", "Doc.ID", "Revision", "Status" and "Pages". The fact that the title inside this EL island is in the ML (Finnish) is ignored, because there is no category for this kind of "codeswitching within a codeswitch". The categorisation of the headnotes as EL islands is not, thus, unambiguous. Therefore I will discuss this issue further in chapter four.

The third group of constituents is matrix language islands (ML islands). They are constituents that consist entirely of ML morphemes. ML islands must conform to the ML grammar and show structural dependency relations. Producing ML islands happens by not allowing any activity from the EL islands. (Myers-Scotton 1993: 137–138). The following example shows several ML islands. They are italicised:

(7)

ST: "*Ei haittaa, virtaa läpi, vie ehkä nestettä* burneriin, *mutta ei vaaraa*."
Translation: [No problem, flows through, might take liquid into burner, but no danger.]

Simply put, matrix language constituents are all matrix language (Finnish) material in the sentence, excluding ML + EL constituents. Matrix language constituents are not analysed in this study, because they are "only" the Finnish frame in which English codeswitches occur.

There are several factors that have to be taken into account when categorising codeswitches as matrix language + embedded language constituents, embedded language constituents or as embedded language islands. One such factor is the division between system and content morphemes. System morphemes are usually quantifiers, specifiers and inflectional morphology. Content morphemes are prototypically verbs, prepositions, nouns, and descriptive adjectives. (Myers-Scotton 1993:6) System and content morphemes have also been called closed-class and open-class morphemes, respectively. In this study, they are called system and content morphemes. The same example that illustrated intrasentential codeswitching earlier, will serve here in introducing system and content morphemes:

(8)

ST: "Avataan lock hopper+*in* pohjaventtiili ZGC011V002."
Translation: [Open the base valve of lock hopper ZGC011V002.]

The morpheme -in is a Finnish system morpheme, the purpose of which is to integrate the English codeswitch into the Finnish language. The actual codeswitch "lock hopper" is a content morpheme. This is a particularly good example since in codeswitching, content morphemes are usually switched, system morphemes less so.

Instead of being on a *lexical list*, system morphemes are considered to belong to the frames. In the case of the present study this would mean that since in codeswitching, the frames are provided by the matrix language, system morphemes would be Finnish. I will present one example more illustrating which morphemes are content morphemes, and which system morphemes. In the example, content morphemes are italicised:

(9)

ST: "*Aux burnerista* suuri *pakoputki* ulos, joten ei *todennäköistä* ja tähän on *varauduttu Gas to Auxc* [sic] *Burner-venttiilin saturation alarmilla*"
Translation: [Out of the aux burner a large exhaust pipe, so not likely, and for this prepared with a saturation alarm in the burner-valve.]

As can be seen from the example above, all codeswitches that occur in the sentence are content morphemes. System morphemes would be expected to participate in codeswitching in a different way than content morphemes because they are accessed with the frame, not with specific content items.

There are syntactic directions originating in the lexicon which shape the end-product through the entire production process. These syntactic directions come from *lemmas*, which are the nonphonological part of an item's lexical information including semantic, syntactic, and sometimes aspects of morphological information. Lemmas are the driving force behind the speaker's construction of the surface structure, and it is in the lemmas of the *mental lexicon* that the conceptual information is linked to grammatical function. (Myers-Scotton 1993: 49) In other words, lemmas function as a bridge between codeswitches and the receiving matrix language.

Mental lexicon is "the store of information about the words in one's language" (Levelt 1989: 6 quoted in Myers-Scotton 1993: 163). Lemmas endow their lexical items with pragmatic information as well as give them directions for the syntactic procedures which they undergo. In the Matrix-Language Frame model, lemmas are abstractions which, instead of occurring in constituents, rather call for lexemes. In other words, lemmas are in the mental lexicon and lexemes in the constituents. Categorical procedures interact with functional procedures for handling all the complements, specifiers, and parameter values they have found. How codeswitching works with content morphemes in codeswitching constituents with morphemes from both languages

is that a formulator calls up alternative lexical realisations from different languages that meet the specifications of a lemma of the matrix language. (Myers-Scotton 1993: 50, 52) When a matrix language term cannot be found, an alternative, an embedded language term will be used.

The status of system morphemes in any frame which structures sentences during production must be different from the status of content morphemes. Both system and content morphemes may be in the lemma lexicon but system morphemes respond to different, maybe earlier calls from content morphemes. This establishes the system morphemes in their slots in the frame before content morphemes are fully specified. That is to say, the frame must be ready before content morphemes can enter.

What is also relevant to structural constraints of codeswitching are inflectional affixes and their location. In many language pairs, codeswitching forms show *double morphology*, which means that a single head from the embedded language has affixes from both the matrix language and the embedded language. Most commonly, double morphology appears to mark plurality. Other inflectional affixes are usually stranded in the slots where they belong, and do not move their heads to an erroneous slot; plurality often makes the move with its head. The conclusion that can be drawn from this is that plurality is at the same lemma address as its head, at least in some language pairs. (Myers-Scotton 1993: 58–59, 61–62) In the material of the present study, no double morphology was found. The following example provided by Halmari (1997: 86) illustrates double morphology in Finnish-English codeswitching: “Entäs jos mentäis sinne mountain+s+ei+lle” [How about going to the mountains]. In the example, instead of the Finnish word “vuori” (mountain), an English equivalent is used. The plural morpheme (-s and -ei) comes from both English and Finnish, and the allative case (-lle) from Finnish.

3.2 Functions of Codeswitching

Codeswitching can be divided in two functional categories: *transactional codeswitching*

and *social codeswitching*. The purpose of transactional codeswitching is to achieve particular outcomes. It aims at ensuring the clear and unambiguous conveyance of information. Transactional codeswitching also intends to assist the addressee to acquire the primary code used in the situation or to manage interactional processes such as turn taking or providing feedback. Social or affective codeswitching relates to the relational or interpersonal functions of language and serves stylistic and social purposes. Even though the distinction between the two categories is not absolute, the categorisation is theoretically useful in describing the different functions of switches between languages. (Holmes and Stubbe 2004: 135–136)

Reasons for codeswitching are numerous, and vary according to the situation. Codeswitching may be topic related, or specific to a particular situation, and different forms of codeswitching may also be used in combination. The codeswitch used may be specific to a particular situation in terms of the participants and their linguistic knowledge, or, whoever uses the switch may want to greet or include speakers of other languages. Codeswitching may also be topic-related, when individuals discuss a particular topic most fluently in a different code. (Kelly-Holmes 2005: 10). The latter is the case at the power plant, the documents of which are studied in this thesis. The mechanics and engineers use English names for the parts of the power plant fluently. In fact, codeswitching is so strongly present in the minutes of meetings and working instructions that it can be considered as the norm, in other words, the *unmarked choice*.

Codeswitching may be *marked* or *unmarked.* This means that using codeswitches is the standard way of communication, and not using codeswitches is the exceptional way of communication. (Myers-Scotton 1993: 67) When foreign language material is used regularly and unremarkably in native language writing or speech, codeswitching is the unmarked choice. When the usage is obvious and perhaps even highlighted in some way, codeswitching presents the marked choice. (Eastman 1992: 1) I am aware of the fact that the above definition is in controversy with my definition of the business documents containing unmarked codeswitching, since in some cases, the use of codeswitches in them is highlighted. I will explain my justification for this in 3.3.

When defining codeswitching as transactional or social it must always be considered in a certain context. The exact nature and meaning are only derivable from an understanding of the larger social context and the nature of the social situation. If these are not clear, the meaning of a codeswitch may also be ambiguous. Usually it is possible, however, to decide on the meaning. The interpretive choice interlocutors make can serve to define the relationship and identity of the interlocutors. Problems may occur, if interlocutors do not share any background knowledge. In this case every interlocutor chooses a different meaning, or it becomes unclear, which of many possible meanings is dominant. (Heller 1988: 92) From the minutes of meetings and working instructions examined in this thesis it becomes clear that the interlocutors are all familiar with the language use conventions of their professional field. Even though there are two professional groups and two text types present, the background is shared, and thus the interlocutors are all familiar with the English codeswitches that are present in the texts.

3.3 Flagging

The use of a codeswitch is sometimes highlighted with the use of certain elements that draw attention to the switch. These elements are called *flags*, and the phenomenon is known as *flagging*. The use of flags is highly characteristic in Finnish-English codeswitching. Flags may be used in monolingual discourse as well, but they occur more frequently with codeswitches. (Halmari 1997: 84) Also borrowings may be flagged.

There are several different types of flags. One example is matrix language words that precede the codeswitch, such as “sellainen” (such) and “niin kuin” (like). Also various discourse phenomena, such as pauses, and repetitions are used in drawing attention to the code switched. (Halmari 1997: 84) Sometimes brackets are used, as though to separate the codeswitch from the matrix language text. The use of brackets is a regular way of highlighting codeswitches in the minutes of meetings and working instructions studied in this thesis. The following sentence illustrates both repetition and the use of

brackets with the codeswitch. The two terms that present the same concept, as well as the brackets, are italicised:

(10)

ST: ”Avataan moottorisellissä *paineilmalinjan käsiventtili* [sic] *(gasification air valve)*”
Translation: [The hand valve of the pneumatic air line (gasification air valve) is opened in the motor cell.]

In the above sentence the mechanics are guided to open the pneumatic air line. After the Finnish term “paineilmalinjan käsiventtiili”, (pneumatic air line), an English term, “gasification air valve”, is given in brackets. This type of flagging exists not to highlight the use of flags, but to make sure that the right valve is opened. It is questionable, however, will this variety of terms cause more confusion than security.

As noted earlier, the use of codeswitches in the business documents studied is so frequent that I consider it to be the unmarked choice. Even though flags are used in some cases, their purpose is rather to assure the flow of information by explanation than to highlight the fact that English is used.

Another type of flagging was found in minutes of meeting No 6, where the name of a project was preceded with the word “niin kutsuttu” (so called). In the example, the flag is italicised:

(11)

ST: “Dokumentissa on lueteltu kaasutuslaitoksen *nk.* Updraft projektin [sic] huomattavimmat jäännösriskit.”
Translation: [The most noticeable residual risks of the so called Updraft project at the gasification plant are listed in the document.]

In the example above, the person who has written the document has decided to use a determiner-like element before the name of the project. The reason for this might be that "Updraft projekti" (Updraft project) is a working title, and therefore he wants to emphasise that in question is this project, that has so far been called "Updraft project".

3.4 Borrowing or Codeswitching?

As mentioned in the beginning of this chapter, whether codeswitching and borrowing should be distinguished as two separate phenomena is a widely discussed issue within codeswitching research circles. Some scholars see it as a necessary line-drawing, whereas others place these two on the same continuum. The latter approach is taken in the present study. Placing codeswitches and borrowings on the same continuum does not, however, mean that there would be no differences between them. I have designed a figure to illustrate how a continuum of codeswitches and borrowings would look like:

Figure 2. Continuum of Codeswitches and Borrowings

The green dots in the figure represent foreign language items in a receiving culture. They enter the receiving culture as codeswitches, i.e. from the left end in the picture above. The more established they become, the closer they move towards the right end of the continuum. All foreign language items in a particular culture can be placed on this continuum. What is controversial is how the items differ from each other.

The difficulty of differentiating codeswitches from borrowings concerns singly

occurring codeswitching lexemes and single lexical borrowings (Myers-Scotton 1993: 5). The clearest line-drawing suggested is that borrowings are more established loans and refer to lexicon, whereas in codeswitching, either phonological, morphological or syntactical integration or all of them is missing (Kovács 2001: 63). Myers-Scotton disagrees with this suggestion and claims that singly occurring forms originating with the embedded language lie on the same continuum with codeswitching forms, evidencing this with the fact that these two undergo largely the same morphosyntactic procedures during language production (Myers-Scotton 1993: 163, 165). However similar in this sense, they differ in at least one sense: whereas borrowings become part of the mental lexicon (see 3.1) of the matrix language, codeswitching forms do not.

One prevailing view about borrowings has been that they exist to fill gaps in the lexicon (Myers-Scotton 1993: 167). Myers-Scotton suggests that "the criteria of absolute and relative frequency of occurrence are the only criteria which hold in all cases" (1993: 176). According to her, a *three-course metric* can be used to distinguish codeswitching and borrowing (1993: 16), meaning that codeswitching forms can be separated as "lower-freguency forms" from borrowed forms which she calls "higher-freguency forms". (Myers-Scotton 1993: 167). In other words, the more often a foreign-origin word appears, the more likely it is that it is a borrowing.

Other criteria commonly used for distinguishing single-morpheme switches as borrowings from actual codeswitching are the degree of use by monolingual speakers and the degree of morphophonemic integration. Established loans, i.e. borrowings, are commonly used by monolingual speakers, whereas true codeswitches are transitory phenomena (Winford 2003: 107). Not all scholars, however, agree on this line-drawing either. Myers-Scotton, for example, states that drawing a sharp line between codeswitching and borrowing is futile. Nevertheless, she acknowledges that those who distinguish between codeswitching as a bilingual's behaviour and borrowing as something that is within a monolingual's ability are right (1993: 170). In fact, Myers-Scotton's definition of codeswitching excludes those that are not bi- or multilingual from the group that uses codeswitches. She defines codeswitching as "the selection by bilinguals or multilinguals of forms from an embedded variety (or varieties) in

utterances of matrix language variety during the same conversation" (1993: 3). As noted in the beginning of this chapter, I will consider speakers with even the slightest skills of another language as "bilinguals", i.e. being able to use codeswitches.

Borrowings can be divided into two categories. In the Matrix Language-Frame model, these two types are cultural borrowings and core borrowed forms. Cultural borrowed lexemes stand for objects or concepts that are new to the culture. An example of a cultural borrowing would be "hands-free" (see discussion in the beginning of this chapter), which was a new object to the Finnish people in the 90's. Core borrowed forms stand for objects or concepts that already have a lexeme in the recipient language. The status of core borrowed forms is identical to matrix language in codeswitching, since they meet no real lexical needs and thus are redundant. Core borrowings are used because certain types of contact situation promote desires to identify with the embedded language culture. Core borrowed forms are used almost exclusively by bilingual speakers. (Myers-Scotton 1993: 5, 169, 172). An example of a core borrowing would be the word "fluidi" (fluid), which has the corresponding term "neste" (liquid, fluid) in the Finnish lexicon.

Häkkinen (2006: 258–260) divides borrowings into three categories: citation loans [6](sitaattilainat), general loans (yleislainat) and special loans (erikoislainat). Citation loans are words that have been transferred to the receiving language as such, maintaining their form as it is in the donor language. They are written and often also pronounced in the same way as in the donor language, but as they become more familiar to the receiving culture, they begin to transform and become more suitable for the receiving language pronunciation. Special loans are already more adjusted to the receiving language. In Finnish, they often have a suffix (e.g. -i: 'code' *koodi*) attached to them. Special loans often carry foreign characteristics like speech sounds and their combinations that reveal them to be borrowings, even if they are partially adjusted to the receiving language. General loans have so fully adjusted to the receiving language that they are hard to separate from the domestic lexicon. They are easy to write and

[6] Translations of the loan categories are mine.

pronounce for the receiving language users. Even relatively new borrowings can be general loans, such as the words, ‘poni’ and ‘taksi’ (‘pony’ and ‘taxi’).

Also the context in which borrowings occur must be taken into consideration. A word that appears as a codeswitch for the populace may be an established borrowing for professionals. For example, the word “rotametri”, which occurs frequently in the business documents studied in this thesis, is probably unknown for a layman, but the mechanics and engineers working at the power plant must know the meaning of this word in order to be able to do their work properly.

Even though numerous definitions have been suggested to make the distinction between codeswitches and borrowings, the differentation might ultimately prove to be impossible at a linguistic level. As Gardner-Chloros notes, “one person’s “code-switching” is another person’s borrowing, or community bilingual choices” (2009: 170–171).

3.5 Language Shift and Language Death

In some cases, language shift and language death may be the results of codeswitching. Language shift means that speakers shift their main language to a second language. When language dies, all speakers have shifted from their main language to a second language, or, all remaining speakers of the main language have died. A hypothetical example of this would be one in which all Finnish people would replace the Finnish language with English, or, all Finnish speakers in the world would become extinct.

Obviously, not all cases of language shift and language death depend on codeswitching, but the issue is still relevant and worth examining here. (Myers-Scotton 1993: 210) In what follows, I will present five scenarios that may eventually lead to language shift and language death. For the sake of clarity, I will use English and Finnish as example languages to illustrate the phenomena of language shift and language death. This hypothetical exemplification is for illustrative purposes only, and does not mean that

Finnish would be a dying language.

In the first scenario, the speakers' first language, Finnish, maintains itself as the main language of the community and is the matrix language during codeswitching. Core content morphemes (see 3.4 for definition) enter the matrix language (Finnish) from the embedded language (English). The borrowing of system morphemes (see 3.4 for definition) is negligible at this stage. As long as Finnish remains the matrix language, codeswitching offers no easy means for the English morphosyntax to affect the matrix language. (Myers-Scotton 1993: 215, 227)

Scenario two is *relexification.* Here, Finnish is still the main language of the community and the matrix language in codeswitching, but the higher prestige embedded language, English, begins making inroads into the content morpheme lexicon of Finnish. In other words, relexification is the extensive presence of English content morphemes in Finnish + English constituents. Relexification may be one stage in cases resulting in language shift: however not all instances of it necessarily result in language shift. (Myers-Scotton 1993: 216–217, 227)

While in the two first scenarios mostly content morphemes were involved, in the third scenario system morphemes and phrase-structure rules from the matrix language (English) are included. This scenario may arise through codeswitching in a community where there is a great amount of intergroup communication. In such communities, codeswitching may become a type of lingua franca, with the matrix language as the first language of the most socio-politically dominant of the groups. (Myers-Scotton 1993: 217, 219, 227) Examples of such intergroups would be governing bodies or professional groups.

The fourth scenario is *matrix language turnover*. What is the matrix language becomes the embedded language, and vice versa. In other words, Finnish becomes the embedded language and English becomes the matrix language. Speakers use the morphosyntax from the new matrix language, English, in their matrix language + embedded language constituents in codeswitching. They acknowledge the dominance of English by shifting

to English as the matrix language when engaging in codeswitching. The following speculative steps illustrate how this scenario works: 1) Speakers become Finnish-English bilingual. 2) Some codeswitching begins to occur between the two languages. 3) Speakers respond to environmental pressure by a turnover of the matrix language in codeswitching. 4) Speakers start to use the system-morphemes and syntax of the invading language (English). This scenario is a step just short of shifting completely to English, which is the case in the next scenario. (Myers-Scotton 1993:220–221, 227–228)

In the fifth scenario, speakers shift their main language (Finnish) to a second language (English, the new matrix language), under the influence of morphosyntax from the new matrix language in codeswitching utterances. Language shift may occur also without a turnover of the matrix language, or the turnover may be gradual as when the old matrix language gives way only to the morpheme-order of the new matrix language, or when only the system morphemes for one subsystem (e.g. the nominal system) are given over to the new matrix language. (Myers-Scotton 1993: 223, 228)

Language death is the result of the above mentioned scenarios. It happens either by all speakers shifting their language or by all remaining speakers dying themselves. When some speakers abandon Finnish for English, the case is that of language shift. If *all* speakers of the language abandon it, language shift also involves language death. What first takes place in this scenario is that fluent speakers of Finnish keep Finnish as the matrix language in all their codeswitching utterances. Thus the mechanism for extensive incursions into the morphosyntax from the invading language is not even available. Secondly, other speakers in the community use the dying language, Finnish, only little, except in codeswitching, where English is the matrix language. In some communities, there are only these kinds of *semi-speakers*, and no fluent speakers at all. Language death comes about in two different ways: when the fluent speakers die, or among the semi-speakers, when Finnish is eventually lost as the matrix language. (Myers-Scotton 1993: 224–225, 228)

4 CODESWITCHING IN WÄRTSILÄ'S DOCUMENTS

In this chapter, the codeswitches found in the material are analysed. First, I will present the quantitative results of the study. Second, I will introduce the method of analysing the codeswitches in detail. Then borrowing and flagging are discussed. In 4.1, I will present codeswitching in the working instructions and in 4.2 codeswitching in the minutes of meetings. Finally, the functions of the codeswitches are discussed and a comparative analysis is be made.

There were altogether 331 codeswitches in the 62 pages of business documents studied. 191 of them were found in the working instructions (29 pages), and 141 in the minutes of meetings (33 pages). The method of calculating the number of codeswitches was the following: the number of codeswitches was divided with the number of pages. This resulted in an average number of codeswitches per page, and thus the numbers were comparable. The average number of codeswitches per page in all the documents was 5.43. The average number of codeswitches per page in the working instructions was 6.65 and in the minutes of meetings 4.27. The following table illustrates the share of codeswitches found in the working instructions and in the minutes of meetings. The red line illustrates the average number of codeswitches in all business documents studied:

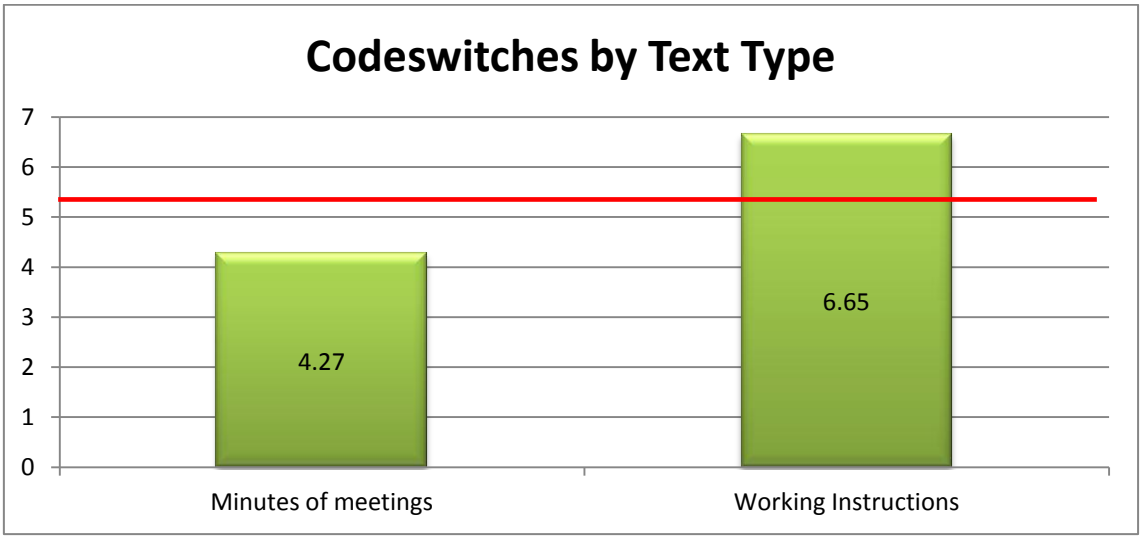


Figure 3. Codeswitches by Text Type

As it can be seen from the figure above, the working instructions had slightly more codeswitches than the minutes of meetings. The percentage values of the codeswitches found in the two text types are presented in the figure below:

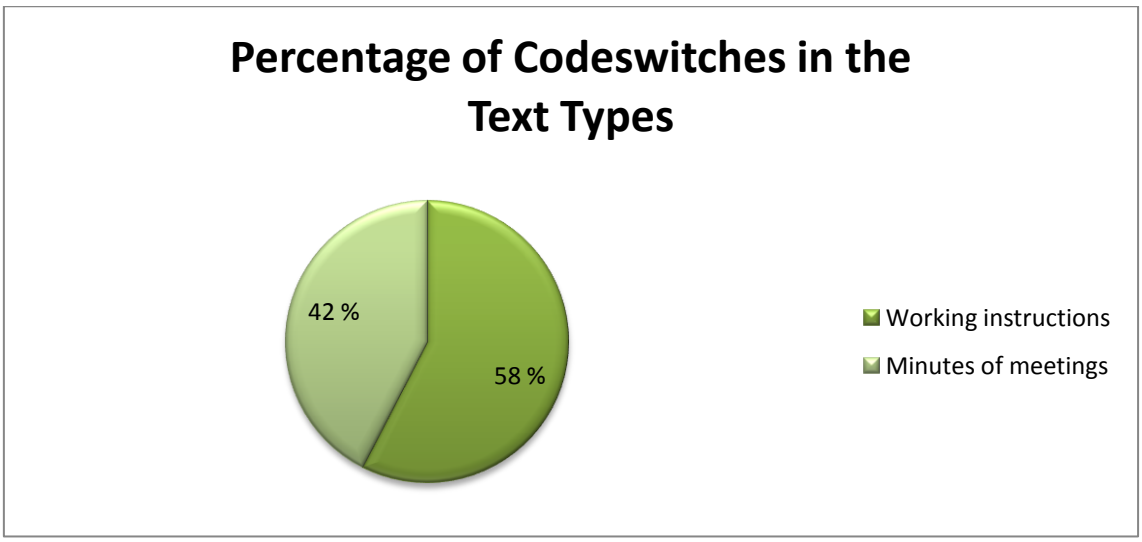


Figure 4. Percentage of Codeswitches in the Text Types

The difference in the number of codeswitches was not substantial. The working

instructions included 58 % of all codeswitches found in the business documents. 42 % of the codeswitches were found in the working instructions. Differences between the two text types will be discussed in detail in 4.4.

The method of analysing the codeswitches was the following: first, the average number of codeswitches per page was calculated. Then the codeswitches found in the material were divided into categories according to the Matrix Language-Frame model. The categories were embedded language islands, embedded language lexemes and matrix language constituents (see 3.1 for definitions). To ensure that the codeswitches found actually were codeswitches (English language words, not Finnish), a Finnish monolingual dictionary, *Kielitoimiston sanakirja*, and a bilingual technical dictionary, WSOY:s *Englannin tekniikan ja kaupan sanakirja* were used. Words that existed in one or both of these dictionaries in Finnish were not counted in as codeswitches, but were categorised as borrowings instead. Compound words that were not found as such in the dictionaries, but whose all parts were found separately in the dictionaries, were considered to exist in the dictionaries, and were therefore counted as borrowings. The lexical categories which were switched were analysed as well. Since embedded language islands formed entities of several Finnish and English lexemes, their lexical categories were not analysed. It was also examined in which way the code was switched, that is, was it flagged or not. Finally, the function of the codeswitches found was determined as transactional or social (see 3.2 for definitions) according to their purpose in the text.

Some foreign-origin words were not counted in as codeswitches due to their existence in one or both of the dictionaries used. Due to their resemblance to the embedded language, i.e. English, I examined their possible existence in the dictionaries. The fact that these words were found in the dictionaries proved that they have moved from codeswitches to become more established borrowings in the Finnish lexicon. The words that were found in both of the dictionaries can be seen as more established borrowings than those that are only to be found in an LSP dictionary, WSOY:s *Englannin tekniikan ja kaupan sanakirja.* Below is a list of some words representing the more established loan words found in the material:

(12)

-auto (auto)
manuaali (manual)
blokki (block)
spray (spray)
moolimassa (molar mass)
primääri (primary)

The words in the above list are borrowings that have established themselves as LGP borrowings in the Finnish lexicon. They are used in general language use contexts as well, whereas LSP borrowings are used by professionals in professional contexts. The following list presents examples of LSP borrowings found in the material of the present study:

(13)

rotametri (rotameter)
endoterminen (endothermal)
eksoterminen (exothermal)
kondenssi[vesi] (condense [water]

The number of the more established borrowings in the material was considerably higher than that of the LSP borrowings. Altogether there were 452 established borrowings and 20 LSP borrowings in the body texts of the documents studied (excluding headnotes). The following figure illustrates the share of the two types of borrowings:

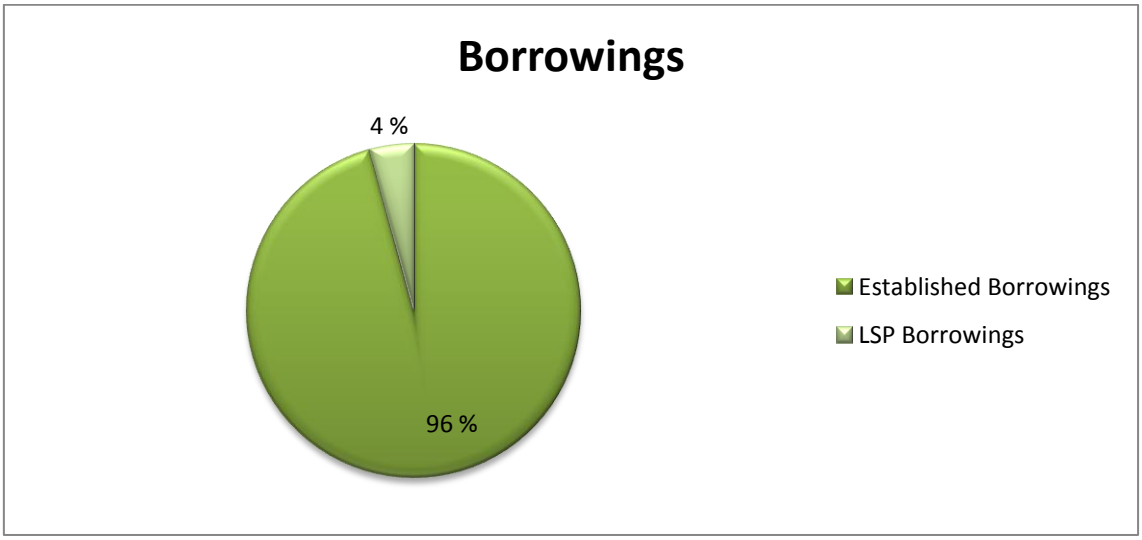


Figure 5. Borrowings

As it can be seen from the above figure, the share of LSP borrowings was only 4 percent of all borrowings, and the rest, 96 percent were established borrowings.

In some cases, an LSP borrowing was used even though an equivalent Finnish term exists. An example of this was found in "Minutes of meeting No 8: Meeting memo 4.9.2012". The author uses the word "kondenssi" and "kondenssisäiliö", which are LSP borrowings. The Finnish LSP term is "lauhdevesi". Since a Finnish LSP term exists, the reason for the use of a codeswitch cannot be to fill a gap in the lexicon. When I asked about this from the author, he explained that the Finnish term is used in another context as well, which is different from the present one: in a steam power plant, steam is condensed on purpose, whereas in the experimental power plant of the present study condensed water may also be an unwanted by-product. The difference between the two terms is that, "kondenssi" can be interpreted as unintentional, whereas "lauhdevesi", is seen as a term connected to a situation where condense water is an essential part of the production process.

Also borrowings may be flagged, as noted in 3.3. One flagged LSP borrowing was found in the material of the present study. It will be discussed in 4.2.

The use of flags with codeswitches in the business documents studied was not extensive. In 22 cases a codeswitch was flagged, i.e. highlighted in some way. Out of the total 22 flags found in the documents, 13 were found in the working instructions and 9 in the minutes of meetings. The following figure illustrates the division between the two text types:

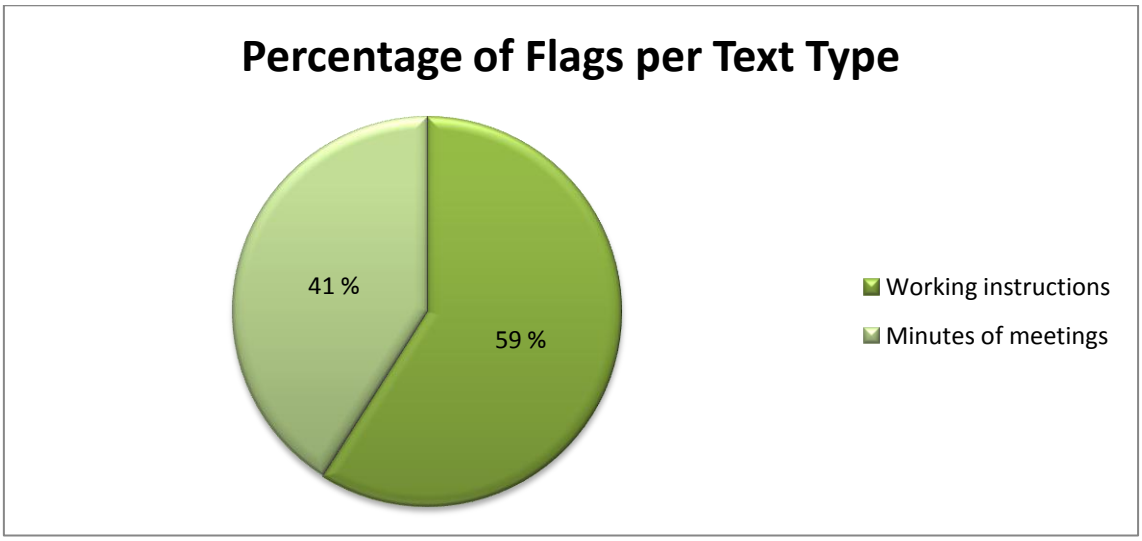


Figure 6. Percentage of Flags per Text Type

The percentage values above are almost the same as the share of codeswitches in the two text types. Since the working instructions included 58 per cent of codeswitches (see figure 4), it is expectable that the share of flags would follow the same pattern. The working instructions included averagely 0.45 flags per page. The minutes of meetings had only 0.27 flags per page. Since this manner of calculating is still dependent on the number of pages rather than codeswitches, and therefore gives unreliable results, I also calculated the number of flags in relation to codeswitches. Dividing the number of flags with the number of codeswitches gives as the result the average number of flagged codeswitches.

In the figure below, the red line illustrates the average number of flagged codeswitches in both text types together, which was 6.64:

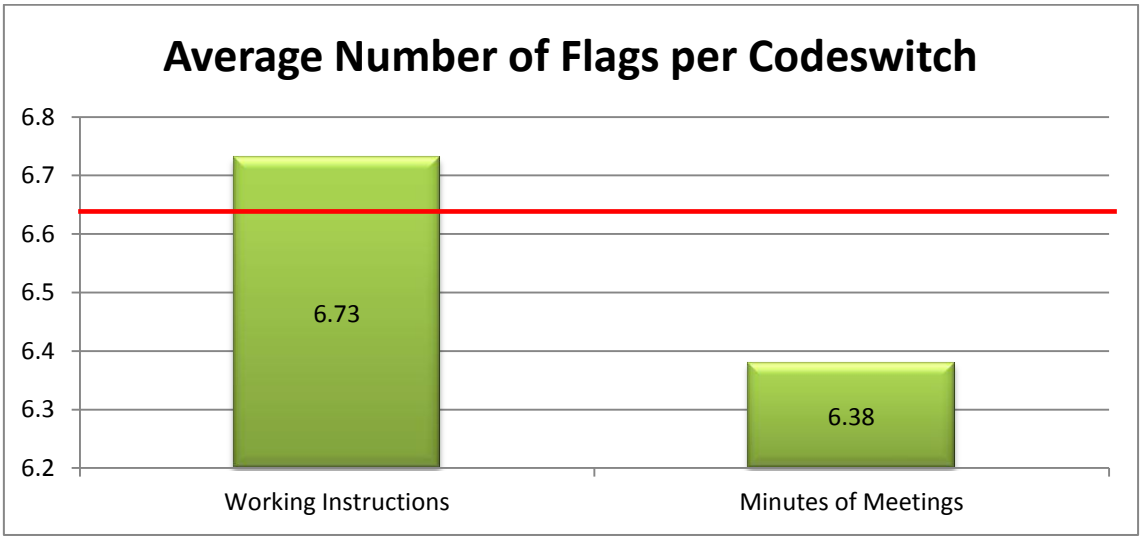


Figure 7. Flags by Text Type

Out of the 193 codeswitches in the working instructions, 6.73 were flagged. The minutes of meetings had 141 codeswitches, of which 6.38 were flagged. The following figure illustrates well the small difference between the text types:

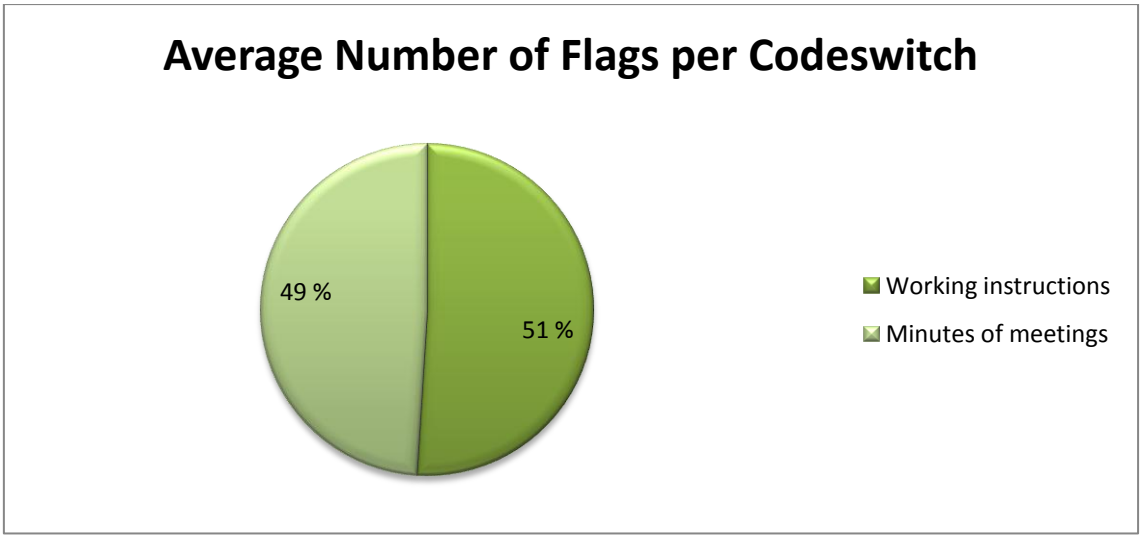


Figure 8. Average Number of Flags per Page

As the above figure proves, the difference was unsubstantial: 51 percent of all flags

occurred in the working instructions, and 49 percent in the minutes of meetings. Therefore it can be concluded that the two text types did not differ in what comes to using flags with codeswitches. In other words, the manner of using codeswitches was similar in the two text types.

The types of flags used were explaining, using the phrase “so called” before the switch, using brackets, and placing a matrix language term before the switch.

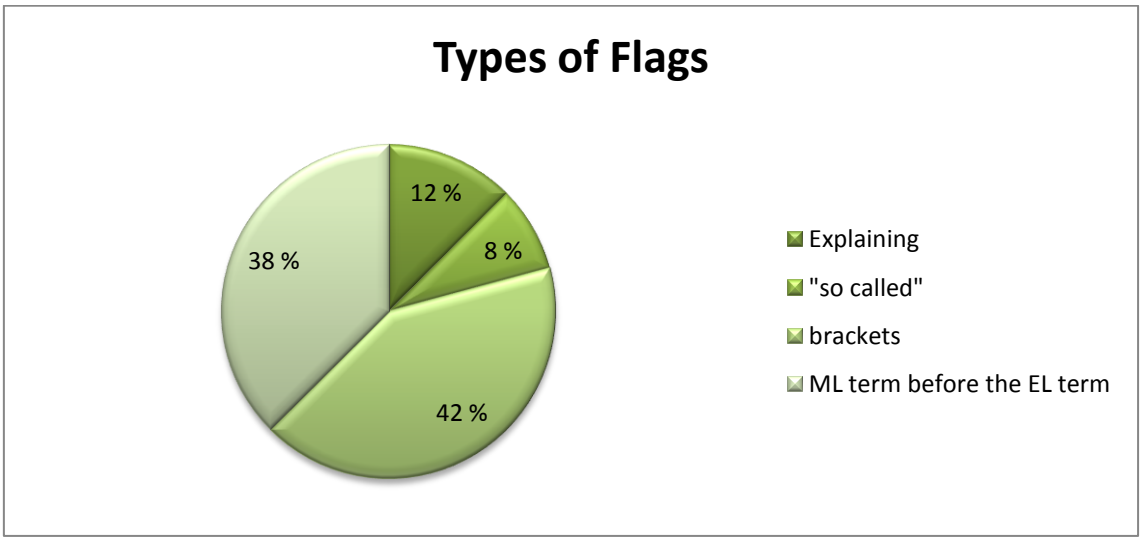


Figure 9. Different Types of Flags

The most common way of flagging was using brackets (10 occurrences, 43 percent). Second, with nine occurrences, placing an equivalent matrix language (Finnish) term before the English codeswitch covered 39 percent of the cases. There were three occurrences of explaining (nine percent) and 2 occurrences of using the phrase “so called” (eight percent). In two cases both explaining and brackets were used, which is why there are more different types of flags than actual occurrences.

The commonest type of flagging was to use brackets around the codeswitch. The following sentence exemplifies this type of flagging:

(14)

ST: “Annosteluruuvin (dosing) rasvaus”
Translation: [greasing the dosing screw].

A smooth, unflagged codeswitch would go as follows: [dosingin rasvaus]. In the above example of an unflagged codeswitch, the Finnish possessive suffix would be attached at the end of the codeswitch “dosing”. Instead of using a smooth codeswitch, the author has used the Finnish word “annosteluruuvi”, and after that added an English equivalent term, which is actually only one half of the actual word “dosing screw”. The flag, thus, is “Annosteluruuvi”, and the codeswitch is “(dosing)”. Also the brackets represent flagging, drawing attention to the code that has been switched. This makes the case a sort of a *“double-flag”*.[7]

A probable reason for these flags is to make sure the reader understands what should be done. “Annosteluruuvi” might be a term unofficially translated by the staff, and “dosing” might be used in other documents and perhaps also be written on the actual machine part. Using the embedded language term secures that the mechanic responsible for this task will know for sure what part s/he has to grease.

In some cases the flag itself was bracketed, like in the following example, the codeswitch is underlined and the flag is italicised:

[7] Term coined by me.

(15)

ST: ”Henkilökohtainen ja automaatioon kytketty kaasuhälytys havahtuu jo ppm-tason *(part per million; miljoonasosa)* pitoisuuksissa.”
Translation: [Personal gas alarm and gas alarm connected to automation will alert already in ppm-levels (part per million; one millionth).]

Here, the codeswitch is “ppm-taso”, and the flag is “(part per million; miljoonasosa)”. This case presents a special kind of flagging also in that the acronym is opened up in Finnish as well. With both bracketing and explanation present, this case is another example of double-flagging.

The case of placing the matrix language term before the embedded language term is somewhat contradictory, because it is arguable whether these cases are to be considered flags at all. Let us take a look at the following example to clarify the problem. Below is a subheading from a minutes of meeting:

(16)

ST: “2. Lämmitysputki – Cooling Nozzle”
Translation: [2. Cooling Nozzle – Cooling Nozzle]

The ML term comes before the codeswitch. It looks as though the embedded language term is here explaining the matrix language term, rather than vice versa. As the matrix language is, however, Finnish in this document, this incident is seen as a flagged embedded language constituent.

Even though the working instructions and minutes of meetings showed rather similarities than differences in the use of codeswitches and their flags, some special characteristics were present. In the next sections, I will present and discuss the

following: quantitative results, matrix language turnover, lexical categories of the codeswitches, duality of terms, and confusion in spelling. These are discussed separately with each text type.

4.1 Codeswitching in the Working Instructions

The Finnish working instructions included altogether 193 codeswitches. Of these, 39 were matrix language + embedded language constituents, 31 were embedded language islands, and 123 were embedded language lexemes. Thirteen embedded language lexemes were flagged, this category being the only one in the working instructions which included flags. The following figure illustrates the division of codeswitches and their flags found in the working instructions:

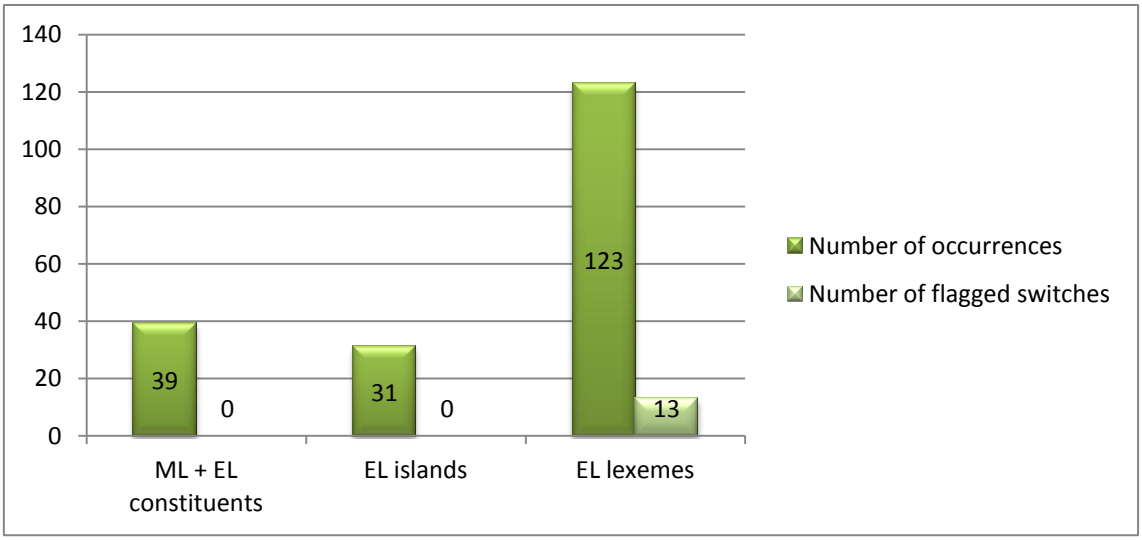


Figure 10. Codeswitches in Working Instructions

The figure above illustrates how embedded language lexemes is clearly the most switched category in the working instructions.

There was one matrix language turnover (see 3.5 for definition) in the working

instructions. At the end of "Working Instruction No 4: Paineellinen näytteenotto" ("pressurised sampling"), there were two figures that were in English. The first one comprised of a formula and a written note. The second one had also a formula, and after that a table. Since everything in these figures was written in English, it was concluded that a matrix language turnover took place. Even though the body text of this document is technical by nature and definitely LSP, the two figures are even more specialised and cannot be read by a layman, unlike the body text. This matrix language turnover suggests that the more specialised the text, the more probable it is that it contains English constituents, or is completely in English. Further it can be hypothesised that this takeover might lead to a language shift in this LSP, and perhaps eventually to the death of the Finnish LSP, in which case no this type of technical LSP can be discussed in Finnish.

With only one exception, the lexical category of all the codeswitches in the working instructions was nouns. They were integrated into the Finnish language with Finnish case endings. The following example demonstrates this:

(17)

ST: "Tehdään ensin kuumaöljyputkiston suunnittelu valmiiksi liittyen updraft projektiin [sic]."
Translation: [Let's get the planning of the hot oil piping system ready related to the updraft project.]

Looking into Kielitoimiston sanakirja proves that "projekti" is a Finnish word. "updraft" is an EL lexeme, and more precisely a content morpheme. These two together comprised a matrix language + embedded language constituent. The latter part of this compound has acquired the ending "-in", which in this case corresponds the English preposition "to".

The only codeswitch which was a verb was found in working instruction No 10:

"Engine line HAZOP". "HAZOP" is an acronym of "Hazard and Operability Study", which means that in this document all possible dangers are mapped out. This working instruction was in the form of a table, with sections explaining the deviation in the system, the code used to refer to it, and the reason for the deviation, its consequences, how to prepare for it etc. The section where the verb occurs states that the deviation in the system is "low PH" ("Matala PH"), and the reason for it is "break through corrosion" ("puhki korrodoituminen"). The word "korrodoituminen" was considered to be a codeswitch since it could not be found in either of the dictionaries used in this study. It can be seen, however, by searching the word online, that it is used in some contexts. This testifies to the fact that in the continuum of codeswitches and borrowings, this word situates somewhere closer to borrowings than actual codeswitches.

An interesting instance of a flagged borrowing occurred in "Working instruction No 4: Paineellinen näytteenotto" ("pressurised sampling"), which is a document that guides the mechanics in taking a pressurised sample safely. It includes six chapters. The flagged borrowing occurred in the following sentence in the last chapter on page 3:

(18)

ST: "Rotametrin näyttämä ei ole oikein jos paine ja kaasun moolimassa (tiheys) muuttuvat."
Translation: [The reading on the rotameter will be incorrect if pressure and gas molar mass (density) change.]

The word "moolimassa" is an established borrowing, since it is to be found in both WSOY:s *Englannin tekniikan ja kaupan sanakirja*, and in the monolingual Finnish *Kielitoimiston sanakirja*. The author has decided to place the word "tiheys" (density) in brackets after the established borrowing "moolimassa". This happens only the first time the word occurs in the chapter, even though "moolimassa" is mentioned twice more later in the chapter. Possible reasons for using a flag with the borrowing are either to rule out all possible misinterpretations, or to ensure that if for some reason a layman needs to read and understand the text, some rare words will be explained. This is,

though, an unlikely option, since there are several more specialised terms than “moolimassa”. Due to the curiosity of this incidence, the motivations for flagging the borrowing was asked about from the author of the document. The answer was that he had been thinking that “molar mass” might not be a familiar concept to the samplers, and “density” would perhaps be a concept easier to perceive intuitively. His intention had been to point out that if the density of the gas changes from that which it was when the rotameter was calibrated, then the number has to be corrected with a ratio (Aki Suokko 2014). This flag was, thus, used to explain an LSP term to laymen, who are not as familiar with the terms in this area as the author and the personnel at the plant are.

In “Working Instruction No 1: Työohje, syöttösysteemin painekoe”, an example of a frequently occurring case in all documents was found: the matrix language word “järjestelmä” and embedded language word “system” are both used interchangeably. Term syöttösysteemi comes up six times in the document, and syöttöjärjestelmä four times. This interchangeability exemplifies the process of foreign language items moving on the continuum of codeswitches (see figure 2 in 3.4).

Confusion in the spelling of words was found. A part of the power plant, “condense collector”, is spelled in various different ways in the working instructions:

(19)

kondensecollektor(ille)
CC
condense collector(issa)
Condence Collector(iin)

The endings in brackets show the suffixes used, and are present here to separate the Finnish case endings allative, inessive and illative, respectively. Especially interesting is the spelling of the first form, where the initial letter -c is replaced with -k. Replacing letter -c with -k (or -s, which case is discussed in the next chapter) is a usual way of adapting English words into Finnish, since there is often confusion about whether -c

should be pronounced as [k] or [s]. Here, even though the word is written down, the association with its pronunciation has affected the spelling. The second form is written correctly, and is thus a codeswitch. The third form has the letter -c where a -s should be, which is probably due to the general confusion with the two letters and their use in English for a Finnish person. Despite their varying spelling forms, all these occurrences were considered to be codeswitches.

4.2 Codeswitching in Minutes of Meetings

The Finnish minutes of meetings included 141 codeswitches. There were 40 matrix language + embedded language constituents. EL islands represented only half of this number with 20 occurrences. Similarly as with the working instructions, also in the documents of this text type, embedded language lexemes was the most switched category. The figure below presents the share of the three codeswitching categories found in the minutes of meetings:

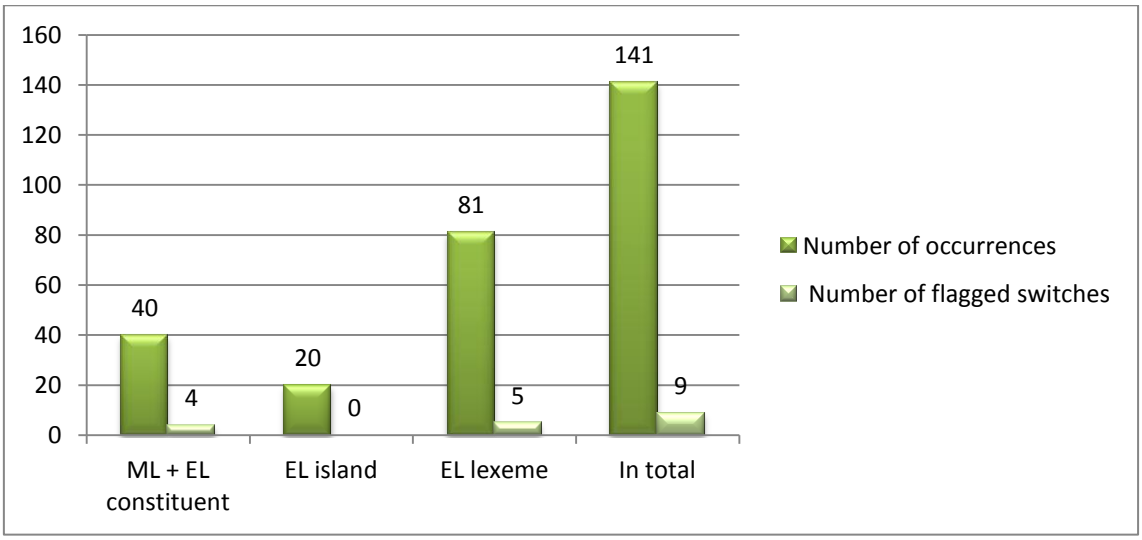


Figure 11. Codeswitches in Minutes of Meetings

A matrix language turnover took place in an e-mail send by a Senior Development

Manager to the General Manager and two other Senior Development Managers. The topic of the letter was “preventing explosion hazard in feeding system” (“Syöttösysteemin räjähdysvaaran ehkäisy”).

What is interesting in this two-page sequence written in English, is that it contains only one codeswitch. The first page of this three-page long letter is written in Finnish. This page includes two paragraphs, and at the end of the first one the author notes that “[k]äytetään kaikissa virallisissa dokumenteissa kielenä englantia” [let’s use the English language in all the official documents]. At the end of the first page, after writing the second paragraph also in Finnish, the author ends the Finnish sequence by saying: “Nyt vaihdetaan siihen englantiin” [Now we will change into that English]. The following English part is an account of possible risks that may occur in the fuel feeding system of the power plant. Apparently, the author considers this as the only official part of the letter, and the Finnish beginning is a sort of unofficial introduction to the actual matter.

In the first Finnish paragraph the author ponders on who he has been thinking to give the task to. He wants risk evaluations to be made, among other documentations related to the functioning of the feeding system. The second paragraph is a task description with precise instructions about what to do. At the end of the document, before the name of the sender, there is the word ‘T”, which is an abbreviation of the word “Terveisin”, roughly corresponding to the English “Regards”. This codeswitch is very different from all the other ones found in the documents, since it is not a term. This codeswitch is, as an exception to all others, a social codeswitch. It does not exist to fill gaps in the lexicon, but is rather a more friendly way of ending the letter than staying in the style of the official, namely the English part of the letter and using for example “BR”, which is an abbreviation of “Best Regards”.

What can be concluded about this is that Finnish is the social matrix language in the discourse that takes place within the small group of this specific power plant. Since Wärtsilä is a big corporation and the aim of the developmental power plant is to produce a commercial concept that can be sold around the world, the official parts that will be

filed and possibly used later should be in English. The fact that the English part of the text does not include any Finnish codeswitches comparable to those that occur in the Finnish text testifies to that the lexicon exist fully in English but not in Finnish. Consequently, English language constituents are embedded into Finnish language in order to fill gaps in the lexicon. In other words, their function is transactional. The function of the one and only Finnish codeswitch, as already mentioned above, is social.

All codeswitches found in this text type were nouns. As was discussed in chapter two of this thesis, focus is on the content area of language in LSP texts. Thus it comes as no surprise that nouns, being content words, are the only switched lexical category.

The interchangeability of matrix language and embedded language terms was present also in the minutes of meetings. One example was found in "Minutes of Meeting No 8: Meeting memo 4.9.2012". Here, the word "typpisysteemi" was used alongside with "typpijärjestelmä". This type of duality of terms might imply to the fact that the borrowing is gaining a more established role in the matrix language lexicon. On the other hand, if the embedded language term is a slang term, the use of the matrix language term can be seen as an effort to gain a more official tone into the text.

In places there was confusion with the terms' spelling. This occurred only with borrowings and codeswitches. An established borrowing, "prosessi" [process], was used in many forms in "Minutes of Meeting No 6: Raportti vastavirtakaasutusprosessin jäännösriskeistä" [Report on Residual Risks of Reverse Gasification Process]. The following sentences A and B exemplify how this borrowing was spelled. The borrowing is italicised:

(20)

A.
ST: ”Turva-automaatio aktivoi safety *process* stop – funktion paineessa x bar.”
Translation: [Safety automation activates safety process stop function in x bar pressure.]
B.
ST: ”Kun näin on menetelty, voidaan jäädä *prosessi* stop – tilaan ja odotetaan lisäohjeita vastuuhenkilöiltä.”
Translation: [When this has been done, wait for additional instructions from the person in charge.]

In sentence A, the borrowing is spelled in its English form, which means that it is actually not a borrowing but a codeswitch. In sentence B its form has been integrated into Finnish by using the letter -s rather than -c, and by adding -i at the end of the word. The reason for using -s instead of -c is the same as the one discussed in the previous chapter, that is, Finnish speakers are often uncertain whether -c should be pronounce as [k] or [s]. The -i at the end of the word makes the pronounciation easier, since Finnish words rarely end in consonants. The example sentences occur in two successive paragraphs, that is, quite close to each other. There are also several more incidences of these two spelling forms in the same document, which implies to the insecurity of which spelling to use. This is the same kind of duality of terms as with the word “järjestelmä” (system) in “typpijärjestelmä” discussed earlier, although the development of the term moving from a codeswitch towards a more established borrowing is not as far here.

4.3 Functions of the Codeswitches

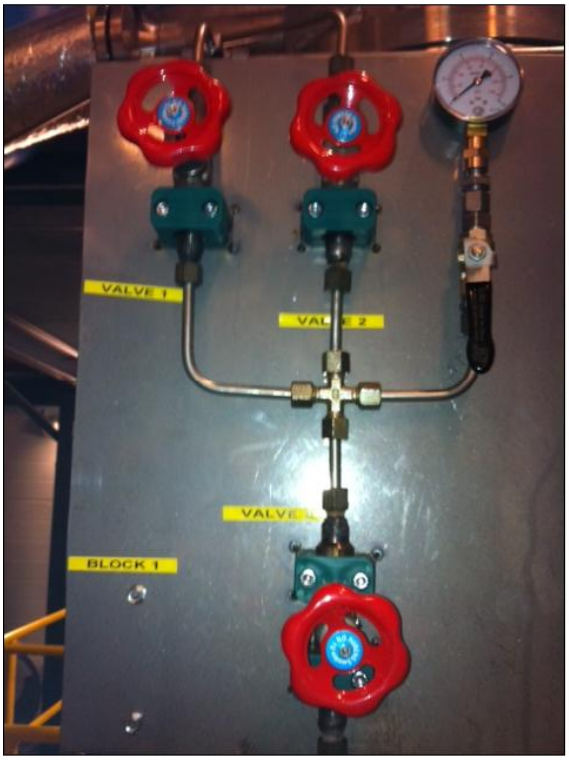
In the working instructions and minutes of meetings codeswitching was a means to express LSP terminology where no term in the matrix language existed. The codeswitches were mostly names of power plant parts and in few cases names of documents or computer software. In some cases codeswitches or borrowings were used even though a Finnish term existed because they were more suitable for transmitting

information in the specific situations.

When the terminology of certain concepts is in the embedded language, it may be difficult to discuss the concepts in the matrix language. As mentioned in 3.2, codeswitching is topic-related, when individuals discuss a particular topic most fluently in a different code. This was the case in the present study, where codeswitching was used when the power plant parts were discussed. Every now and then a Finnish translation occurred with the English codeswitch, but this was rare, as can be seen from the figures presenting flagging in the beginning of this chapter.

The codeswitches in the material were transactional codeswitching with only one exception. The texts aimed at a certain goal: to guide the mechanics and engineers in their work of developing the power plant concept and preserving information about the process. In this process, codeswitches functioned as an auxiliary tool in naming the parts of the power plant.

The reason for using English names for the power plant parts is probably practical. If on the side of a machine it reads ‘valve’, it is more secure to use the same term in the working instructions as well. The picture below shows how the terms are attached into the parts of the power plant. With the help of this example I want to illustrate the relationship between the actual working environment and the written instructions:



Working Instruction No 4 – Paineellinen näytteenotto [Pressurised Sampling]

In the picture above, the block is marked with the term ‘block’, and number one. The three valves are each marked with the term ‘valve’ and numbers from one to three. When a mechanic is reading a working instruction which tells to turn off valve three, it is easier for her/him to associate the valve in the text with the valve on the block, when both terms are the same. If a codeswitch was not used, that is, in the working instruction it would read [käännä venttiili kolme kiinni], “turn off valve three”, then the mechanic would have to associate between the two terms, “valve” and “venttiili”. This might, especially in a case of emergency, make a crucial difference.

As mentioned in the introduction to this thesis, the categorisation of the headnotes of some documents was especially problematic. The functional purpose of these headnotes was to ease the writing task by providing set titles for basic information. The headnotes were clearly separate islands with all titles in English, but could also be seen as instances of matrix language turnover, since according to the MLF model, no matrix

language morphemes may occur in embedded language islands. From this point of view, these occurrences could have been seen as occurrences of matrix language turnover, and the lexemes in the headnotes would thus have been categorised similarly as in the body text of the documents. Another approach, however, was taken, and the headnotes were categorised as embedded language islands. Being aware of the fact that this is contrary to what, according to the MLF model, embedded language islands are, I claim here that these occurrences are, despite all, embedded language islands. The following headnote is an example of such contradictory occurrence:

Table 3. Internal Study. Analyysilinjan HAZOP-pöytäkirja
(21)

INTERNAL Study			
Title:	Analyysilinjan HAZOP-pöytäkirja	**Doc.ID:**	DBAC249906
		Revision:	-.5
Author:	Elisa Haapala	**Status:**	Draft
Draft by:	Aki Suokko / 28.06.2012	**Pages:**	69 (81)
Organisation:	- General Power Plants		
Project:	P/07099 – Gasification R&D project		

Evidencing to the claim stated above are the following facts: first of all, the headnote is clearly a separate part of all the other text in the document. Similar headnotes occur in six out of nine minutes of meetings, and in 12 out of 13 working instructions. Secondly, if this was a matrix language turnover, it would have to occur several times in this headnote. This is not a liable option, since matrix language turnover is a larger phenomenon in both speech and writing (see chapter 3.5). If we compare this headnote to the example of actual matrix language turnover presented in 4.4, it is clear how different these two occurrences are. Finally, these headnotes are probably integral parts of a document base used in both text types, so that these facts do not have to be written down every time a new document is created. The same basic information, “Title”,

“Author”, “Draft by”, “Organisation”, “Project”, “Doc.ID”, “Revision”, “Status” and “Pages” is ready, so that these parts can only be filled in. Before starting to fill in these facts, thus, the headnote consist only of English lexemes. The choice between EL island and matrix language turnover is one of lesser of two evils. The headnotes do not fit properly in either category.

The reason why the headnotes do not fully fit in the embedded island category defined by the Matrix Language-Frame model is probably that the MLF model is created for categorising codeswitches in spoken discourse. As stated earlier in this study, little research on codeswitching in written documents has been done, and no corresponding studies (i.e, studies that would have focused on codeswitching in written LSP of technology) were found when doing the present research. Therefore, further research on this specific language use area is needed. Also a new theoretical tool that is functional in categorising codeswitches in written technical discourse would be needed.

4.4 Differences between the two Text Types

No outstanding differences between the two text types were found when it comes to the quality and quantity of codeswitches. Rather, many similarities occurred. For example, embedded language lexemes were the most switched category in both text types.

The vast majority of the codeswitches found were EL lexemes. Out of the 331 codeswitches in both text types, 203 were embedded language lexemes. 79 were matrix language + embedded language constituents and 51 were embedded language islands. The following figure represents the share of the three categories of codeswitching constituents found in all the documents studied:

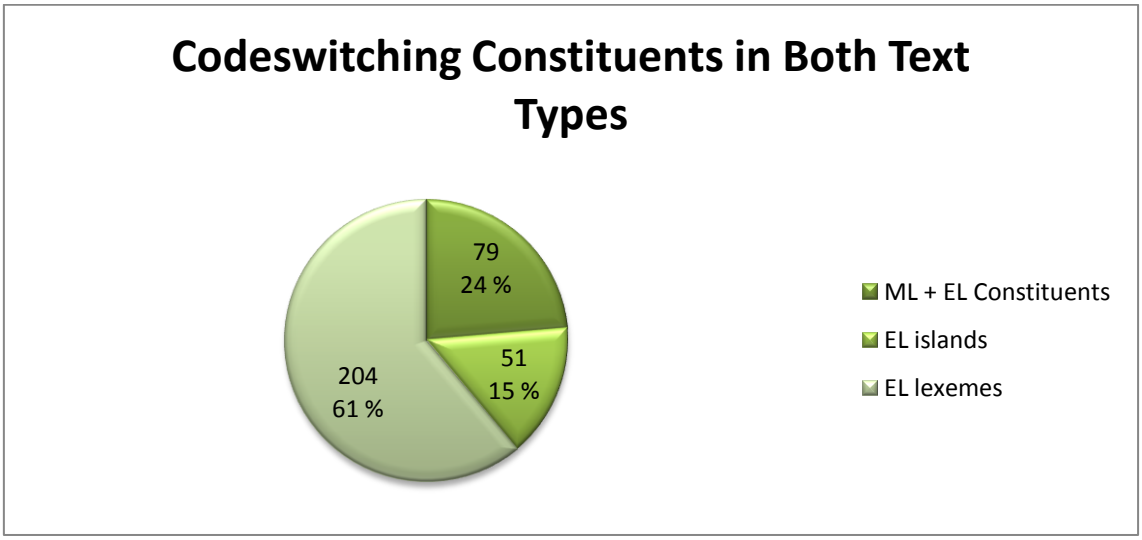


Figure 12. Codeswitching Constituents in Both Text Types

In the above figure, the number of codeswitches by category is presented. Also the percentage values of each category are visible.

Working instructions had somewhat more codeswitches than the minutes of meetings. Also the number of flags was higher in the working instructions than in the minutes of meetings. Since the two text types did not differ significantly in the share of different codeswitching constituents, the figures look closely the same in both cases:

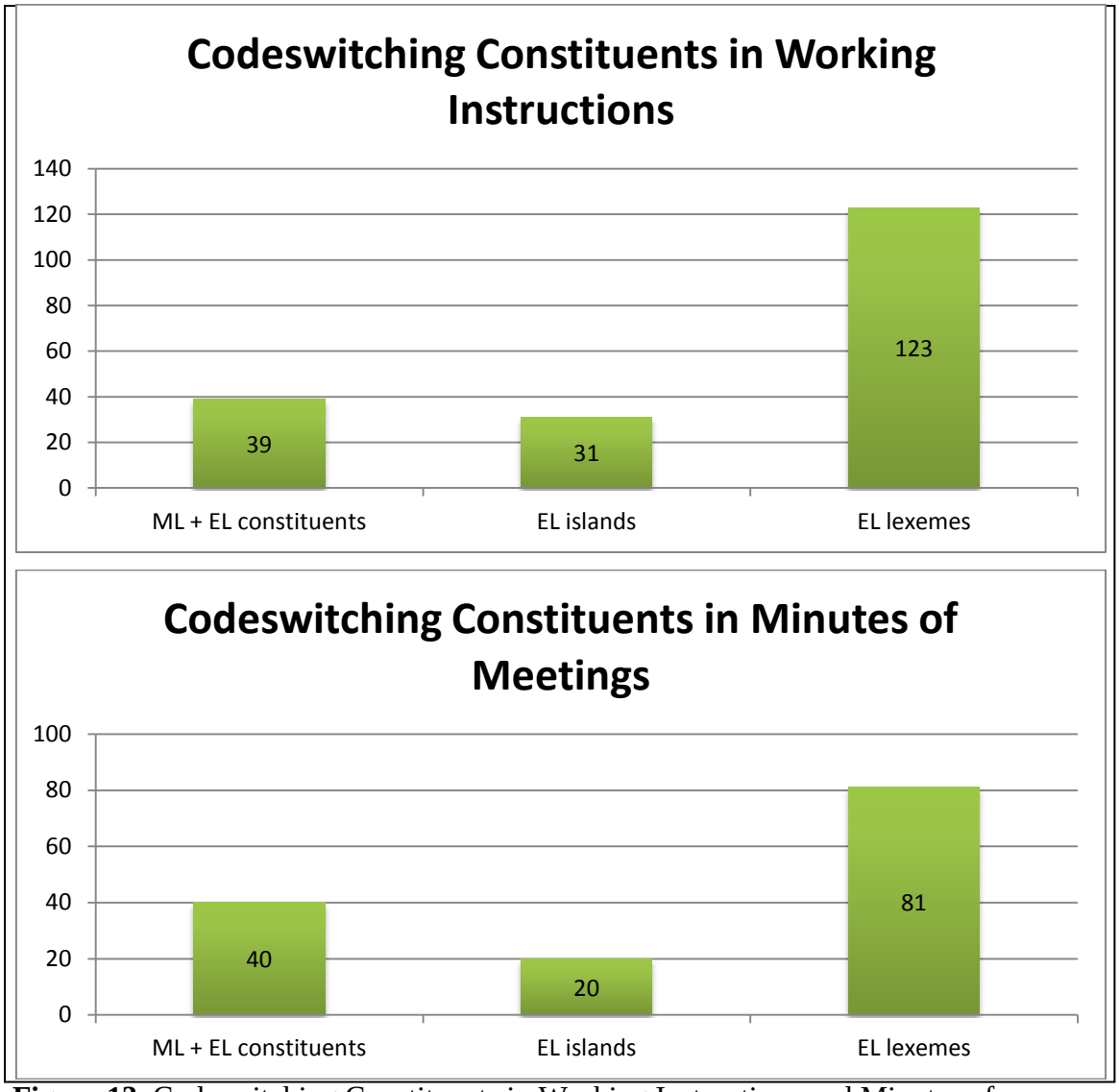


Figure 13. Codeswitching Constituents in Working Instructions and Minutes of Meetings

As the above figure shows, in both text types the most switched category was embedded language lexemes. Embedded language islands was the least switched category. All embedded language islands were headnotes. Matrix language + embedded language constituents were mostly compound words with one part in Finnish and the other in English.

The lexical category of almost all codeswitches in both text types was nouns. There were altogether 283 codeswitches that were nouns, or consisted of several nouns. Only

one codeswitch was a verb. As noted earlier in this chapter, nouns being almost exclusively the only switched lexical category in the documents attests to the fact that content morphemes tend to be switched most often, and that the focus of LSP texts is on the content area of language. In this aspect, the two text types were very similar.

The reason for the documents of the two text types being so similar could be the fact that the same two persons have written all the documents. Also, even though minutes of meetings and working instruction are different text types, they overlap heavily. Coming from the same company and a relatively small unit, it is no surprise that they resemble each other in the aspects that were studied in this thesis.

The two text types had different target user groups. The minutes of meetings were directed to engineers; the working instructions to mechanics. The minutes of meetings were expository and descriptive by nature, containing also some instructive characteristics, while the working instructions were mostly instructive. The differences were not, however, strongly visible in the documents.

The genre of the working instructions and minutes of meetings was business documents. Bhatia's definition of genre (see 2.1) is a basis for the generic formation of the business documents. The shared objectives of the discourse community are to develop a power plant for the global market. This discourse community includes several participants from mechanics to engineers all the way to personnel at the sales department, who all share some knowledge of historical, socio-cultural, philosophic and occupational background. They are aware of other texts and genres that may have some impact on the construction and interpretation of their genre. The relationship between genre and reality is familiar to them, as well as the communicative purpose of the genre, i.e. what is tried to gain with the texts.

5 CONCLUSIONS

The aim of this thesis was to find out how Wärtsilä's Finnish business documents were affected by English. The focus was on codeswitches, i.e. English language constituents in Finnish texts. Since the documents consisted of two different text types, minutes of meetings and working instructions, also a comparative analysis was made. The method of analysing the codeswitches was carried out by applying a theoretical model called the Matrix Language-Frame model by Carol Myers-Scotton. The hypothesis was that both text types would be heavily influenced by English, because English is a widely used language in the LSP of technology.

The hypothesis was based on several works that focused on the position of English as a lingua franca of particular domains, for instance those of Björkman (2011) and Wardaugh (2006). The main reason for the use of English seems to be globalisation, and thus the need for a shared language which all global actors are able to use in communication. The hypothesis was also supported by the fact that the official language in Wärtsilä is English. The language of the experimental power plant project, which provided the material for this thesis is Finnish because it is a developmental project separate from Wärtsilä's other functions. Even though the language of the documents is Finnish, it was a likely assumption that they would be affected by the official language of the company.

The findings and the analysis proved that the documents were heavily influenced by English. There were 331 codeswitches in the 62 pages of business documents. This means that on the average there were over five English words on every page. If borrowings, the more established loanwords are counted in, the number increases to almost 13 English origin words per page.

All codeswitches used in the documents served practical purposes except one, which had a social function. This exception occurred when a matrix language turnover had taken place, that is, English had become the normative matrix language into which the

Finnish codeswitch was placed. The social function of this codeswitch was probably due to the author's conception of the two languages (Finnish and English) and in which contexts they are used. English and Finnish are the languages of business and work, but only Finnish is used in social situations.

Some of the codeswitches used in the documents had equivalent Finnish terms. Some codeswitches did not have them, or at least they were not used in the documents studied in this thesis. It can be assumed, thus, that the reason for the use of codeswitches was to fill gaps in the Finnish lexicon. The fact that in places codeswitches were used alongside the Finnish term suggests that the Finnish term is not seen as trustworthy enough, and therefore needs an English term to accompany it, or vice versa.

To fill gaps in the Finnish lexicon was not, thus, the only reason for using codeswitches. Another motivation was to secure the flow of information. In addition to codeswitches, also borrowings and flags were used to serve this purpose. In some communication situations, the receiver was an employee, i.e. a professional working at the power plant, and in some cases an "outsider", a professional of a different field who was on site to perform subcontracting, for example sampling. Depending on the task and the performer (the instruction and its receiver) terms that were considered to be most comprehensible in the particular situation were used.

The results were as expected in that the Finnish business documents were both heavily influenced by English. An unexpected finding, though, was that the codeswitches were not used only to fill gaps in the lexicon, but also to make the texts more comprehensible, and therefore to secure the uninterrupted flow of information and ultimately to create a safe working environment.

What was exceptional was that the purpose of flags was not as much to highlight the use of a codeswitch as it was to explain it. This conclusion was supported by the fact that in many cases the roles of a codeswitch and its flag were reversed, the codeswitch being placed in brackets after the flag, in the manner in which a flag would be placed. Codeswitches and flags, thus, had almost interchangeable roles.

Certain factors must be taken into consideration when reading the results of this study. The method of categorising words as codeswitches, borrowings, or words of the matrix language lexicon is rather artificial, and ultimately a matter of deciding which words are taken into certain dictionaries. In reality, the decision about which word or its form to use is much more complex, with several different factors intertwining and affecting the interlocutor's choice.

Another research limitation is that this thesis is just one small case study, and thus no generalisations can be made. The results do, however, give some indication of the ways in which English is present in Finnish business documents. The study of borrowings illustrates how LSP texts may function as a gateway for foreign language items to enter a natural language like Finnish. Therefore, English influence is not characteristical only to LSPs, but LGPs as well.

More research is certainly needed as the text types studied are only a small sample of all the documents produced in the experimental power plant. Similar documents are continuously produced, and it would be interesting to see a similar study conducted after a decade or two. Have the terms changed? Are more or less codeswitches used? Have some words that are codeswitches today become borrowings, and some of today's borrowings become part of the Finnish lexicon? Has the need for using flags for explanation been reduced due to this?

This study has provided information about the linguistic means that are used in technical business documents. The results may be useful in estimating the optimal manners of producing such texts. Language is a tool, and its most important purpose is to serve its users so that they can communicate in a best possible way. Sometimes more than one language is needed for this.

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