



Linnæus University

Sweden

Adverbial *ing*-clauses and
non-*ing* initial adverbials in
medical translation



Author: Amina Maria Säll El Kebich

Supervisor: Jenny Ström Herold

Examiner: Magnus Levin

Term: VT20

Subject: English

Level: Magister

Course code: 4EN31E

Abstract

This study investigates how non-*ing* initial adverbials and adverbial *ing*-clauses regardless of position are translated from English to Swedish in a medical text. It discusses what different kinds of positions and forms they take in the translation. The primary source is a medical text that is translated wherein the non-*ing* initial adverbials and adverbial *ing*-clauses are identified and categorized, and solutions are discussed. The results show that most non-*ing* initial adverbials keep their form, but are changed in some cases because of stylistic preferences. The most common form of the non-*ing* initial adverbials is prepositional phrases that mostly also are translated as prepositional phrases. The adverbial *ing*-clauses, regardless of position, change their form in all cases in the translation and the most common correspondence is subordination. Both non-*ing* initial adverbials and adverbial *ing*-clauses keep their position in most cases, but are sometimes moved due to stylistic preferences.

Key words

English to Swedish, translation, initial adverbials, adverbial *ing*-clauses

Table of contents

1	Introduction	1
2	Aim and research questions	2
3	Method and material	2
3.1	<i>Source text</i>	2
3.2	<i>Method</i>	3
4	Theoretical background	4
4.1	<i>Adverbials</i>	4
4.1.1	Realization forms of adverbials Fel! Bokmärket är inte definierat.	
4.1.2	Adverbial <i>ing</i> -clauses	6
4.1.3	Adverbials' position Fel! Bokmärket är inte definierat.	
4.2	<i>Previous studies on adverbials in translation</i>	10
5	Analysis	12
5.1	<i>Translation categories of non-ing initial adverbials identified in the TT</i>	12
5.2	<i>Translation categories of the adverbial ing-clause identified in the TT</i>	14
5.3	<i>Quantitative overview</i>	14
5.4	<i>Placements and correspondences of non-ing initial adverbials</i>	15
5.4.1	PPs	17
5.4.2	FCs	20
5.4.3	AdvPs	22
5.4.4	NFs	24
5.5	<i>Placement and correspondences of adverbial ing-clauses</i>	24
5.5.1	Subordinations	28
5.5.2	PPs	29
5.5.3	Coordinations	29
5.5.4	VP	30
6	Conclusion	31
	References	31

1 Introduction

Translating into a language that is relatively close to the source language might be considered less complicated than it actually is. When producing a translation, grammar is one of the most difficult aspects to consider, especially when there are no equivalents of a certain type of structure in the target language. Sometimes, the realization form, such as a specific phrase or clause, is changed to another form in the translation for different reasons. Moreover, the positions might be changed.

In this study, two grammatical structures are investigated that could be particularly difficult to translate, namely adverbials in the initial position and adverbial *ing*-clauses in all positions. Initial adverbials are an important area to investigate because they are often used in order to introduce information (Biber *et al.* 1999:371). They can also be difficult to translate because the preferences regarding position might be different in Swedish and English (Ingo 2007:178). An example of how the initial adverbial is translated in the present study is illustrated in (1):

- (1) *Unfortunately*, since 2010, when the Sedan panelen presenterade sitt
[p.18] panel presented its findings, there forskningsresultat år 2010 har man *tyvärr*
has been no action taken on its inte vidtagit några åtgärder i enlighet med
recommendations, [...] panelens rekommendationer.

The initial adverbial in (1) is an adverb phrase both in the source text and the target text, but it changes position to the medial in the translation. Nevertheless, the meaning is still kept and used to introduce the new information. The second grammatical structure, the adverbial *ing*-clause, is investigated in this study because it constitutes a special challenge in translation due to its ambiguity, but also because it is rarely translated as its closest correspondent in Swedish (Lindquist 1989:36). For this reason, adverbial *ing*-clauses are of a special interest in this study, why it is discussed separately from the initial adverbials, although these two categories partly overlap. Below follows one example of how the adverbial *ing*-clause is translated in this study:

- (2) *Moving from upstate New York to När jag flyttade från norra New York till*
[p.18] *Seattle*, I began to work as a research *Seattle* började jag arbeta som
assistant. forskningsassistent.

In this example, the realization form is changed, and the adverbial *ing*-clause is rendered as a subordinate clause. The translation is also made more explicit using the explicit marker *när*

(‘when’). Additionally, the lack of research in those areas makes it essential to investigate, especially regarding certain registers that have not been studied, as medical texts.

2 Aim and research questions

The aim of this study is two-fold. The first part concerns what strategies are applied when translating non-*ing* initial adverbials into Swedish. The second part concerns what strategies are applied when translating the adverbial *ing*-clause regardless of position.

- What different kinds of positions and forms do the initial adverbials take in the translation compared to the source text? To what extent are there any general tendencies? How can those be explained?
- How are adverbial *ing*-clauses, regardless of sentence position, rendered in the translation? What different positions and forms do they take in the translation? To what extent are there any general tendencies? What factors affect the choices?

3 Method and material

This section starts with a description of the source text in 3.1, followed by a presentation of the translation method and research method in 3.2.

3.1 Source text

The source text used in this study (from now on referred to as ST) is chapter one “How Toxins Ruin Your Health” from the book *The Toxin Solution: How Hidden Poisons in the Air, Water, Food, and Products We Use Are Destroying Our Health—AND WHAT WE CAN DO TO FIX IT*. The text was published in 2017 and written by the president of the Batyr University, Joseph Pizzorno, a doctor of naturopathic medicine. The function of the book is to make people aware of toxins and how to reduce the exposure to them. It describes what toxins are, how they are released in the world, how dangerous they are and what affects they have on human health. Further, it also presents a detox plan that the reader is supposed to follow in order to release the toxins from the body. Chapter one, the part that is used as ST in this study, is an introduction and describes how toxins are dangerous for human health, and gives examples of everyday situations and how the toxins have affected people’s lives.

The intended readers of *The Toxin Solution* are both experts and non-experts. The book

is intended for non-experts because the author wants to spread knowledge about toxins in general to everyone. Also, it is useful for health and medicine experts who are unaware of the benefits of detoxes like his, and who do not know much about naturopathic medicine. Due to the variety in target audience, there are probably also many cultural differences.

The source text is medical, but it differs from a specialized medical text, since it is not dominated by third person pronouns, complex sentences, nominalizations and specialized terminology (Wioleta 2015:273). Rather, it uses first person pronouns, contractions and does not contain a lot of specialized terminology. It is also partly narrative. Additionally, there are several heavy initial adverbials in the text, which is essential for this study. Some of these features are presented in (3):

(3) *When I first started offering detoxification protocols*, the people who came to my [p.9] clinic *didn't* do so because they wanted to detoxify.

The sentence in (3) from the ST illustrates that the first-person pronouns *I* and *me* are used. There is also a heavy initial adverbial and a contraction. Based on this, it can be understood that this is a popular science text with some informality. The following section describes the method applied when translating the ST.

3.2 Method

The ST is translated by one translator. The translation process does not involve any CAT-tool, even though it could facilitate the translation process, but is translated manually in a word document. The ST and TT (target text) are divided into two separate parallel columns and each sentence in the ST has its own section with the corresponding sentence in the TT beside it. The translation is both direct and oblique (Vinay & Darbelnet 1977). Direct translation is used as long as it is suitable in the TT. Otherwise, oblique translation is used due to either grammatical or stylistic reasons in form of for example transpositions or explicitations. During the translation process, parallel texts, dictionaries and corpora are used (see References) in order to find the correct medical terms, understand the suitable style for the text type and look for appropriate idiomatic expressions in the target language.

The research methods related to the analysis are both quantitative and qualitative. The quantitative part consists of identifying non-*ing* initial adverbials and adverbial *ing*-clauses regardless of position in the ST. However, investigating initial adverbials and adverbial *ing*-clauses together could be confusing because some of the initial adverbials in the study are also

ing-clauses. Therefore, in order to not count the same material twice and be able to discuss them separately, non-*ing* initial adverbials and adverbial *ing*-clauses are counted separately and the *ing*-clauses that are initial adverbials are not counted as initial adverbials in the analysis. The initial adverbials are therefore referred to as non-*ing* initial adverbials. Both the non-*ing* initial adverbials and adverbial *ing*-clauses are counted manually while reading the ST carefully. As the ST consists of only approximately 5,500 words, it is not time consuming to read through, why using for example a concordance program is not necessary. Further, the realization forms of the non-*ing* initial adverbials and adverbial *ing*-clauses in the TT are analyzed and used for categorization. If they change position or not is also considered. The systematizing of the findings is mostly applied following Biber's *et al.* (1999) and Ström Herold & Levin's (2018) categorizations.

The method is also partly qualitative because the translations of the non-*ing* initial adverbials and adverbial *ing*-clauses are considered in depth. Different translation options are discussed and motivated in the analysis and what reasons might have affected the solutions. Also, possible general tendencies are considered. In the following section, the theory that is used in this study is presented.

4 Theoretical background

This section begins with a description of adverbials and their possible realization forms in 4.1.1, including adverbial *ing*-clauses (4.1.2). Then, in 4.1.3, the placement of adverbials is discussed and the different kinds of adverbials that are placed in the initial position in English compared to Swedish are explained. And finally, previous studies on the translation of initial adverbials and adverbial *ing*-clauses are presented in section 4.2.

4.1 Adverbials

This section describes how adverbials are defined and in what realization forms they appear. Biber *et al.* (1999:762–763) define the adverbial as a clause element that can have three different major functions. Firstly, it can add detailed information about the proposition of the clause, as in (4):

(4) I keep walking *in this rubbish* (Biber *et al.* 1999:762).

Secondly, it can express stance as in (5):

(5) *Fortunately*, this is far from the truth (Biber *et al.* 1999:764).

And thirdly, it can be used as a link, as in (6):

(6) He, *however*, thought them the most dainty boots [...] (Biber *et al.* 1999:765).

These functions are relevant for this thesis because it is important that the function of the text is kept in translation (Ingo 2007:127). Also, adverbials have several different characteristics, but not all of them are considered in this thesis. The realization forms and the different positions are described further in the sections below, while other characteristics are left out because they are not relevant for this thesis.

4.1.1 Realization forms of adverbials

Adverbials have many different characteristics, and one of them is that they have various forms. Biber *et al.* (1999:767–768) classify adverbials into five major realization forms, which is the categorization that is used in this study regarding initial adverbials. However, adverbial *ing*-clauses are not counted as initial adverbials and are therefore described in a separate section.

The first form is single adverbs or adverb phrases (AdvP) as in (7):

(7) We know each other *very well* and *frankly* we would have preferred [...] (Biber *et al.* 1999:767).

The second form is noun phrases (NP) as in (8):

(8) The man came to stay with them for a few weeks *each year* (Biber *et al.* 1999:767).

The third form, prepositional phrases (PP), is illustrated in the following example:

(9) *In this chapter* three of the most important approaches are examined (Biber *et al.* 1999:767).

The PP is the most common type of adverbial according to both Biber *et al.* (1999:768) and Lindquist (1989:36). The fourth realization form is the finite clause (FC):

(10) *If you read these stories day by day*, you simply don't realize how many there are (Biber *et al.* 1999:767).

Finally, Biber *et al.* (1999:767) divide the last category, non-finite (NF) clauses, into four subcategories: *ed*-clauses (ED):

(11) Now *added to that*-by our wall-there was this ruddy great lony again (Biber *et al.* 1999:767).

to-infinitive clauses (INF):

(12) She called me *to say a lawyer was starting divorce proceedings* (Biber *et al.* 1999:767).

verbless clauses (VL):

(13) The author apologizes *where appropriate* (Biber *et al.* 1999:767).

The fourth subsection of non-finite adverbials is *ing*-clauses and is described in 4.1.2 below, because it is investigated separately (regarding all positions) in this study.

4.1.2 Adverbial *ing*-clauses

The *ing*-clause can have different functions. In this study, the focus is on *ing*-clauses in their adverbial function. The definition used is “subjectless non-finite subordinate *ing*-clauses in the adverbial function”, similar to the definition in Ström Herold & Levin’s (2018) study, except that their definition includes the word “zero-introduced”, which is removed here, because it does not apply to all the examples in the present study. The adverbial *ing*-clause is illustrated in the following example:

(14) *Watching him as the days went by*, the guilty collector had noticed signs of physical and moral decline (Biber *et al.* 1999:783).

According to Biber *et al.* (1999:782), the adverbial *ing*-clause can be difficult to interpret, and therefore also difficult to translate. They (1999:783) suggest that the relation between the adverbial *ing*-clause and the main clause often is implicit. In (14), Biber *et al.* (1999:783) describe two possible interpretations. The relationship between the adverbial *ing*-clause and the main clause either indicates simultaneous events (adding *while* before *watching*) or gives a reason (adding *because* before *watching*). Other previous studies made on adverbial *ing*-clauses in translation mostly focus on the semantic relation between the adverbial and the main clause. Those are for example Kortmann’s (1991), Behrens’ (1998) and Behrens & Fabricius-Hansen’s (2005) studies. Kortmann (1991:129) confirms Biber’s statement above, claiming that the reader’s interpretation of the semantic relation is based on world knowledge/evidence and can differ from person to person. Kortmann (1991:142) also concludes that the temporal relation is more commonly used than any of the other relations in his study and it is frequently used in the present study as well (see section 5.5.1).

Behrens (1998:24) discusses the choice of position of the adverbial *ing*-clause and says that it is essential for creating a coherent text. In both Norwegian and English, the initial position is used for information that is already known (Behrens 1998:24). At the same time, it needs to be interpreted in the light of what precedes it (Behrens 1998:34). Kortmann (1991:1) adds that adverbial *ing*-clauses are intonationally detached from the matrix clause often with a comma.

Additionally, it is worth mentioning that Lindquist (1989:121) proposes that there is a correspondent to the adverbial *ing*-clause in Swedish, namely the present participle clause, as in the following example from Lindquist's (1989:121) study:

- (15) “[...] didn't care to be seen *gawping* “[...] och ville inte bli sedd *hängande i*
at the window” *fönstret*”

In (15), the adverbial *ing*-clause in English is directly translated into a Swedish non-finite *ing*-clause – the present participle clause. However, it seems to be rarely used as a correspondent when translating the adverbial *ing*-clause, which is found in Lindquist's (1989:121) study. Rather, coordinations and subordinations are two more common correspondences. Coordinations joins elements of the same syntactic status, often indicated by coordinating conjunctions such as *and*, *or* & *but*. (Duran Eppler & Ozón 2013:170). A subordination is a clause dependent on the main clause that cannot exist on its own out of context (Duran Eppler & Ozón 2013:170). It is often marked with subordinating conjunctions such as *that*, *if*, *whether*, *because*, etc. (Duran Eppler & Ozón 2013:177). The segments related with a coordination have an equal relation, while the super-ordinate segment plays a bigger role in the main story line in a subordination (Behrens & Fabricius-Hansen 2005:5). Behrens (1998:262) found that, in Norwegian, coordination is a nearer equivalent to adverbial *ing*-clauses than the subordination as long as the information in it is new. In the next section, adverbials' positions are discussed.

4.1.3 Adverbials' position

In this section, adverbials' positions are presented, which are relevant for the aim of this study since it investigates both the realization forms and the positions of non-*ing* initial adverbials and adverbial *ing*-clauses. In contrast to other clause elements, adverbials can, as discussed by Quirk *et al.* (1985: 490), almost always be placed anywhere in the clause. However, they also suggest (1985:491) that not all adverbials are likely to take all positions. One thing that has an impact on the adverbial's position is its syntactic form: depending on that, it can be more or

less mobile. For example, Quirk *et al.* (1985:491) mention that single-word adverb phrases can be moved around more than the finite clause. In 4.1.3.1, the classification of adverbial positions is presented, followed by a description of the placement of adverbial *ing*-clauses in 4.1.3.2. Then, initial adverbials are discussed in 4.1.3.3.

4.1.3.1 *Classification of adverbial positions*

The classification in this study is based on Quirk *et al.* (1985:491) who classify the positions in three different categories: initial, which is normally before the subject, as in (16):

(16) *Suddenly*, the driver started the engine (Quirk *et al.* 1985:491).

Adverbials can also be medial (in different variants) as in (17):

(17) The driver *suddenly* started the engine (Quirk *et al.* 1985:491).

Or final:

(18) The light was fading *rapidly* (Quirk *et al.* 1985:491).

As this study focuses on both non-*ing* initial adverbials and adverbial *ing*-clauses, the placement of the adverbial *ing*-clauses is described in 4.1.2.3.

4.1.3.2 *The placement of adverbial ing-clauses*

The adverbial *ing*-clauses most often take the end position, as the other non-finite adverbial clauses, such as *ed*-clauses. However, according to Biber *et al.* (1999:831), they can also be placed in the initial position. Biber *et al.* (1999:832) also suggest that adverbial *ing*-clauses are slightly more likely to appear in the initial position than other non-finite circumstance adverbial clauses. Another important aspect for this study from a translator's point of view is how the placement of adverbials differs in Swedish compared to English, which is discussed in the following section.

4.1.3.3 *Initial adverbials*

The initial position is of special interest for this study since one of the studied structures is the non-*ing* adverbial in sentence initial position. There are several studies that point out why this position is interesting. The study of Bestgen & Piérard (2014), which focuses on initial adverbials in text comprehension, gives two reasons why they are important for the comprehension. Firstly, they can signal the appearance of a new textual unit (Bestgen & Pierard 2014:4), and secondly, they set the frame of reference for the whole textual unit

(Bestgen & Pierard 2014:5). Therefore, placing the adverbial in initial position must be well thought out and is a strategic decision (Bestgen & Pierard 2014:4). Virtanen (2004), whose study focuses on the cognitive aspects of initial adverbials, also mentions this and says that they make the text coherent and can signal text segmentation (Virtanen 2004:82). Also, Hasselgård (1998:149), who investigates thematic structures in translation from English to Norwegian, comments on the function of initial elements, suggesting that the initial position is a start for a new utterance and that it “is crucial for the development of the message in the clause”. Sarda *et al.* (2014:19) add that if an adverbial is not placed in its original position when it should be initial, the processing of the sentence can be affected. This is essential in translation because it is important to make sure that the function of the text is preserved (Ingo 2007:127).

There are some cases where the same types of adverbials prefer the initial position in both Swedish and English, while in other cases, they do not. Ingo (2007:179) explains that the most common adverbials in initial position in English are definite time adverbs such as *yesterday, today, tomorrow* etc. and “strongly emphasizing” adverbs of manner, such as *dearly, heartily, gently*, etc. Other common adverbials in initial position in English are PPs, especially temporal and spatial ones (Sarda *et al.* 2014:16, Virtanen 2004:79). However, since adverbials are flexible, they can also take the end position. Likewise, it is common in Swedish to place time adverbials and adverbials of manner initially or at the end.

Nevertheless, adverbials in English and Swedish sometimes have different placement preferences. Long adverbials, i.e. adverbials that consist of three words or more (Biber *et al.* 1999:808), take the initial or end position in Swedish (Ingo 2007:178), while short adverbials, i.e. adverbials that consist of one or two words (Biber *et al.* 1999:808), can take the medial position, like sentence adverbs (Ingo 2007:178), as in the following example:

(19) Han har *redan* fått priset. (Ingo 2007:178).

Ingo (2007:179) suggests that sentence adverbs are likely to be found in the initial position in English and in some cases, depending on the particular adverbial, in the medial position. In Swedish however, the preferences are reversed, as sentence adverbs are most often placed in the medial position in Swedish (Svenska Akademiens grammatik 1999:84), but can also be placed in other positions, both initially and at the end (Svenska Akademiens grammatik (1999:84); Ingo (2007:178)). This is important to know for the translator because it can affect the translation, as in the following translated example from Svenska Akademiens grammatik:

- (20) Erika har kanske *tyvärr* åkt sin väg *Unfortunately*, Erika might have gone her way. (own translation)
(1999:84)

Even though the sentence adverb can appear at different positions, the medial position is favoured in Swedish and the initial in English, as in (20). The next section presents different previous studies regarding adverbials, where the placements also are discussed further.

4.2 Previous studies on adverbials in translation

In this section, previous studies on adverbials are presented. Some of these studies are explained in more detail compared to others based on their relevance for this study. The emphasis is on how adverbial *ing*-clauses or adverbials in general have changed realization form in the translation and if they have changed position.

First, two studies that investigate adverbials regardless of form in translation are addressed: Johansson's study from 1996 and Lindquist's study from 1989. The findings in Johansson's (1996:29) study show that the use of initial elements, including initial adverbials, is stricter in English compared to Swedish. The corpus consists of parallel English and Swedish texts as well as original texts. Johansson (1996:36) found that 23% of the initial adverbials in the Swedish translation from English are either moved, restructured or deleted and almost half of them are disjuncts (i.e. sentence adverbs). Time and space adverbials showed a high degree of correspondence (Johansson 1996:36). However, his study only considers the positions and the semantic aspects, but not the realization types, which Lindquist's (1989) does.

The purpose of Lindquist's (1989) study is to investigate how English adverbials are translated into Swedish by using a translation corpus (with texts in English translated into Swedish). Overall, Lindquist (1989:95) finds that the distribution of different realization forms of adverbials differs in the STs compared to the TTs. 14% of the PPs change realization form in the translation, likewise, 24% of the AdvPs and 87% of the adverbial *ing*-clauses do. However, there are 3% more FCs in the TT than the ST, while NPs, EDs, INFs, and VLs have almost the same distribution in the TT as the ST (Lindquist 1989:96-97).

Further, the findings in Lindquist's (1989:121) study show that adverbial *ing*-clauses are mostly translated as adverbials (73%) in Swedish, and are translated as FCs (45%), INFs (11%), PPs (8%), adverbial *ing*-clauses (8%), and AdvPs (1%). Lindquist (1989:126) concludes that the most common solution when using FCs in the TT is to coordinate with *och* ('and').

Also, there are three studies addressed in this section that focus particularly on adverbial *ing*-clauses in translation: Ström Herold & Levin's study from 2018, Fuhre's study from 2010 and Doherty's study from 1994. All of them are relevant for the aim in this study since they investigate the translation of adverbial *ing*-clauses. The difference between the three is that Ström Herold & Levin's (2018) study investigates how adverbial *ing*-clauses are translated in Swedish and German (only the Swedish results are presented here), while Fuhre's (2010) considers translation into Norwegian and Doherty's (1994) only considers translation into German.

Ström Herold & Levin (2018:128) found that the most common correspondence to the adverbial *ing*-clause in Swedish is the coordination (40.5%), while 27.8% is translated as subordinations, 12.7% as main clauses, 8.2% as PPs, and 10.2% as other realization forms that consist of INFs (6.2%), NPs (2%), participles (1%), rephrasings (0.3%), omissions (0.4%), VPs (0.4%), adjective phrases (0.1%), and AdvPs (0.4%). Herold Ström & Levin (2018:126) also comment on the position of adverbial *ing*-clauses. 85% of the adverbial *ing*-clauses are placed in the final position in their English original corpus, while 10% are initial and only 5% are medial. Most of the adverbial *ing*-clauses kept their position in the TTs. In the final position, 90% kept their position in the Swedish TTs, and in the initial position, 78% kept their position (Herold Ström & Levin 2018:126).

Fuhre (2010) investigates how English adverbial *ing*-clauses are translated into Norwegian and vice versa. Since his study regards Norwegian and not Swedish, it is only described briefly here. However, his results can still be compared to the present study since Norwegian and Swedish are two close languages. Fuhre (2010:95) presents that the most common translation of the adverbial *ing*-clause into Norwegian is independent clauses either as coordinations or separate sentences. Regarding placement of the adverbial *ing*-clauses, 45% are initial, 21% medial and 34% final. Most of them kept their position, while 10% changed position. Most of the ones that changed position are initial or medial (Fuhre 2010:93).

Doherty's (1994) study focuses on whether the adverbial *ing*-clauses have been translated as clauses or phrases. The study is not described in depth here and only the points that are relevant for the present study are presented. Doherty (1994:270) claims that *backgrounded* adverbial *ing*-clauses are translated as phrases, while *foregrounded* adverbial *ing*-clauses are translated as clauses (i.e. in their relation to the main clause). The following example from her

study illustrates a sentence that includes both a backgrounded (“*using [...]*”) and a foregrounded (“*yielding [...]*”) adverbial *ing*-clause:

(21) The gene can then be removed from the bacterial or viral DNA *using restriction enzymes again, yielding a large quantity of the purified gene* for insertion into new cells (Doherty 1994:270).

Also, Doherty (1994:278) adds that the choice of phrase can depend on the amount of information included in the adverbial *ing*-clause, since different phrases allow for more or less structural extensions (e.g. VPs allow for more and NPs for less).

Thus, regarding adverbial *ing*-clauses, it seems that coordinations or main clauses are the most common correspondences and that they mostly keep their position. Regarding other adverbials, it seems that the realization form and position mostly are kept, but change in some cases. Especially sentence adverbs are moved. This is important for the analysis, that follows in the next section, where the realization forms and positions of non-*ing* initial adverbials and adverbial *ing*-clauses in the present study are investigated.

5 Analysis

In this section, the analysis and the results of the study are presented, beginning with a description of the different categories found in the translation (5.1 & 5.2), moving on to a quantitative overview of the non-*ing* initial adverbials and adverbial *ing*-clauses, where the frequencies of the two are presented (5.3). Then, the correspondences of the two areas are presented and discussed compared to previous studies in separate sections (5.4 & 5.5). As mentioned previously, the adverbial *ing*-clause is of a special interest in this study due to the particular challenge it presents to the translator, why it is discussed separately from the initial adverbials, although these two categories partly overlap. Therefore, in order not to count the same material twice and to be able to discuss those structures separately, the *ing*-clauses in initial position are not counted as initial adverbials in the analysis.

5.1 Translation categories of non-*ing* initial adverbials identified in the TT

When classifying the non-*ing* initial adverbials, seven translation categories are found in the TT, based on Biber’s *et al.* (1999:767) classification (see section 4.1.1). They are AdvPs, PPs,

FCs, NFs (including INFs and VLs), NPs, conjunctions and omissions. The following examples illustrate the different categories found in the TT:

- PPs:

(22) *From both large-scale and small-scale immediate sources,* [p.12] *pollutants enter our communities, our homes, our foods, and our bodies.* Föreningar kommer in i samhället, i våra hem, vår mat och våra kroppar *via både större och mindre direkta källor.*

- FCs:

(23) *While we take many of these types of products and services for granted,* [p.17] *the substances they contain (or generate) can harm our bodies in numerous ways.* *Vi tar många av dessa typer av produkter och tjänster för givet, men ämnena de innehåller (eller producerar) kan skada våra kroppar på många sätt.*

- AdvPs:

(24) *Most likely,* [p.13] *lead was coming from her bones.* *Troligen* kom blyet från hennes skelett.

- NFs:

(25) *To verify that,* [p.13] *I ran several tests.* *För att bekräfta det* tog jag många prover.

- NPs:

(26) *In 2010,* [p.18] *the President's National Cancer Panel found that [...]* *År 2010* upptäckte den amerikanska presidentens nationella cancerpanel att [...]

- Conjunctions:

(27) *Then,* [p.19] *in about my sixth month of practice, two patients transformed my understanding.* *Men* efter sex månaders praktik ändrade jag uppfattning tack vare två patienter.

- Omissions:

(28) *In fact,* [p.15] *it has been nothing short of [x] astounding over my lifetime to see [...]* *Under mitt liv* har det varit häpnadsväckande att se [...]

The categories in this section partly overlap the categories of the adverbial *ing*-clauses, which are described in the following section.

5.2 Translation categories of the adverbial *ing*-clause identified in the TT

There are four translation categories found on adverbial *ing*-clauses in this study: coordinations, subordinations, PPs and VPs. The translation categories of adverbial *ing*-clauses in this study partly correspond to those found in previous studies, for example Ström Herold & Levin's study (2018) (see section 4.2) such as main clauses, NPs, etc. However, the categories that are not found in the present study are not presented here. The four categories that are found in this study are described with examples below.

- Coordinations:

(29) I hope to motivate you in making a commitment to a lifestyle of detoxification, *beginning with what I call the Nine-Week Program* [...] hoppas jag kunna motivera dig till att ställa om till en giftfri livsstil och börja följa det jag kallar för nioveckorsprogrammet.

- Subordinations:

(30) *Moving from upstate New York to Seattle*, I began to work as a research assistant. När jag flyttade från norra New York till Seattle började jag att arbeta som forskningsassistent.

- PPs:

(31) *Going through a regular day*, the average person encounters a constant stream of benzene and other chemical toxins, [...] En genomsnittlig person råkar ut för ett ständigt flöde av bensen och andra kemiska giftämnen *under en vanlig dag*: [...]

- VPs:

(32) As my beloved Dr. John Bastyr told us as students, *paraphrasing Shakespeare*, "No matter the obstacles they place, the truth of our medicine will out." Vår käre lärare dr John Bastyr brukade citera Shakespeare och säga: "Det spelar ingen roll hur många hinder de sätter upp, sanningen om vår medicin kommer ändå fram till slut."

In the following section, a quantitative overview of the non-*ing* initial adverbials and adverbial *ing*-clauses is presented.

5.3 Quantitative overview

In this section, a quantitative overview is given over the frequencies of both non-*ing* initial adverbials and adverbial *ing*-clauses regardless of position. Figure 1 presents the frequencies of non-*ing* initial adverbials and adverbial *ing*-clauses in the ST per 10,000 words. The total

number of non-*ing* initial adverbials is 53, and the adverbial *ing*-clauses regardless of position in the ST amount to 14 instances out of approximately 5,500 words.

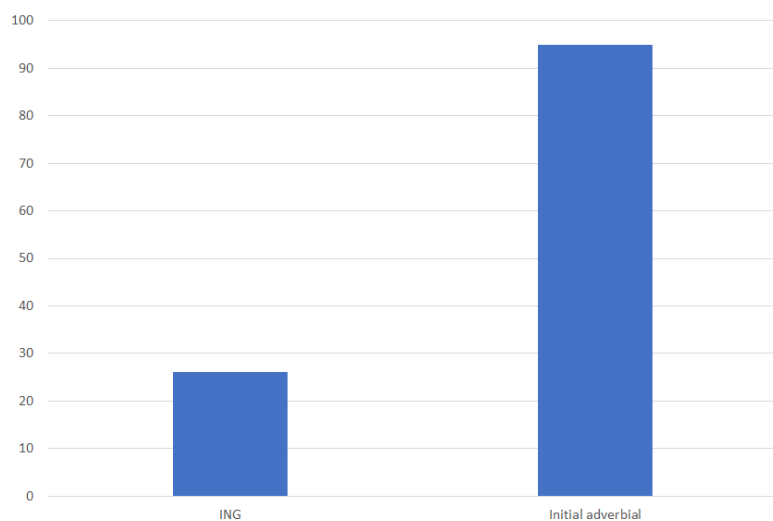


Figure 1. The frequencies of adverbial *ing*-clauses regardless of position and non-*ing* initial adverbials in numbers per 10,000 words

Compared to Ström Herold & Levin's (2018:124) study, the frequencies of adverbial *ing*-clauses in this ST is similar. In their study, 26 adverbial *ing*-clauses are found per 10,000 words in the texts that were English originals, and both the ST for this study and the corpus of Ström Herold & Levin's (2018:120) are non-fiction texts. Even if the frequency of adverbial *ing*-clauses is not very high, it is still higher in the ST of this study and in the corpus used in Ström Herold & Levin's (2018) study than in other non-fiction texts from the studies of Kortmann, Biber *et al* and Blensenius (Ström Herold & Levin 2018:125). The following section presents the correspondences of non-*ing* initial adverbials.

5.4 Placements and correspondences of non-*ing* initial adverbials

In this section, the placements and correspondences of the non-*ing* initial adverbials are presented. Then, each category is discussed and explained in detail in separate sections. Figure 2 below illustrates the number of non-*ing* initial adverbials in the ST that kept their position or changed their position in the TT.

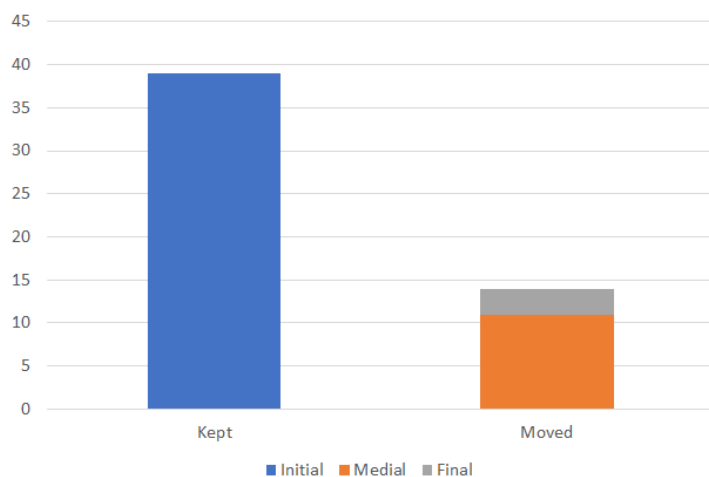


Figure 2. The frequencies of the non-*ing* initial adverbials in different positions in the TT

The placements of the non-*ing* initial adverbials are analyzed based on the classification of Quirk *et al.* (1985:491): initial, medial and final (see section 4.1.3.1). As can be seen in figure 2, 39 of the non-*ing* initial adverbials kept their position and 14 changed position. 11 of them are moved to the medial position in the TT and 3 of them to the final. This means that 74% of the non-*ing* initial adverbials in the ST kept their position in the TT, while 26% changed their position. This could be expected since Johansson’s (1996) study shows that most of the initial adverbials kept their position in the TTs (see section 4.2). However, while about 20% change position in Johansson’s (1996) study in total, the position change of disjunct adverbials in his study is 70%. The types of adverbials that kept and changed their position, respectively, are presented in section 5.5.1 – 5.5.4 together with their corresponding realization forms, which are illustrated in Figure 3 below:

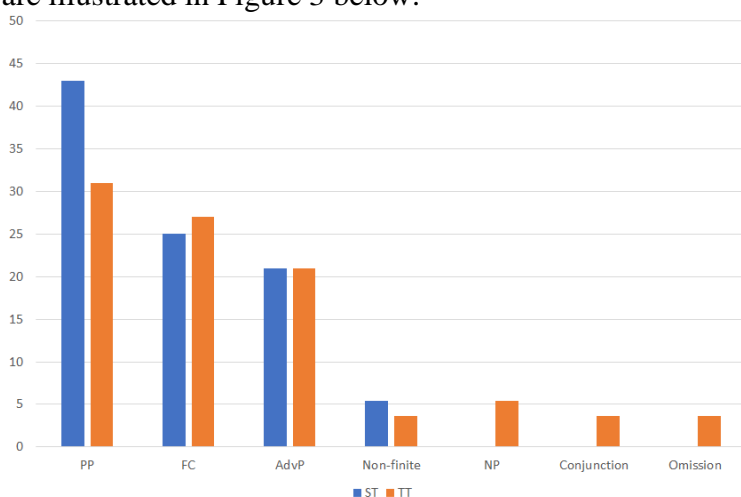


Figure 3. Realization forms of non-*ing* initial adverbials in the ST and TT per 10,000 words

The realization forms of non-*ing* initial adverbials differ in the ST and the TT, just as in Lindquist’s (1989) study (see section 4.2). In both the ST and TT, the PPs (45% in ST, 32% in TT) are most common, followed by the FCs (26% in ST and 28% in TT) and the AdvPs (21% in both ST and TT). There are no NPs in the ST, but a few (6%) in the TT, and the NFs (*ing*-clauses excluded) are slightly more common in the ST (6%) compared to the TT (4%). In some cases, the non-*ing* initial adverbials are also rendered as conjunctions (4%) or omitted (4%). In Lindquist’s (1989) study (see section 4.2), there are also fewer PPs in the TTs and more FCs compared to the ST, while AdvPs are a lot more common both in the STs and the TTs. However, Figure 3 above only illustrates that the realization forms are different, not how each type is translated. Therefore, each realization form is described in detail in the following sections, also discussing whether their positions are kept or not.

5.4.1 PPs

The PP is the most common category of all non-*ing* initial adverbials both in the ST and the TT, amounting to 45% in the ST and 32% in the TT. The reason for that could be that PPs are the most common realization form of adverbials (Biber *et al.* 1999:768) and that PPs are common in the initial position in English (Sarda *et al.* 2014:16, Virtanen 2004:79). Nevertheless, not all PPs are translated as PPs, even if it is the most common correspondence. Table 1 illustrates how initial adverbial PPs are translated in the TT.

Table 1. Distributions of different realization forms of ST initial adverbial PPs in the TT in numbers and percentage

	N	%
PP>PP	17	68
PP>NP	3	12
PP>AdvP	2	8
PP>Omission	2	8
PP>FC	1	4
Total	25	100

Most of the initial adverbial PPs are also rendered as PPs in the TT. Still, 32% of the initial adverbial PPs are rendered as another realization form, which is more than in Lindquist’s (1989) study, where 8% of the PPs are changed into another realization form. But, Lindquist

(1989) investigates adverbials in all positions, which might be a reason why the results differ. Figure 4 below shows that most of the initial adverbial PPs are translated as PPs, and that 37.5% of them change position:

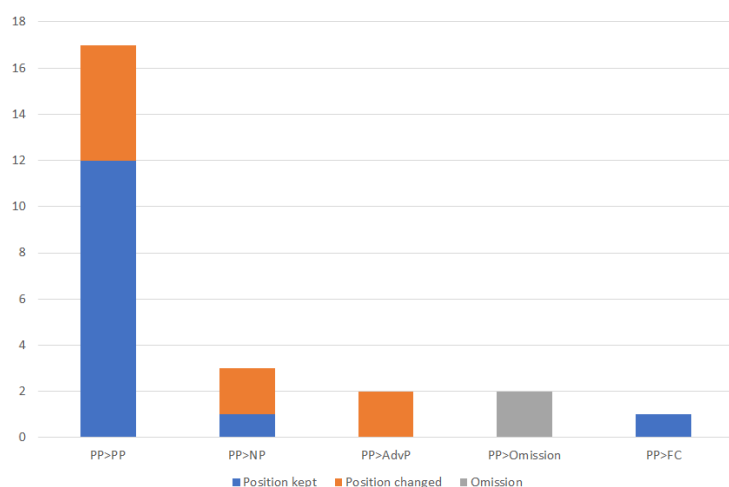


Figure 4. ST initial adverbial PPs' realization forms and positions in the TT in numbers

Most of the initial adverbial PPs kept their position (62.5%). But out of the totally 14 of the 53 non-*ing* initial adverbials that changed position, 9 are PPs in the ST, which is by far the most common realization form that changed position. Most of the initial adverbial PPs that changed position are also translated into PPs in the TT. All PPs that are rendered as AdvPs changed position and 66% of the PPs that are rendered as NPs changed position.

The reason why most initial adverbial PPs that changed position are translated as PPs could simply be because the PP is the most common realization form in both the ST and the TT. However, in Lindquist's (1989) study, only 14% of the adverbial PPs change position. On the other hand, he investigates adverbials in all positions which could be the reason why the results differ. In most cases, changing position is rather optional than obligatory in the TT. (33), (34) and (35) illustrate how PPs are translated as PPs:

- | | | |
|----------------|--|---|
| (33)
[p.15] | <i>Throughout this book</i> , I will provide charts and tables [...] | <i>Under läsningens gång</i> kommer du att få se diagram och tabeller [...] |
| (34)
[p.18] | <i>For too many people</i> , forty can feel like fifty or sixty. | <i>Hos alldeles för många människor</i> kan fyrtio kännas som femtio eller sextio. |
| (35)
[p.12] | <i>From both large-scale and small-scale immediate sources</i> , pollutants enter our communities, our homes, our foods, and our bodies. | Föreningar kommer in i samhället, i våra hem, vår mat och våra kroppar <i>via både större och mindre direkta källor</i> . |

All three examples illustrate when the initial adverbial PP is translated as a PP in the TT. In (33) and (34) the position is kept, while it is moved to the final position in (35). All three examples are long adverbials, i.e. they consist of three words or more (Biber *et al.* 1999:808), but (35) is slightly longer. Long adverbials can usually be placed in both the initial and final position in Swedish (Ingo 2007:178, see section 4.1.3.3), which makes them flexible and also explains why the position is kept in some cases, and not in others, as in the examples above. There are still reasons for keeping the position in (33) and (34). Both of them are used as introductions to develop the message in the clauses (Hasselgård 1998:149). In (35), the adverbial fits better at the end because it is not crucial for the development of the message of the clause (Hasselgård 1998:149). Placing the adverbial initially must be a well thought-out decision (Bestgen & Pierard 2014:4) (see section 4.1.3.3). However, there seems to be no general pattern for the PP>PP, except that they are more or less freely translated, as in the examples above. But, when the PP is changed into another realization form, there are certain patterns observed, as discussed below.

The second most common correspondence to the initial adverbial PP is the NP, which only amounts to 12.5%. The PP is the only realization form that is rendered as NPs in the TT, and there are no initial adverbial NPs in the ST. Also, in Lindquist's (1989:94) study, NPs are rare. All the PPs that are rendered as NPs consist of few words and two of them include year numbers. Further, two instances (8%) of the PPs are rendered as AdvPs, and this is the only realization form that is rendered as AdvPs, except from the AdvPs themselves. Both instances are single adverbs in the TT and function as links (see section 4.1.3.3). They also change position to the medial in the TT:

(36) *Like her*, you may be experiencing a health issue –or heading toward one– without recognizing that toxicity contributes to it. Du kanske *också* har hälsoproblem, eller är på väg att få, utan att inse att gifterna orsakar det.

(37) *In other words*, exposure to them can either suppress or imbalance the immune system, increasing risk of infection and autoimmune conditions. Exponeringen för dessa kemikalier kan *alltså* hämma eller skapa obalans i immunförsvaret och öka risken för infektioner och autoimmuna sjukdomar.

If the initial adverbial is not kept in its original position, it can affect the processing of the sentence (Sarda *et al.* 2014:19). Therefore, when changing the position in the translation, the translator has to make sure that the change is made on a well-founded basis, as it is important to keep the function of the text in the translation (Ingo 2007:127). In this case, English and

Swedish have different preferences regarding the placement of the adverbial, which the translator has to consider. Shorter adverbials that only consist of one or two words (Biber *et al.* 1999:808) are normally placed in the medial position in Swedish (Ingo 2007:178), which explains the change of position in the TT. In spite of this position change, the linking function is kept in the translation.

Also, two instances (8%) of the PPs are omitted. It is the only realization form that has omissions in the TT. Both omissions concern the exact same words (*In fact*) and are omitted for the same reason. Adding a Swedish correspondence could be redundant in the translation because the semantic meaning of it is read between the lines, i.e. implicature (Ingo 2007:124). Finally, there is one exotic example where the PP is rendered as an FC (4%). The following section presents how initial FC adverbials are translated in the study.

5.4.2 FCs

The second most common realization form of non-*ing* initial adverbials in the TT is FCs. There is a higher frequency of initial FC adverbials in the TT (28%) than in the ST (26%), which means that also other realization types are translated as FCs. One of them is a PP in the ST, as seen in section 5.4.1. Table 2 illustrates the realization forms of the ST initial FC adverbials in the TT.

Table 2. Distributions of different realization forms of ST initial adverbial FCs in the TT in number and percentage

	N	%
FC>FC	13	93
FC>PP	1	7
Total	14	100

As illustrated in Table 2, almost all initial FC adverbials are translated into FCs in the TT except in one case, where it is rendered as a PP. The reason for the change of realization form in that case is stylistic and not required. In Lindquist's study (1989:94–95), there are 3% more of the FCs in the TTs compared to the STs (see section 4.2), which is similar to this study, where there are 2% more in the TT. As illustrated in Figure 5 below, 14% of the initial adverbial FCs changed position in the TT:

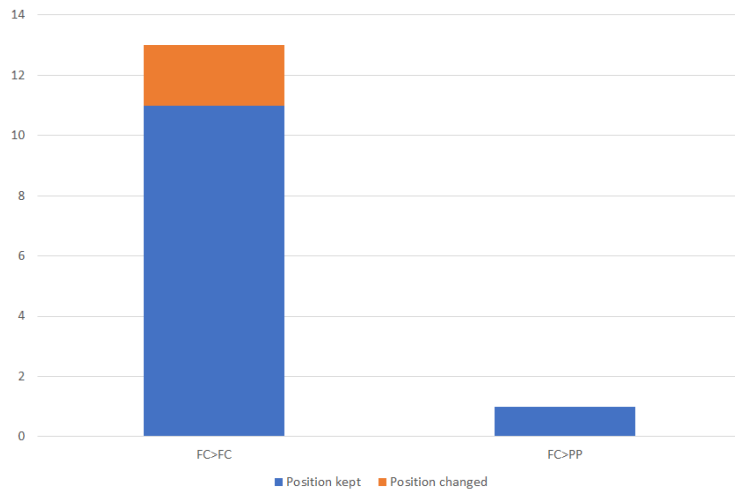


Figure 5. ST initial adverbial FCs' realization forms and positions in the TT in numbers

Almost all initial FC adverbials kept their position in the TT, except in two cases (14%). All of the initial FC adverbials that changed position are translated as FCs as well. The only FC that is rendered as a PP kept its position. The following examples illustrate how some of the initial adverbial FCs are translated:

- (38) *That's why over the next nine weeks,* [p.16] [The Toxin Solution] will lead you through a well-sequenced series of [...] *Därför kommer jag under de närmsta nio veckorna att, med hjälp av Giftfri, vägleda dig genom en välstrukturerad serie av [...]*
- (39) *As you can see from just this array of examples,* [p.13] exposure to the many external chemicals emitted into our world [...] *Som du förmodligen har förstått utifrån de exempel som tagits upp här kan exponeringen för det stora antal yttre kemikalier som släpps ut i vår värld [...]*
- (40) *As you will learn from reading this book,* [p.18] toxins have become the driving factor behind this phenomenon. *Gifterna har blivit den drivande faktorn bakom detta fenomen och det kommer du också att få lära dig när du läser denna bok.*

In (38) and (39), both the realization forms and the positions are kept in the TT, while it is changed to the final in (40). Most of the initial adverbial FCs are slightly longer in the TT compared to the ST, as in all three examples, and some form of explicitation is made by adding words that are “read between the lines” (Ingo 2007:123). In (38), the addition is *kommer jag* (‘I will’), in (39), it is *förmodligen* (‘presumably’) and in (40) it is *också* (‘also’). Regarding long adverbials, as in (38) through (40), they can be placed both initially and at the end (Ingo 2007:178) (see section 4.1.3.3). Keeping the adverbials in initial position in both (38) and (39) are strongly preferred because they are crucial for the development of the

message in the clause (Hasselgård 1998:149), and changing the position in (38) could affect the interpretation because it is linked to the previous sentence (Sarda *et al.* 2014:27-28) (see section 4.1.3.3). In (39), it also signals text segmentation since it is a beginning of a new paragraph (Virtanen 2004:82). In (40), however, the position change is possible because the rest of the sentence is not affected and the function is kept. The following section discusses initial AdvP adverbials.

5.4.3 AdvPs

The AdvP is the third most common realization form in the ST and TT, which is 21% of all initial adverbials in the ST. Table 3 illustrates into which realization forms the initial adverbial AdvPs are translated in the TT.

Table 3. Distributions of different realization forms of ST initial adverbial AdvPs in the TT in number and percentage

	N	%
AdvP>AdvP	9	82
AdvP>conjunction	2	18
Total	11	100

Almost all initial adverbial AdvPs (82%) are translated as AdvPs, and only two instances (18%) as another realization form. In both cases, those are conjunctions. Figure 6 below illustrates the realization forms and the positions of the ST initial AdvPs adverbials in the translation:

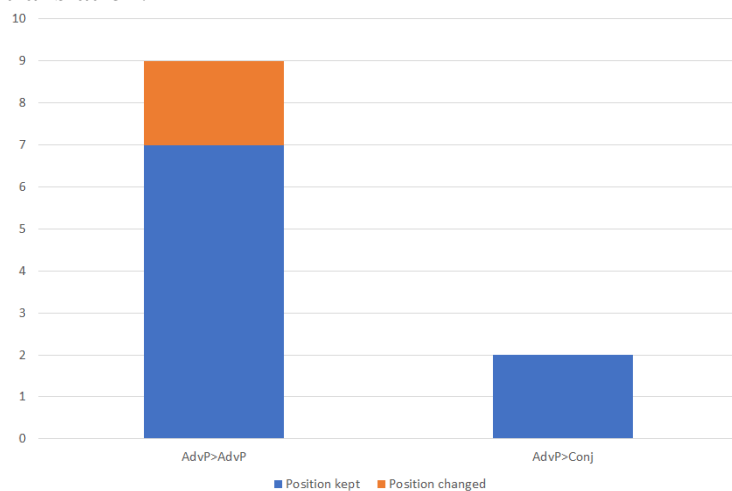


Figure 6. ST initial adverbial AdvPs' realization forms and positions in the TT in numbers

Most of the initial AdvP adverbials kept their position in the TT except in two cases (18%). Both of them are translated as AdvPs, while the two instances where the realization form is changed to conjunctions kept their position. See (41)–(42) below:

(41) *Then*, in about my sixth month of practice, two patients transformed my understanding. *Men* efter sex månaders praktik ändrade jag uppfattning tack vare två patienter.

(42) *Then*, two weeks later, Don came to my office with essentially the same presentation. *Sedan* kom Don till min mottagning två veckor senare och sa i princip samma sak.

In (41), the realization form is changed to a conjunction in the TT, but the sense is still kept. Both adverbials and conjunctions can be used as links (Biber *et al.* 1999:765) (see section 4.1). In this case, *then* and *men* ('but') are both used as links and do therefore correspond to each other, which is important for the translator to consider in order to keep the function of the text in the translation (Ingo 2007:127). *Then* could also be omitted in (42), but since it links to the previous sentence it is important for the coherence (Virtanen 2004:82). In both examples above, the adverbials are kept in the initial position in the TT because they link to the previous sentence (Sarda *et al.* 2014:27–28). The same AdvP is used in the ST in (42) as in (41), but in (42), the realization form is kept and is more literal, which is the most common way of translating the initial AdvP adverbials in this study. It is not translated literally in (41) because it would be repetitive to have two time adverbials following each other. The AdvPs>AdvPs that changed position are presented in (43) and (44):

(43) *Now*, instead of experiencing a downward cycle in which toxic overload progressively damages your organs and impairs your capacity, you will be actively creating [...]. *Genom* att följa protokollen i *Giffri* kommer du *nu* att aktivt kunna skapa en god cirkel [...]

(44) *Unfortunately*, since 2010, when the panel presented its findings, [...]. *Sedan* panelen presenterade sitt forskningsresultat år 2010 har man *tyvärr* inte vidtagit några åtgärder [...]

The realization forms are kept and both the adverbials are moved to the medial position. The placement in the TT could depend on the following element that also is an adverb in both cases. *Nu* + *istället* or *tyvärr* + *sedan* do not occur naturally together, which also is seen when searching in Språkbanken, where *nu* + *istället* only gives 37 matches and *tyvärr* + *sedan* only gives 15 matches. Those are rather common constructions in English, but not in Swedish, and therefore, they are placed at another position in the TT. In neither of the cases above, the position change affects the processing of the sentence (Sarda *et al.* 2014:19), and it is not

crucial for the development of the message (Hasselgård 1998:149). Also, the adverbial in (44) is a short sentence adverb. Both short adverbials and sentence adverbs prefer to be placed in the medial position in Swedish (Ingo 2007:178) (see section 4.1.3.3). Nevertheless, there are other sentence adverbs in the ST, such as *most likely* for example, that keep their position in the TT, which is due to the flexibility of adverbials. In Johansson’s (1996) study, on the other hand, he found that half of the adverbials that change position, are omitted or restructured are sentence adverbs (see section 4.2), which differs from this study. The next section is presenting the final category, initial NF adverbials that are non-*ing*.

5.4.4 NFs

Both the ST and TT contain only a few NF initial adverbials, which is the least common realization type in the ST (6%). Likewise, NFs are not common in Lindquist’s (1989:94) study, and the realization form was mostly kept. However, the adverbial *ing*-clauses in initial position are not counted here because they are treated separately, as explained earlier. All NFs are rendered as NFs also in the TT, except in one case where it is translated as an FC. Table 4 illustrates the realization forms of the ST initial adverbial NFs in the TT.

Table 4. Distributions of different realization forms of ST non-*ing* initial adverbial non-finites in the TT in numbers

	N
Non-finite>Non-finite	2
Non-finite>FC	1
Total	3

Of the non-*ing* NF initial adverbials, two instances are translated as NFs in the TT, while one is rendered as an FC. Both of the NFs translated as NFs are also *to*-infinitives in both the TT and ST. Out of the three cases, only one of the non-*ing* initial adverbial NFs change position and is also translated to a NF in Swedish. However, because there are only a few instances of NF initial adverbials in this study, no general conclusions can be made. The following section is presenting the correspondences and placements of adverbial *ing*-clauses regardless of position.

5.5 Placement and correspondences of adverbial *ing*-clauses

In this section, the correspondences and placements of the adverbial *ing*-clauses are presented. Each category is then discussed and explained in more detail in separate sections. Figure 8

presents the different placements of the adverbial *ing*-clauses in this study. The placements are based on the classification of Quirk *et al.* (1985:491): initial, medial and final (see section 4.1.3.1). Totally, there are seven initial, five medial and two final adverbial *ing*-clauses.

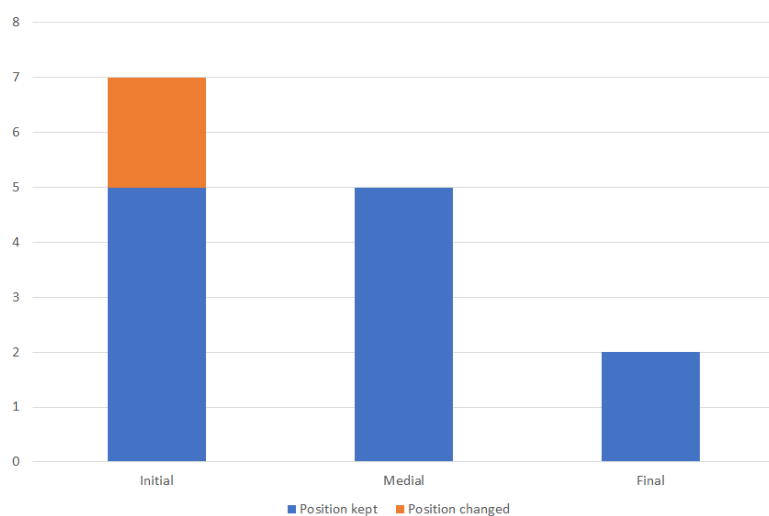


Figure 8. The frequencies of adverbial *ing*-clauses at different positions in numbers

The frequency of adverbial *ing*-clauses in the ST of this study in the different positions differs from both Herold Ström & Levin’s (2018) study and Fuhre’s (2010) study. In Ström Herold & Levin’s (2018) corpus, there is a higher frequency of final adverbial *ing*-clauses, while the other two positions are rare in their corpus. Likewise, in Fuhre’s (2010) corpus, the most common position is the final, while the medial position is least common (see section 4.2). Due to the limitation of this study, the examples of adverbial *ing*-clauses are few, and the frequencies might differ if the whole book *The Toxin Solution* had been translated and analyzed. In this study, most adverbial *ing*-clauses are found in the initial position, fewer in the medial and only a couple in the final position. What has been noticed, however, is that the adverbial *ing*-clauses rarely contain foregrounded information in the ST, which could be a reason why the initial position is more common (Behrens 1998:24) (see section 4.1.2). Most of the adverbial *ing*-clauses kept their position, except in two cases, in (45) and (46) below:

- | | | |
|----------------|--|--|
| (45)
[p.10] | <i>Going through a regular day</i> , the average person encounters a constant stream of benzene and other chemical toxins, [...] | En genomsnittlig person råkar ut för ett ständigt flöde av bensen och andra kemiska giftämnen <i>under en vanlig dag</i> : [...] |
| (46)
[p.13] | <i>Being proactive</i> , she came to me for guidance on further improving her health and preventing disease | Hon kom till mig för att få råd om hur hon skulle förbättra sin hälsa och förhindra sjukdomar <i>i förebyggande syfte</i> . |

In both (45) and (46), the adverbial *ing*-clauses are placed at the initial position in the ST, moved to the final in the TT and translated as PPs. In English, as shown in both examples above, the adverbial *ing*-clause is often intonationally detached from the main clause using a comma (Kortmann 1991:1), while in Swedish, a comma after adverbials is not used to the same extent (Ingo 2007:179). Keeping the initial position of the translated *ing*-clause (“*I förebyggande syfte kom hon till mig för att få råd [...]*”, “*Under en vanlig dag råkar en genomsnittlig person ut för [...]*”), would therefore put a stronger emphasis on the translated segment than is present on the source segment. To avoid this, the final position is chosen in the translation. Although the adverbial is pointing forward in the ST and backward in the TT, the same function is still kept, as adverbials can link in both directions (Sarda *et al.* 2014:27-28).

The few position changes of adverbial *ing*-clauses in the TT in this study correspond with the results of Ström Herold & Levin’s (2018) study (see section 4.2). Regarding the realization forms, four different forms that correspond to the adverbial *ing*-clauses are found in the TT: subordinations, prepositional phrases, coordinations and verb phrases, as illustrated in figure 9:

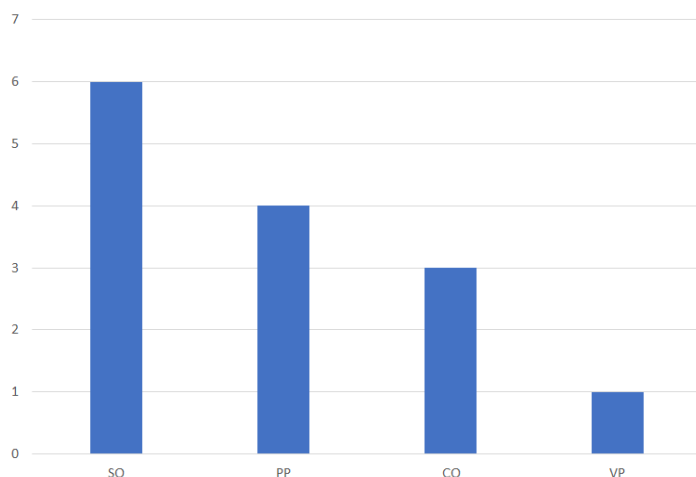


Figure 9. Realization forms of adverbial *ing*-clauses in the TT in numbers

The adverbial *ing*-clauses are mostly translated as subordinations (43%), followed by PPs (29%), coordinations (21%), and VPs (7%). Previous studies differ in the results regarding correspondences of adverbial *ing*-clauses in the TT. In Lindquist’s (1989) study, the most common correspondences are FCs (i.e. main clauses, coordinations or subordinations), while PPs only amount to 8%. In Ström Herold & Levin’s (2018) study, the most common

correspondence by far is the coordinations, with a percentage of 40.5%. Also, subordinations (27.8%) and main clauses (12.7%) are common in Ström Herold & Levin's (2018) study, and the PPs amount to 8.2%. Likewise, in Fuhre's (2010) study, the adverbial *ing*-clauses are mostly translated as full stop sentences or main clauses (see section 4.2). Table 5 illustrates the correspondences in the present study compared to Ström Herold & Levin's (2018). Lindquist's (1989) and Fuhre's (2010) studies cannot be compared with the present study, because the categorization is different.

Table 5. Correspondences of the adverbial *ing*-clause in the present study compared to Ström Herold & Levin's (2018) study in numbers and percentage

	Ström Herold & Levin's study		Present study	
	N	%	N	%
Coordinations	287	40.5	3	21
Subordinations	197	27.8	6	43
Main clauses	90	12.7	0	0
PP	58	8.2	4	29
Other	77	10.9	1	7
Total	709	100	14	100

Overall, most previous studies indicate that coordinations, subordinations or main clauses are the most common translations of adverbial *ing*-clauses either to Swedish or Norwegian (see section 4.2). In the present study, however, only 21% of the correspondences are coordinations, and no main clauses with an own subject or full stop sentences are found. Those are in some cases avoided due to stylistic preferences, even though they could be an option in other cases. Behrens (1998:262) found that coordination is a nearer equivalent to adverbial *ing*-clauses than subordination in Norwegian, as long as the information in it is new. This could explain why coordinations are rare in the present study compared to previous studies, since, in most cases, the adverbial *ing*-clauses do not contain new information, but rather known or backgrounded information. The most common correspondences in this study, subordinations, are presented more closely in the following subsection.

5.5.1 Subordinations

Subordinations are the most common correspondence to the adverbial *ing*-clause in this study. The reason why they are more common than coordinations is that the relation between the segments is mostly unequal, and not equal as in coordinations (Behrens & Fabricius-Hansen 2005:5). In total, 6 out of 14 translations are subordinations (43%). In most cases, there is some form of explicitation, either *som* ('that'), *när* ('when') or *vilket* ('which'), added in the translation. None of the subordinations change position and four of them appear in the initial position, one in the medial position and one in the final. Two examples of how the adverbial *ing*-clauses are translated as subordinations are illustrated in (47) and (48):

- | | | |
|----------------|---|--|
| (47)
[p.12] | Industrial activities such as gas and electrical-power production generate toxic emissions of methane, carbon dioxide, volatile organic compounds, ozone, benzene, toluene, mercury, and sulfur, <i>contaminating the air and water around cities, suburbs, and agricultural regions.</i> | Industriell verksamhet som till exempel gas- och elproduktion förorsakar giftiga utsläpp av metangas, koldioxid, lättflyktiga organiska föreningar, ozon, bensen, toluen, kvicksilver och svavel <i>som förorenar luften och vattnet i städer, förorter och jordbruksregioner.</i> |
| (48)
[p.18] | <i>Moving from upstate New York to Seattle</i> , I began to work as a research assistant. | <i>När jag flyttade från norra New York till Seattle</i> började jag att arbeta som forskningsassistent. |

In (47), the adverbial *ing*-clause is placed at the final position and rendered as a subordinated clause. The clause is introduced with the relative pronoun *som*, used for explicitation, i.e. there is no new information added, but what is already “read between the lines” is written out (Ingo 2007:123). In (48), the adverbial *ing*-clause is placed at the initial position and rendered as a subordinated clause. Also here, an explicitation is added, but in this case, the relation between the main clause and the subordinated clause is made temporal, through the subordinator *när* ('when'). In the present study, half of all subordinated clauses have a temporal relation to the main clause, which corresponds to Kortmann's (1991:142) study, where the temporal relation was most common of all relations, although the interpretation of the semantic relation may to some extent differ from person to person (see section 4.1.2). Using a subordinated clause is a natural option for the translator when translating an adverbial *ing*-clause, as long as the information in it is not new (Behrens 1998:262), because there is often a need for explicitation (Biber *et al.* 1999:783) (see section 4.1.2). The second most common correspondence to the adverbial *ing*-clause is the PPs, which is discussed below.

5.5.2 PPs

The PPs amount to 29% of the correspondences to the adverbial *ing*-clause in the TT. In total, 4 of 14 translations are PPs. Two of them changed from the initial to the final position in the TT and two of them kept position and are medial in both the ST and TT. There are different prepositions used in all cases, which are: *under* ('under'), *i* ('in'), *med hjälp av* ('with the help of') and *för* ('for'). Consider the two following examples:

- | | | |
|--------|--|--|
| (49) | [...] you will up-level your detox | [...] kommer du att uppgradera din detox |
| [p.16] | <i>using some simple but powerful techniques</i> I will recommend. | <i>med hjälp av några enkla men kraftigt verkande metoder</i> som jag kommer att rekommendera. |
| (50) | But, <i>starting about sixty years ago</i> , | [...] <i>för ungefär sextio år sedan</i> skedde |
| [p.9] | something fundamental changed: | en väsentlig förändring: [...] |
| | [...] | |

Their position is kept in both (49) and (50). In (49), it appears in the medial position, and in (50), in the initial. Even though, unlike subordinations and coordinations, the verb is omitted, the full meaning can still be expressed using only a PP. The *ing*-form *using* is translated into *med hjälp av* in (49), and *starting* into *för* in (50). In Ström Herold & Levin's (2018:132) study, it is suggested that *using* often is rendered as a preposition. Several *ing*-clauses (8 out of 58 instances) are translated as *med hjälp av* in Ström Herold & Levin's (2018:132) study, as in (50). The *ing*-form *using* is only used once in an adverbial *ing*-clause in the present study, why no comparison can be made of the translation of this word. According to Doherty (1994:270), the adverbial *ing*-clauses that contain backgrounded information in relation to the main clause are more often translated as phrases than clauses. This could explain why PPs are more common than coordinations in this study compared to previous studies (see section 4.2), because, as seen in examples (48) and (49), and in the rest of the PPs, the adverbial *ing*-clauses are rather backgrounded than foregrounded. Also, PPs are more common than other phrases in this study as well as in both Lindquist's (1989) and Ström Herold & Levin's (2018) studies. In the next section, it is discussed how the adverbial *ing*-clauses is translated in the TT as coordinations.

5.5.3 Coordinations

Even though coordinations are not as common as subordinations and PPs, their frequency is almost the same as the PPs', 3 out of 14 cases (21%) in this study. All the adverbial *ing*-clauses that are translated as coordinations are placed at the medial position, and the positions

are also kept in the TT. In all three cases, *och* ('and') is used as conjunction without any comma, as in the following example:

- (51) [p.22] “Only a few hundred of the more than 80,000 chemicals in use in the United States have been tested for safety,” writes Nicholas Kristof of the New York Times, *quoting the President’s Cancer Panel*: “Many known or suspected carcinogens are completely unregulated.”⁹
- 80 000 kemikalier som används i USA har blivit säkerhetstestade”, skriver Nicholas Kristof i New York Times *och citerar sedan presidentens nationella cancerpanel*: ”Många kända eller misstänkt cancerframkallande ämnen är helt oreglerade.”⁹

Just as with the subordinations, the coordination in (51) translates the *ing*-form using a verb. Even if there is still some ambiguity left in the translation, adding the conjunction *och* gives enough explicitation in order for the reader to understand who the present participle *citerar* is referring to. Also, in Fuhre’s (2010:31) study, using *og* ('and') is by far the most common way to correlate in coordinations when translating the adverbial *ing*-clause into Norwegian. Additionally, Ström Herold & Levin (2018:120) mention that when the adverbial *ing*-clause is rendered as a coordination, it often results in some kind of reduction in their study. In the present study, that is not the case, except in one instance. Instead, as in (51), the preposition *sedan* is added in the TT and nothing is omitted.

All the adverbial *ing*-clauses that are translated as coordinations are placed in the medial position in the ST, which is interesting because coordinations are often used when the information in the adverbial *ing*-clause is new (Behrens 1998:262), and not known, which is the case for the initial position (Behrens 1998:24). In contrast, most of the adverbial *ing*-clauses contain information that is known, and are therefore placed initially in the ST, which could be the reason why coordinations are rare as a correspondence compared to previous studies (see section 4.2). The next section presents the least common category of correspondences, the VP.

5.5.4 VP

Out of all 14 correspondences, only 1 of them is a VP (7%), making it the least common category of correspondences. It is placed at the medial position in the ST and the position is kept in the TT:

- (52) [p.19] As my beloved Dr. John Bastyr told us as students, *paraphrasing Shakespeare*, “No matter the obstacles they place, the truth of our medicine
- Vår käre lärare dr John Bastyr *brukade citera Shakespeare* och säga: ”Det spelar ingen roll hur många hinder de sätter upp, sanningen om vår medicin

will out.”

kommer ändå fram tillslut.”

In order to make the meaning of the adverbial *ing*-clause more explicit, the auxiliary verb *brukade* (‘used to’) is added to the VP in the TT. In accordance with the present study, VPs are very rare as correspondences of adverbial *ing*-clauses in both Fuhre’s (2010) and Ström Herold & Levin’s (2018) studies. The following section presents the conclusion of this study, concerning both non-*ing* initial adverbials and adverbial *ing*-clauses.

6 Conclusion

The aim of this study was to investigate how non-*ing* initial adverbials and adverbial *ing*-clauses at all positions are translated in medical text for a general audience, regarding the realization forms and positions. Seven different categories are found that correspond to the non-*ing* initial adverbials, and four categories are found that correspond to the adverbial *ing*-clauses regardless of position, and those categories overlap each other to some extent.

The first research question concerns the forms and positions of the non-*ing* initial adverbials in the TT compared to the ST. Figure 3 illustrates that most of the categories kept their realization form in the TT. The major category that is rendered as another realization form is the PP and the changes are in most cases optional. Also, it is found that 26% change their position, which is illustrated in figure 2, and most of them are moved to the medial position in the TT. In most cases, those are PPs, either rendered as another realization form or translated as PPs, but positions are changed among all categories. Regarding both realization form and position, changes are made mostly due to stylistic preferences in the Swedish language. This can be explained by the fact that adverbials are flexible – the realization form and position can change in the translation without affecting the sense of the ST. Yet, often when the adverbial is kept in the initial position, it is a well thought out and strategic decision. However, why certain realization types are changed into others and change position more often than others, is difficult to establish due to the lack of extensive previous research in the area.

The second research question concerns if and how the forms and positions of the adverbial *ing*-clause, regardless of position, are changed in the TT. The largest category of correspondences to the adverbial *ing*-clause is subordinations, which is illustrated in figure 9. None of the adverbial *ing*-clauses are rendered neither as its Swedish correspondent (Lindquist 1989), the present participle clause, nor as a main clause. Also, coordinations are

not as common in the present study as in previous studies. The positions are changed only in two cases and both of them are rendered as PPs.

However, due to the limit of this study, it was not possible to investigate a larger amount of text, which probably has affected the results. There are only 14 instances of adverbial *ing*-clauses in total, which is not enough to make any general conclusions. Another factor that makes it more difficult to draw general conclusions, regarding both non-*ing* initial adverbials and adverbial *ing*-clauses, is the lack of extensive previous research. Also, even if the ST has a high frequency of adverbials, especially initial adverbials, not many of them are *ing*-clauses. Factual texts tend not to have a high frequency of adverbial *ing*-clauses (Ström Herold & Levin's 2018:118). Therefore, a suggestion for further research is to investigate how adverbial *ing*-clauses are translated in non-factual texts and to compare their realization forms in different genres. Also, it would be interesting to compare adverbial *ing*-clauses to other non-finite structures.

References

Primary source

Pizzorno, Joseph. 2017. *The toxin solution: how hidden poisons in the air, water, food, and products we use are destroying our health—and what we can do to fix it*. New York, NY: HarperOne.

Secondary sources

Behrens, B. 1998. *Contrastive discourse: An interlingual approach to the interpretation and translation of free ING-participial adjuncts*. University of Oslo.

Behrens, B. Fabricius-Hansen, C. 2005. *The relation Accompanying Circumstance across languages. Conflict between linguistic expression and discourse subordination?*. Oslo.

Bestgen, Y & Piérard, S. 2014. *Sentence-initial adverbials and text comprehension*. Belgium: Presses universitaires de Louvain.

Biber, D., Johansson, S., Leech G., Conrad, S., & Finegan, E. 1999. *Longman Grammar of Spoken and Written English*. Harlow: Longman.

Doherty, M. 1994. *The Grammatical Perspective of -ing Adverbials and their Translation into German*. The Netherlands.

Duran Eppler, E. & Ozón, G. 2013. *English Words and Sentences*. New York: Cambridge University Press.

Fuhre, P. 2010. *The English -ing Participial Free Adjunct in Original and Translated Fiction: an English-Norwegian Parallel Corpus Study*. Oslo: The University of Oslo, The Department of Literature, Area Studies and European Language.

- Hasselgård, H. 1998. *Thematic structure in translation between English and Norwegian*. Amsterdam: Editions rodopi B.V.
- Ingo, Rune. 2007. *Konsten att översätta. Översättandets praktik och didaktik*. Lund: Studentlitteratur.
- Johansson, M. 1996. Fronting in English and Swedish: A text-based contrastive analysis. *Synchronic Corpus Linguistics*. ed. by Percy, C. Meyer, C. Lancashire, I. Amsterdam: Editions rodopi B.V.
- Kortmann, B. 1991. *Free Adjuncts and Absolutes in English*. London: Routledge.
- Lindquist, H. 1989. *English Adverbials in Translation: A Corpus Study of Swedish Renderings. Lund Studies in English 80*. Lund: Lund University Press.
- Norstedts. 1999. *Svenska Akademiens grammatik*. Vol. 4. Värnamo: Fälth & Hässler.
- Quirk, R., Greenbaum, S., Leech, G. & Svartvik, J. 1985. *A comprehensive Grammar of the English Language*. London: Longman.
- Sarda, L., Carter-Thomas, S., Fagard, B. & Charolles, M. 2014. *Adverbials: from predicative to discourse functions*. Louvain-la-Neuve: Presses universitaires de Louvain.
- Ström Herold, J. & Levin, M. 2018. English supplementary *ing*-clauses and their German and Swedish correspondences. *Corpora et Comparatio Linguarum: Textual and Contextual Perspectives*. Ebeling, S. Oksefjell & Hasselgård, H. (eds.) *Bergen Language and Linguistics Studies* 9(1), 115–138.
- Vinay, J.-P. & J. Darbelnet. 1977. *Stylistique comparée du français et de l'anglais*, Paris: Didier: Georgetown University Press.
- Virtanen, T. 2004. *Point of departure: Cognitive aspects of sentence-initial adverbials*. Berlin.

Wioleta, K. 2015. *Medical Translation*. ed. by Ł. Bogucki, S. Goźdz-Roszkowski, P. Stalmaszczyk. *Ways to Translation*, 271-298

Parallel texts

Lind, L. Lind, M. 2019. Höga PCB-nivåer i blodet kopplade till för tidig död. *Läkartidningen*.
<https://lakartidningen.se/klinik-och-vetenskap-1/nya-ron/2019/06/hoga-pcb-nivaer-kopplade-till-for-tidig-dod/> [last accessed 26 May 2020]

Norström, K. 2019. Gifter i miljön. Naturvårdsverket.
<https://www.naturvardsverket.se/Sa-mar-miljon/Manniska/Miljogifter/> [last accessed 26 May 2020]

Rosengren, L. 2018. Så lagras miljögifter i ditt kroppsfett. *Aktuell hållbarhet*.
<https://www.aktuellhallbarhet.se/miljo/kemikalier/sa-lagras-miljogifter-i-ditt-kroppsfett/> [last accessed 26 May 2020]

Rosengren, L. 2018. Så undviker du skadliga kemikalier i vardagen. *Aktuell hållbarhet*.
<https://www.aktuellhallbarhet.se/miljo/kemikalier/sa-undviker-du-skadliga-kemikalier-i-vardagen/> [last accessed 26 May 2020]

Dictionaries and corpuses

Borin, L. Forsberg, M. & Roxendal, J. 2012. Korp – the corpus infrastructure of Språkbanken. Proceedings of LREC 2012. Istanbul: ELRA, pages 474–478.

Kutylowski, J. 2009. *Linguee*. Germany: Cologne. <https://www.linguee.com/>

Nationalencyklopedin. <http://www.ne.se/>