

Neologisms in Alastair Reynolds's *Revelation Space*:
A critical approach to the Finnish translation

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1. Introduction

Translating science fiction can prove to be quite a bit of a challenge. While translating any foreign culture is not as simple as it sounds, translating a culture that does not even exist in other ways except on the pages of a novel can prove all the more challenging. As Hegedus (2004, para. 4) conveys:

The people who translate science fiction and fantasy must, first of all, know these genres and they also need to know the special vocabulary related to science and technology, mainly to astronomy... They also have to be the exceptionally creative ones, as these books are full of names for things that do not exist in reality, as they are only the products of a writer's imagination. They deal with everything from food names to names belonging to different life forms, places, objects, military ranks or even names of drinks or institutions.

The quality of science fiction translated into Finnish was rather poor in the past, and after obtaining sufficient skills in the English language the Finnish versions of the genre were left behind me. Science fiction and fantasy were not exceedingly popular genres in Finland, at least judged by the amount of translated works available in libraries and bookstores. With the success of some literary series of the genres, especially Harry Potter, the Finnish publishers began to translate more and more works by the best-selling authors. After some recommendations I decided to have a look at whether the quality of the translations has been improved at all since the 1990s, and for this reason picked the subject for my thesis. Choosing the author was surprisingly simple; I like Alastair Reynolds's novels and he also happens to be one of the most translated new authors in science fiction. The reviews of the translation of the *Revelation Space* have been mainly positive around the Internet, with readers especially complimenting the translator about a job well done, which piqued my interest.

In this thesis I will focus on the ways the technological advances and other aspects which separate the world of the novel from ours have been translated; mainly the things that one would expect to be different from ours. There will be some science, but also aspects of society we cannot find in the present day. I will not be paying attention to the language in general; going through a novel of this size would require great deal more than the length of this thesis. As the scale of the thesis requires limiting the scope, I will focus on the neologisms the author has employed in the novel as a means of building the world he wishes to describe. The field is also surprisingly limited in academic research, with majority of the text written on translation of science fiction being on the level of Master's Thesis.

It is likely the translator will face many challenges with a task such as this, and the primary question posed in this thesis is how he has attempted to convey the assumed meaning the author has wished to express and whether the attempt can be considered to be successful. For this reason the theoretical background is based on semantics and symbolism, as some of the concepts can be rather alien and the difficulty is trying to deliver them to the reader in a form similar enough for the ideas to carry over from one language to another. Secondary question asked is how the author has created the neologisms he uses, and whether the translator has relied on similar constructs or decided on a different kind of approach. For this reason the theory behind word formation has also been looked at. The way the words are structured can tell the reader, and the translator, a great deal about what the author has had in mind when he has decided to use them. While the translator has to place the quality of the language before any radical approaches, he should however try to maintain some kind of lexical conformity in the cases where the author of the source text has done so, especially in the case of neologisms, which could be seen to have an important function in a science fiction novel.

As the purpose of this thesis is to prove criticism regarding the translation, it was decided to approach it from the perspective of a regular reader without any additional insight provided by the author or the translator. This is also likely the way the translator had to approach the text, especially if the work was done with considerable speed. It will also most likely come across in the novel in some translational choices, as it often is safer to go for generalisations rather than try to translate accurately what you are not certain about.

2. Background and Materials

Alastair Reynolds is one of the most acclaimed modern science fiction writers who are currently publishing. Due to his professional history in the service of European Space Agency and education in astrophysics he is able to write science fiction in a more realistic fashion, mainly utilizing the technologies that already exist and applying them to either more developed or completely new functions.

Revelation Space is set in a universe of the same name in a not-so distant future. Most of the events take place around the year 2550, when humanity has long since surpassed the limitations of its solar system and spread across the galaxy. However, the future is far from a utopia. Mankind has split into factions which, if not at war with each other, are not always on friendly terms. The lifespan of an average human has increased significantly, yet poverty still exists and the rich live in a world of their own.

While the mankind is evidently far more developed in *Revelation Space*, a large amount of the technology could be argued to be based on what we have at our disposal in the present. Some of the uses might be different and it can also be more efficient or function slightly differently but the principles are often the same. There are no means for travelling or communicating faster than light, even though these do remain myths to be pursued by scientists and explorers.

The novel has an emphasis on technology and provides detailed descriptions of the scientific achievements of the universe while lacking the huge amount of technobabble often present in the genre. It should be noted that this kind of jargon is not completely absent in the novel, but is used sparingly, and often the names given to technologies or objects present can be considered descriptive enough to give the reader a clear idea of the meaning of the terminology.

The Finnish version of the novel has been translated by Hannu Tervaharju. As *Revelation Space* was the first novel by Reynolds, it is fitting that it is also the first novel published in Finnish from him. As his first novel it can be seen as a kind of a cornerstone: it defines the universe it is set in and establishes the concepts and neologisms the author relies on in the subsequent novels as well. It should also be kept in mind that the novel has been published and translated over ten years ago, which creates interesting situations regarding the evaluation of the translation. Some technologies that are commonplace now were not widespread or even known back then. It would be interesting

to observe how the translations have changed during the years as there are multiple novels situated in the same universe. This would be particularly interesting because apart from a single collection of short stories, Tervaharju has translated all the works of Reynolds. However, the scope of this thesis does not allow such a wide approach. The editions used for this thesis are the 2008 edition published by Gollancz in Great Britain for the English novel, and the first edition of the Finnish translation.

Previous research on the translation of science fiction is surprisingly hard to find, considering the literary field has been around for rather a long period of time and that it has gained notable popularity in the recent decades. It might be due to the fact that even though science fiction has been written in and translated to many languages, the majority of the original texts are likely to be in English, especially the best selling ones, thus resulting in the translations and their evaluation and research to be written in other languages. Due to my inability to pursue scientific material in other languages beside English and Finnish, research in other languages is not discussed in this thesis. There are some unpublished Master's theses written in Finland on the subject, but as most of them have not been published online and in most cases only one or two official copies exist in the universities they were written in, most are beyond my reach. It could however be argued that some of the same requirements apply to translating science fiction as does translating normal science literature, which MacLean (1997, p. 15) points out as well. In addition she points out that "the SF translator must be able to recognize when a word in the original is used with a specific scientific reference or simply as a synonym for a general concept" (MacLean, 1997, p. 15) as well as that the translator "must often double his or her literary knowledge and feel with the skills particular to those of a technical translator" (MacLean, 1997, p. 16). For this reason we can expect the translator of science fiction to meet at least some of the requirements listed by Al-Hassnawi (n.d., para. 7) as the necessary skills for a technical translator, which are detailed by the London Institute of Linguistics:

1. broad knowledge of the subject-matter of the text to be translated;
2. a well-developed imagination that enables the translator to visualize the equipment or process being described;
3. intelligence, to be able to fill in the missing links in the original text;
4. a sense of discrimination, to be able to choose the most suitable equivalent term from the literature of the field or from dictionaries;
5. the ability to use one's own language with clarity, conciseness and precision; and
6. practical experience in translating from related fields. In short, to be technical translator one must be a scientist, or engineer, a linguist and a writer.

While it would be impossible for a translator of science fiction to possess practical experience from some of the fields he attempts to translate, it cannot be denied that a general knowledge of science and especially the ability to visualize what the author is attempting to portray would not be of assistance. This is true especially for the kind of hard science fiction Reynolds writes, which heavily relies on taking what technologies and theories we have, and simply applying them to sometimes foreseen, but so far unreachable purposes.

Most of the research on science fiction translation, as mentioned by Kalliomäki (2007), focuses on extremely specific aspects, somewhat similarly to this thesis, due to their scope and academic level, or are case studies written by translators themselves (pp. 22-23). For this reason they are of limited use, although some, especially those talking about the translation of neologisms, might have provided some insight if they had been published and thus accessible. One notable exception is the article by MacLean (1997). Even if she examines the translation of French science fiction into English, the angle from which she approaches the matter from is almost identical to my research. While she discusses some matters that do not fall within the scope of this thesis, namely layout, typography and to a degree types of language used in the stories, the approach towards neologisms is very close to mine. While the difference in languages invalidates some points, the criteria and notions she offers are beneficial. Some aspects of the text could be seen as archaic however, for example the labelling of sci-fi as “film or pulp fiction” (MacLean, 1997, p. 13), instead of establishing SF as a blanket term for literature or film that is “often difficult to read and understand and is rarely popular” (p. 13).

3. Theory

In this section some basic theoretical background will be presented in order to illustrate the perspectives used in the analysis section. As mentioned in the previous section, translating science fiction has not been studied in detail, and even though there is some previous research, it is not always essential for this thesis. I will adduce primarily to linguistic theories behind word formation and semiotics and symbolism, as both are relevant for the creation and translation of neologisms, as well as some general theory regarding the processes used in critiquing translation. All of the fields mentioned are extremely large and consist of multiple theories sometimes at odds with each other. For this reason only some information regarding all of the fields will be presented in order to establish guidelines for the analysis.

3.1 Word formation

As this thesis discusses neologisms – new words in a language, which are not yet widely used – in the source text and their translation, I feel it is necessary to look into the rules which govern the creation of new words in both the English and the Finnish language, as well as explore the similarities the two languages may share. This becomes relevant when the translator has to decide how to handle words which do not previously exist when attempting to convey the meaning and context the author of the source text has strived for. In this section I will explain some of the types of words that can be considered neologisms. It is significant for the analysis from perspective of conveying the meaning by exploring how and from which words the neologisms in the novel are constructed. The purpose is to provide the reader basic information regarding the word formation process in order to provide them the means to recognize different types of words when they are discussed in the Analysis section.

According to Mattiello (2013), new words in English language are often blends, or as they are known outside of linguistics, portmanteau words (p. 111). She describes them as “new words coined by merging parts of existing words” (p. 111). An example of such a word, which has gained popularity in both English and Finnish, is *brunch*. It is a blend of both *breakfast* and *lunch*, and, as will be explained in more detail below, fulfils the two listed requirements for a blend; it lacks compound stress and is the two words used together as a compound do not hold the same meaning as the single word formed by blending them. This can be observed in the work of Reynolds as well: while there are some words which cannot be traced back to existing ones, most seem to be formed

from existing ones by blending two or more words together, as I will adduce in greater detail in the Analysis section with some specific examples. However, it must be kept in mind that as Mattiello (2013) notes, the rules regarding blends are rather vague, and there are multiple kinds of definitions regarding their formation, so being best described as extra-grammatical formations. (pp. 112-115). Thus it can be sometimes hard to differentiate between blends and other types of neologisms without exact information regarding which words the blends were created from. Of course this would be easier with the help of the author, but as it is unlikely the translators have this kind of insider assistance with their work, it was decided to approach the source text without asking for comments from the author in this thesis as well in order to simulate normal reading experience from the perspective of an average consumer. The main difference between the author using blends instead of other types of neologisms is that the reader theoretically, if in possession of sufficient knowledge, has a chance to ‘decrypt’ the blends by figuring out the words used while creating them. This becomes important if we assume the author originally created the words in order to convey the meaning of multiple words, as the nature of blends in general implies. This kind of approach helps eliminate some of the problematic issues concerning the concept of neologisms, which was raised as a primary concern regarding the semantic analysis of the data in this thesis. If the words are formed based on existing signs, it is likely the reader is able to make some kind of connection between the signifier and the original signified, thus adopting a new concept for the signified in the case of the blend. For further details regarding signs see section 3.2.

It should however be noted that not all words that seem like blends are necessarily blends. Clipped compounds and blends share similarities in form, but are formed in a different manner. According to Bauer (1983), as the main factor that can be used to separate the two is the division of stress patterns, it is not always clear in which group a word belongs into (p. 233). This is further complicated by the notation that especially in science, the boundary between clipping and word manufacture have blurred due to near limitless use of clipping in forming new terminology (p. 234). An example of a clipped compound is *sci-fi* which is formed from the compound *science fiction*. Both words have been clipped, or shortened, for convenience. It is not a blend however, as the construct has an existing meaning, and can be used synonymously with the clipped form. The clipped compound must be considered different from the abbreviation *SF* which can, in addition to *science fiction*, refer to other similar constructs, for example *speculative fiction* and *science fantasy*. As the focus of this thesis is not in the process of creating words but translating them, and the two types of neologisms serve a similar purpose, I will not pursue the differences between the two types

in detail during the analysis, though some observations can be made if it is deemed necessary, especially if it is considered relevant for the translation of a word.

It should however be noted that if we look into neologisms in Finnish language, according to Vesikansa, the most common ways to introduce new words into Finnish are compounding and derivation (as cited in Karppinen, 2003, p. 17). The other means mentioned are repurposing old words, loan words from foreign languages, to elevate a slang word into commonly used language and to create a new word from scratch (p. 17). It should however be noted, that for example in dictionaries compounds make up to 60-70 % of the words in the Finnish language, with derivatives following behind with 20-30 %, leaving little room for other types of words, according to Hakulinen et al. (2004, p. 170). According to Karppinen (2003), blends are not mentioned at all by Vesikansa, which is somewhat surprising. It could however be considered that due to the agglutinative nature of the Finnish language blends are not as common a way to create words as in English, especially due to the advantages to derivation agglutination brings. However, Plag (2003) claims blending can be seen as part of the derivation process in the English language (p. 13). There is no mention about this kind of classification in the Finnish grammar amongst the source material I was able to obtain, nor does it seem to be an established view amongst linguists in general. For this reason I will mostly consider the blends, as Mattiello suggests, an extra-grammatical aspect.

Compounding is another form of neologisation which can be observed to be extensively used in the work of Reynolds. While examples are illustrated in section 4, which contains the analysis, I will outline here the main types of compound words in the English language. According to Plag (2003) they are usually classified as nominal, adjectival, verbal and neoclassical depending on the types of words used in their formation (p. 132). The classification of a compound comes from the word used as the head, while the other word(s) are considered modifiers: the compounds are usually structured in modifier-head fashion (p. 135). He also provides a table which portrays the different types of compounds:

Table 1. Inventory of compound types, revised. (Plag, 2003, p. 144)

	Noun (N)	Verb (V)	Adjective (A)
noun	<i>film society</i>	<i>brainwash</i>	<i>stone-deaf</i>
verb	<i>pickpocket</i>	<i>stir-fry</i>	–
adjective	<i>greenhouse</i>	<i>blindfold</i>	<i>light-green</i>
preposition	<i>afterbirth</i>	–	–

The table illustrates the different possibilities of compound formation, with the topmost row introducing the head elements and the first column the modifiers of the words. According to Plag (2003) not all combinations are possible, and some patterns are not as productive as others or possess severe restrictions (p. 144). However, as this is not the focus of the thesis, it is sufficient to be able to identify the different types of compounds instead of delving deeper into the limitations on the process of forming them in the English language, especially as the thesis focuses on the Finnish translation.

It is also worth noting that in English there is no way to tell from a spelling of a word whether it is a compound or simply a cluster of words, as the compounds can be both open or closed: the words can be written together, with a space in between, or with a hyphen (Fromkin, Rodman, & Hyams, 2007, p. 95). This makes them sometimes hard to separate from set phrases, especially in the case of neologisms. Plag (2003) suggests the main difference between set phrases and compounds is in the stress patterns of words, which is not always necessarily clear especially if the word has not been in verbal use (p. 139). For this reason it can also be hard to differentiate between set phrases and compound words in the English language. For example neoclassical compounds, which can be formed by adding lexemes borrowed from the Greek or Latin origin into other lexemes and by forming words with new, or modern, meaning with them (p. 74). They're created by combining forms that cannot appear independently, such as *bio-*, nor behave like affixes, as they can combine with other combined forms, such as *-logy* in order to create complete words, in this case *biology* (p. 156). While Plag (2003, p. 122) does not mention clipped compounds other than mention them as abbreviated compounds as a type of blends, Mattiello (2013) describes them as compound words which have been shortened by removing or shortening some of the elements which create the compound word (pp. 76-77).

Another way to form words in both languages is derivation, which usually means creating new words by adding additional parts, also called affixes, into existing words (Yule, 1985/1996, p.69). According to Plag (2003) in the English language derivation can be further divided into affixation and derivation without affixation (pp. 72, 107). Affixation is a rather straightforward, as it simply involves adding affixes, which in the English language are primarily suffixes and prefixes, namely bound morphemes that come either before or after the root of the word (p. 10). An example of affixation is the formation of *disrespectful*, where a new word has been formed from the root *respect* by adding a prefix *dis-* and a suffix *-ful* into the root. Plag (2003) adduces the means without affixation to include conversion and truncation (pp. 107, 116). He discusses truncation in

length, but mostly what interests us is what he determines to be clippings: shorter words formed from longer ones by eliminating some elements in order to express familiarity, and which might, with time, spread into larger communities as well (p. 121). Conversion on the other hand is simply moving the word into another word class without the use of affixation, for example from noun to verb or verb to noun, and is quite common in the English language (p. 107). Derivation is used broadly in Finnish as well, although with the large number of affixes available, derivation without affixation seems to be rarer than in English, at least according to what Koivisto (2008) implies (pp. 190-216). It is not unknown, but in the case of the Finnish language the end forms need not be identical between two words, as long as the stems of the words are the same, according to Hakulinen et al. (2004 p.191). Koivisto also mentions that as the number of affixes in the Finnish language is great, many of them have semantic rules which define their use in word formation, but otherwise the formation of new words in the Finnish language is a rather free process as even the new words are often easy to trace back to their original roots (pp. 190-216).

In order to facilitate categorisation of neologisms from the translational point of view Newmark (1988) introduces a rather specific and thus large list of types of neologisms, which, while undoubtedly useful in some situations, is not needed for this thesis. A more compressed list by Cabré (1999, p. 207) is more in line with the scope of the analysis this thesis offers. He divides neologisms into four groups:

1. neologisms in form, including the following structures: • derivations (with prefixes and suffixes) • compounds • phrases • shortenings (using initialisms, acronyms, clippings)
2. functional neologisms, including cases of lexicalization of an inflected form and those formed by syntactic conversion
3. semantic neologisms, including three types of processes: broadening or narrowing or change of the meaning of the base form
4. borrowed neologisms, which are true borrowings and loan translations.

Even though this list lacks Newmark's group of new coinages, it otherwise manages to incorporate the multiple separate groups he proposes by merging them into larger categories, which can make categorizing ambiguous cases slightly easier than the rather strict types proposed by Newmark (1988, pp. 140-149).

3.2 Semiotics and symbolism

As the thesis is focused on the translation of specific words and concepts in the text, it is important to also shed some light on semiotics. Chandler (2002) introduces the humanities section of the field,

while focusing more on the linguistic aspects and the methods of using semiotics as a tool for structural analysis. However, the most interesting area of semiotics regarding this thesis is the discussion on the models of signs by Peirce and Saussure. While both consider the meaning of signs to be determined by those who use the signs, they both differ slightly in their definitions. According to Chandler (2002), Saussure uses a two-part model which determines the relationship between a concept and the pattern representing the concept, although in modern day the Saussurean model has taken on a more materialistic approach, and is often used with more symbolic approach than Saussure originally did (pp. 18-20). Peirce's theory however suggests that the interpretation of a sign is itself a sign, causing a chain reaction, as a sign cannot signify anything unless it has been interpreted (p. 33). Both models have a degree of similitude, and can be used in tandem to a degree; according to Chandler (2002) "Peircean distinctions are most commonly employed within a broadly Saussurean framework" (p. 36). While Peirce had three basic modes of semiotics, the symbolic, iconic and indexical, within the scope of this thesis only the symbolical is of much interest to us. Chandler defines it as

a mode in which the signifier does not resemble the signified but which is fundamentally arbitrary or purely conventional - so that the relationship must be learnt: e.g. language in general (plus specific languages, alphabetical letters, punctuation marks, words, phrases and sentences), numbers, morse code, traffic lights, national flags (pp. 36-37)

As the thesis focuses purely on a literary aspect, the indexical and iconic modes, which require non-arbitrary relationships between the signifier and the signified, or explicit resemblance, can be discarded as a valid means of discussion. The symbolic relationship is of particular interest however; as it indicates the relationship must be learnt. As the thesis focuses purely on words which, in theory, should not have an existing symbolic relationship in the mind of the reader as even if they are existing signs in the language, they signify different concepts from those we have learned to assign them. For this reason it is left in the hands of the author to produce the new relationship in order to make his work understandable, and by proxy the translator is also tasked with this, as his job is to convey the work to the reader in another language. While it could be argued this is not necessary in the sense that the book will be understood by the reader even if some words are left vague, it is likely that even in case the author leaves a word of his own device completely unexplained, the readers are able to form some kind of a conception regarding its meaning. The accuracy of such a conception can be debated, but regardless it will affect the way they perceive the book.

Leino (2008) introduces some of the issues with polysemy regarding signs. He points out that even though signs themselves can be polysemic, the same can also be said about cases, and the way words are inflected can change the possible polysemic associations the words possess (pp. 150-151). This can be a problem especially in languages such as Finnish, in which the large number of cases and the potentially large number of morphemes attached to words can cause the sentences and relationships between words to become ambiguous in some situations (p. 150-151). The problem requires the reader to often select a primary interpretation according to the knowledge they possess regarding the world in general as well as the specific context the word appears in, and to adjust it at a later point if it proves to be false (pp. 150-153). It should also be mentioned that as I have pointed out in section 3.1, the compound words in the Finnish language are almost purely closed, meaning they are written together without a space in between. This may also cause problems regarding their interpretation depending on how the reader perceives the word to be compounded, regardless of whether the signs, or words, themselves are polysemic in the context discussed (p. 154-155). It is important for the translator to keep that in mind while thinking about the possible translations, as in some occasions a direct translation might not be optimal due to the differences between Finnish and English.

Symbolism important from the aspect of neologisms as well, since, as seen in section 3.1, new words are rarely created from scratch. For this reason even a new word might have some contextual baggage which originates from the associations accumulated by the words used in creating the neologism. This can also be an advantage, as the readers might be able to take in the new signs, or words, with more ease if they have some familiarity. Care must be taken however, as the nuances in contextual associations might pass over and undermine the effects the author, or the translator, has sought. This inherent symbolism is especially relevant in case of Reynolds, as can be observed in analysis in section 4. Many of the names and words he uses are derived from existing lexemes and can be considered descriptive, which makes the associations from the root signs significant for the reader.

3.3 Critical approach to translation

The main form of approach in this thesis is the translational criticism. By placing myself as a critic, my aim is to judge the validity of the translation. This section discusses some of the basic approaches to literary criticism. It will portray some of the theories and methods used by critics and discuss their relevance to this thesis. While for the most part the texts refer to criticism regarding

literature in general, they are also useful to a degree in as specific a scope as the one in this thesis, since the approaches I will use in the analysis are similar to reviewing whole texts.

As Riikonen (2000, p. 34) notes, translation criticism, or in truth mostly any kind of feedback given to translated literature in Finland is quite rare. According to her (2000, p. 34) translation has mostly been approached from the cultural and literary perspectives rather than from the perspective of the translations themselves. Moreover, the lack of base research in translation criticism creates difficulties when trying to establish a complete view of the field. Since Riikonen (2000, pp. 49-58) focuses on criticism published in literary media, it is not a surprise that many of the examples mainly focus on the quality of Finnish in the translations, with only a few mentioning stylistic discrepancies. This is somewhat out of the scope of this thesis, as grammar and syntax by themselves are not the focus of the discussion and are only mentioned in passing if they help to illustrate the points made.

Chesterman (2000) instead discusses different models of the translation process and the role of the critic in each of them. In the *static model* the critic has a theoretically easy task: he simply needs to check whether the source text and the target text are sufficiently equivalent. However, as the equivalency is not strictly defined anywhere, the critic is left purely to his own devices in order to determine whether sufficient criteria for the translation are fulfilled (p. 62). In the *dynamic model* the critic instead focuses on the role of the recipient, and his task is to judge whether the text causes similar reactions in both languages. This in turn may cause problems regarding the intended function of the translation, and whether the critic is aware of it (p. 63). The third theory Chesterman introduces is the *causal theory*. This is far more detailed and focuses on both the translation process and the reading process. While this model shares some similarities with the dynamic model, it varies far more greatly by taking into account theoretically all the causes and effects in the translation chain (p. 64). It also places the critic into a somewhat ambiguous position as a force with effects of his own (p. 64). Chesterman also notes that regardless of the theory used, the criteria used to rate the translations are hard to come by. He proposes four possible dimensions the translation can be judged on; the relationships between the translation and the source text, the translation and the target language, the translation and the reader, and the translation and the objective of the translator (pp. 66-71).

Both the dynamic and causal theories heavily depend on the *skopos theory* developed by Hans J. Vermeer. He argues that the translation process is heavily affected by the relations the translator has

with the surrounding factors, which further affects the *skopos*, the purpose of the translation (Vermeer, 1989). Vermeer notes that translations are always created by conscious effort, and thus they are always driven by a commission, regardless of whether the commission is issued by the translator himself or by an outside source, usually a publisher. While the translator is a true master of his field, his work is influenced by the details of the commission (p. 175). As Vermeer points out, in most cases the source text is situated in a specific point of the source culture, the job of the translator is often to accommodate the text into the target culture; within the guidelines of the *skopos* he has been given (p. 175).

According to Chesterman (2000) almost all translation criticism shares common problems: the critics forget their atypical nature as a reader and focus too much on the negative aspects of the text, omitting, if not all, most positive feedback regarding the translation (pp. 71-72). They are also often uninformed regarding the limitations the translator has to work with: they hide their criteria, forget the translator altogether and manipulate the reader (p. 72). In my analysis, I will try my best to take into account as well as eliminate the problematic issues which Chesterman raises regarding criticism, whenever valid within the scope of this thesis. The two major ones to overcome are the positive feedback and missing the evaluation criteria. As these tie together with manipulating the reader, it is of utmost importance to discuss the work in a comprehensive manner, in order to pursue as complete an overall picture as possible. Some of the problems Chesterman (2000) raises are not in my opinion of great concern regarding this thesis: as this mostly considers a very specific aspect of the text, the general limitations that have affected the work of the translator should not apply. Due to the nature of the data, there are also no previous norms or biases associated with how the words should be translated. This, however, does not disqualify evaluation, instead requiring the reader, and at the same time the critic, to consider each case by its own merits according to the criteria used.

As regards the translation of neologisms Newmark (1988) notes that

In principle, in fiction, any kind of neologism should be recreated; if it is a derived word it should be replaced by the same or equivalent morphemes; if it is also phonaesthetic, it should be given phonemes producing analogous sound-effects (p. 143).

While this is a good principle, I feel that following it blindly, especially when translating between languages that are structurally as different as English and Finnish for example, might cause issues with readability and recognizing the words. Newmark also introduces a category for words whose

etymology and thus the morphemes used in creating them cannot be traced back to the source, labelling them as new coinages (p. 142).

As Chesterman (2000) points out, it is important for a translation critic to shed some light into his criteria used when evaluating the translation. Considering this thesis focuses purely on neologisms, I will not form any kind of opinion, nor criteria, regarding the overall flow of the text. The neologisms themselves will be observed from a variety of points of view. In my opinion, as they are instrumental to the world building process of the author as they are one of the main ways to create a new world which differs from ours, they should be treated with utmost care. This means preserving the words themselves as well as the structure around them as often as possible instead of blurring them into the surrounding text by circumvention, or replacing with mundane lexemes. It is to be expected that not all meanings can always be preserved, in which case the translator must make a choice between the aspects, and naturally the continuity of the plot might gain priority. However, above all the translation of the neologisms should be consistent. If the neologism is diluted by a multitude of alternative translations which cannot be associated with the original word without difficulty, something can be seen to have been lost in the translation. In fiction such as this it should not be a problem if the translation itself seems slightly foreign to the reader, as there is a degree of strangeness to the original text as well. As MacLean (1997) states regarding translation of science fiction, “The translator must not only convey the different worldview inherent in the other language, but the subtleties of an entirely different *world* as well.” (pp. 13-14). She also points out that “it is best to choose a more general word to translate a concept rather than a specific one, since this allows the reader the necessary flexibility in creating the textual world” (p. 17). While this does deserve some credit, in my opinion the risk is far bigger if the translator generalizes too much, and thus loses the new concepts intended by the author. I will discuss this in more detail in the analysis section with specific words as examples.

4. Description of the Data

This section discusses the methods used to collect the list of words used as the data in my thesis. The characteristics of the words selected for the analysis will also be adduced. I will also discuss the means used to find the corresponding lexemes in the translation and some of the challenges during the process.

I began the process by reading through both the English and the Finnish versions of the novel, simply in order to get a feel of the text and to familiarize myself with both the original and the translation. This would help me to locate the words and the sections of the text surrounding them in case there would be need when writing the analysis. The list of words for this thesis was collected by reading through the original English version a couple more times and by picking the words I felt to be meaningful from the perspective of the thesis. While it can be argued that this kind of method is rather unreliable and subjective, I do believe that my studies with the language and the knowledge gathered from previous readings of literature, both of the same genre as well as other genres, combined with the use of dictionaries, does make me qualified to gather the data in such a manner. While perhaps not exhaustive, it is sufficient for the scope of the thesis.

After having compiled the word list, I counted the occurrences of the words in the novel. While this is not necessarily an important figure in itself, it can be used to compare the number of the times the word is used in the original text and the number of different translations for the word, and thus develop an understanding of how consistent the translator has been in that specific case. The next step was to go through the Finnish version of the novel and to search for the translated words. I proceeded in this by finding the places in the English version by using search function on an electronic book, and finding the corresponding paragraphs in the translation. When the decision by the translator made it hard to find a clear correspondence due to selection of words or other issues, the structure of the sentence was observed in order to extract the words that best served the same function as the original one.

As the list of neologisms I was able to find in the novel is rather long, 76 in total, not all words will be discussed in the analysis. Mostly those deemed the most frequent as well as important regarding the world building attempts by the author will be picked, though some which are seen in minor roles can be adduced in order to support other claims regarding translations, and sometimes to offer

support for suggested alternative translations when required by common thematic or semantic elements.

Some time was spent in considering the categorisation of the data. However, as the methods of translation varies a great deal between and even amongst words, and creating accurate lists that depend on linguistic definitions of the types of neologisms proved to be challenging, it was decided to rely on the functional and thematic aspects of the lexemes. This should give much more freedom in observing and analyzing them and enable viewing them from multiple points of view instead of limiting myself to a single category of analysis, though even this categorisation proved difficult at times.

Even if the total number of the lexemes collected from the novel is large, only few of them appear consistently throughout the novel. This is best represented by the fact that only 19 out of the total of 70+ lexemes appear in the novel more than ten times, six items with a frequency of $9 \geq n \geq 6$ and the rest below $5 \geq n$, where n is the number of occurrences for any lexeme or its derivatives or use in compounds. While I have collected rudimentary data regarding the frequency of the words in the novel, I feel it is not necessary to present it in the analysis section, as it might bias the observations and cause an unwanted shift of weight, as not all the selections have been made with the numbers in mind. It would also be hard to quantify the translations, as the translator has opted for a multitude of alternatives. In addition to this it would be hard to present them in concise and equal way due to the agglutinative nature of the Finnish language and the multitude of options it allows with derivation.

5. Analysis

I have decided to divide this section into two according to the nature of the words observed in them. While the book itself can be seen as a work in which all the sections complement each other, the nature of the words used by the author are varied in meaning and context. The first section will deal with the setting, or the world of *Revelation Space*, and focus on the names and other aspects describing it to the reader. The second section will deal with a more niche part of the story, yet as we are talking about science fiction, rather an important one, technology. Both sections have been further divided into subsections in order to make it easier for the reader to both find the information and to group the lexemes into either functional or thematic categories. Some words could arguably be placed into multiple sections, and in such cases they have been assigned a category according to the most significant function they seem to be serving in the novel.

Due to the great number of translations and back translations in this section, I feel there is some need to clarify the used notation system. I have italicized the original lexemes from the English version of the novel and placed the corresponding words from the translation in single quotes. However, as these are not always accurate, they are sometimes followed by a literal translation back into English, which has been placed into square brackets in order to separate them from citation references placed in parentheses. In addition to this, there are some alternative translation suggestions I have constructed myself, in which case the Finnish words are italicized and their exact translation is offered in single quotes. If there is a need to discuss other Finnish lexemes for etymological purposes or other reasons, they are also referred to in italics, with translations offered in single quotes. It should be noted that the lexemes are only italicized when they themselves are analyzed and portrayed as normal lexemes when referred to within analysis of other lexemes. This is to avoid confusion in regard to which word is under scrutiny at any given time.

5.1 The World

The world of *Revelation Space* is an expanded version of the reality as we know it. While it is portrayed as a possible future, there are plenty of aspects that would not be familiar to the reader by default. Even though they might differ from anything the readers have experienced before, they are still relevant when they are forming a picture of the world when reading the novel. This section focuses on how the translator has managed to convey the aspects of the world to the reader, especially where they differ from our world.

5.1.1 Factions of mankind

The factions humanity has been divided into are an important part of the world of the novel. They are relied on while describing the differences between characters and in order to explain some of the background events. The most evident of these factions are the *Ultranaughts*, or *Ultras*. They are specialized in manning the lighthuggers and flying between the star systems while trading with planets and other entities in the star systems. Due to the lack of faster-than-light travelling, they are rather disconnected from the rest of the humanity, as they spend their journeys mostly in cryogenic sleep, skipping tens of years of the universe around them. The word *ultranaught* has been translated rather simply as ‘ultranaughtti’ [ultranaught]. The same applies to the shortened form *ultra*, which has been translated as ‘ultra’. Considering that the prefix *ultra-* is used in Finnish to some degree, it could be deemed to be familiar enough to the Finnish audience to retain it in the translation. Especially in the case of ‘ultranaughtti’, in a similar way as the original English word, most readers would be likely to associate it with the existing words ending in the bound morpheme *-naughtti* ‘-naught’, referring to humans who travel in space. As the morpheme cannot exist by itself in either of the languages, it is logical to translate it in the same form, especially due to the identical meaning. It is likely the author has derived the word from the meaning of *ultra* from the Latin meaning of the word, as they go beyond the limitations of the rest of the humanity by travelling between the stars (“Ultra-”, March 2015).

Another faction of the novel is the *Conjoiners*. They are more developed than the other factions due to enhancing their thought processes manifold by the aid of machinery. The Conjoiners are unlike other humans in the sense that they form hive minds with others of their kind, which is also reason for their name. This brings them much greater stability and efficiency compared to the rest of humanity, and many of the more powerful technological discoveries in the novel have originated from them. The word has been derived from the verb conjoin. The word *Conjoiners* has been translated rather simply into ‘yhtyneet’ [merged]. It could be argued that there are some slight differences between the two; ‘conjoiners’ depicts a social group of individuals who are in the process of conjoining themselves with each others, whereas *yhtyneet* depicts a society which has already finished the merger. To a degree the Finnish translation could actually be considered more accurate a description than the original one, and it is also most likely the best-suited word for the situation. Due to the nature of their technological superiority, *Conjoiner* is also used as an adjective with some technologies in the novel. Most often it is seen as *Conjoiner drive* or *Conjoiner engine*, which are the special engines capable of taking lighthuggers close to the speed of light. Both of

these variants have been translated as ‘yhtyneiden moottori’ [Conjoiner engine]. Additionally in some cases the ‘yhtyneiden’ has been dropped altogether, due to the construction being slightly clumsier in Finnish than in English. This kind of omission should not prove to be a great difficulty to the reader, as the full name is used every now and then, and it is made quite clear that all lighthuggers are fitted with the same type of engines.

The third faction of the Revelation Space is the *Demarchists*. They have built their society upon the model of demarchy, which is defined as “The office of a demarch; a popular government. The municipal body of a modern Greek commune.” (“Demarchy”, March 2015). However, in the novel it does not have the lottery based association of the political system it was invented for in the ancient *poleis* of Greece, but resembles more the ideal of democracy: the demarchy of *Revelation Space* consists of all the members of the society voting for everything at all times. The word is the result of a simple derivation where the *-y* suffix has been replaced with *-ist*, which traditionally indicates a person who does something, e.g. *linguist*. As they are connected to a wireless network, the implants in their heads can receive required information and they can vote in a matter of seconds. For most this kind of activity is almost automated, and they do not consciously think of the decisions. The word *Demarchists* has been translated as ‘demarkistit’ [Demarchists]. While the word in Finnish is not as recognizable as in English, it serves its purpose well as the meaning of the word is not the same as we might expect.

The most questionable of the translations comes from the fourth main faction that is represented in the novel. While the rest of them have been, if not exactly translated, at least even tried to change into a Finnish form, *Skyjacks* differ in this. They are people who dwell in space, but unlike Ultras tend to stay in a single solar system mining asteroids and maintaining spaceships. The name most likely derives from these aspects; sky-dwellers who do heavy lifting in space. Throughout the novel *Skyjack* has been translated as ‘Skyjack’. While the term maybe be more difficult to translate than the names of other factions, the decision does seem somewhat peculiar. Not only has the original form been maintained but the word is also always capitalized. This causes some problems when reading the Finnish text. While the context identifies the *Skyjacks* as a faction like the others mentioned above, it implies something completely different. By capitalizing the word the translator implies that it is actually a proper noun, and as such an entity or an organization, not a faction. While this does not impact the plot lines of the novel much due to the role *Skyjacks* play in the story, there are some implications for the world. As there is no clear explanation from whence their name arises from, the reader is left to wonder what makes them so different from all the others.

Given the nature of the text, it would be preferable to translate the name in a similar manner to the other factions. Considering the description of *Skyjacks* in the novel, it is likely the name has been derived from steeplejack, which according to the OED means “a man who climbs steeples or tall chimneys to repair them” (“Steeple”, March 2015). However, since using steeple as a part of the word would be nondescriptive for people who work mainly in space and handle much larger objects than simply steeples or chimneys, it would appear that the author has replaced the beginning of the word with sky, thus creating a new compound word. As the equivalent word for ‘jack’ is often *jätkä* or *mies* in Finnish, it would be logical to build the translation around either of these. According to the Finnish Language Office dictionary, *jätkä* is a “kuljeskelevä t. tilapäistöitä tekevä työmies” (“Jätkä”, n.d.), which translates into English as a workman who either travels around or accepts odd jobs. It is also used as part of the words such as *tukkijätkä* ‘lumberjack’ or *satamajätkä* ‘roustabout’. Considering the little we know about *Skyjacks* from the novel, this could be considered a valid description for the kind of life they lead, and would also be consistent with the tone of the original name for the faction. Thus a somewhat direct translation of *taivasjätkä*, which can be retranslated directly back to [skyjack], would be preferable in my opinion to simply using ‘Skyjack’ in the Finnish translation. This remains the most preferable option even if it is taken into account that it is likely the younger generations of Finnish readers, especially in southern Finland, are not aware of the meaning *jätkä* had in the past, and instead consider it more in the sense *dude* might be used in English.

An offshoot of the Skyjacks is the *Icecombers*, who are described in the novel as “psychomodified for the extreme solitude which came from working the Kuiper belt zones” (Reynolds, 2000/2008, p. 83). The compound created for the name of the group can be seen as quite literal, as Kuiper belt is a region of a solar system composed mainly of frozen volatiles, which are commonly referred to as ices (Delsanti & Jewitt, 2006). As comber is defined as “one who or that which combs; spec. one whose business it is to comb wool” (“Comber”, March 2015), which refers to the method of preparing the wool for spinning by separating the unwanted fibres from it. It is likely that, considering that Skyjacks handle, among other things, constructing protective structures and such from ice on the orbits for starships, the name is derived from this process. Thus *Icecomber* would be a person who extracts ice from the Kuiper belt while discarding the unwanted elements and delivering the wanted ones to the rest of the solar system, guaranteeing the quality of the raw materials. For this reason the translation as ‘jäämies’ [iceman], in my opinion, falls short: it is simply too general a term. Furthermore, it can be considered in somewhat humorous light, as associated with both celebrities and comic characters alike. It is a difficult to find a satisfactory

translation for the word. *Jäänkampaaja* ‘comber of ice’ would be accurate, but the Finnish readership might not be able to connect it contextually to the process. However, as *kampaaminen* ‘combing’ is also synonymous with scouring, it might be close enough, especially as the genitive case clarifies that it is the ice that is being combed, thus eliminating problems with the target of the activity. It would be possible to further open the lexeme in the translation by expanding the definition of *ice* in Finnish, but it would quite likely be counterproductive due to involved terminology.

Another rather minute but from the translational point of view in my opinion justified mention of a subspecies of mankind is the *Gillie*. In this case the reference is rather apparent, as they are “aquatically modified humans who breathed liquid air” (Reynolds, 2000/2008, p. 83), which justifies the name derived from *gill*, with the *-y/ie* suffix which is often used as a sign of affection in pet names and similar constructs, e.g. *granny*, *sweetie*, as well as to indicate something is characterized with something, e.g. *brainy*. For this reason it is not a surprise the word has been translated as ‘kitunen’, which approximately translates back to [gillie]. It does however pose some problems, as the consonant gradation in Finnish changes the letter *d* into the letter *t*, also making it possible for the resulting lexeme to be derived from either the verb *kitua*, translating as ‘suffer’ or ‘wither’, or the noun *kitukasvuinen* ‘stunted’, which is also synonymous in some Finnish dialects with the word *kytynen*, which closely resembles the word used in the Finnish translation. This causes problems, even if the word is explained in the novel, as it leads the reader astray by implying a rather different context for the name. For this reason it would be better to choose a form for the translation which, while still based on the word *kidus* ‘gill’, does not require the consonant gradation, for example *kidukas*, which approximately translates to ‘something/someone with gills’. While it somewhat loses the affectionate aspect of the original word, with the *-as* being mostly used in Finnish for adjectives, for example *varakas* ‘wealthy’ or *karvas* ‘bitter’. It is not unheard of for nouns either, e.g. *kuningas* ‘king’, so in my opinion it is fit to be used in this case for the name of the race.

5.1.2 Aliens

While the novel mostly focuses on humanity, alien races are also mentioned with a varying frequency. This section discusses the challenges the translator has faced when trying to translate them, as well as adduces some details that might be used to improve the translation in an optimal situation.

The most notable one is the *Amarantin*, a race of birdlike humanoids whose culture, or the remains of one culture, are studied in the novel. It is quite hard, unlike the other races in the novel, to determine from where the name of this race has been derived. For this reason it would be easy to consider it a new coinage, which the translation as ‘amarantiini’ would also suggest. It cannot however be ignored that the word *amarant* does exist in the English language, even if its definition as “an imaginary flower reputed never to fade; a fadeless flower (as a poetic conception)” (“Amarant(h)”, March 2015) could be seen as rather ironic considering it is used to refer to the remains of a long dead culture, which is not even considered that advanced. As it cannot be said with any certainty that the lexeme is even derived from such a reference, I feel the path the translator has selected is the safest and the best in this case. It leaves room for the imagination from the reader and does not chain the race with any contextual baggage, even if it does stand out amongst all other races in the sense that they possess descriptive names rather ones created from scratch.

Shrouders are another of the alien races mentioned in the novel. They are relatively unknown, only known for their creations, the *Shrouds*, from whence their name is also derived from. While it could be argued that the *Shrouds* belong to the Technology section, the two are so closely entwined that is much easier, and more logical, to discuss them together. As the race has been named after the objects they created in the novel, I will discuss them in the same order. The name of the *Shrouds* comes from their appearance, as they are described as “a wall of black which swallowed half the sky -- a black so total that it seemed like a nullification of existence itself” (Reynolds, 2000/2008, p. 99). While the word has many uses in the English language, the one most closely representing this purpose according to the *OED Online* is “A thing serving as a covering or protection; a defence; a covering, screen, veil, ‘cloak’, disguise” (“Shroud”, March 2015). *Shrouds* have been translated in the Finnish version as ‘Suoja’ [shield, cover or defence]. This comes down to the reading experience most likely. As the original lexeme is rather versatile, it becomes possible to understand it in a variety of ways, and it is practically impossible to convey all of the meanings in the translation. While reading the novel, my impression of the word was not one of defence, even if the aspect of the *Shrouds* is brought up, being considered impenetrable in the novel, but the main notion was that they were to conceal something. For this reason I would propose to translate the word into Finnish as *Verho*, which translates as ‘curtain’ or ‘shroud’. *Kätkö* ‘cache’ would also be a possibility, but it might cause some confusion with certain other elements of the novel. ‘Suoja’ is also acceptable, even if it projects a slightly different image. Even if *Shrouds* are non-unique objects, the translator’s decision to capitalise the word, as has been done in the source text as well,

is in my opinion correct, as it is the only way to make it noticeable enough in the text, even if it goes against the general spelling rules of the Finnish language.

Shrouders are the beings who have created the Shrouds. They are rather enigmatic, and are defined by their creations, which is from where the name comes as well. In accordance to the translation of the Shrouds themselves, *Shrouder* has been translated as ‘suojaaja’ [someone who protects or shelters], or ‘suojelija’ [protector]. The two words are almost synonymous, even if the latter one is more established. While the first one is clearly derived from the verb *suojata* ‘protect’, ‘shelter’, ‘shield’ or ‘guard’, it is not commonly used, and cannot be found for example in dictionaries. I would also argue there is some difference in meaning, with *suojaaja* being more focused on a specific moment. Even though both could be acceptable, there is little point in this case to use both in the translation. It is however worth considering the detail that as the alien races in the novel are treated as proper adjectives, the same does not apply in the Finnish translation due to language conventions, it might be better to choose the lesser used and thus stranger lexeme, which does stand out from the rest of the text and is not as likely to be confused with general use of same or similar words. In accordance to the proposed translation for the Shrouds, I might prefer to translate *Shrouder* as *verhoaja* ‘someone who covers something with a shroud or a curtain’. While it lacks the protective aspect, as I explained above, the difference in meaning comes from my personal perceptions while reading the source text.

The one alien race prominent and available in the novel is the *Pattern Jugglers*. Their name is derived from their perceived function, which is to alter the neural pathways of those who swim in their oceans, and create new ‘patterns’ for various ends. The name has been generally translated as ‘mielenmuovaaja’ [mindshaper]. In a way similar to the English variant being shortened to simply *Juggler*, the Finnish equivalent is referred to as ‘Muovaaja’ [shaper]. The curious part, in a fashion similar to the Skyjacks, is the capitalisation of the word in Finnish. While ‘mielenmuovaaja’ has not been capitalised, ‘Muovaaja’ has been, probably because otherwise the only detail to separate it from a general lexeme used in the same purpose would be the context. I do not believe it to be that great a concern, as the word itself is not very common in the Finnish language, and if it ever would pose a problem in an occasion, the translator would most likely be able to circumvent it. As mentioned above, since capitonyms are not used in the same sense in Finnish as in English, the lexeme should always be in lower case. In other ways the translation is, even though it might appear quite different, contextually similar to the original. Since the *Jugglers* are described in the novel as a biological archiving system, capable of storing vast amounts of information and then imprinting

the patterns they have gleaned into others who swim in their seas, the translation is actually in a way even more accurate and descriptive than the original name, especially since the novel only mentions neural changes in the swimmers. Literal translation would be quite humorous due to far stricter definition of *jonglööri* ‘juggler’ in the Finnish language.

The third alien influence in the novel is the *Inhibitors*. Their name is rather self-evident, as they are described as a race which “inhibited the rise of intelligent cultures around the galaxy” (Reynolds, 2000/2008, p. 523). The word has been translated in the novel as ‘tukahduttaja’ [smotherer] which is probably the closest to the meaning the Finnish language allows with the direct translations of the word *inhibitor* being mostly related to biochemistry (“Inhibitor”, March 2015).

5.1.3 Other

This section focuses on lexemes which can be considered to be more important to the novel from the world building rather than technological point of view, but can neither be placed with ease into any of the other categories discussed in this section nor are significant from the technological perspective to justify placement in the Technology section.

A good example of a repurposed old word is the *palanquins* we can observe throughout the novel. While the lexeme could also fall under the next section, I decided to include it here due to it being arguably more important from the world building aspect than offering any new technological advances. *Palanquins* serve basically the same purpose as they do in the sense of meaning we have of them, which is moving people around. However, the notable difference is not even that they do not require bearers, which is to be expected given the advanced technology. Instead their primary function has evolved beyond simply moving the subject, and instead also becoming a protective shell, hermetically sealed containers which protect the users. As to the translation there are not really problems, given how blatantly the author has simply taken an old word and assigned it a new meaning. Thus the translation as ‘kantotuoli’ is sufficient, because due to the singular use of the words in both Finnish and English languages, it is unlikely the reader would mistake the translation in any other context than originally meant.

Another word that falls into the same category as the palanquin is *servitor*. *OED Online* (March 2015) describes it as “A (male) personal or domestic attendant (in early use chiefly, one who waits at table); a man-servant. Now *arch*.”. The key part of this explanation for our interests is the

mention that it is an archaic term. This becomes significant when combined with the detail that in the novel, servitors are always referred to as machines instead of people, as it is likely the author has knowingly chosen a word which has fallen from use in the common day language in order to convey a sense of strangeness: careful readers are not as likely to simply skip past the lexeme as they would be for example in the case of servant. This makes translating the term rather interesting. While it has been translated as ‘palvelija’ consistently throughout the novel, it does pose certain problems, as it makes it impossible to make a difference between a machine and a human, which is apparent with the original word, even if the novel does not refer to any human servants. The lack of explanation to the nature of the servitor in all mentions would either demand the translator to add more detail in order to make apparently the inhuman nature or the use of another word. As there is no similar archaic term that could be used in the Finnish language to my knowledge, the solution cannot be that simple. The most obvious choice would be to use a compound word, for example *palvelusrobotti* ‘service robot’ or some other similar construction. It is a somewhat clumsy approach, but given the heavy contextual baggage the word *palvelija* ‘servant’ possesses, it would probably be the wisest course of action.

Yet another instance of the world building elements notable in the text is the *razorstorms* which are frequent on the planet Resurgam. They are described thus “on account of the merciless flensing quality of the airborne dust” (Reynolds, 2000/2008, p. 310). The word is not likely to cause many problems for a reader, as compound words with *storm* as the head are common enough in English, e.g. *thunderstorm*. *Razorstorm* has been translated as ‘turmamyrsky’ [accident storm], which is a rather curious translation. While it is in the somewhat same direction, as it implies that a lot of accidents take place during the storm, it somewhat diminishes the destructive aspect of the storm itself, which is heavily implied in the original compound. Consequently, it would most likely be better to slightly change the translation. As *razor* can also be used for anything that cuts as sharply as a razor, especially if used as a verb, something relating to that aspect of the word could be sought in the translation as well. For example *leikkumyrsky* ‘cutting storm’ might serve the purpose, or alternatively *terämyrsky* ‘bladestorm’. Both would serve a similar purpose contextually as the original word, as *partaveitsi* ‘razor’ is not well-suited for this purpose in Finnish.

One aspect of the world, or perhaps humanity, often mentioned in the novel is the *chimeric*, which refers to people who have chosen to augment their bodies by either implanting machinery, or alternatively replacing parts of their body with artificial replacements. According to *OED Online* *chimeric* means “chimera-like” (“Chimeric”, March 2015), and *chimera* can mean “An organism

(commonly a plant) in which tissues of genetically different constitution co-exist as a result of grafting, mutation, or some other process.” (“Chimera”, March 2015). The description for the chimera is rather apt for the word *chimeric*, except for the union being between man and machine instead of simply different types of tissues. The lexeme itself is a result of zero-derivational nominalization, as *chimeric* is originally only an adjective, but is used as both an adjective and a noun in the novel. Due to the frequency with which it appears in the novel, it has also been translated in a multitude of ways. When used as a noun, it is often translated as ‘kimeerikko’, which can be considered to be a straight loan word from the source text with slight localization in order for it to fit the Finnish orthographic patterns. It is also similar enough to the Finnish word *khimaira*, which refers to the mythical beast with parts from multitude of animals, to be understood in a similar context as the *chimeric*. Not all translations of the words derived from *chimeric* are as straightforward or easy to understand, however. For example

had her underlying skeletal-muscular structure not been chimerically enhanced (Reynolds, 2000/2008, p. 313)

‘ellei hänen luustoaan ja lihaksistoaan olisi vahvistettu keinotekoisesti’ (Reynolds, 2003, p. 394)

[if her bones and muscles had not been artificially enhanced]

where the translator has, in my opinion needlessly, dispelled the original word by choosing a more general and conventional lexeme in its place. A truer translation could have been constructed by the use of *vahvistettu kimeerisesti* ‘enhanced chimerically’, which would have served the same purpose contextually and retained the lexical conformity. The same applies to the passage

the chimeric mass of the plague (Reynolds, 2000/2008, p. 389),

‘ruton muuntautuvaa massaa’ (Reynolds, 2003, p. 488)

[the transforming/converting mass of the plague]

Since the mentioned plague converts basically anything it touches into a chimeric organism, the translation is descriptive. However, it could be argued that it would have been better stylistically to maintain the conformity throughout the translation. The adjective does relay the same context, given the use of the word in the novel, as the translator has especially opted to use it in other occasions as well. Such is the case for example with *biochimeric* which he has loaned directly as ‘biokimeerinen’.

5.2 Technology

This subsection focuses on the technology of the *Revelation Space*. While it could be said that the technological jargon does not play as great a role in building the world in the novel as the setting, which was discussed in the previous section, given the genre, I do believe it to be significant. Even though some of the technology used in the novel is based on those existing around us even now, most of them are taken far further than is possible in the form they are familiar to us.

5.2.1 Medicine

Technological development brings with itself many advances, of which medicinal improvements are rather significant. This is because they shape the lives of people in many ways. In this section I will observe the ways in which the medical advances are displayed in the novel, and comment on the way the translator has approached them.

Another very commonly used piece of technology in *Revelation Space* is *medichines*; delicate nanomachinery capable of curing diseases and mending injuries as well as prolonging human life. The word would appear to be formed by replacing the beginning of *machine* with the bound suffix *medi-*, creating a new lexeme which indicates machinery performing medical tasks. It is difficult to tell whether the word is a clipped compound or a blend, but as it does not affect the function of the word, I do not feel the need to examine it further. One of the main implications here is that they are completely artificial and not a type of medicine.

The word is translated in a variety of ways: ‘lääketieteellinen laitteisto’ [medical equipment] is technically correct, but implies scale that is on a completely different level from the original; one would imagine for it to be stationary and a rather large apparatus, instead of miniscule machinery moving through the veins of the host’s body. While this does work perfectly well in the context, it steals away the futuristic sense of the original word; we in the present use medical equipment of many sorts, so there is nothing strange or new about this kind of a thing.

On the other hand, *neural medichines* have been translated as ‘hermostolliset rohdot’ [neural medicine] when discussing the possibility of using nanomachinery to alter the patient’s brain functions. The implication of machinery has been completely discarded here and replaced by something which has an almost organic feel to it. The word *rohto*, while usually translated as

'medicine' is a colloquial word used for medicine made at home for example. Thus using it instead of any of the alternatives provides some difficulties with the context, creating an image of someone being administered substances either orally or intravenously. The same could be said about *helper medichines*, which has been translated as 'apulääkeaineita' [helper drugs] or [helper drug ingredients]. It clearly removes the implication that it is machinery taking care of the work and instead insinuates normal medicine such as we have at our disposal in the present.

The original meaning has been preserved more carefully while translating "the medichines in his blood" (Reynolds, 2000, p. 446) as "hänen veressään olevat koneet" (Reynolds, 2003, p. 556), [the machines in his blood]. Here with the context the reader can appreciate both the nature of the method as well as the scale. Due to translator's apparent unwillingness to generate a word for *medichine*, *kone* 'machine' is likely to be the closest equivalent, even if it is rather vague, and thus the most acceptable of the alternatives presented so far. This translation appears consistent in the remainder of the novel, raising questions why the translator varied from it in the beginning of the novel. Even if it is the most acceptable of the translations provided so far, it does pose some problems. For example when describing the events at a medical centre

The machines fussed over him...Perhaps the medical systems were already communicating with his medichines... (Reynolds 2000: 450)

'Koneet puuhailivat triumvirin kimpussa...Lääkintäjärjestelmät saattoivat olla jo yhteydessä hänen omien koneidensa kanssa...' (Reynolds: 2003: 561)

[The machines were occupied with the triumvir...Perhaps the medical systems already have been communicating with his own machines...]

we can see that the translation does not make any kind of a difference between the two types of machinery; the stationary ones at the medical centre and the ones swarming inside the body of the patient. While in the original text two different words make it easy for the reader to understand that they are two completely separate things, the translation does not provide this kind of a luxury. While it could be argued that if the previous events are taken into account the reader should be able to understand which machines we are talking about, using the same word for both is repetitive and might prove difficult for some readers to make out which machines the author is talking at any given point.

This kind of inconsistency within the book is not good for the reader, as it fades out a rather noticeable aspect of the technology in the novel. While this might not be a problem by itself, it

effectively dispels part of the illusion of a futuristic world the author is attempting to create. It would not be impossible to claim that technobabble is one of the most visible aspects of the science-fiction genre, and while the impact of higher technological prowess can be implied by using vocabulary reserved for things that already exist in our present, as is the case with the novel in general, rare examples of jargon, such as *medichine*, are even more valuable to the reader.

While it would be possible to translate the word in a manner faithful to the method the original word was created with, I'm not certain it is for the best. The most obvious choice in this manner would be *lääkone*, where the *lää-* comes from *lääketiede* 'medicine', and *kone* from 'machine'. While it could be argued that readers get used to new words, it can still be seen as a somewhat comical and forced creation. It could also be questioned whether it is as easily understandable as *medichine*, although given that the meaning of the word is expanded upon in the novel, this point becomes somewhat moot. It may be better to ask whether the word feels natural enough for the Finnish reader. Since *kone* 'machine' is used often while forming compounds in Finnish, it would be acceptable in a situation like this. As blends or clipped compounds are not as common in Finnish as they are in English, readers may consider the word as too weird. In general, the Finnish words involving *-kone* are, according to a cursory glance at the dictionary, basic compounds. However, given the fact that *medi-* as a prefix is being used in Finland for various terms, it might be possible, given the context of the novel, to use it in the Finnish translation as well. Especially in the mind of a younger reader, who is better versed in Finglish, *medikone* might be received more naturally and with more acceptance than for example *lääkone*. As such it could be considered a more appropriate translation for *medichine*, although the question rises whether it is too far deviated from acceptable Finnish to be used in a literary text, or whether a more domesticated translation should be used. An example of such a word could be *lääkitsin*, which translates as [something which applies medicine], even if it does sound quite silly, and is off context as the *medichines* do not apply medicine, but instead handle the repairing of damage by themselves. Nevertheless, in my opinion a single word should be decided upon and used in as many occasions as possible while translating the text.

The novel also mentions another rather advanced piece of medical technology, *trawling*. While the word is often associated with fishing, the dictionary also offers the following explanation: "to engage in an exhaustive or extensive (sometimes indiscriminate) search for something" ("Trawl", March 2015). Even though the word is used as both a noun and a verb in the novel, this would probably be the most fitting description for the word in the context of the novel, as *trawling* is used as a term for brain scanning in varying situations and to a varying degree of depth, e.g. "Sajaki's

trawl was the kind that left a trail of neural damage behind as it scanned, like a frantic burglar ransacking a house.” (Reynolds, 2000/2008, p. 400). As it is mentioned quite frequently and in different contexts, it is not surprising that it has also been translated in a variety of ways: if it is used as a verb it has been translated as ‘tutkailla’ [explore, scope out] or ‘skannata’ [scan], or if as a noun as ‘sensori’ [sensor], luotain [sounder, probe] or ‘luotaamis-’ [probing-] in some compounds.

The main issue with this kind of variety is again the problem that the reader might not be able to associate all the instances as the same action. As the author has assigned these kinds of actions a single word, it can be seen to undermine his efforts if the context has been blurred into a multitude of actions, especially as some of the translations do convey rather conflicting ideas. For example in

She felt a neural tingle as the thing trawled her, like someone daintily rearranging flowers in her head (Reynolds, 2000/2008, p. 81)

‘Hän tunsi hermojensa värähtelevän, kun laite tutkaili häntä kuin joku, joka järjesteli hellävaraisesti uudelleen hänen hiuksissaan olevia kukkia’ (Reynolds, 2003, 104).

[She felt her nerves tingle, when the machine was exploring her like someone who gently rearranged the flowers in her hair]

the use of the word *tutkailla* would indicate a more cursory approach to the examination. It also seems to completely discard the neural aspect of the search, which however is clear in the surrounding context. For example use of *skannata* ‘to scan’ might have been more appropriate in this situation, as it is perhaps the more established word for such activities in science fiction in general. In case of nouns the differentiating is slightly harder. The same kind of issue arises in the passage

A trawl is reading your brain even now, you see. (Reynolds, 2000/2008, p. 202)

‘Luotain lukee näet aivojasi tälläkin hetkellä’ (Reynolds, 2003, p. 255)

[A probe is reading your brain even now, you see.]

The problem here rises from the multiple purposes of the word ‘luotain’. While it could be argued that in the function as a [sounder] it might be similar to the function described, it still indicates external rather than internal activity. [Probe], on the other hand, goes rather far from the original word. The same applies to *trawl techniques*, which has been translated as ‘luotaamistekniikat’ [probing techniques]. For example *skannaustekniikat* ‘scanning techniques’ might be more in line with the lexical conformity since, as mentioned below, the translator has opted to refer to *trawl* as a scan in some places. Also in the passage

Normal speech was impossible now, but the suit helmets contained trawls which were able to interpret subvocal commands. (Reynolds, 2000/2008, p. 327)

‘Tavallinen puhe oli nyt mahdotonta, mutta pukujen kypärissä oli sensoreita, jotka pystyivät tulkitsemaan kurkussa muovattuja äänettömiä komentoja.’ (Reynolds, 2003, p. 412)

[Normal speech was now impossible, but the suit helmets contained sensors which were able to interpret soundless commands formed in the throat.]

we can observe how the translator has taken a rather different path compared to what is hinted at in the source text. The original passage would seem to, given the former mentions of *trawl* in the novel, which are also discussed above, refer to the idea of the subvocalization happening within one’s brain and being directly interpreted from the neural activity. The translation however considers the function to be performed with a laryngophone, which is far less sophisticated than the method suggested in the source text. If we consider *trawling* as a scanning function, which is heavily indicated in the novel, probe is hardly justifiable as it heavily indicates sending something physical to do the inspection, instead of the non-intrusive, even if destructive, function described in the text, which the translator has seemed to use for the passage

Sajaki might opt for torture... perhaps even a dangerous deep-memory trawl. (Reynolds, 2000/2008, p. 363)

‘Sajaki saattaisi valita kidutuksen... ehkä jopa syvän muistojen skannauksen’ (Reynolds, 2003, p. 457)

[Sajaki might choose torture... perhaps even a deep scan of memories.]

even if he has translated the intent otherwise differently, with the original passage referring to scanning deep memories, and the translation talking about a deep scan of memories. While at a cursory glance the two might seem identical, there is the difference that a deep-memory scan might only target the deep memories, whereas a deep scan usually, in my experience especially when discussing computers, refers to scanning methods which thoroughly go through all sections, usually taking a very long time.

While I dislike *luotaus* ‘probing’ or its derivatives an agreeable translation even though it does maintain the maritime theme of *trawl*, the main problem is with the conformity. As the translator apparently was satisfied with *luotaus*, he could have stuck with it consistently, instead of choosing to derivate in certain situations. This would make it more consistent to the reader.

A commonly used concept in science fiction is the preservation of bodies in extremely cold environment, and the ability to resuscitate the bodies into fully functional human beings. Reynolds

has retained the concept, but he has replaced the more commonly known terminology by referring to it as *reefersleep*. The decision is curious enough given the wide use of *cryosleep* in general, and there do not seem to be any apparent differences that would justify it. The lexeme itself is rather easy to trace, as *reefer* can refer to both “Naut. A person who reefs sails; freq. spec. (slang, now hist.) a midshipman” (“Reefer”, March 2015) and “A refrigerated railway wagon, lorry, or ship, used for conveying perishable goods. Also more fully reefer car, etc.” or “A (usu. large) refrigerator.” (“Reefer”, March 2015). The *sleep* part of the compound comes from the state of unconsciousness inflicted by the method, which is also usually used when discussing cryogenic preservation methods of humans.

The problem arises when the author has used both cryogenic and *reefersleep* in the same passage, which is the case in the following example:

'Passenger cryogenic sleep level concierge,' said the elevator. 'For your in-flight reefersleep requirements. Thank you for using this service.' (Reynolds, 2000/2008, p. 20)

”Matkustaja kryogeenisen unitason huoltaja”, sanoi hissi. ”Lennonaikaisia kryoarkkujen tarkistuksia varten. Kiitoksia tämän palvelun käytöstä.” (Reynolds, 2003, pp. 28-29.)

[‘Passenger cryogenic sleep level caretaker’, said the elevator. ‘For your in-flight cryo capsule inspections. Thank you for using this service’]

In this example, as it is the first time the word is introduced, the two have been put together in order to introduce the new lexeme to the reader. I cannot blame the translator for choosing to translate *reefersleep* with ‘kryo-‘ [cryo-] as the established translations for *reefer* would sound silly, with the exception of ‘kylmäkuljetus’ [cold storage], which is probably the meaning the author has pursued in English as well. It could theoretically be also replaced with *jää-* ‘ice-‘ in most occasions, for example by referring to *reefersleep* as *jääuni* ‘icesleep’, or alternatively *kylmäuni* ‘coldsleep’. A more established and familiar approach of choosing *kryouni* ‘cryosleep’ is most likely the best option to the Finnish readers. I do find fault in the choice of words by the translator however, as the *reefersleep requirements* does not necessarily refer to simply ‘kryoarkkujen tarkistuksia’ [cryo capsule inspection], as it is likely the crew would also want the option to, if necessary, interact with and wake the passengers from the *reefersleep* during the flight if necessary, instead of simply keeping an eye on them. For this reason a more general, and accurate, translation of *kryouneen liittyviä tarpeitanne varten* ‘for your needs regarding cryosleep’ would have been a better choice.

The translation of *reefersleep unit* as ‘kryoarkku’ is in my opinion acceptable, assuming there is neither need nor will to introduce a new word in the Finnish language for it, especially as the source

text refers to them as *reefersleep casket* at some occasions, though it always includes *reefersleep* in the compound. There is hardly any possibility of misunderstanding the meaning due to the established nature of cryosleep and the use of compounding to prevent association of *arkku* ‘coffin’ to other contexts. The same applies to referring to *reefer* as ‘arkku’ in subsequent sentences, as the context has been established, and translating it as *jääkaappi* ‘fridge’ or *pakastin* ‘freezer’ would create an overtly humorous overtone as they too are commonly used for everyday needs in the Finnish language. There is a limit to this however, as we can see in the following passage:

Let Nagorny spend a few years in reefersleep, and see if that cured his psychosis.
(Reynolds, 2000/2008, p. 33)

‘Antaisin Nagornyn nukkua muutaman vuoden arkussa ja tarkastaisin sitten, oliko se parantanut hänen psykoosinsa.’ (Reynolds, 2003, p. 45)

[I should let Nargony sleep a few years in a coffin and then check whether it had cured his psychosis]

In the passage above, there is no connection to *reefersleep* in the translation at all. While it could be argued the context is clear enough, the mere mention of *arkku* ‘coffin’ could as well refer to any number of other possibilities. *Antaisin Nagornyn nukkua muutaman vuoden kryounessa* ‘let Nagorny spend a few years in cryosleep’ would have been more faithful as well as easier to interpret. At some points the term has even been expanded needlessly in the translation, as for example in

a common side-effect of reefersleep (Reynolds, 2000/2008, p. 41)

‘tavanomainen kryogeenisen jäädytyksen sivuvaikutus’ (Reynolds 2003, p. 55)

[a common side-effect of cryogenic freezing]

where the ‘jäädytys’ has been added, when it would have been fine to simply translate the part as *tavanomainen kryounen sivuvaikutus* ‘a common side-effect of cryosleep’. The same applies to

a short immersion in reefersleep (Reynolds, 2000/2008, p. 41)

‘lyhyeen jäädytykseen’ (Reynolds, 2003, p. 56)

[for short freeze]

in which it again is questionable to use *jäädytys* ‘freeze’ as it is too general a term to use, not to mention the translation mostly sounding more like placing something into a freezer so it cools slightly, instead of storing it there, which is implied in the novel. *Lyhytaikainen kryouni* ‘short term cryosleep’ would have served the same purpose and created a stronger association to the context,

thus enforcing the lexical conformity regarding *reefersleep*. While this is mostly a stylistic grievance, it is curious to see the translator take so many liberties in changing words where there is no real need. Especially as a short time later the mention of *reefersleep process* has been translated as ‘jäädytysprosessi’ [freezing process], which is agreeable due to the mentioning of the process itself. *Kryouniprosessi* ‘cryosleep process’ is too cumbersome, and in this occasion I would judge it necessary to use an alternative word. It is also questionable if *reefersleep* can be translated simply as ‘uni’ [sleep], as has been done in some occasions, since even if the context refers to it as a longer term, simply translating it as *kryouni* ‘cryosleep’ would be more in line with the author’s style. Similar problems arise in the following passage:

despite the patient ministrations which had been visited upon him in reefersleep (Reynolds, 2000/2008, p. 68)

‘huolimatta kärsivällisistä operaatioista, joita oli tehty säiliössä hänen nukkuessaan’ (Reynolds, 2003, p. 90)

[despite the patient operations which had been made in the container while he slept]

In this passage the translator has for no reason decided to include the word *säiliö* ‘container’, which could easily have been avoided by simply translating the passage as *joita oli tehty kryounen aikana* ‘which had been made during cryosleep’. The translator also takes liberties when he translates the passage as

Not from a catnap, either, but from something much deeper, longer and colder. A reefersleep fugue, almost certainly -- they were not something you forgot, and she had woken from one before, around Yellowstone. (Reynolds, 2000/2008, p. 98)

‘Eikä miltään nokkaunilta, vaan jostain paljon syvemmästä, pitemmästä ja kylmemmästä. Lähes varmasti kryoarkusta – ne kerrat eivät juuri unohtuneet ja hän oli herännyt arkusta aikaisemminkin, Yellowstonen kiertoradalla’ (Reynolds, 2003, p. 125)

[Not from a catnap, either, but from something much deeper, longer and colder. Almost certainly from a cryo casket – those times were not often forgotten and she had woken from a casket before, on the Yellowstone orbit.]

and omits the word *fugue* completely from the translation, as well as decides to change the reference from original passage in the next sentence to refer to the casket instead of the fugue, which is a symptom of the process itself. While not contextually significant, it does cause, once more, some stylistic questions regarding the translation. As a whole the translator has treated *reefersleep* in a questionable style, by taking a great number of translational liberties and choosing alternative lexemes that at times differ greatly from the original, and thus compromise the lexical conformity, even if the contextual associations do remain understandable to most part. It should

however be noted that the examples mentioned above are from the beginning of the novel and for the latter part of the novel the translator mostly has simply referred to *reefersleep* or *reefer* as ‘kryoarkku’ [cryo coffin], which is more acceptable within the contexts.

5.2.2 Information technology

Information and the means with which it is delivered as well as processed are crucial to any developed society. From this perspective it is interesting to see how the author has improved the methods at our disposal in order to introduce an advanced society of his own. In this section I will try to shed light on the neologisms relevant to the topic.

Another curious pair of words used by Reynolds is *gunspace* and *dataspace*. It is quite likely that according to the use of the words, as they are described as kinds of virtual realities used in controlling equipment and software, are derived from the word cyberspace, a word constructed by science fiction author William Gibson for his writings to mean “the space of virtual reality” (“Cyberspace”, March 2015), even if the word has been appropriated later to mean “the notional environment within which electronic communication (esp. via the Internet) occurs” (“Cyberspace”, March 2015). Even though cyberspace is a blend formed from cybernetics and space, *gunspace* and *dataspace* should be considered compounds, as there is no clipping or overlapping in either of them. However, the form of the word, as well as the context in which they are used, suggests a relationship with cyberspace.

Gunspace has been translated in a multitude of ways, namely ‘asejärjestelmä’ [weaponsystem], ‘asetila’ [weaponroom/space] and ‘aseavaruus’ [weaponspace]. While *gun* has been retained in all of the translations in the form of ‘ase’ [weapon], the other word used in the compound changes the meaning quite a lot. ‘Järjestelmä’ is technically correct as virtual realities are forms of computer systems, but the word is too wide, and too easy to comprehend in a wrong way. While it could be argued that the context does reveal the nature of the system, the word itself can be linked to the underlying architecture instead of the visual presentation of it. ‘Tila’ is slightly different in the sense that it can be translated as [space]. It is, after all, used in the Finnish language both figuratively and concretely to mean room or space. It does however have more of a physical sense to it than abstract, which does not make it a desired translation. ‘Avaruus’ is literally [space] and in theory it would not be any better than either of the other two offered translations. However, it could be argued that as the *gunspace* is quite likely derived from *cyberspace* which has an established translation of

‘kyberavaruus’, ‘avaruus’ would be the most logical one for *gunspace* as well. The same applies to *dataspace*, which has been translated as ‘datajärjestelmä’. While ‘järjestelmä’ would likely go together with ‘data’ better than in case of *gunspace*, translating it as ‘data-avaruus’ would better fit the thematic effect probably sought by the author, as well as keep the translations constant. It could also be argued that *dataspace* is almost synonymical to cyberspace, which would further justify the use of ‘avaruus’ in the translation.

Due to the advances in manipulating the human neural system there are some aspects in the novel that should be mentioned. One of these is *entoptic*: a holographic projection which can be perceived with the aid of neural implants. While the word is usually used in medical context – for example Friedman (1942) describes entoptics as “autovisualization of certain structures within the eye through the propitious arrangement of incident light” (p. 285) – Reynolds has repurposed the word by making the causes, if not the means, external. It could be argued the phenomenon is marginal enough not to cause much confusion amongst the readers with the traditional association. The phenomena serve multiple purposes and are used for both entertainment as well as information. A good example of the former use is perceived in for example “Small entoptics surrounded his seated figure, symbols of Boolean and three-valued logics and long cascades of binary.” (Reynolds, 2000/2008, p. 10), whereas the latter is noticeable in “the entoptic was a schematic of the little pocket of space englobing Hades” (Reynolds, 2000/2008, p. 396). The word has been consistently translated as ‘kuvajainen’ [reflection, illusion], which is rather apt, and a much better choice than translating it as *näköhäiriö* ‘visual disturbance’, which seems to be the most commonly used term for entoptic phenomena in Finnish. While it could be argued that the difference between the two words is rather obvious with one phenomena being internal and the other external, given that *entoptics* are not internal in the context they are used in the novel, but instead being purposefully projected by someone or something for others to be viewed. The translation however successfully captures the incorporeal and fleeting nature often described when the *entoptics* are referred to in the novel.

Similar to the purpose of entoptics are *holographics*, which are translated as ‘holografinen kuvio’ [holographic pattern]. The main difference between *holographics* and entoptics would seem to be that *holographics* exist within something, as is seen in “bronze gauntlets, inlaid with ormoluwork windows which revealed constantly shifting holographics” (Reynolds, 2000/2008, p. 67), as opposed to the entoptics, which are seen as projected outside the body. While *holographic* is used as a noun, it is more often an adjective, which again raises questions of the need for two kinds of

projections, as in some cases, such as “a rather glum and simpering holographic head projected at chest height above the slot-topped counter” (Reynolds, 2000/2008, p. 438) the similarity between the two is rather stunning. Some cases, such as “the enormous holographic projection sphere” (Reynolds, 2000/2008, p. 442) would however suggest *holographics* are generated so that they can be perceived by anyone, whereas the entoptics are seen with the aid of implants, and thus are not visible to the naked eye. While this somewhat digresses from the topic of the thesis, it is in my opinion worthwhile topic for discussion, as the key to a successful translation is the understanding of the source text.

Yet another clipped compound created by Reynolds is *comsat girdle*, which is created by removing most parts of the words *communication* and *satellite*, thus resulting in a much more compact word, which can be used with *girdle* in order to further define both the purpose and the quantity. The term has been translated as ‘tietoliikennesatelliittiverkosto’ [communication satellite network], which serves pretty much the same functionality as the original lexeme. While quite a bit more cumbersome than the original, it is to be expected as compounds in the Finnish language can get rather long. Furthermore, for some reason clipping would not sound as natural as it does in English. Also the basic kinds of abbreviations, as used in military jargon for example, would not work. Even if they were more familiar to Finnish readers in general, there would be no reference point for them. I was unable to construct any sensible clipped compounds or blends that would serve the same purpose, so in my opinion the original translation is sufficient. It is not a surprising therefore, given the length of the word, that it has been later shortened to simply ‘tietoliikennesatelliitit’ [communication satellites], as the *verkosto* ‘network’ is somewhat redundant given the function of the satellites in general. Same kind of functionality can be observed in the construct *com-laser link*, which has been translated as ‘yhteyslaserlinkki’ [connection/communication laser link]. It is likely the English word has been clipped from *communication*, in which case it might have been better to translate it as *viestintälaserlinkki* ‘communication laser link’, as *yhteys* can mean a large variety of relationships between two or more persons or objects. Similarly *com-sat* could be translated as ‘viestintäsatelliitti’ [communication satellite], but ‘tietoliikenne’ is more established in those kind of situations.

The information aspect has also been touched with *compads*, devices used by the humans in the novel to access information whenever necessary. Similarly to the examples mentioned above, the word has most likely been clipped from *communication*, with the addition of *-pad*, which can be considered a common bound morpheme in the science fiction context, as well as in modern day

gadget business. It would appear it has been used in a similar meaning as early as in 1968 by Arthur C. Clarke with his description of *newspad* in *2001: A Space Odyssey* (e.g. Clarke, 1968/2012, p. 103). The term was even later adopted as a concept to refer to a working device by the European Union (“A 'Multimedia Viewer' Enables Electronic Newspapers”, 1996) For this reason it is curious the translator has chosen to translate the word simply as ‘kannettava’ [laptop], which implies far less advanced piece of technology. From the modern perspective the device is more described in the same way as modern day tablets, for example in the passage

spoke softly into his sleeve-mounted compad, instructing the map to zoom in on the settlement (Reynolds, 2000/2008, p. 309)

‘puhui hiljaisella äänellä hihaansa kiinnitettyyn laitteeseen komentaen karttaa laajentamaan asutuksen’ (Reynolds, 2003, p. 389)

[spoke softly into a device attached to his sleeve, commanding the map to zoom in on the settlement]

where the translator has also deviated from his standard translation by opting for a far more general word. From the modern perspective I would find it satisfactory to simply consider loaning the word directly as *compad* as the devices with similar names are frequent and familiar to the consumers, for example the Compaq products in personal computing and more recently products such as iPad by Apple. If a more traditional approach is wished for, I feel the translator should resort to the naming convention used in the source text, and for example opt for *viestinlevy* [communicating sheet/board], even if the device is used for more than communication. However, in case the translator would feed more adventurous, it would also be possible to try to derive a completely new word into the Finnish language, which for example in this occasion could be *viesteri*, which could best be translated into English as ‘something to communicate with’, as it is derived from *viestiä* ‘communicate’.

5.2.3 Weaponry

As the novel can be considered hard science fiction, the weaponry used in it is of relative interest from the perspective of translation, as it suggests most of them have a function that is based on real theories or phenomena. The main problem with this is that if the translator wishes to translate the words accurately, he or she must possess a good grasp of certain fields of physics in addition to the other requirements. While there are plenty of other weaponry in the novel in addition to those discussed here, most of them are either familiar enough from other science fiction, or they share the same principles as the weapons of our time, for example basic projectile weapons. For this reason I

have only selected some that are either interesting from the perspective of translation, or are, from our perspective, advanced enough to justify mentioning them and to reflect on the ways they would best be translated.

The first in the list of weapons, the one most often referred to in the novel, is *ack-am*. While it is made clear the word stands for accelerated antimatter, for example in “Go to minimum-yield ack-am pulse mode. . . . The accelerated antimatter pulses were simulated” (Reynolds, 2000/2008, p. 289), the use of *ack* instead of *acc* might make a reader who is not well-versed in war vocabulary to frown slightly. It is, if used as a noun, more commonly used to represent “an anti-aircraft gun, regiment, etc.; (also) anti-aircraft gunfire”, while it can also be used as an adjective to simply “representing the letters a. a., short for anti-aircraft” (“Ack-Ack”, March 2015). While the anti-aircraft connotation remains vague in the novel, with antimatter used as an overall weapon, it is likely the blend has been formed simply as a play of words. As *ack-ack* would translate into Finnish as ‘ilmatorjuntatuli’ [anti-aircraft fire], even the commonly used abbreviation of IT would not fit into the translation of *ack-am* as ‘kiihdytetty antimateria’ [accelerated antimatter] with any sufficient ease. For this reason I do not feel the translator’s decision to expand the places where the author has used *ack-am* instead of *accelerated antimatter* is unjustified, as they are synonymous, and the more explanatory translation in this case is easier for the reader to follow, instead of some obscure abbreviation which would be hard to grasp. While it is regrettable to lose something in translation, this could be considered insignificant enough to ignore.

Another curious weapon mentioned in passing is the *quark deconfinement device*. While it has been translated as ‘kvarkkitykki’ [quark cannon], this is a rather humorous translation, as it implies it shoots quarks, which technically all cannons do, if one considers they are the base constituents of all matter (“Quark”, March 2015). It must however be noted that in quantum mechanics, where the device apparently relies on in its functioning principles, there are no single theories which could explain how it would work, and due to the lack of easily available, and especially understood, information it was necessary to consult a physics major on the subject (J. Nykänen, personal communication, April 2015). A consensus was reached that, as quarks cannot usually exist in any other than confined state, deconfinement would most likely refer to transforming matter into a quark-gluon plasma, a high-energy form of matter, in which particles would be exist in a free state (Letessier & Rafelski, 2002, pp. 5-6). This would in turn lead to a chain reaction due to the formation of new hadrons from the cooling plasma, evaporating the matter around the point of impact (J. Nykänen, personal communication, April 2015). While the function of the weapon is

rather minor in the novel, in my opinion the Finnish translation undermines the original compound created for the weapon. Especially considering the nature of the novel as a specimen of hard science fiction which relies heavily on scientific accuracy, a more thoughtful translation should be provided, better resembling the original intent of the author. The problem arises from the lack of terminology in the Finnish language in quantum mechanics. For this reason I would encourage translators to consult someone with more professional proficiency in the field in similar situations. The help I was able to get at this time could not offer much assistance, and I do not feel qualified to propose any translations as I do not understand the underlying phenomena properly.

Yet another curious piece of technology in the Revelation Space is also the *warchive*, a mechanism which is capable of replicating as well as designing and building weaponry from the database it possesses. The word seems to be a blend of *war* and *archive*, with two letters overlapping. While there is no phonetic overlap, it is easy enough to grasp the meant context in the written form. The lexeme has been consistently translated as ‘sota-arkisto’ [war archive], which is as close as one gets to the meaning. It could be argued that there are grounds to try the blend structure in the translation as well, for example *sotarkisto*, which would follow the original example quite accurately. The lack of hyphenation and the slight, though almost hardly noticeable, shortening does make it somewhat more appealing to the eye, but I am not convinced it would suit the Finnish language due to preference for compounds over blends. It might also cause problems with the understanding of the word due to changed syllabification. Surprisingly enough it does not seem to be a clumsy construct, and is for this reason worth consideration, especially as there is no phonetic problem regarding pronunciation as there is in the English original.

One rather curious compound, which I, after some consideration, decided to discuss in this section, is *defence drogue*. They are not described in great detail, only mentioned in the context of “others were patrolled by defence drogues which had gone berserk and so were best avoided” (Reynolds, 2000/2008, p. 20). It is curious that the author has chosen *drogue* for this, as the word has meanings which are not easily applied to the passage in any way. “A hooped canvas bag towed at the stern of a boat to prevent it from broaching to.” or “a truncated cone of fabric with a hoop at the larger end” (“Drogue”, March 2015) are hardly threatening, nor likely to go berserk and cause trouble to people. The closest to the defensive purpose one can get with the original definitions is “A contrivance attached to the end of a harpoon line to check the progress of a whale when running or sounding.” (“Drogue”, March 2015), and even that does not fit properly. It is likely the word refers to some kind of automata, and it would be easy to backtrack the word to be a blend from *drone*

gone rogue, even though it does not serve any kind of constructive purpose and for that reason is extremely unlikely. It is more probable the author has simply repurposed a lexeme which is somewhat marginally known and used, though it does stand to be questioned as to why, as it does not seem to serve any kind of purpose due to the availability of other such terminology in the novel. *Defence drogue* has been translated simply as ‘puolustuslaite’ [defence device], which is somewhat acceptable due to lack of context, even if the *laite* ‘device’ could most likely be replaced with something less vague and perhaps a bit more elaborate, such as *järjestelmä* ‘system’.

5.2.4 Other

This section consists of some examples which do not fit in the categories outlined above, yet are technical enough in their aspect to justify placement in this section instead of being considered in section 5.1. They are often singular examples of their kind in the novel, and for this reason do not justify categories of their own either, as they are singular examples.

The most common example of a neologism I was able to find in the novel is *lighthugger*. They are the main method of interstellar transportation mankind has developed. They are capable of accelerating nearly to the speed of light, from whence the name comes from: the word is a compound which refers to hugging the light, which is only possible if one travels at the same speed as light. As they in most situations sustain acceleration tolerable by humans they take long periods of time to achieve cruising speed, and given the distances between solar systems travelling time is even with them often counted in tens of years. In this context the translation as ‘valoarkki’ [lightark] would be acceptable. It does however have a slightly different meaning from the lexeme used in the source text: the implication of the speed of the ship that was present is far subtler. The combination of *light* and *ark* is quite confusing. As the ships are rather large, ark is an acceptable definition, but with light as a prefix the first impression would be to associate it with the ship itself, namely either being an ark built of light, or alternatively an ark built for transporting light. While it could be assumed that both of these notions are proven wrong by the context, the original impression has been diminished by some degree.

One lexeme mentioned frequently in the novel to warrant a mention is *gel-air*, a breathable liquid used instead of air in some situations. As the word has been compounded relatively descriptively, it is no surprise it is consistently translated as ‘geeli-ilma’ [gel-air]. Whereas the hyphenation in the original compound is most likely a stylistic measure, in the Finnish translation it is mandated by

grammar rules as the modifier ends with the same vowel as the head begins with, maintaining the same kind of stylistic theme almost by accident. As the lexemes the compound is formed from are frequent and similarly understood in both languages, there are no needs for adjustment in the translation.

Janitor-rat is another commonly occurring lexeme, as it is used in the novel to describe genetically modified rats, biochemically linked into the ship's command matrix by pheromone receptors, which are able to perform rudimentary tasks and help to maintain the ship. As their purpose in the novel is rather well explained and the name is descriptive enough, it is no surprise the translator has opted for 'huoltorotta' [maintenance rat]. While it would be possible to go for accurate translator as *talonmiesrotta* 'janitor-rat', it would be cumbersome, and the same meaning is conveyed by *huoltorotta*, which is easier to read and use.

6. Conclusion

As I set out to writing this thesis I was curious about how the translator has decided to translate the neologisms that, from my perspective as a reader, define the world Reynolds has attempted to create. The goal was to observe the neologisms the author has implanted into the source text and to see how the translator has succeeded in translating them. It might be because of being formerly familiar with the novel and its sequels as well as prequels in English, that the end result of the analysis is rather disappointing. Especially so as I indicated in the Introduction, the overall comments regarding the Finnish translations from readers are positive. If this novel and its initial reception were of any indication, it does not promise well for the translation of science fiction in Finland.

While neologisms play an important role in the novel, the translator has not handled them consistently to any large degree. While there are some exceptions, the majority of the neologisms which are frequent in the novel have been translated in a number of ways, usually by replacing them with a more general word. In some occasions the alternative translations prove to be quite different from each other. Compromising the lexical conformity in this manner is prone to sow confusion in the reader, as there are some vital connections that might be missed. The translator has been reluctant to use neologisms of any kind on his behalf beyond a couple of direct loans, which could be seen to undermine the efforts of the author to a degree. It wouldn't be unheard of in science fiction and fantasy for the translator to create neologisms of his own while translating the text, and in this case it would even be welcome, as the author uses them sparingly, which increases the emphasis. I would argue that in general the readership of science fiction gravitates to the concepts that are beyond their imagination, so a number of new words would not inconvenience them too much. Some leeway must be given to the translator as the two languages are rather different in nature, and not all words can be translated accurately as they would be too cumbersome for actual use, even if the Finnish speakers are used to longer words in general.

The majority of the neologisms in the novel are in the form of blends or compounds which use existing vocabulary in their creation, and thus could be considered to be descriptive in nature, as they still have the sign–signified relationships from the original lexemes. While these associations are somewhat muddled by the process of creating the neologisms, they are still often recognisable to a degree and thus guide the reader to the right direction in their interpretation, as can be seen for example in the case of *medichines*. The same could be said regarding the repurposed old words I

have raised as an example, as their new concept is often somehow linked to the old one, and undeniably causes the reader to see them in a certain kind of context, as is the case with *trawl*, which collects the neural patterns, as a trawl would a school of fish. Words created with derivation are often the easiest to understand in the context given, such as *chimeric*, which does not leave much room for speculation regarding the meaning. The new coinages are rare, and while *Amarantin* could be considered one, it is left as a singular example in the group that made it into this thesis.

The scope of this thesis prevents any kind of large scale analysis or criticism into the translation. Even with the focus purely on neologisms Reynolds uses in his novel, I was able to go through less than half of them. I was forced to focus on the most frequent ones, with only certain less frequently encountered when they were deemed necessary because of their relation to those more frequent, or deemed significant enough. As the thesis focuses heavily on the translation of the words, there was not much room to examine the words themselves, and for example pursuing a morphological aspect of the neologisms might prove interesting. While I touched on the topic, the selection method used for the words in the analysis did not allow for comprehensive discussion regarding the word formation aspect, and it could well be expanded. It could also be worthwhile to consider approaching the translator of this novel, or translators of science fiction in general, in order to see how they themselves view the process of translating science fiction, and especially the neologisms involved.

It would be also worthwhile to observe the overall stylistic changes as well as the use of scientific language in general without limitation to the technobabble, since as can be seen in some of the passages taken from the novel, the translator has changed the overall language to some degree even outside the use of neologisms. The novel could well be researched outside purely the linguistic scope as well, since Reynolds has created a completely new world, yielding a vast amount of possibilities for theses from a more literary perspective. The data could also be expanded by studying the other novels by Reynolds which are located in the same universe, as they vastly expand the amount of knowledge available to the reader.

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