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Translating conceptual metaphors

A case study of the Dutch translation of *Sapiens*

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Contents

1	Introduction	2
2	What is metaphor?	4
2.1	Metaphor uses in popular science	10
2.2	Translating metaphor: a general consensus?	12
2.3	Translating conceptual metaphor	16
3	Methodology	20
3.1	The use of MIP (Metaphor Identification Procedure)	20
3.2	Sapiens: A Brief History of Mankind	22
3.3	The Dutch translator	23
3.4	Aim of the study	23
4	Analysis results	24
4.1	Strategy one: Metaphor into metaphor	25
4.2	Strategy 1b	28
4.3	Strategy two: Same conceptual metaphor, different linguistic expression	29
4.4	Strategy three: Different conceptual domain, different linguistic expression	31
4.5	Strategy four: Metaphor into no metaphor	33
4.6	On the matter of frequency	35
4.7	Groundbreaking innovations?	38
5	Conclusion	40
5.1	Discussion	40
6	Bibliography	43
7	APPENDIX	48

1 Introduction

Our everyday speech is teeming with metaphors. Whether we are aware of it or not, there is a significant chance that your next utterance contains figurative speech. In fact, it has been calculated that a metaphor occurs every 25 to 30 words in spoken discourse (Crawford 2009). More often than not, using a metaphor happens naturally and subconsciously.

I think Obama will play with him, parry the assaults, block the blows, try to keep his head clear so he can avoid getting hurt. I think it will start slow with both men trying to be cautious, neither able to land a punch, not hard enough to register with the tens of millions watching.

(Gibbs Jr. 2017)

On first glance, one might think that this excerpt speaks of a boxing match, but because we recognize the familiar name of the former president of the United States and because we can conceptualize a discussion in terms of another concept (in this case, war), our brain automatically creates a mapping between these concepts. Similarly, people are often compared with animals; someone may call a person a snake, not because they lack legs and prefer to slither through grass, but because they possess the attributes of a snake, for example being predatory or cunning. Such metaphors are a reflection of how we see our world, and specifically, how we attempt to grasp intangible and abstract concepts, usually in terms of another, more tangible and concrete concept. The ability to create these cross-domain mappings has not been such a given as one might think. A fairly recent theory suggests that it was in the Upper Palaeolithic period (100.000 years ago) that the human brain first became capable of metaphorical thinking (Mithen 1996;1998;2005). Before that time, the domains that formed the main concepts of our thoughts were separated from each other, so that a crossover or any interaction at all was impossible. In other words, we could not think of one thing in terms of another thing (Shuttleworth 2016:28;Kövesces 2005:24-5). This cognitive development introduced the rapid rise of modern civilization, a subject that is being touched upon in the corpora that we use in this current thesis: *Sapiens*, a popular science novel that tackles the history of the modern human and its climb to the top of the food chain, as well as the subsequent global consequences that we face because of this perhaps too rapid an ascension. Upon reading this book, the writer of this thesis became aware of the many metaphors that the author, Yuval Noah Harari, used to explain his thoughts, and after writing a bachelor thesis on conceptual

metaphors combined with the training in the field of translation, the writer started wondering how the Dutch translator of the book handled these metaphor translation issues. It is widely accepted by many scholars who have worked in the field of metaphor translation that while a conceptual metaphor is deeply embedded in our bodily experiences and therefore is considered a (near-)universal phenomenon, on a more complex level there are differences in the use of metaphors, largely due to cultural dissimilarities. In this thesis, an attempt will be made to investigate what the translator did to tackle these cultural differences (if any) by studying the translation strategies utilized by the translator, using a substantial number of metaphors taken from the original book. In section 2, the thesis will expand on the theories based on the subject of conceptual metaphor by explaining how this theory emerged to then play a central role in the field of metaphor research. After that there will be a discussion on the use of metaphor and their function in popular science; and lastly, a description of the various typologies on the translation of conceptual metaphor will be discussed. In section 3, the methodology will explain how the process of the analysis of metaphor has been done, describing procedures used in the identification of metaphors. In section 4, an extensive analysis of the metaphors used in *Sapiens* and its subsequent translations to Dutch will be presented, zooming in on the different strategies supported by rich examples. This chapter will also deal with the frequency of these strategies, which will be used as proof for the main hypothesis. In the 5th and last section there will be a conclusion, and a discussion that will cover the main issue(s) faced during the writing of this thesis, as well as a peek into the future of metaphor analysis.

2 What is metaphor?

The study of metaphor dates back to the years of the Ancient Greeks, to prominent figures like Homer, who was and still is famous for his *similes*, describing phenomena such as troop movements and comparing them with endless bee swarms (Kirby 1997). The earliest mention of the word ‘metaphor’ was by Isocrates, who described this phenomenon as a means for poets to express themselves on a more profound level (1997:523). It is not until Aristotle’s *Poetics* that we are granted a description of the word ‘metaphor’, which he described as “the *epiphora* of the name of something to something else” (1997:531). Aristotle mentions two forms of metaphor: *simile* and metaphor proper. As with Homer’s *simile*, it uses the words ‘like’ or ‘is as’ to make a direct comparison (“she is as busy as a bee”), while a metaphor proper omits those words and uses a more natural sentence instead (“She buzzes around the office”), with elements that (in this case the verb) refer to characteristics of someone or something. Consequently, through the years after Aristotle’s work, metaphor has been regarded as a predominantly linguistic device, used in novels, plays and poetry to test and entertain audiences. More recent descriptions of metaphor include “one of a bewildering constellation of related processes that involve some kind of transfer of meaning...” and “metaphor exemplifies the innate ability of the human mind to see or interpret one concept in terms of another” (Shuttleworth 2016). Some scholars, however, view Aristotle’s definition and further description of this phenomenon as ‘purely ornamental’ (Ortony 1993b:3). While this ‘traditional view’ was widely accepted by most, with the inception of the conceptual metaphor theory by American scholars George Lakoff and Mark Johnson, it saw its position change drastically, with this new theory taking the spotlight instead (Shuttleworth 2016:31).

In their own words, Lakoff and Johnson describe metaphor as “not just a matter of language, that is, mere words. We shall argue that, on the contrary, human thought processes are largely metaphorical” (1980:7). According to them, metaphor is inherent to our thought processes, and, whether consciously or subconsciously, used in our everyday life. Language, then, is a form of evidence that may tell us something about how a person thinks. In Lakoff and Johnson’s framework, the term ‘metaphor’ refers to the cognitive linguistic form of the word, also referred to as a conceptual metaphor, or a ‘conceptual mapping’ (Schäffner 2004:1258). One of these better-known conceptual mappings is ARGUMENT IS WAR, which is the concept behind utterances such as “his claim was indefensible”, and “I demolished his argument”

(1980:5). The general idea behind this concept lies in the notion that arguments are viewed as battles, as usually in most cases, an argument involves two (or more) people pitted against each other trying to 'win' or 'defeat' one another with words. In war, too, two or more parties are battling against each other in order to win land, resources, or in some rare cases, a damsel in distress. It is therefore not unusual that a person makes a mental link between two concepts, which is also called a 'mapping'. Lakoff mentions Reddy's (1979) conduit metaphor as one of the most illustrative conceptual mappings to date:

With a single, thoroughly analyzed example, he allowed us to see, albeit in a restricted domain, that ordinary everyday English is largely metaphorical, dispelling once and for all the traditional view that metaphor is primarily in the realm of poetic or "figurative" language.

(Lakoff 1993:2)

The domain mentioned by Lakoff is the mapping between ideas and thoughts and the notion that those abstract concepts are regarded as physical containers in our everyday utterances such as (Reddy 1979:166):

- (1) Try to *get your thoughts across* better
- (2) None of Mary's feelings *came through to me* with any clarity
- (3) You still haven't *given me any idea* of what you mean

At first glance, one would not be able to find any obvious metaphorical speech in any of these sentences, as most of the subtle metaphors - or dead metaphors as some scholars call them (1979:5) - are uttered subconsciously in conversations. In (1), 'thoughts' are regarded as physical objects that need to be given from one person to another. In (2), Mary's feelings failed to come through to the recipient, as if it was a parcel that failed to be delivered by some postal service. And in the last sentence, the first speaker does not have the faintest idea how to communicate his idea to the recipient. Of course, a feeling or thought that Mary has had cannot magically appear in another person's mind, nor can that person read someone else's thoughts. Reddy views words as containers for these thoughts and ideas, with language being the vehicle to deliver those thoughts and ideas to their destination. This one example of metaphorical speech is very telling in how we view the domain of communication, a domain that we have to deal with on a daily basis.

One might ask; Are these mappings purely arbitrary? Not exactly. They are shaped, but also constrained by our bodily experiences, and so those experiences form the foundations on which those concepts are built (Lakoff & Johnson 1980:247).

One of such experiences is the concept of heat linked to anger. This may become apparent from metaphorical language in sentences such as “his anger is smoldering” or “she was boiling with rage” (Kövesces 2000a). This may be evidenced by details such as the bodily experience of heating up in an intense argument, and the redness that may show in the face as a result of that. Moreover, anger is usually accompanied “by several physiological reactions, such as an increase in skin temperature, respiration rate, blood pressure and heart rate” (Kövesces 2005:203). Another emotion that we have all probably experienced is love. Love can be seen as a journey, like in “our relationship has been a bumpy road”, but similarly to anger, it can also be associated with heat, like in “I am burning with love” (Kövesces 2000a:5), for the same physiological reasons as anger.

As mentioned before by Lakoff and from what has been discussed so far, these concepts were all viewed with a predominantly English framework in mind. The bodily experiences that account for most of those concepts are a topic of discussion for conceptual metaphor universalists. After all, if they are based on those human experiences, does that not mean that all these concepts are largely the same in every language? With over 7000 languages and a myriad of concepts, this might be difficult to ascertain. There is, however, proof that languages can have the same conceptual metaphors.

The HAPPINESS IS UP metaphor, for example, is prominently available in the English language, with phrases like “to feel up”, “to be on cloud nine”, “to be high” (Kövesces 2005:199/200). The same conceptual mapping can be found in Chinese:

- (4) Ta hen gao-xing
 he very high-spirit
 ‘He is very high-spirited/happy.’
- Ta xing cong-cong de
 he spirit rise-rise PRT (grammatical particle)
 ‘He’s pleased and excited.’
- Zhe-xia tiqi le wo-de xingzhi
 this-moment raise raise my-ASP mood
 ‘This time it lifted my mood/interest.’

In Hungarian, too, proof has been found of the same conceptual mapping:

- (5) Ez a film feldobott
this the film up-threw-me
'This film gave me a high.'

Majd elszáll a boldogságtól
almost away-flies-he the happiness-from
'He/she is on cloud nine.'

How did these concepts turn up in these languages, which are not related to each other and historically, have had little contact with each other? An explanation is that there "is some universal bodily experience that led to its emergence" (Kövesces 2005:201). Similarly to the anger metaphor from before, when we are happy we tend to be "physically up", active, running and even jumping. Yet when we are down, we tend to be physically lying down, not moving or inactive. Because this emotion is so innate in every human being (and perhaps also in animals), it would be logical to conclude that these emotions produce similar conceptual metaphors (2005:201).

This, however, is not definitive proof that *all* languages express these emotions in similar ways. When talking about conceptual metaphors, one cannot deny the influence that culture has on the mappings used in a language. Looking back at the conceptual metaphor ARGUMENT IS WAR, the very goal of such an argument is to win. You may lose or win ground, attack one's weak position, or abandon a position and find a new way to attack our opponent. It is, however, ingrained in our system that the purpose of an argument is to win and come out on top. Lakoff & Johnson mention our culture as a determining factor in deciding what concept is linked to another (in this case, arguing to war), and what if in another culture, an argument is not linked to war, but to something else entirely?

Imagine a culture where an argument is viewed as a dance, the participants are seen as performers, and the goal is to perform in a balanced and aesthetically pleasing way. In such a culture, people would view arguments differently. But we would probably not view them as arguing at all: they would simply be doing something different. It would seem strange even to call what they are doing "arguing". Perhaps the most neutral way of describing this difference between their culture and ours would be to say that we have a discourse form structured in terms of battle and they have one structured in terms of dance.

Lakoff & Johnson (1980:5)

In this light, one can argue that culture has an undeniable influence on the conceptual mappings of a language. Kövesces (2010:204) claims that “metaphorical conceptualization in natural situations occurs under two simultaneous pressures: the pressure of embodiment and the pressure of context”, with the latter being determined by “local culture”. In one metaphor the pressure of embodiment may prevail, in others the pressure of local culture plays a more important role, while in some cases these two pressures determine the formation of a conceptual metaphor simultaneously.

An example of culture as an influence on the formation of such a conceptual metaphor is the Chinese conceptual mapping THE HEART IS THE RULER OF THE BODY (Yu 2007). In ancient Chinese philosophy, “the heart organ is regarded as the central faculty of cognition and the site of both affective and cognitive activities” (2007:27). This might seem very similar to the Western notion of heart metaphors, yet one striking difference is that there exists a clear distinction between the heart as an emotional site and the mind as the rational, cognitive site. This difference leads to Chinese conceptual metaphors of thought linked to the heart rather than to the mind. Evidence of this can be found in Chinese phrases such as “The organ of heart is for thinking. If you think, you will get it; if you do not, then you will not get it” (2007:33).

Another example that shows us the influence of pressure of local culture is the negative or positive connotations a language might have with certain animals; evidence from Chinese is how dogs are seen as “repulsive”, while in English phrases as “top dog” and “lucky dog” are regularly used (Lei & Yi 2020). Conversely, in English culture dragons are regarded as an evil to be vanquished, while in Chinese culture dragons are seen as wise creatures and as a sign of luck or wisdom.

Moreover, our choice of metaphors can also depend on who we are as a person. For example, former FIFA chairman Sepp Blatter spoke ill of Asian football representatives who left a meeting prematurely by stating that “you, as experts on football, should have known that the team that leaves the field before the game is called off by the referee can never win the game” (Kövesces 2010:205). Similarly, an electrical engineer could come up with a unconventional conceptual metaphor like THE EUROPEAN UNION IS AN ELECTRICAL CIRCUIT:

We are, we can be at home in Europe. Since Saint Stephen we have been integrated/connected to this intellectual/spiritual electric circuit, and with varying degrees of intensity, but we have been in it – even though various powers, for more or less time, have tried to yank us out of it.

(Kövesces 2010:206)

In an attempt to build on the conceptual metaphor theory by Lakoff and Johnson, Grady (1997) proposed that a clear distinction should be made between certain levels of metaphors. For example, the metaphor THEORIES ARE BUILDINGS (Lakoff & Johnson 1980; Grady 1997; Kövesces 2005) is a regularly used conceptual mapping in the English language, as evidenced in sentences such as (Grady 1997:38):

- (6) a. “Major premises, including facts and assumptions, are the *foundation* of the theory.
- b. “The major claims and arguments of a theory, along with their organization, make up its *framework*.”
- c. Your facts are not *solid* enough to *support* your hypothesis.

Grady (1997) claims that this conceptual metaphor exists on a sublevel (or as he calls it, a *complex* metaphor) of a more general (or *primary*) metaphor, in this case the metaphor ORGANIZATION IS PHYSICAL STRUCTURE. These primary metaphors “consist of correlations of a subjective experience with a physical experience” (Kövesces 2010:201), in a way similar to what we have already seen in the HAPPINESS IS UP metaphor. Other metaphors that can be regarded as primary metaphors are MORE IS UP, PURPOSES ARE DESTINATIONS and INTIMACY IS CLOSENESS, because these metaphors “function at a fairly local and specific level of conceptualization, and hence in the brain” (2010:201), making them “potentially universal”. At a more complex level, however, these metaphors shared between languages tend to diverge, not necessarily in meaning, but in the way that this subjective experience is tied to a different experiential concept. Another example mentioned earlier is the metaphor of comparing someone or something with an animal (in our case, a dog). In English, a person may be compared to a dog with a positive connotation (“top dog”, “lucky dog”, or “as loyal as a dog”), while the Chinese language may use other animals such as a tiger or a dragon (Chen & Chen

2011:127). Even though these complex metaphors may use different linguistic expressions, they can be regarded as part of the primary metaphor HUMANS ARE ANIMALS. Grady's sublevels of metaphor could be an explanation as to how universality and cultural influence may interact with one another.

2.1 Metaphor uses in popular science

As we have now come to understand, metaphor is an indispensable tool in our way of communicating with each other, and one of the advantages of metaphor is that it can be used to explain an abstract concept in terms of another, more tangible concept. An example of this are sentences such as 'unneeded synapses get *pruned*', where "neurons are depicted as trees" (Shuttleworth 2011:302), and in 'artificial genetic *letters*', where "genetic material is portrayed as if it were text (2011:301). This can be especially helpful in the case of popular science, more so if you keep in mind the supposed "asymmetrical nature of the reader-author relation in such texts" (Merakchi & Rogers 2013). With scientists as authoritative figures in this relationship and the jargon that is widely used in explaining the phenomena of their research, it is especially important in the case of this particular type of literature that the audience - most of whom are well-read but non-specialized readers - can understand what is being said in those articles or books.

Metaphor use in science may at least be dated back to the 11th century, as the etymology of a certain eye disease may not refer to exactly what it is, but rather has been 'borrowed' from a less abstract concept, *cataracta*, meaning 'large waterfall' (Shuttleworth 2016:14), which lead to the commonly accepted word 'cataracts', a name for cloudy spots in the lens of the eye. In fact, "almost any interesting descriptive term can be shown etymologically to be a [dead] metaphor" (2016:14). These terms originated largely from Greek and Latin, as those languages have long dominated the scientific world in most European countries. During the period between 1680 and 1970, there was not a single dominant *lingua franca* in the scientific world, with French, German and English pulling the cart of knowledge up until the 1970s, when English surpassed French and German as the dominant language used throughout scientific research (2016:20). One of the implications for this assumed dominance in the scientific field is the heavily English-based framework that comes with that dominance, as "scientists are by and large assumed to know English", and therefore would write their articles and essays with

an English audience in mind (2016:21). Another implication of this is that if all scientists are assumed to know English, the need for the translation of scientific work is ‘doomed’ to be confined to popular science, seeing as there is no particular need for expert-to-expert translation.

Popular science serves as a bridge between specialized and non-specialized audiences and the need (or rather, interest) in the genre is evidenced by the wide array of scientific magazines such as *Scientific American*, *National Geographic*, *Quest* and *Nature*. With all these magazines providing translations in numerous languages (2016:23). The need for a non-specialized framework for scientific advances brings with it the need for metaphorical speech, as argued earlier, and with it come the issues that translating metaphor might bring. In the case of *Scientific American*, since the 1960s there has been a significant increase in translated editions of this monthly magazine, appearing in 18 different countries and languages (Italian, Japanese, Spanish, French, German, Mandarin Chinese, Russian, Arabic, Polish, Portuguese, Traditional Chinese, Czech, Hebrew, Dutch, Greek, Korean, Romanian and Ukrainian). This diversity in languages also means a diversity in cultures, which brings with it the ‘issue’ of (un)translatability of metaphors. Whether or not this can really be considered an issue, it is undeniably a struggle to find a perfect translation of a metaphorical expression with which you can ideally achieve a high level of equivalence.

The notion of equivalence has traditionally always been focused on a more source-oriented approach, “pervading to the widely applied prescriptive model of translation, (...) maintaining that any translation must stick to its original” (Fernández et al. 2003:62). With the emergence of Descriptive Translation Studies (DTS) however, that focus has shifted to the descriptive notion of “the relationship existing between a source text (or source item) and a target text (or target item), which is redefined for each and every act of translation” (2003:61). Every translation, then, should not aim for a ‘perfect’ translation, but rather for an ‘acceptable’ one, a translation that caters to the target audience while also respecting the source text. Moreover, as one of the more influential scholars, Toury (1995) believed that translations were always shaped by a variety of factors, including the cultural context in which they were produced and the norms and expectations of the target audience. He argued that there was no universal standard for equivalence that could be applied to all translation situations, and that translators had to make decisions based on the specific communicative goals of the translation. Equivalence, that is, striving for a ‘perfect’ translation, is therefore an ideal that cannot be achieved in practice. According to Toury, the translator should find a balance between the

acceptability, that is, to take into account the grammatical rules and syntactical structures of target language, and adequacy, that is, to respect the structures of the original text (Toury 1980). In the case of this current thesis, this means that ideally, the translator remains faithful to the metaphor structures of the original text, while at the same time taking into account the needs of the target audience. Understandably, this may lead to some serious dilemmas. Does the translator opt to give a translation of a metaphor that remains close to the original, so as to not take the risk of removing the explanatory function of the metaphor, or does the translator take that risk and opt for a more target-oriented approach?

The further away two cultures are removed from each other, the more challenges you might encounter when translating a text. However, it is argued that when comparing non-literary texts such as popular science with literary texts found in novels, the aesthetic function of a metaphor is not as important in popular science as it may be in purely literary texts. This leads to a more flexible approach towards metaphor translation in the case of popular science, where paraphrasing or foregoing a metaphor might seem more forgiving. Direct counters to this are the important functions of metaphor, such as knowledge building, textuality, and pedagogy (or illustrative purpose) (Merakchi & Rogers 2013:348). One could argue that a translator may choose to omit a metaphor from a target text “for reasons of its conventional status in the source text, with the translator estimating that its effect was negligible” (Harvey 1998:284), but to omit metaphors with an explanatory function would be detrimental to the understanding of scientific phenomena and processes (Merakchi & Rogers 2013:349). The choices that a translator has to make transforms metaphor translation, especially when there are issues of equivalence in the cognitive domain, into a more time-consuming ordeal when compared to the translation of non-metaphorical language (Schäffner & Shuttleworth 2013:98).

2.2 Translating metaphor: a general consensus?

Ever since metaphor has been proposed as a ‘translation problem’ within Translation Studies, there has been much debate on “the contrast between normative models (what a TT should look like) and descriptive models (what a TT actually looks like)” (Schäffner 2004), and metaphor has historically been viewed as a purely linguistic phenomenon that may pose as a translation problem.

Most traditional scholars agree that in the translation of metaphor, three components are of

central importance in this process: *image* or *vehicle* for the conventional referent, *object* or *topic* for the actual unconventional referent, and *sense*, *ground*, or *tenor* for the “similarities and/or analogies involved (2004:1255). From an equivalent-based point of view, translating a metaphor means that the particular linguistic expression should remain intact when transferred from the ST to the TT. Newmark (1985) uses the phrase *rooting out the faults* as an example, where *faults* is the object or topic, *rooting out weeds* the image or vehicle and the sense, ground or tenor is the idea of rooting something out; a means to eliminate something, and to do so with “tremendous personal force”. Newmark argues in his example that verbs like *éliminer* in French and *entfernen* in German would not do, as these verbs do not completely translate the sense of the verb *to root out*, particularly the part where it is done with tremendous force (1985:85). In this example we again see how cultural differences can get in the way of perfect equivalence. Striving towards perfect equivalence, therefore, is an ordeal that many scholars agree on as being a utopia (Schäffner 2004:1256). Various attempts have been made to make a distinction between translation procedures used in the translation process of metaphor. Dagut (1976) argues from the perspective of the translatability or untranslatability of a metaphor. He notes that this is governed by “the extent to which the cultural experience and associations it draws are shared by the speakers of the particular TL” (1976:28). He makes a distinction between three instances of metaphor translation:

- Novel metaphors, which he calls the “embalmed metaphors of literature”, metaphors which are sufficiently known to a larger audience but too language-specific that they are deemed untranslatable (like metaphors such as “time’s winged chariot” or “golden boys and girls”) (1976:23).
- Translatable “fleeting” or “ephemeral” metaphors that have once been thought up by people but have almost immediately ceased to exist. Metaphors that spring to mind but have not nestled their way into linguistic history.
- New metaphors that have been overused and therefore are considered to be part of the language. These metaphors have lost their uniqueness and speakers of a language may most likely not be aware of its origin (much like in the Dutch metaphors *op z’n elfendertigst* or *een fluitje van een cent*).

Dagut argues “that metaphor is a ‘special’ case of language and culture; he measures its translatability by the degree of the shared ground between cultural experiences and semantic associations” (Merakchi 2020:39). While Dagut makes a distinction between 3 kinds of

metaphor, he mainly focuses on the translation of novel metaphors. He, however, does mention the familiar tune of the shared ground between cultural experiences and associations, a core principle that seems to appear in future typologies.

Van Den Broeck (1981:77) also focuses on the translatability of a metaphor, and proposes the following 3 types of metaphor translation:

- Translation '*sensu stricto*', which means that a metaphor can be translated when the *vehicle* and *tenor* correspond between the ST and the TT.
- Substituting the *vehicle* of the ST by a different *vehicle* in the TT.
- Paraphrasing the metaphor in the TS, thus deleting the original metaphor.

Furthermore, Van Den Broeck makes a distinction between a literary text and a scientific text. A metaphor poses a larger translation issue in the former text type than in the latter, as he believes scientific metaphor to be “universal” (Merakchi 2020:40). These “schemes”, however, have been provided with a certain tentativeness, as Van Den Broeck describes these translation options as mere possibilities rather than absolute truths (Van Den Broeck 1981:78). In the framework of DTS, a translation theory should not be viewed as a purely prescriptive mandate, but rather as a description of possible solutions, and what Van Den Broeck has done is merely to show that his theory “is concerned with discovering regularities (...) it should not try to create them by imposing rules or norms on translational practice” (1981:86), which is firmly in line with the framework of this current thesis.

In contrast, Newmark (1985) proposes a prescriptive-oriented list of procedures that he believes would contribute significantly as translation guidelines in translation training (Schäffner 2004:1256). He defines metaphor as “a resemblance, a common semantic area between two more or less similar things - the image and the object” (Newmark 1988:104). He makes a distinction between universal, cultural and individual ‘images’ (what is known as “the picture conjured by the metaphor”) and the ‘object’ (“what is described or qualified by a metaphor”) (Merakchi 2020:41), which is similar to one of the fundamental links between the conceptual and linguistic levels of conceptual metaphor theory.

Newmark makes a distinction between 5 types of metaphor: dead metaphors, cliché metaphors, stock metaphors, recent metaphors and original metaphors. Specifically, his 7 translation procedures are regularly cited in literature (Schäffner 2004:1257; Newmark 1988:87-91):

- Same image is reproduced in the TT ('golden hair' becomes *goldenes Haar*).
- ST image is replaced with a standard TT image that does not clash with the culture ('other fish to fry' becomes *andere katten te geselen hebben*).
- Retaining the image by translating with a simile ('Ces zones cryptuaire ou' s' e'labore la beauté' becomes *the crypt-like areas where beauty is manufactured*). This procedure may affect the impact of the original.
- Translating metaphor or simile with addition of another simile (or metaphor plus sense) ('tout un vocabulaire moliéresque' becomes *a whole repertoire of medical quackery such as Molière might have used*. Originally this may be used to offer explication of the metaphor, but usually at the loss of "intended effect").
- Sense of the metaphor is translated directly ('Je brood verdienen' becomes *to earn one's living*. Emotion of the original text may be lost, but this procedure can be used if the image of the TT does not completely correspond with the image of the ST.
- Deletion in case of redundant metaphor.
- Using the same metaphor but reinforcing it with an additional translation of the sense.

This prescriptive model may serve a purpose when used as a general guideline in literary translation with an exclusive focus on the linguistic aspects of a metaphor. For this thesis, however, a descriptive approach is more suitable, with emphasis on the cognitive aspect of metaphor translation.

2.3 Translating conceptual metaphor

Various studies have been devoted to describing metaphor translation possibilities aimed at the conceptual level of metaphor¹. From this perspective, the translatability of a metaphor is no longer focused on the individual metaphorical expression, but on the larger picture of a conceptual system and the link between source and target culture (Schäffner 2004:1258). Hiraga (1991), for example, compared in his study the conceptual metaphors used in English and Japanese. In his study the focus lies on metaphors (from here on with the word ‘metaphor’ it will refer to such conceptual mappings) such as TIME IS MONEY, and THE WORLD IS A STAGE. Hirara lists 4 possible combinations of metaphor similarities between English and Japanese (we should note that these are similarities found as evidence in two different texts, not evidence as a result of a translation process):

- A metaphorical concept in one language is similar to one in another language and they also use similar metaphorical expressions. In this instance, Hiraga speaks of the metaphor TIME IS MONEY, which are both prominently available in both English and Japanese (‘time is money’ becomes *toki-wa kanenari*; ‘you’re wasting my time’ becomes *kimi-wa boku-no jikan-o roohishi-te i-ru*).
- Two languages have similar concepts, but are expressed in different ways. While the concept LIFE IS A SPORT is readily available in both English and Japanese, in both languages one may use a different sport to express this concept. In other words, on a more complex level, the concept starts changing due to cultural differences. English uses (American) football or baseball metaphors (‘right off the bat, he asked for my age’, ‘and then he threw that wicked curve ball at me’), while Japanese favors metaphors with the sumo wrestling sport as a central theme (transl. ‘that politician has a sticky back about everything’; ‘the minister of finance was made to stand at the edge of the ring’).
- Two languages use similar metaphorical expressions, but not for the same concept. This is one of the most crucial moments in communication and translation, as this is where mistakes are most likely to be made (Hiraga 1991:157). For example, in the English language we often use the metaphors SWEET IS GOOD (‘what sweet music!’) and SOUR

¹ This is by no means a claim that these typologies and theories are considered superior to any unmentioned alternatives; this is merely a sample of all the research that has been done on this particular topic.

IS BAD ('that left a sour taste in my mouth'), whereas in Japanese sweet is rarely good (transl. 'that teacher is sweet in grading', lit. 'that teacher is an easy grader').

- Two languages use different concepts and different metaphorical expressions. This option may prove to be less dangerous than the third option, as most of these would raise eyebrows if translated directly into the other language. Nonetheless, it would still be difficult to communicate (and therefore translate) if one has insufficient knowledge about such culturally specific concepts and expressions (1991:161).

While Hiraga's focus in this study is not specifically on translation, it still reflects the core issues of metaphor translation and the boundaries set by cultural differences between languages.

Mandelblit (1995), in turn, speaks of two possible hypotheses that a translator may face. She bases these hypotheses on the time it took for translators to find corresponding metaphor translations in her study:

- The Similar Mapping Condition (SMC): The linguistic expressions used in the ST and the TT refer to the same conceptual mapping. If this is the case, the translation should be "straightforward and problem free" (Merakchi 2020:47).
- The Different Mapping Condition (DMC): The linguistic expressions used in the ST and the TT are different and are based on different conceptual mappings, and more time may be required to find an adequate translation for these different metaphors.

In her work she argues that the issue with the translation of metaphor "resides in the use of different metaphorical mappings between source language (SL) and the target language (TL) to express the same idea" (Mandelblit 1995:483), which is not unlike the issue addressed by studies that we have come across before. Mandelblit's study has served as a foundation for further research, specifically in projects such as Capturing Translation Processes (CPT) by Massey and Ehrensberger-Dow (2016;2017) (Merakchi 2020:47), which bases its assumptions and hypotheses on the time it takes for a translator to find a suitable translation for a metaphor.

Schäffner (2004) has also made a considerable contribution to the cognitive approach of metaphor translation, by studying German political texts and their English translations. Some of the patterns that have emerged from this study are (2004:1267):

- Conceptual metaphors are the same in both the ST and the TT on what she calls the macro-level (which is equal to having the same conceptual metaphors), while at the micro-level (that is, the actual metaphorical expression) there are some minor differences.
- Structural components of the base conceptual schema in the ST are replaced in the TT by expressions that make the metaphor more explicit (For example: *Dabei wollen wir, daß unsere amerikanischen Freunde in diesem Haus auf Dauer ihre feste Wohnung haben.* (literally: [...] We want our American friends to have a permanent apartment in this house) becomes ‘with a permanent right of residence for our American friends—and enable the family of European nations to live together side by side in lasting peace’).
- A metaphor is more elaborate in the TT (for example: *Bis dahin ist es noch ein weiter Weg* (lit. ‘it is still a long way towards there’) becomes ‘there is still a long way to go to achieve this’).
- ST and TT use different metaphorical expressions that can be filed under a single more abstract conceptual metaphor (for example, using the expressions ‘under a roof’ and ‘under an umbrella’ to imply the same concept, BEING PROTECTED IS BEING UNDER A COVER).
- ST and TT use different aspects of the same conceptual metaphor.

Schäffner notes that “these five cases are not meant to be turned into translation procedures”, but merely are “observational data resulting from a comparative analysis” (2004:1267). While these observations may one day serve as a preliminary list for potential translation procedures, there is still a large gap to be filled when it comes to “in-depth analyses based on a larger corpus before any proper hypotheses can be formulated” (2004:1268).

Maalej (2008) speaks of “unpacking” and “repacking” processes in his research on metaphor use between Arabic and English, which can be considered as ‘unrelated cultures’ (Merakchi 2017:50). Again, we face the challenge of very different cultures and thus very different metaphor use. When it comes to the translation process, he devised a three-step procedure (Maalej 2008:67):

- Unpacking the SL culture linguistics into the conceptual counterparts (in other words, find the underlying (primary) concept of the metaphor).

- Compare cultures using Hiraga's comparative model.
- Repacking the metaphor into the TT culture's linguistic expression.

The term "repacking" entails finding a corresponding TL metaphor in relation to the metaphor used in the ST, which is based on "knowledge of how categories are both packed and structured", which in turn is "embedded in a pattern of cultural beliefs and practices" (2008:63).

Now that multiple approaches to conceptual metaphor translation (or rather, observations of applied strategies) have been discussed, we may come to the conclusion that there is much overlap in the assessments of these scholars. A recurring theme is the belief that there is a significant interference stemming from cultural differences, which are expressed in the particular languages in each of these studies. The focus lies on the similarities on the conceptual level and the differences in the use of linguistic expressions on a more complex level. The analysis of the corpora in the studies in this section will largely form the basis of this thesis; they have presented us with a broad framework of potential typologies and strategies from which can be operated. This thesis will not seek to establish any prescriptive procedures, but merely discuss the translation strategies utilized by the Dutch translator of *Sapiens* from a descriptive point of view.

3 Methodology

3.1 The use of MIP (Metaphor Identification Procedure)

Before an analysis of a certain type of metaphor can be made, a corpus must first be acquired to facilitate said analysis, which may seem a daunting task. Luckily, a procedure has been developed by a number of prominent metaphor scholars with the aim to assist any researcher in their metaphor study, the Metaphor Identification Procedure (2007) by the Pragglejaz group. While metaphors may be used in linguistic research purely to illustrate claims made, they often still are figments of the researcher's reality, and are not examples found in the “wild”. Therefore, “making claims about the ubiquity and realistic understanding of metaphoric language demands that metaphor scholars explore “metaphor in the wild” as speakers and writers produce it in varying contexts” (Pragglejaz Group 2007:1). One of the main issues in the identification of metaphors is the supposed subjective view of the researcher. One may believe that he has found a metaphor, while another may argue that it is in fact not a metaphor, for one reason or another. Therefore, the Pragglejaz Group, composed of multiple scholars from different fields in the linguistic discipline, has developed a detailed procedure as a means to assist the researcher with his search for metaphors in a discourse. The steps are as follows (2007:3):

- Read the entire text or discourse to understand the general premise.
- Determine the lexical units in the text or discourse.
- Establish the (contextual) meaning for each lexical unit in the text. Pay attention to what comes before and after the particular unit. Then, determine if the lexical unit has a more “basic contemporary meaning” in relation to for example, bodily action, historical precedent, a more concrete or precise meaning. If this lexical unit indeed has a more “basic current-contemporary meaning” in other contexts than the given context, decide whether this meaning differs from the basic meaning but can be understood in comparison with it.
- If this is the case, mark the unit as metaphorical.

In the case of conceptual metaphors however, this procedure does not go far enough. While effective in identifying linguistic metaphors, MIP does not take into account the identification of the conceptual domains that are present under the surface level of a linguistic expression. MIPVU (Metaphor Identification Procedure Vrije Universiteit), a system that is built on the already existing MIP (Steen et al. 2019), serves as an extension and uses additional parameters for a more rigorous identification procedure, such as using additional identification tags like *Mflags*, which are used to identify certain words that indicate that a metaphor is being used in a sentence. While this method seems more extensive in its classification and identification process, there is a notable gap between the linguistic aspect and the cognitive aspect of metaphor usage. Gerard Steen (1999;2011) introduced a five-step procedure in an attempt to bridge that gap, using the sentence ‘Lakoff attacked Glucksberg’ as an example, with the conceptual metaphor ARGUMENT IS WAR as a framework:

- **The identification of metaphor-related words:** In this step, one may use a metaphor identification procedure such as MIP (or MIPVU) to identify a metaphorical lexical unit. In the sentence ‘Lakoff attacked Glucksberg’, we may assume that ‘attacked’ is part of a metaphorical expression rather than a literal one.
- **Identification of metaphor-related propositions:** Steen makes a distinction between a source domain (s) and a target domain (t); in our example sentence, ‘attacked’ is the source domain and Lakoff and Glucksberg are the target domain. This step is described as “purely an attempt to state as logically and simply as possible how concepts relate to each other in a sentence” (Deignan 2016). The proposition (marked as proposition 1) is written as follows:

P1 (ATTACK_s LAKOFF_t GLUCKSBERG_t) (Steen 2011:94)

- **Identification of open metaphorical comparison:** In this step, the proposition is rewritten as two incomplete propositions, which produces the following construction:

SIM {F, x, y

[F (LAKOFF, GLUCKSBERG)]_t

[ATTACK (x,y)]_s}

This construction resembles “a relationship of similarity with SIM in line 1, between the two propositions in lines 2 and 3”, with F indicating an activity that is not explicitly denoted, and x and y indicate entities that are not explicitly denoted, and these gaps represent the implicitness in the metaphor. In line 2, the entities and activities of the target domain are represented, with F being the unspecified target domain activity; in line 3 the entities and activities in the source domain are represented, with x and y being the unspecified source domain entities.

- **Identification of analogical structure:** in step 4 the implicit terms are filled in (F, x, y), which produces the following construction:

SIM

[CRITICIZE (LAKOFF, GLUCKSBERG)]t

[ATTACK (ATTACKER, ATTACKED)]s}

- **Identification of cross-domain mapping:** In this step, the source-target domain mapping is constructed, which eventually leads to a conceptual metaphor; in this case, the metaphor ARGUMENT IS WAR.

While this 5-step approach is very detailed and a thorough procedure to construct a conceptual metaphor, there is still the issue of intuition; “it still does not provide an answer to the problem of how we can formulate one particular conceptual metaphor rather than another, based on language data” (Deignan 2016). Therefore, the intuition of the researchers seems to be an unavoidable factor in the identification and classification of metaphors.

3.2 Sapiens: A Brief History of Mankind

The book *Sapiens: A Brief History of Mankind* was written by Yuval Noah Harari, a historian and philosopher based in Jerusalem, where he teaches at the Hebrew University of Jerusalem (HarperCollins 2023). His book *Sapiens* covers the entire human history, from the first man to walk the earth to contemporary struggles approached from a historical and biological point of view. As is usually the case with popular science, it is rife with metaphors and therefore a perfect case study for this subject.

3.3 The Dutch translator

Inge Pieters is a Dutch translator who has translated work from English and German to Dutch since 1988. She translated several works by Yuval Noah Harari, including *Sapiens*, *Homo Deus*, and *21 Lessons for the 21st Century*.

3.4 Aim of the study

In my analysis, a sample size of 241 conceptual metaphors will be studied (which can be found in the appendix), with the aim to establish a preliminary typology that has been used by the Dutch translator to tackle the translation of the metaphors used throughout the book. This thesis will zoom in on each translation strategy used by the translator illustrated by 3 examples. The aim of this study is twofold: The first is to test the hypothesis of (near-)universality of conceptual metaphors (Kövesces 2005):

Hypothesis: since English and Dutch are similar in culture (based on a Western view) and are related to each other - both are West-Germanic languages (Pereltsvaig 2012) - then one may assume that, if the same conceptual metaphors tend to be used across different languages due to their strong experiential nature, the translator may favor translating metaphors from the ST to the TT by using metaphors that belong to the same conceptual domain.

The second aim is to establish an overview of the translation strategies used by the translator; do these strategies share similarities with the strategies discussed in our theoretical framework, or can new innovations be observed in our analysis?

4 Analysis results

In the analysis of the Dutch translation of *Sapiens*, 5 major different translation strategies were found. In the following sections, the thesis will describe each of these strategies supported by ample illustrative examples found throughout the text.

As expected, the identification of metaphors in this book has not been without its hurdles. Finding metaphors in the source text felt like a straightforward task, however, when it comes to the translations, it has proven to be a more difficult ordeal, most likely due to the fact that conceptual metaphors come more naturally to a person when speaking in your native tongue. As a result, the markedness of a Dutch conceptual metaphor seems more ingrained in the subtleness of the language. In other words, it is hard to determine whether a Dutch translation is actually truly metaphorical as the linguistic expression seems more pervasive to everyday life. An example of this may be found in the following sentences:

(1) Meanwhile in Amsterdam, business is looking **bright**.

*Intussen gaan de zaken in Amsterdam **uitstekend**.*

In the original English text, the writer opts for the salient concept of LIGHT IS GOOD (contrasted with the mapping DARK IS BAD) in claiming that ‘business is looking bright’, stating that business is doing well in Amsterdam (for context: In the book, business is doing well in Amsterdam with Dutch merchants, as opposed to business in Spain with kings, which is not doing too well) (Crawford 2009). In the Dutch translation however, the concept of LIGHT IS GOOD is nowhere to be found. Instead, the translator has opted for the word *uitstekend*. The question then is: is this word metaphorical? The literal meaning of the word, as found in the Van Dale, is ‘sticking out’ or ‘jut out’, which has a very literal sense in the sentence *die toren stak boven de huizen uit* (‘that tower stuck out over the houses’). However, the word in (1) refers to ‘business’ (*zaken*), a rather abstract concept that cannot literally stick out. One would therefore assume that *uitstekend* is not used in the literal sense, but rather has a figurative meaning; and this figurative meaning can also be found in the Van Dale. So, does this word belong to any underlying conceptual mapping? The answer is yes. Sticking out (or in a more commonly used word in English, standing out) is intrinsically linked with the concept of GOOD IS UP, a concept that exists prevalently in phrases such as ‘I’m feeling up’ or ‘I’m at the top of my game’ (2009:131), while BAD IS DOWN is a direct opposite to this concept (and may be found in phrases such as ‘I’m feeling down’ or ‘I’ve hit rock bottom’). The issue faced here is

the fact that *uitstekend* is a word so commonly used in Dutch that in most cases, it has lost its link with the underlying concept; native speakers often do not realize the origin of the word and its literal meaning. Upon closer inspection, however, the link with the conceptual mapping GOOD IS UP is unmistakable. Therefore, in this thesis we will regard these commonly used words as metaphorical if the link with a conceptual domain can be found, and if evidence of its figurative meaning can be found in dictionaries.

4.1 Strategy one: Metaphor into metaphor

The first strategy employed by the translator is the literal translation of the original into a Dutch equivalent. The writer of this thesis decided to split this strategy into 2 ‘substrategies’: 1a, which covers the translations that are almost literally Dutch copies of the original, and 1b, which contain either more metaphorical speech pertaining to the same concept (in other words, there is some explicitation, fashioned after Schäffner’s (2004) typology), or less metaphorical speech by leaving out metaphorical lexical units. While these strategies might seem different (and thereby a complete division seems warranted), they are still part of the main criteria of the first strategy: The translation uses the same conceptual domain, and the same metaphorical expression.

As stated before, strategy 1a covers the literal translation of the conceptual domain and its subsequent metaphorical expression. There are only minor differences, for example in the grammatical structure of a sentence or in the word order, which may be different compared to the English original due to these constraints a language has. An example of this can be found in (2):

(2) **The cradle of humanity** continued to nurture numerous new species, such as *Homo rudolfensis*...

De wieg van de mensheid bleef talloze nieuwe soorten koesteren, zoals *Homo rudolfensis*...

In this example, ‘cradle of humanity’ is literally translated as *wieg van de mensheid*, where the only difference is the added article in Dutch. This is only a minor, negligible difference. ‘Nurture’ is also literally translated as *koesteren*, a word meaning ‘to warm up’ or ‘to take care of’ (Van der Sijs et al. 2009). The only difference in this translation is the word order, where the direct object is placed between the auxiliary and main verb, a staple in Dutch syntax.

Naturally, using the metaphor of a cradle is fitting here, as it refers directly to the birth of different human species. Certainly in western culture, a child spends his first weeks in a cradle-like bed, and it is certainly not a stretch to compare the birth of humanity with that of a human baby, as this remains close to our experiential basis. The Dutch translation therefore comes as no surprise. It might seem difficult to link this to a specific concept, yet the way we view our lives as a linear process, from our beginning (our birth) to the end (our death) it perhaps might feel natural to link the beginning of more abstract concepts, in this case, a certain species of humans, with the beginning of our own lifeline.

A conceptual domain that, judging from the data, has strong similarities in English and in Dutch, is the concept THEORIES ARE BUILDINGS (Grady 1997). Consider (3):

- (3) The gossip theory might sound like a joke, but numerous studies **support** it.
*De roddeltheorie klinkt misschien als een grap, maar hij wordt **ondersteund** door tal van onderzoeken.*

In the original text, the word ‘support’ is used to show how a theory needs to be backed up by research for it to be a convincing theory. As a result, the theory is regarded as a structure that needs proper support or reinforcement in order to become a stable construction. If a theory is not being backed up by ample research, it might collapse, much like a building. The translator opted for a translation in the same conceptual domain and the same linguistic expression (*ondersteund*), which supports the theory that this domain is very much present in Dutch as well.

Another concept that is salient in English, is the notion that coldness is associated with negative feelings or attitudes (Al Badri 2021). Some variants of this concept are FEAR IS COLD (‘he froze in fear’) or INDIFFERENCE IS COLD (‘she gave me the cold shoulder’), although these variants could perhaps all be included in the more primary metaphor NEGATIVE EMOTIONS ARE COLD (with WARM metaphors as the polar opposite, like in ‘he gave me a warm welcome’ or the Dutch *in een warm bad terechtkomen*). In the current data, some evidence was found of this conceptual domain:

- (4) The generations between conquest and acceptance were left out in the **cold**.
*De generaties tussen verovering en acceptatie stonden mooi in de **kou**.*

In the Dutch translation, too, the cold metaphor was used as a translation. ‘Cold’ in this instance is directly translated into *kou*. This comes as no surprise, as coldness is something that a person

would easily perceive as something negative, and it is thus grounded in the human experiential basis; moreover, coldness is something that can be physically perceived in people, as “numerous studies have shown that emotional experiences are associated with particular changes in skin temperature” (Grady 2005:1599). Another example would be that temperature (and by extent, the weather) is, after all, one of the (if not the most) regular conversation points, from a conversation-starter to a last attempt at breaking the ice. In (4), however, we are not dealing with emotions from one person per se, but rather with generations that missed the prosperous years after the acceptance of their religious beliefs. It is therefore important to put these metaphors into context. Leaving out in the cold then should be seen as a reference to leaving someone out of the house, away from a hearth (or more contemporarily, a heater). While this particular metaphor does not necessarily appeal to that emotion part of the conceptual metaphor, it still views the COLD domain as inherently negative.

Another conceptual metaphor that is often utilized by the source text is TIME IS A COMMODITY. Established literature tells us that this metaphor is, in fact, widely used not only in western languages, but in languages throughout the world (Kövesces 2010; Hiraga 1991; Joo & Han 2018). Largely due to time being an abstract concept, it is especially difficult for people to explain the concept without linking it to something far more tangible, in this case a commodity (usually money).

- (5) just as human politicians on election campaigns go around shaking hands and kissing babies, so aspirants to the top position in a chimpanzee group **spend** much time hugging, back-slapping and kissing baby chimps.

*Zoals menselijke politici tijdens verkiezingscampagnes op pad gaan om handen te schudden en kleine kindjes te kussen, zo **spenderen** verhoopde gegadigden voor een toppositie binnen een chimpanseetroep veel tijd aan knuffelen, joviale klappen op schouders en het kussen van babychimps.*

The idea that time is wasted if not spent on something productive, especially in the case of example (5), to work towards a goal is something that is apparently a dominant thought in many cultures (Kövesces 2010:200). It therefore comes as no surprise that the English phrase ‘spend much time’ in (5) is translated as *veel tijd...spenderen*.

As may have been deduced from examples (1)-(5), strategy 1a, literal translation of concept and expression, is used when dealing with conceptual metaphors that have a strong presence in a large number of languages. THEORIES ARE BUILDINGS, COLDNESS IS NEGATIVE, and TIME IS

A COMMODITY are well-established conceptual metaphors that have been covered by a considerable number of scholars.

4.2 Strategy 1b

Strategy 1b is very similar to 1a as it also deals with translations that stay true to the original source text's metaphors. The minor difference lies in the explicitation (or implicitation) of used metaphors. While the same linguistic expression is deployed, there is a word or phrase added to make the expression more overt. Consider example (6):

- (6) The story of these **fundamental** features of our universe is called physics.
*Het verhaal van die **fundamentele bouwstenen** van ons heelal noemen we natuurkunde.*

In the original text, the notion that the universe has a foundation is intrinsically linked with the foundations of a physical structure, and thus uses the word 'fundamental'. Furthermore, the need for a more tangible domain is necessitated due to the overall abstract nature of the universe (whether that remains true for astronomers remains to be seen, yet it is certainly true for the uninitiated). The Dutch translation takes it a step further; the translator opted to translate 'features' with *bouwstenen*. Whereas 'features' could be defined as something that is part of a whole, for example, the features of one's face or body (Oxford Dictionary 2023), it is a more general term that may be applied to a multitude of entities. In the Dutch translation, however, 'features' is translated as *bouwstenen*, which may be translated literally as 'building blocks'. The translator decided to make the metaphor more explicit by staying in the conceptual domain of structures, which could be viewed as a form of explicitation of the original metaphor.

The data suggests that the reverse also takes place in the translation process. In this case, the original translation is more explicit than the Dutch translation:

- (7) They assumed that with Spanish help they could **shake off** the Aztec **yoke**.
*Ze dachten dat ze zich met behulp van de Spanjaarden konden bevrijden van het Azteekse **yuk**.*

The 'yoke' that is being talked about is the oppression of minorities during the Spanish invasion during the reign of the Aztec empire. A yoke, a wooden beam usually reserved for work animals to attach ploughs to (but it has also historically been used as a means of punishment for committed crimes) (Oxford Dictionary 2023), is in this instance linked to the abstract concept of oppression; in other words, a conceptual mapping that one may think of is OPPRESSION IS

PHYSICAL PRESSURE. Furthermore, the source text uses the verb ‘shake off’ as a direct link with the noun ‘yoke’; the act of shaking off the yoke to free yourself. In the Dutch translation, ‘yoke’ is literally translated as ‘juk’, but the verb ‘shake off’ is missing. Instead, the translator opted for the verb *bevrijden*, ‘to free (oneself)’. This may seem as a minor difference and most would not bat an eye at the translation. The verb ‘shake off’ however stays rooted in that physical domain, is a very specific physical exertion and is very specific to an object such as a yoke; *bevrijden* is a more general term that can be applied to several other instances (for reference, you can free someone from a yoke, but also from a prison cell, whereas you cannot shake off a prison cell).

4.3 Strategy two: Same conceptual metaphor, different linguistic expression

As has been stated before, not always can a translator find the perfect equivalent of a linguistic expression. One of the major constraints would be cultural differences between languages (Schäffner 2004; Kövesces 2005/10; Lakoff & Johnson 1980). The current data, too, shows that while in some cases the translator chooses to stay true to the conceptual mapping of the original, it still regularly uses different aspects of the domain. Consider (8):

(8) The stock price **plummeted** further, setting off an avalanche.

De aandelenprijs kelderde nog verder, wat een ware lawine in gang zette.

The fact that the fields of finance and economy are highly conceptualized is undeniable, as evidenced by phrases such as ‘the healthy economy’ and ‘the global financial crisis hit California especially hard’ (Wang et. al. 2013). This is mainly due to the abstract concepts one has to deal with when working in these fields. As can be seen in (8), if business goes exceptionally bad then a price, much like a physical entity might drop to a certain level. The concept of a price, then, is placed within our physical reality, and in the case of (8), plummets to new lows. The word ‘plummet’, however, is not a word that has a literal translation in Dutch (this is most likely because ‘plummet’ is a highly metaphorical word in itself, historically), and so the translator opted for the Dutch word *kelderen*, which means ‘to drop with high speed’ (according to the Van Dale), and is derived from the word *kelder*, the Dutch word for ‘basement’ or ‘cellar’. Moreover, the word is also used in conjunction with wine, as in *wijn kelderen*, ‘to put wine in the cellar’. The result is that while ‘plummet’ and *kelderen* belong to

the same concept of a downward motion - they both have the same meaning - they can be regarded as culturally specific words and different linguistic expressions.

Another instance of strategy two that has caught my eye is the following sentence:

- (9) Only in the last 100,000 years – with the rise of Homo sapiens – that man **jumped to the top** of the food chain.

*Pas de laatste honderdduizend jaar – toen Homo sapiens opkwam – **stootte de mens door tot de top** van de voedselketen.*

What is interesting about this example is that at first glance, translating the word ‘jump’ into Dutch would seem like a straightforward enough task. The translator however opted to translate it with *stootte...door*, which in English is literally translated as ‘to breach through’ or ‘to push through’. Both the original text and the target text translation belong to the same spatial conceptual metaphor HAVING CONTROL OR FORCE IS UP, in this case being on top of the food chain (Lakoff & Johnson 1980:463). The translator opted for a different linguistic metaphor for perhaps stylistic reasons or to keep some notion of variance in the text, as in another comparable sentence she decides to use a more literal translation:

- (10) That **spectacular leap from the middle to the top** had enormous consequences.

*Die **spectaculaire sprong van het midden naar de top** had enorme consequenties.*

In (10), the word ‘leap’ is literally translated as *sprong*. One might feel like looking for an explanation for this variance; for example, you could argue that in (10) the translator was dealing with a noun whereas in (9) she was dealing with a verb, or perhaps that the verb *doorstoten* is more commonly used in conjunction with the noun *voedselketen* (‘food chain’). What might work in one language does not necessarily mean that the other language can copy that construction, something that we can yet again witness in this example.

One final example that illustrates how different parts of the same concept may be used in different languages, is (11):

- (11) Many of history’s important **drivers** are intersubjective: law, money, gods, nations.

*Veel belangrijke **aanjagers** van de geschiedenis zijn intersubjectief: wetten, geld, goden, naties.*

Historically, the car has been widely used as a metaphor and this is due to the strong conceptualization of the car in combination with our bodily experiences: The grip of the

steering wheel, the roaring engine and its subsequent vibrations, the scent of a new car and of course, the journey itself (Casasanto & Gijssels 2015:328). In (11), the original text uses the word ‘driver’ to indicate that what spurs people to action is law, money, gods and nations. In Dutch, however, literally translating ‘driver’ will not do; the Dutch translation *bestuurders* is used in the context of leaders of a country (and *chauffeurs* would make even less sense) (Van Dale 2023). Instead, the translator opted for a different part of the car domain: *Aanjager*, which is literally translated to English as ‘booster’; the part of a car that transports gas to the engine (Van Dale 2023).

4.4 Strategy three: Different conceptual domain, different linguistic expression

Not always does the translator opt for a translation close to the source text. As stated before, this may be due to cultural or linguistic differences or stylistic choices, or perhaps just simple happenstance due to the mindset of the translator at that time. Consider (12):

(12) Most current ideologies and political programmes are based on rather **flimsy** ideas concerning the real source of human happiness.

De meeste huidige ideologieën en politieke programma's zijn gebaseerd op tamelijk oppervlakkige ideeën over de uiteindelijke bron van menselijk geluk.

‘Flimsy’ is a regularly used adjective that denotes the poor quality of a construction, but also of clothing and objects such as furniture (Oxford Dictionary 2023). Like Grady (1997) stated (and as has been exhibited in (3) before), ideas are often conceptualized as buildings, and much like buildings, ideas can be either strong or weak. The concept used in the source text however, is not at all what the translator used in her target text. *Oppervlakkig* can be translated as ‘shallow’ or ‘superficial’, but in this case ‘flimsy’ serves its purpose too. The Dutch *oppervlakkig* refers to a physical domain of (shallow) water. The conceptualization of water is not a new phenomenon; the ocean, for example, is often as a physical concept linked to more abstract concepts such as time (like in the Dutch *zee van tijd*, ‘ocean of time’) or knowledge (‘an ocean of knowledge’) (Schober 2014). This shows us that while concepts may be salient across different languages, it is not a guarantee that the translator opts for the same conceptual domain in their translation.

Another example of a concept that is not at all unknown in both English and Dutch, is exhibited in (13):

- (13) An impecunious invalid surrounded by a loving spouse, a devoted family and a **warm community** may well feel better.

*Een minvermogende invalide die zich omringd weet door een liefdevolle partner, een toegewijde familie en een **hartelijke omgeving**.*

As stated before, and as we have seen as an example in (4), the cold and hot (or in this case warm) dichotomy is one particularly salient concept within conceptual metaphor theory, with a myriad of examples given in a large number of studies (Jadder & Al-Saedi 2020). In (13), the source text states that a ‘warm community may well feel better’, therefore implying that being warm is a positive thing to do; the translator, however, opted to translate this by using a different concept: *Hartelijk* in Dutch means ‘from the heart’, implying that actions that are done “from the heart” are positive and “loving” actions. Niemeier (2000) speaks of the heart as a “central concept of emotional issues”. It is linked to several conceptual mappings such as THE HEART IS A CONTAINER (‘he opened up his heart’, or the Dutch *hij moet zijn hart luchten*, En. ‘he has to vent his heart’) or THE HEART IS A LIVING ORGANISM (‘my aching heart’, or in Dutch *mijn hart huilt voor jou*, En. ‘my heart cries for you’). With the WARM and HEART metaphors, the writers of the source and target text both opted for conceptual mappings that are used in many different cultures (2000:195).

- (14) The native peoples of America were not the only ones to pay a heavy price for their **parochial outlook**.

*De inheemse inwoners van Amerika waren niet de enigen die een hoge prijs betaalden voor hun **navelstaarderige instelling**.*

The concept used in (14) might seem less obvious than the last example (13). The word ‘parochial’ can be traced back to its roots in the church, from the phrase “of or pertaining to a parish” (Oxford Dictionary 2023). Its figurative pejorative sense means ‘stubborn’ or ‘narrow-minded’, with ‘narrow-minded’ ultimately being a key word here. Its pejorative sense most likely stems from the parish as a local religious authority only concerned with local issues. There is no direct literal translation that can be found in Dutch, but the definition ‘narrow-minded’ is perhaps more pervasive and recognizable in our everyday life: Having a “narrow” vision or mind means that we can only look at one thing at a time; in other words, having a

‘broader view on things’ indicates that we can see ‘the greater picture’ which means that we can take into account multiple things at once and understand the consequences of certain actions. These expressions can all be traced back to our own physical limitations of our eyes, or to the limitations of one’s cognitive perception. The word ‘parochial’ is then merely a more complex metaphor used to explain the underlying primary metaphor of narrow- sightedness or mindedness.

The Dutch translation uses a vastly different linguistic expression, but the underlying concept is clearer than in the source text. The word *navelstaanderig* can be translated as ‘navel-gazing’, which can be linked with the salient concept of DOWN IS BAD (or DOWN IS IMMORAL) (Yu, Wang & He 2016). Gazing downwards means that we cannot see clearly ahead, which means we cannot see clearly what is coming towards us (either deliberately or unwittingly). While these underlying concepts might seem the same, they still deal with - albeit subtle - domains; one with looking but not seeing, and one with not wanting to look up but forcibly looking down instead.

Naturally, a discussion on whether or not these concepts are one and the same is justifiable. My - perhaps limited - view on this is that they belong to different spatial domains (Lakoff 2006) - the Dutch translation deals with the DOWN IS BAD concept, which is absent in the English source text. A more arguable question would be: Where do we draw the line between different conceptual metaphors when classifying translated phrases under particular translation strategies?

4.5 Strategy four: Metaphor into no metaphor

At one point, a translator might not be able to find a suitable equivalent for a metaphor in the source text. A direct equivalent perhaps does not completely cover the extent of the original, or perhaps the same metaphorical expression in the target language is a false friend, and it does not bear the same meaning at all. A valid option is a literal translation of the original metaphor.

(15) Though they may **harness** winds and currents.

*Ze kunnen **gebruikmaken** van wind en stromingen.*

In the case of (15), the original text uses the word ‘harness’, a contraption historically made to serve as a type of body armor in battle, but also as a means to strap in an animal (most likely a

horse) to let it pull a carriage or a plough (Oxford Dictionary 2023). More contemporarily, it is used in the figurative sense to take control of a certain natural force, in this case, the winds and water currents. Such a verbalization of the word and its subsequent figurative extension has not occurred in Dutch and therefore, there is no direct equivalent to be found for the translator (Van Der Sijs 2009). Instead, she opted to use a more standardized and, above all, non-metaphorical verb *gebruikmaken*, which is translated to English ‘to use’.

- (16) Consequently, when the relationship between a millionaire and his wife is **going through a rocky patch**, he takes her on an expensive trip to Paris.

*Dus als de relatie tussen een miljonair en zijn vrouw **even wat minder gaat**, neemt hij haar mee op een dure vakantie naar Parijs.*

The conceptual mapping LIFE IS A JOURNEY is one of the most widely used examples in the field of cognitive linguistics concerning conceptual metaphor theory. On a more complex level, a relationship too is regarded as a journey (Lakoff 1993), which is reflected in the choice of the writer to conceptualize the uneasy parts of a relationship as going through a rocky patch. The translator opted to go for a literal translation, *even wat minder gaat* (‘it’s going slightly worse’), which contains no metaphorical speech.

It occasionally happens that one sentence contains two or sometimes three metaphors. In that case, it is hard to discern what lexical units belong to the metaphorical phrase and which ones do not. Take (17), for example:

- (17) The paterfamilias has **a soft spot** for the youngest, and agrees with a **heavy heart**.
De pater familias heeft altijd een zwak gehad voor zijn benjamin en stemt na enig aarzelen toe.

The utterance ‘a soft spot’ and its translation is already a point of debate. ‘A soft spot’ refers to having an emotional bias for a certain person - in this case the youngest son - and links that ‘soft’ emotion with a soft spot, with soft referring to a salient concept of SOFT IS WEAK, HARD IS STRONG (Nor & Abdullah 2017), and with ‘spot’ grounding it in the physical world. The Dutch translation, however, is slightly more vague in its mapping. The saying *een zwak hebben* is often used in relation with an emotional bias rather than with a physical weakness. Moreover, in the Dutch translation, there is a clear absence of a link with a concept in the physical world, which is usually the case with conceptual metaphors. The second metaphor also has its ifs and buts. ‘A heavy heart’ certainly refers to a commonly metaphorized part of the body: The heart

is often seen as a container or as a living organism, but it also may refer to the center of emotion (after all, we are probably all aware of the heart as a symbol for love). In this case, the HEART metaphor is combined with the HEAVY and, by extension, LIGHT metaphor; a heavy thing is often linked with something negative or a burden, while something light is linked with an easy thing, or a positive thing. The original phrase is therefore highly metaphorical, while the Dutch translation, *aarzelen*, is not.

The word *aarzelen*, ‘to hesitate’ in English, does however have its origin in the physical world; it refers to the Dutch word *aars*, or ‘arse’ in English, and describes the process of walking backwards without turning around, which describes the process of hesitating quite remarkably. The question then remains: Is this considered a metaphor? Upon reading the word *aarzelen*, the writer of this thesis was not aware of its etymology, nor does the process of walking backwards appear in the Van Dale dictionary. Therefore, in this instance, it is marked as non-metaphorical.

4.6 On the matter of frequency

In this study, a sample of 241 metaphors was used to establish a basis on which assumptions could be made about the translator's preferences and to come to a satisfying answer to the hypothesis. By no means is it claimed that this list is entirely correct; as stated before, the categorization of metaphors is done by one person, and as such it can be biased towards a certain point of view due to the perception of the writer of this thesis in regards to the analysis of metaphors. Nevertheless, it may well be said that some clear trends have been spotted. The hypothesis presented in our methodology can be assessed by analyzing figure 1.

Hypothesis: since English and Dutch are similar in culture (based on a Western view) and are related to each other - both are West-Germanic languages (Pereltsvaig 2012) - then one may assume that, if the same conceptual metaphors tend to be used across different languages due to their strong experiential nature, the translator may favor translating metaphors from the source language to the target language by using metaphors that belong to the same conceptual domain. Furthermore, speculating on what the exact reasons are for these choices is not within the scope of this thesis, as we view these strategies purely from a descriptive point of view. All metaphors can also be found in the appendix.

Figure 1 shows us that if we use the parameters set in our hypothesis, then strategies 1a, 1b, and 2 pertain to metaphors used within the same conceptual domain, and strategies 3 and 4 pertain to metaphors not used in the same domain.

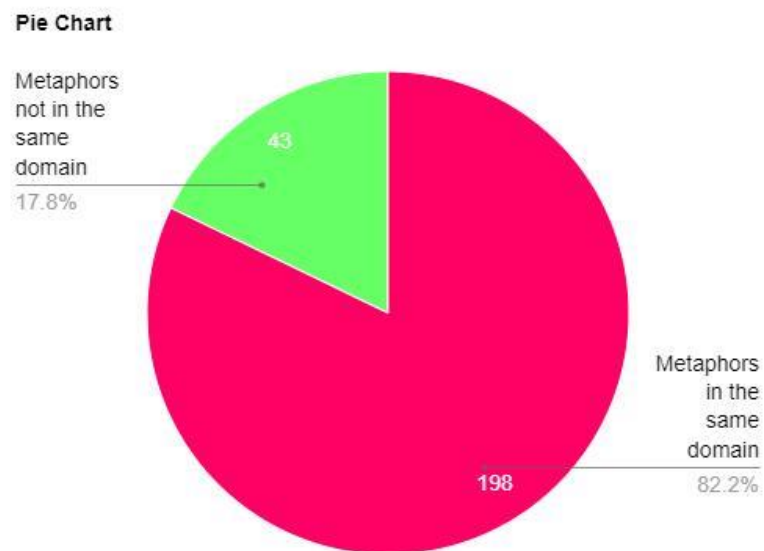


Figure 1. Metaphor usage by translator

In 82.2% of the cases, the translator opted to use a translation that stayed within the conceptual domain used by the original text. Therefore, one may with confidence state that the translator indeed had a noticeable preference for staying true to the source text, at least in relation to the translation of metaphors.

Figure 2 shows us an overview of the frequencies of the 5 translation strategies found in the corpus.

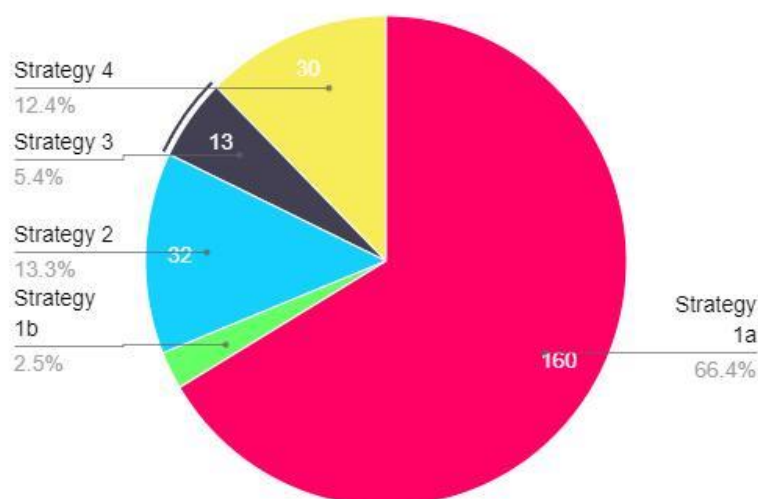


Figure 2. Frequency per translation strategy

Strategy 1a, same conceptual metaphor and same linguistic expression, has the most occurrences with 160 recorded cases, making up 66.4% of the total analyzed translations. Strategy 1b has significantly less entries, only accounting for 2,5% (6 cases) of the total occurrences. Strategy 2 contributes 32 cases, which is 13.3% of the total amount. Strategy 3 only accounts for 5.4% of the total with 13 cases, and lastly, strategy 4 with 30 cases, which translates into 12.4% of the total.

The prevalence of strategy 1a as well as the fact that the translator opted to stay within the same conceptual domain for the majority of the metaphor translations, tells us that she opted for a more source-oriented approach. Furthermore, in only 12.4% of the cases, the translator opted to remove the metaphor in favor of a more literal translation, which respects the practical function of metaphor in popular science discourse (see section 2.2).

4.7 Groundbreaking innovations?

As it stands, the current analysis tells us that the translator uses no major innovative translation strategies in her process. Strategy 1a, which pertains to a more word-for-word strategy, has been widely discussed in previous studies: Hiraga (1991), but also Kövesces (2005:2010) found that almost exact metaphorical concepts and expressions can be found across different languages; Mandelbit (1995) speaks of the Similar Mapping Condition (SMT), where the linguistic expression used in the source and target text refer to the same conceptual mapping (this, of course, is also applicable to strategies 1b and 2); Schäffner, in turn speaks of the same conceptual metaphors in the source and target text on a macro-level, with some minor differences on the micro-level (such as grammatical or syntactical restrictions); and while Maalej's procedure (2008) speaks of packing and unpacking without mentioning specific strategies, it still uses Hiraga's model as a basis.

Strategy 1b, while occurring significantly less in our corpus, still has a precedent, specifically in Schäffner's (2004) typology. Structural components in the target text are replaced to make the metaphorical expression more explicit; however there is a minor tweak to this strategy: In the corpus of this thesis, there has also been a case of implicitness (in example (7) of the analysis). In that regard, one may argue that this can be regarded as an expansion on Schäffner's typology.

Strategy 2 also has considerable backing from previous studies: Hiraga, and by extension Maalej, speak of a metaphorical expression being different, but still connected to the same conceptual mapping; the strategy also falls under the SMC devised by Mandelblit; and Schäffner mentions different metaphorical expressions which "can be filed under a single for abstract conceptual metaphor".

Strategy 3 has also been a central point of discussion in the theoretical framework: Hiraga mentions that two languages can use different concepts and different metaphorical expressions, which may prove to be an issue if one has insufficient knowledge of a language's culture; this strategy would fall under Mandelblit's Different Mapping Condition (DMC), which may lead to a bigger translation issue; Schäffner however, has not in her (2004) typology observed a strategy similar to strategy 3.

Strategy 4, a literal translation of the metaphor, has not been mentioned in the work of these scholars; it is, however, explicitly mentioned by Van Den Broeck (1981) and Newmark (1985)

as a viable translation strategy, and it is therefore not in itself an innovative way to deal with metaphors in a text.

5 Conclusion

Metaphors play an undeniably significant role in our everyday discourses. From the perspective of cognitive linguistics, conceptual metaphors are used in our everyday life to explain an abstract thing in terms of another, more tangible concept, which is grounded in the physical world. This usually happens naturally; most people are not aware of the highly metaphorical speech patterns that they often utilize to better get their thoughts across. Because these metaphors are based on our own bodily experiences, some scholars claim that these metaphors are more or less (near-)universal. There is, however, a notable limit to that universality, due to cultural differences between peoples. Differences of which we can find traces in the languages that we speak. These differences have consequences for translators: While some metaphors might be easily translated because they have a (near-)equivalent in the target language, some are so culturally specific that another strategy must be used. In literature, metaphors are a tool to ‘decorate’ the text, playing a primarily ornamental role. In popular science however, metaphors are primarily used to make an abstract concept more palpable, in the sense that they have a more explanatory purpose. The case study of this current thesis analyzed 241 English metaphors and their Dutch translation in the scientific work of Yuval Noah Harari, *Sapiens*. Because English and Dutch are closely related linguistically, combined with the assumption that these languages were shaped by cultures which share similarities, this thesis hypothesized that the translator would opt to stay within the conceptual domains used in the metaphors of the original source text. This appeared to be indeed the case, with the majority (82.2%) of the translations staying within the conceptual domains of the original. Another objective of this thesis was to find all the metaphor translation strategies used by the translator, and to see whether the translator made use of any notable, innovative strategies when compared to previous studies. This appeared to be not the case, with all strategies having some sort of a precedent in earlier studies; the only exception is the data for strategy 1b, where a case of implicitness was found.

5.1 Discussion

In the process of writing this thesis, some challenges had to be overcome, some of which are still a thorn in the writer’s side. One of these challenges was the metaphor identification

procedure: While the procedures such as MIP and MIPVU give a very detailed set of instructions, it is still unclear whether a lexical unit has a basic meaning or that under the surface, it has a more metaphorical meaning (for example, the case of *uitstekend*, see section 3.0, or the case of *aarzelen* in 3.4, example 17). The writer of this thesis found that using dictionaries solved most issues, but in some cases, it was still unclear whether a word was actually considered metaphorical or not. In such cases, the writer consulted etymological dictionaries to establish some basis for an argument as to why a word was considered metaphorical. Yet in some other cases, it admittedly fell upon the writer's intuition to determine whether a lexical unit was metaphorical or not, a pitfall that is mentioned in various studies that apply MIPVU to their corpora. Another issue, which is closely related to the identification procedure, is what to do with a metaphor once it has been found; how do we determine what the domains used in a metaphor are? Again, in this thesis the procedure drafted by Steen (1999;2011) was followed, yet it still led to the same issue: The supposed identification and the reliance on the intuition of the researcher. While some conceptual mappings have been widely discussed in previous studies (such as ARGUMENT IS WAR and LIFE IS A JOURNEY), on a more complex level there exists a vacuum that needs to be filled by studying more obscure conceptual domains, preferably in languages that as of yet are still under-researched. This issue goes hand in hand with the claim of (near-)universality of these conceptual metaphors: While scholars find evidence of similarities between conceptual metaphors and the languages in which they are used, we are still years away from making any such claims, moreover when considering that the conceptual metaphor theory is largely based on examples found in the English language (and, certainly in the case of Lakoff's work, more often than not are these sentences not found 'in the wild', but figments of the imagination of the author). Scholars such as Kövesces (2002;2003;2010) only deal with a handful of languages in their analyses, which by no means represent the vast ocean of understudied languages in the world. The bottom line of this is that much more substantial research must be done in order to make possible claims and subsequent guidelines that take away any doubt a researcher might have in their analyses. Understandably, this sounds like an extraordinarily unfeasible ordeal, a struggle that might be alleviated with the emergence of natural language processing (NLP) which may be used to assist in the identification procedure (and its subsequent metaphor generation process, often mentioned in the same breath with NLG), which to this day has still been underused in metaphor research (Yu & Wan 2019; Stowe et. al. 2020; Chakrabarty et al. 2020; Stowe et. al. 2021). Preliminary attempts have already been made, such as in Tanescu, Kesarwani & Inkpen (2018), who developed a deep learning tool which deploys "convoluted

neural networks” that can identify metaphors in poetry, and Stowe et al. (2019), who improve training data for deep learning procedures by focussing their analysis on difficult verbs “to uncover properties that can potentially influence their metaphoricity” (2019:364). While training these processes takes up a massive amount of effort, both in time and money, it is still the way forward towards a more effective way of metaphor identification, and by extension, the study of metaphors and the translation processes involved.

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7 APPENDIX

SOURCE	S	
The story of these fundamental features of our universe is called physics	1b	Het verhaal van die fundamentele bouwstenen van ons heelal noemen we natuurkunde.
About 3.8 billion years ago, on a planet called Earth, certain molecules combined to form particularly large and intricate structures called organisms. The story of organisms is called biology.	1a	opvallend grote complexe structuren
Three important revolutions shaped the course of history	4	Drie belangrijke revoluties hebben de loop van de geschiedenis bepaald
The most important thing to know about prehistoric humans is that they were insignificant animals with no more impact on their environment than gorillas, fireflies or jellyfish.	4	die zijn omgeving niet meer beïnvloedde dan gorilla's, vuurvliegjes of kwallen.
The two types of animals are consequently considered two distinct species, moving along separate evolutionary paths	1a	Die afzonderlijke evolutionaire routes volgden.
By contrast, a bulldog and a spaniel may look very different, but they are members of the same species, sharing the same DNA pool.	1a	maar ze behoren wel tot dezelfde soort, en delen dezelfde genenpool.
The cradle of humanity continued to nurture numerous new species.	1a	De wieg van de mensheid bleef talloze nieuwe soorten koesteren.
Why is genus Homo the only one in the entire animal kingdom to have come up with such massive thinking machines?	1a	waarom is het geslacht homo het enige in het hele dierenrijk dat zulke gigantische denkmachines heeft ontwikkeld?

The fact is that a jumbo brain is a jumbo drain on the body.	4	Het is een feit dat meer hersenen ook meer van het lichaam vergen.
Archaic humans paid for their large brains in two ways.	2	Archaische mensen moesten op twee manieren boeten voor hun grote hersenen.
they spent more time in search of food. Secondly, their muscles atrophied.	1a	Ten eerste kostte het ze meer tijd om eten te zoeken. Ten tweede nam hun spiermassa af.
It's even harder to fuel.	4	En het is nog moeilijker van energie te voorzien.
Today our big brains pay off nicely.	4	Tegenwoordig komen onze grote hersenen prima van pas.
Adjusting to an upright position was quite a challenge, especially when the scaffolding had to support an extra-large cranium.	1a	vooral omdat het staketsel een extra grote hersenpan moest ondersteunen
Humankind paid for its lofty vision and industrious hands with backaches and stiff necks.	1a	De mensheid moest zijn weidse vergezichten en zijn nijvere handen bekopen met rugpijn en een stijve nek.
Women paid extra.	4	Vrouwen kregen het extra zwaar te verduren.
It takes a tribe to raise a human. Evolution thus favored those capable of forming strong social ties.	1a	De evolutie bevoordeelde dus individuen die in staat waren om hechte sociale banden aan te knopen.
with the rise of Homo sapiens –	1a	toen de homo sapiens opkwam -
that man jumped to the top of the food chain.	2	stootte de mens door tot de top van de voedselketen.
Other animals at the top of the pyramid, such as lions and sharks, evolved into that position very gradually, over millions of years.	1a	Andere dieren boven aan de pyramide, zoals leeuwen en haaien, evolueerden heel geleidelijk naar die positie toe

That spectacular leap from the middle to the top had enormous consequences.	1a	Die spectaculaire sprong van het midden naar de top had enorme consequenties.
In contrast, humankind ascended to the top so quickly that the ecosystem was not given time to adjust.	2	Maar de mens stootte zo snel door naar de top dat het ecosysteem niet de kans kreeg om zich aan te passen.
Many historical calamities, from deadly wars to ecological catastrophes, have resulted from this over-hasty jump.	1a	overhaaste sprong.

A significant step on the way to the top was the domestication of fire.	1a	Een belangrijke stap op weg naar de top...
Whereas chimpanzees spend five hours a day chewing raw food, a single hour suffices for people eating cooked food.	2	Chimpansees zijn vijf uur per dag kwijt met het kauwen van rauw voedsel.
. By shortening the intestines and decreasing their energy consumption, cooking inadvertently opened the way to the jumbo brains of Neanderthals and Sapiens. ¹	2	Door kortere darmen mogelijk te maken, die dus minder energie verbruikten, opende koken onbedoeld de deur voor de XL-hersenen van neanderthalers en sapiens.
Fire also opened the first significant gulf between man and the other animals.	1a	Vuur zorgde ook voor de eerste significante kloof tussen de mens en de andere dieren.
Though they may harness winds and currents, they are unable to control these natural forces, and are always constrained by their physical design.	4	Ze kunnen gebruikmaken van wind en stromingen
Yet counting all species together, there were still no more than perhaps a million humans living between the Indonesian archipelago and the	1a	een miniscuul stipje op de ecologische radar.

Iberian peninsula, a mere blip on the ecological radar.		
Our own species, Homo sapiens, was already present on the world stage, but so far it was just minding its own business in a corner of Africa	1a	Onze eigen soort, homo sapiens, was al verschenen op het wereldtoneel, maar tot dusverre deed hij een beetje zijn eigen ding in een of andere uithoek van Afrika.
What happened to them? There are two conflicting theories	1a	Er zijn twee conflicterende theorieën.
And even if a Neanderthal Romeo and a Sapiens Juliet fell in love, they could not produce fertile children, because the genetic gulf separating the two populations was already unbridgeable	1a	En zelfs als een neanderthal-Romeo en een sapiens-Julia verliefd werden, konden ze geen vruchtbare kinderen krijgen, omdat de genetische kloof tussen de twee bevolkingsgroepen al niet meer te overbruggen was.
A lot hinges on this debate. From an evolutionary perspective, 70,000 years is a relatively short interval.	1a	Er hangt veel af van dit debat. Vanuit evolutionair oogpunt is zeventigduizend jaar een relatief korte periode.
This is political dynamite, which could provide material for explosive racial theories	1a	Dit is politiek dynamiet dat materiaal kan leveren voor explosieve raciale theorieën.
The results stunned the scientific community.	2	De uitkomst ging als een schokgolf door de wetenschappelijke wereld.
A second shock came several months later, when DNA extracted from the fossilised finger from Denisova was mapped.	1a	Een tweede schok kwam een paar maanden later
and it's important to keep in mind that further research is under way and may either reinforce or modify these conclusions	1a	en we moeten goed bedenken dat er momenteel nader onderzoek wordt verricht dat deze conclusie kan versterken dan wel bijstellen

Biological reality is not black and white. There are also important grey areas.	1a	De biologische werkelijkheid is niet zwart-wit. Er zijn ook grijze gebieden.
Then another mutation severed this last connecting thread, and they went their separate evolutionary ways.	1a	Vervolgens sneed een nieuwe mutatie dit laatste verbindende draadje af en gingen ze elk hun evolutionaire weg.
So the populations did not merge, but a few lucky Neanderthal genes did hitch a ride on the Sapiens Express.	1a	De bevolkingsgroepen vermengden zich dus niet, maar een paar fortuinlijke neanderthalgenen liften wel mee op de Sapiens-Express.
Another possibility is that competition for resources flared up into violence and genocide.	4	Een andere mogelijkheid is dat concurrentie om voedselbronnen leidde tot geweld en genocide.
It may well be that when Sapiens encountered Neanderthals, the result was the first and most significant ethnic-cleansing campaign in history.	1a	Het zou heel goed kunnen dat de eerste ontmoeting tussen sapiens en neanderthalers uitdraaide op de eerste en meest significante etnische zuiveringscampagne uit de geschiedenis.
What kind of cultures, societies and political structures would have emerged in a world where several different human species coexisted?	1a	Wat voor culturen, samenlevingen en politieke structuren zouden er ontstaan zijn in een wereld waarin verschillende menselijke soorten naast elkaar leefden?
How, for example, would religious faiths have unfolded?	1a	Hoe zouden religies zich bijvoorbeeld hebben ontwikkeld?
Our lack of brothers and sisters makes it easier to imagine that we are the epitome of creation, and that a chasm separates us from the rest of the animal kingdom.	1a	En dat er een diepe kloof bestaat tussen ons en de rest van het dierenrijk.
The debate continues to rage.	1b	de discussie daarover is nog lang niet uitgeraasd.

About 100,000 years ago, some Sapiens groups migrated north to the Levant, which was Neanderthal territory, but failed to secure a firm footing	1a	maar ze wisten er geen vaste voet aan de grond te krijgen.
This poor record of achievement has led scholars to speculate that the internal structure of the brains of these Sapiens was probably different from ours.	1a	Dit lage prestatieniveau heeft geleid tot wetenschappelijke speculaties dat de interne structuur van de hersenen van deze sapiens waarschijnlijk verschilde van de onze.
Most researchers believe that these unprecedented accomplishments were the product of a revolution in Sapiens' cognitive abilities.	4	De meeste onderzoekers geloven dat deze tot dan toe ongekende prestaties het gevolg waren van een revolutie in de cognitieve vermogens van de sapiens.
The most commonly believed theory argues that accidental genetic mutations changed the inner wiring of the brains of Sapiens,	2	De meest gangbare theorie stelt dat toevallige genetische mutaties de innerlijke configuratie van de sapienshersen hebben veranderd
The most common answer is that our language is amazingly supple.	2	Het gebruikelijkste antwoord op die vraag is dat onze taal onvoorstelbaar flexibel is.
We can thereby ingest, store and communicate a prodigious amount of information about the surrounding world	2, 1a	daarmee kunnen we een buitengewone hoeveelheid informatie over onze omgeving tot ons nemen, opslaan en overbrengen.
Social cooperation is our key for survival and reproduction	4	Sociale samenwerking is cruciaal voor onze overleving en voortplanting.
The amount of information that one must obtain and store in order to track the ever-changing relationships of a few dozen individuals is staggering	1a	De hoeveelheid informatie die er verworven en opgeslagen moet worden om de o zo veranderlijke relaties tussen enkele tientallen individuen bij te houden, is verbijsterend.
Reliable information about who could be trusted meant that small	1a	Deugdelijke informatie over wie er al dan niet te vertrouwen was zorgde dat

bands could expand into larger bands, and Sapiens could develop tighter and more sophisticated types of cooperation.		kleine groepjes zich konden uitbreiden tot grotere groepen en dat sapiens steeds nauwere en verfijndere samenwerkingsverbanden konden aangaan.
The gossip theory might sound like a joke, but numerous studies support it.	1a	De roddeltheorie klinkt misschien als een grap, maar hij wordt ondersteund door tal van onderzoeken.
Yet the truly unique feature of our language is not its ability to transmit information about men and lions.	1a	Maar het echt unieke kenmerk van onze taal is niet de mogelijkheid om er informatie mee over te brengen over mensen en leeuwen,
And if you spend hours praying to non-existing guardian spirits, aren't you wasting precious time, time better spent foraging, fighting and fornicating?	1a	En als je uren bezig bent met bidden tot niet-bestaande beschermgeesten, verspil je dan geen kostbare tijd die je beter kunt besteden aan foerageren, knokken en ontuchtige handelingen?
We can weave common myths such as the biblical creation story, the Dreamtime myths of Aboriginal Australians, and the nationalist myths of modern states.	2	We kunnen gemeenschappelijke mythen produceren, zoals het bijbelse scheppingsverhaal, de Droomtijdmythologie van de Australische Aboriginals en de nationalistische mythen van moderne staten
Just as human politicians on election campaigns go around shaking hands and kissing babies, so aspirants to the top position in a chimpanzee group spend much time hugging, back-slapping and kissing baby chimps.	1a	Zoals menselijke politici tijdens verkiezingscampagnes op pad gaan om handen te schudden en kleine kindjes te kussen, zo spenderen verhoopte gegadigden voor een toppositie binnen een chimpanseetroep veel tijd aan knuffelen, joviale klappen op schouders en het kussen van babychimps
The alpha male usually wins his position not because he is physically stronger, but because he leads a large and stable coalition.	1a	De alfaman bereikt zijn positie meestal niet omdat hij fysiek sterker is, maar omdat hij een grote, stabiele coalitie leidt.

As the number of chimpanzees in a troop increases, the social order destabilises, eventually leading to a rupture and the formation of a new troop by some of the animals.	1a	Als het aantal chimpansees in een troep groeit, raakt de sociale orde uit balans, wat uiteindelijk leidt tot een breuk en de vorming van een nieuwe troep door een deel van de dieren.
When the group grew too large, its social order destabilised and the band split.	1a	Als de groep te groot werd, raakte de sociale orde uit balans en viel de troep uiteen.
A small family business can survive and flourish without a board of directors, a CEO or an accounting department.	1a	Een klein familiebedrijf kan overleven en floreren zonder raad van bestuur, algemeen directeur of boekhoudafdeling
But once the threshold of 150 individuals is crossed, things can no longer work that way.	2	Maar zodra die grens van 150 individuen wordt overschreden, werkt dit niet meer.
Any large-scale human cooperation – whether a modern state, a medieval church, an ancient city or an archaic tribe – is rooted in common myths that exist only in peoples collective imagination.	1a	Elke vorm van grootschalige menselijke samenwerking – een moderne staat, een middeleeuwse kerk, een antieke stad of een archaïsche stam – is geworteld in gemeenschappelijke mythen die alleen bestaan in de collectieve fantasie.
Churches are rooted in common religious myths	1a	Kerken zijn geworteld in gemeenschappelijke religieuze mythen.
States are rooted in common national myths.	1a	Staten zijn geworteld in gemeenschappelijke nationale mythen
Judicial systems are rooted in common legal myths.	1a	Rechtssystemen zijn geworteld in gemeenschappelijke juridische mythen.
People easily understand that ‘primitives’ cement their social order by believing in ghosts and spirits,	2	Mensen kunnen heel makkelijk begrijpen dat ‘primitieve volkeren’ hun samenlevingen versterken door het geloof in geesten en door bij elke volle

		maan bijeen te komen om samen rond het vuur te dansen.
The legend of Peugeot affords us a good example.	4	De legende van Peugeot is daar een goed voorbeeld van.
Over the last few centuries such companies have become the main players in the economic arena, a	1a	De laatste paar eeuwen zijn zulke bedrijven de voornaamste spelers in de economische arena geworden
It all revolved around telling stories, and convincing people to believe them.	1a	Het draaide allemaal om verhalen vertellen en mensen zover krijgen dat ze die verhalen geloofden.
Much of history revolves around this question:	1a	Een groot deel van de geschiedenis draait om de vraag
Over the years, people have woven an incredibly complex network of stories.	1a	Door de jaren heen hebben mensen een ongelooflijk complex web van verhalen geweven.
This opened a fast lane of cultural evolution, bypassing the traffic jams of genetic evolution.	1a	Dit opende een inhaalstrook van culturele evolutie die de verkeersopstoppingen van de genetische evolutie omzeilde.
Speeding down this fast lane, Homo sapiens soon far outstripped all other human and animal species in its ability to cooperate.	1a	Via deze inhaalstrook haalde Homo sapiens al snel bijna alle andere menselijke en dierlijke soorten in op het gebied van zijn vermogen tot samenwerken.
This is why it took humans hundreds of thousands of years to make these steps.	1a	Daarom had de mens er honderdduizenden jaren voor nodig om deze stappen te zetten.
transmitting new behaviours to future generations without any need of genetic or environmental change	1a	En dat nieuwe gedrag konden doorgeven aan latere generaties zonder dat hun genen of omgeving hoefden te veranderen.
The existence of such elites goes against the most fundamental	1a	Het bestaan van dergelijke elites is in volledige tegenspraak met de meest

principles of natural selection, since these dominant members of society willingly give up procreation.		fundamentele principes van de natuurlijke selectie
The real difference between us and chimpanzees is the mythical glue that binds together large numbers of individuals, families and groups	1a	Het echte verschil tussen ons en chimpansees is de mythische lijm die grote aantallen individuen, families en groepen verbindt.
Biology sets the basic parameters for the behaviour and capacities of Homo sapiens. The whole of history takes place within the bounds of this biological arena.	1a	De biologie bepaalt de basisgrenzen van gedrag en capaciteiten van Homo sapiens. De hele geschiedenis speelt zich af binnen de limieten van deze biologische arena
However, this arena is extraordinarily large, allowing Sapiens to play an astounding variety of games. Thanks to their ability to invent fiction, Sapiens create more and more complex games, which each generation develops and elaborates even further.	1a	Deze arena is echter buitengewoon groot, zodat sapiens een verbluffende verscheidenheid aan spelletjes kunnen opvoeren. Dankzij hun vermogen tot fictie ontwikkelen sapiens steeds complexere spelletjes, die elke generatie weer verder verfijnt en uitbreidt
What games did our Stone Age ancestors play in the arena of history?	1a	Wat voor spelletjes speelden onze voorouders uit de steentijd in de arena van de geschiedenis?
The next chapter takes a peek behind the curtain of the ages, examining what life was like in the millennia separating the Cognitive Revolution from the Agricultural Revolution.	1a	In het volgende hoofdstuk nemen we een kijkje achter de schermen van eeuwen her om te kijken hoe het leven eruitzag in de millennia tussen de cognitieve revolutie en de agrarische revolutie
The flourishing field of evolutionary psychology argues that many of our present-day social and psychological characteristics were shaped during this long pre-agricultural era.	1a	Het bloeiende vakgebied van de evolutionaire psychologie stelt dat veel van onze huidige sociale en psychologische kenmerken zijn gevormd in dit lange preagrarische tijdperk.

Such a social structure is not an Aquarian utopia	2	Een dergelijke sociale structuur is geen new age-utopie
all result from forcing humans to live in nuclear families and monogamous relationships that are incompatible with our biological software.	1a	allemaal af te leiden zijn uit de huidige dwang om in gezinsverband te leven en monogame relaties te onderhouden die niet stroken met onze biologische software
In reality, his dominion stretched from the Persian Gulf to the Mediterranean, and included most of today's Iraq and Syria, along with a few slices of modern Iran and Turkey.	1a	In werkelijkheid reikte zijn heerschappij van de Perzische Golf tot de Middellandse Zee en beheerste hij het grootste deel van het huidige Irak en Syrië, plus nog een paar stukken van het huidige Iran en Turkije.
The Akkadian Empire did not last long after its founder's death, but Sargon left behind an imperial mantle that seldom remained unclaimed	3	Het Akkadische rijk bleef niet lang overeind na de dood van de stichter, maar Sargon zette een toon die nog vaak werd gezongen.
For the next 1,700 years, Assyrian, Babylonian and Hittite kings adopted Sargon as a role model, boasting that they, too, had conquered the entire world.	1a	In de daaropvolgende zeventienhonderd jaar namen Assyrische, Babylonische en Hittitische koningen Sargon als rolmodel en ook zij gingen er prat op dat ze de hele wereld hadden veroverd
In Chinese political thinking as well as Chinese historical memory, imperial periods were henceforth seen as golden ages of order and justice.	1a	Sindsdien werden de tijden van de keizers beschouwd als gouden eeuwen van orde en recht, niet alleen in het politieke denken van de Chinezen, maar ook in hun historische herinnering
In contradiction to the modern Western view that a just world is composed of separate nation states, in China periods of political fragmentation were seen as dark ages of chaos and injustice.	1a	In tegenstelling tot het moderne westerse denkbeeld dat een rechtvaardige wereld bestaat uit aparte natiestaten, werden perioden van politieke fragmentatie in China gezien als duistere tijden van chaos en onrecht.

This perception has had far-reaching implications for Chinese history.	1a	Deze perceptie heeft verstrekkende gevolgen gehad voor de Chinese geschiedenis.
s. Ideas, people, goods and technology spread more easily within the borders of an empire than in a politically fragmented region.	1a	Ideeën, mensen, goederen en technologie verspreidden zich gemakkelijker binnen de grenzen van een groot rijk dan in een politiek gefragmenteerd gebied.
The Soviets felt duty-bound to facilitate the inexorable historical march from capitalism towards the utopian dictatorship of the proletariat.	1a	De Sovjets zagen het als hun dure plicht om de onverbiddelijke mars van het kapitalisme naar de utopische dictatuur van het proletariaat te faciliteren.
it was relatively easy for imperial elites to adopt ideas, norms and traditions from wherever they found them	1a	De imperialistische visie is doorgaans universeel en alomvattend, dus heersende elites konden relatief makkelijk ideeën, normen en tradities adopteren die ze elders aantroffen
While some emperors sought to purify their cultures and return to what they viewed as their roots, for the most part empires have begot hybrid civilisations that absorbed much from their subject peoples	1a	Sommige heersers wilden hun culturen zuiveren en teruggaan naar hun wortels, zoals zij die zagen, maar de meeste grote rijken hebben hybride beschavingen voortgebracht die tal van gebruiken van onderworpen volkeren absorbeerden.
Not that this cultural melting pot made the process of cultural assimilation any easier for the vanquished.	1a	Niet dat deze culturele smeltkroes het proces van culturele assimilatie erg vergemakkelijkte voor de overwonnenen.
The imperial civilisation may well have absorbed numerous contributions from various conquered peoples,	1a	De beschaving van zo'n groot rijk absorbeerde misschien talloze bijdragen van verscheidene overwonnen volkeren,
It is not easy to give up a familiar and loved local tradition, just as it is	4	Het is niet makkelijk om een vertrouwde, geliefde plaatselijke traditie op te geven en het is moeilijk

difficult and stressful to understand and adopt a new culture		en stressvol om een nieuwe cultuur te begrijpen en over te nemen.
The generations between conquest and acceptance were left out in the cold.	1a	De generaties tussen verovering en acceptatie stonden mooi in de kou.
Perhaps you could make a case that some of the myriad cultures that emerged at the dawn of recorded history were pure, untouched by sin and unadulterated by other societies.	1a	Misschien valt nog te beweren dat enkele van de talloze culturen die rond het ochtendgloren van de beschreven geschiedenis opkwamen nog zuiver waren, onaangeraakt door het kwaad en niet bezoedeld door andere samenlevingen
All human cultures are at least in part the legacy of empires and imperial civilisations, and no academic or political surgery can cut out the imperial legacies without killing the patient.	1a	Alle menselijke culturen zijn in elk geval deels een erfenis van wereldrijken en imperialistische beschavingen, en die imperiale erfenis is met geen enkele academische of politieke operatie weg te snijden zonder dat de patiënt overlijdt.
They laid the foundations of the Indian judicial system, created its administrative structure, and built the railroad network that was critical for economic integration.	1a	Ze legden de fundamenten van het Indiase rechtssysteem, zetten de administratieve structuur ervan op en bouwden het spoorwegennet, dat cruciaal was voor economische integratie.
Even if we were to completely disavow the legacy of a brutal empire in the hope of reconstructing and safeguarding the ‘authentic’ cultures that preceded it	1a	Zelfs als we de erfenis van een brutootrijk compleet verwerpen in de hoop dat we de ‘authentieke’ culturen die daarvoor bestonden kunnen reconstrueren en beschermen
Nobody really knows how to solve this thorny question of cultural inheritance.	1a	Niemand weet echt een oplossing voor de netelige kwestie van culturele nalatenschap
As the twenty-first century unfolds, nationalism is fast losing ground.	3, 1a	Nu de eenentwintigste eeuw eenmaal op gang is, verliest het nationalisme snel terrein.

and that safeguarding human rights and protecting the interests of the entire human species should be the guiding light of politics.	4	en dat de politiek zich moet richten op het waarborgen van mensenrechten en bescherming van de belangen van de gehele mensheid
Immensely powerful currents of capital, labour and information turn and shape the world, with a growing disregard for the borders and opinions of states.	1a	De wereld wordt draaiend gehouden en gevormd door uitermate machtige kapitaal-, arbeid- en informatiestromen die steeds minder respect tonen voor de grenzen en meningen van afzonderlijke landen
you might have found yourself in the company of a party from Mesopotamia, their robes floating in the wind, their eyes blazing with ecstasy,	1a	kon je zomaar gezelschap krijgen van een clubje Mesopotamiërs, met gewaden die wapperden in de wind, ogen die straalden van extase
The crucial historical role of religion has been to give superhuman legitimacy to these fragile structures.	1a	De cruciale historische rol die het geloof speelde was dat het deze fragiele structuren een bovenmenselijke legitimiteit verleende
This helps place at least some fundamental laws beyond challenge, thereby ensuring social stability.	1a	Daarmee worden in elk geval een paar fundamentele wetten boven elke twijfel verheven, wat de sociale stabiliteit ten goede komt.
rather than to stick fanatically to a single hidebound tradition	4	in plaats van zich fanatiek te beperken tot één klein, bekrompen traditietje.
In order to unite under its aegis a large expanse of territory inhabited by disparate groups of human beings, a religion must possess two further qualities.	1a	Om een uitgestrekt grondgebied met verschillende menselijke bevolkingsgroepen te verenigen onder één schild moet een geloof nog twee eigenschappen hebben
Their emergence was one of the most important revolutions in history	1a	Hun opkomst was een van de belangrijkste revoluties uit de geschiedenis
yet they could not ensure that the ewes conceived and gave birth to	1a	maar ze konden niet zorgen dat hun beesten gezonde lammeren verwekten

healthy lambs, nor could they prevent the eruption of deadly epidemics		en wierpen en ze konden ook de uitbraak van dodelijke dierziekten niet tegengaan.
Gods such as the fertility goddess, the sky god and the god of medicine took centre stage when plants and animals lost their ability to speak	2	Goden zoals de vruchtbaarheidsgodin, de hemelgod en de medicijngod traden op de voorgrond toen planten en dieren hun uitdrukkingsvermogen verloren,
Yet the greatest impact of the rise of great gods was not on sheep or demons, but upon the status of Homo sapiens.	1a	Maar de grootste impact van de opkomst van grote goden was niet die op schapen of demonen, maar die op de status van Homo sapiens.
Less fortunate members of the old animist system lost their stature and became either extras or silent decor in the great drama of man's relationship with the gods.	1a	Minder fortuinlijke leden van het oude animistische systeem verloren aan standing en werden gedegradeerd tot figuranten of decorstukken in het grote drama van mensen en goden.
In modern architecture, this myth leaps out of the imagination to take shape in stone and mortar.	2, 1a	In de moderne architectuur komt deze mythe los van de verbeelding en krijgt hij vorm in steen en specie.
Though the imagined order exists only in our minds, it can be woven into the material reality around us, and even set in stone	1a, 1a	Hoewel de imaginaire orde alleen in onze denkwereld bestaat, kan hij wel worden vervlochten met de materiële realiteit om ons heen of zelfs in steen gebeiteld worden.
Friends giving advice often tell each other, 'Follow your heart.'	1a	Vrienden geven elkaar vaak de goede raad dat ze 'hun hart moeten volgen
Consequently, when the relationship between a millionaire and his wife is going through a rocky patch, he takes her on an expensive trip to Paris.	4	Dus als de relatie tussen een miljonair en zijn vrouw even wat minder gaat, neemt hij haar mee op een dure vakantie naar Parijs.
Even if by some superhuman effort I succeed in freeing my personal desires from the grip of the imagined order, I am just one person	1a	Al zou ik mijn persoonlijke verlangens met bovenmenselijke inspanningen weten te bevrijden uit de greep van de

		imaginaire orde, dan nog ben ik maar één persoon.
Many of history's most important drivers are intersubjective: law, money, gods, nations.	2	Veel belangrijke aanjagers van de geschiedenis zijn intersubjectief: wetten, geld, goden, naties.
puppies throughout the world have the rules for rough-and-tumble play hard-wired into their genes.	3	Bij puppy's over de hele wereld zitten de regels voor een potje stoeien ingebakken in hun genen.
Each player can easily store them in his brain and still have room for songs, images and shopping lists.	1a	Elke speler kan ze makkelijk kwijt in zijn geheugen en dan blijft er nog genoeg ruimte over voor liedjes, beelden en boodschappenlijstjes
Its DNA programmes the necessary behaviours for whatever role it will fulfil in life.	1a	Het bijen-dna programmeert voor de gedragingen voor beide rollen,
A conscious effort has to be made to sustain laws, customs, procedures and manners, otherwise the social order would quickly collapse	1a	Er moet bewust moeite gedaan worden om wetten, gewoontes, procedures en manieren overeind te houden, anders zou de sociale orde razendsnel instorten.
Unfortunately, the human brain is not a good storage device for empire-sized databases, for three main reasons.	1a	Helaas zijn de menselijke hersenen geen goed opslagmedium voor databases op imperiumgrootte. Dat heeft drie belangrijke redenen.
Since the human brain could not do it, the system collapsed.	1a	En omdat de menselijke hersenen deze taak niet aankonden, stortte het systeem in.
Thanks to quipus, the Incas could save and process large amounts of data, without which they would not have been able to maintain the complex administrative machinery that an empire of that size requires.	1a	Zonder die informatie hadden ze nooit de complexe administratieve machinerie op gang kunnen houden die een rijk van zo'n omvang vergt

No wonder the clerk is sour-faced.	1a	Geen wonder dat die klerk zo zuur kijkt
Theologians argued that Africans descend from Ham, son of Noah, saddled by his father with a curse that his offspring would be slaves	4	theologen beweerden dat Afrikanen afstamden van Ham, een zoon van Noach, die door zijn vader dusdanig vervloekt was dat al zijn nakomelingen slaven zouden zijn.
The result was a self-reinforcing cycle of cause and effect, a vicious circle.	1a	Het resultaat daarvan was een zelfversterkende cyclus van oorzaak en gevolg, een vicieuze cirkel.
In addition, the Industrial Revolution and the waves of immigration made the United States an extremely fluid society,	1a, 1a	Bovendien waren de vs door de industriële revolutie en de immigratiegolven een extreem fluïde samenleving,
If money was all that mattered, the sharp divide between the races should soon have blurred, not least through intermarriage.	1a, 1a	Als geld het enige punt was, had de scherpe scheiding tussen de rassen al snel moeten vervagen, niet in het minst door gemengde huwelijken.
In fact, the opposite happened – these prejudices became more and more entrenched as time went by.	4	Deze vooroordelen werden in de loop van de tijd juist steeds sterker
With time, the racism spread to more and more cultural arenas.	2	Gaandeweg verspreidde het racisme zich steeds meer naar het culturele vlak
These preconceptions ingrained the imagined hierarchy at an even deeper level of human consciousness.	1a	Deze ingeroeste meningen bevestigden de imaginaire hiërarchie op een nog dieper niveau van het menselijke bewustzijn
They were ruled with an iron fist by greedy and unscrupulous colonists who enslaved them and set them to work in mines and plantations	1a	Ze werden met ijzeren vuist geregeerd door hebzuchtige, gewetenloze kolonisten die hen als slaven tewerkstelden in mijnen en op plantages

The Spanish colonists began importing African slaves to fill the vacuum.	1a	De Spaanse kolonisten gingen Afrikaanse slaven importeren om die leemte te vullen.
This genocide took place on the very doorstep of the Aztec Empire	4	Deze genocide vond plaats op een steenworp afstand van het Aztekenrijk
For the modern European conqueror, like the modern European scientist, plunging into the unknown was exhilarating.	3	Voor de moderne Europese veroveraar was het hoogstens opwindend om het onbekende tegemoet te gaan, net als voor de moderne Europese wetenschapper.
However, by now numerous cracks had appeared in the imperial edifice.	1a, 2	Maar er waren al talloze bressen in de keizerlijke façade geslagen
Cortés used the knowledge he had gained to prise the cracks open wider and split the empire from within.	1a, 2	Cortés gebruikte de kennis die hij had opgedaan om die bressen te vergroten en het rijk van binnenuit af te breken.
They assumed that with Spanish help they could shake off the Aztec yoke.	1b	Ze dachten dat ze zich met behulp van de Spanjaarden konden bevrijden van het Azteekse juk
The survivors found themselves under the thumb of a greedy and racist regime that was far worse than that of the Aztecs.	2	De overlevenden merkten al snel dat ze onder de knoet zaten bij een hebzuchtig, racistisch regime dat veel erger was dan dat van de Azteken
Pizarro proceeded to conquer the paralysed empire with the help of local allies.	1a	Daarna veroverde Pizarro het lamgelegde rijk met behulp van plaatselijke bondgenoten
If the subject peoples of the Inca Empire had known the fate of the inhabitants of Mexico, they would not have thrown in their lot with the invaders	3	Als de vazallen van het Incarijk hadden geweten hoe het de inwoners van Mexico was vergaan, hadden ze zich nooit achter de indringers geschaard
The native peoples of America were not the only ones to pay a heavy price for their parochial outlook.	1a, 3	De inheemse inwoners van Amerika waren niet de enigen die een hoge prijs

		betaalden voor hun navelstaarderige instelling.
When the Ottomans, Persians, Indians and Chinese woke up and began paying attention, it was too late.	1a, 4	Toen de Ottomanen, Perzen, Indiërs en Chinezen wakker werden en eindelijk begonnen op te letten, was het al te laat.
Only in the twentieth century did non-European cultures adopt a truly global vision.	1a	Pas in de twintigste eeuw adopteerden niet-Europese culturen een echt mondiale visie.
This was one of the crucial factors that led to the collapse of European hegemony.	1a	Dit was een van de cruciale factoren die leidden tot de ineenstorting van de Europese hegemonie.
because they worked out how to harness the world's media to their cause – as well as public opinion in France itself.	4	De Algerijnen wonnen, omdat ze werden ondersteund door een mondiaal antikoloniaal netwerk en omdat ze doorkregen hoe ze de wereldmedia konden inzetten voor hun zaak, evenals de publieke opinie in Frankrijk zelf.
The defeat that little North Vietnam inflicted on the American colossus was based on a similar strategy.	1a	De nederlaag die het kleine Noord Vietnam de Amerikaanse kolos toebracht, was gebaseerd op een vergelijkbare strategie.
Not just the motivation, but also the practices of empire-builders were entangled with those of scientists.	4	Niet alleen de motivatie, maar ook de werkwijze van de wereldveroveraars was sterk gerelateerd aan die van de wetenschappers
it would enable him and other scholars to read the numerous inscriptions and texts that were at the time being discovered all over the Middle East, opening a door into an ancient and forgotten world.	1a	als hij het schrift kon ontcijferen, zouden hij en andere geleerden de talloze inscripties en teksten kunnen lezen die indertijd in het hele Midden-Oosten werden ontdekt, wat een deur zou openen naar een oeroude, vergeten wereld.
An understanding of the Old Persian section gave him the key he needed	1a	Zijn begrip van het Oudperzische deel verschaftte hem de sleutel die hij nodig

to unlock the secrets of the Elamite and Babylonian sections.		had om de geheimen van de Elamitische en Babylonische delen te ontsluiten.
The great door swung open, and out came a rush of ancient but lively voices	1a	De grote deur zwaaide open en er kwam een koor van oeroude, maar springlevende stemmen uit
Jones' study was an important milestone not merely due to his bold (and accurate) hypotheses	4	Jones' study was an important milestone not merely due to his bold (and accurate) hypotheses
The fact that the empires produced a constant stream of new knowledge branded them as progressive and positive enterprises.	1a, 4	Het feit dat de grote rijken een constante stroom aan nieuwe kennis voortbrachten, typeerde ze als progressieve en positieve ondernemingen.
Next, British, French and German scholars wedded the linguistic theory about the industrious Aryans to Darwin's theory of natural selection	3	Vervolgens verbonden Britse, Franse en Duitse geleerden de taalkundige theorie over de nijvere Ariërs met Darwins theorie over natuurlijke selectie
And not just any race, but a master race of tall, light-haired, blue-eyed, hard-working, and super-rational humans who emerged from the mists of the north to lay the foundations of culture throughout the world	1a	En niet zomaar een ras, maar een onovertroffen ras van lange, blonde, blauwogige, hardwerkende, superrationele mensen die waren ontsproten aan de nevelen van het noorden om overal ter wereld de basis te leggen voor cultuur.
People continue to conduct a heroic struggle against racism without noticing that the battlefield has shifted, and that the place of racism in imperial ideology has now been replaced by 'culturism'	1a, 2	Mensen blijven een heroïsche strijd tegen racisme voeren zonder te merken dat de strijd is verlegd en dat de positie van het racisme in de imperialistische ideologie inmiddels is ingenomen door het 'culturalisme'.
Marine le Pen's speechwriters would have been shown the door on the spot	2	De spindoctors van Marine Le Pen zouden stante pede de laan uit worden gestuurd

they should not be allowed to enter, lest they foment internal conflicts and corrode European democracy and liberalism.	3, 2	moeten ze niet worden toegelaten, anders zouden ze interne conflicten kunnen aanwakkeren en afbreuk doen aan de Europese democratie en ons liberalisme.
Such culturist arguments are fed by scientific studies in the humanities and social sciences that highlight the so-called clash of civilisations and the fundamental differences between different cultures.	1a, 3, 1a	Dergelijke culturalistische argumenten worden gevoed door wetenschappelijke studies van geesteswetenschappers en sociale wetenschappers die de nadruk leggen op de zogenaamde ‘botsing der beschavingen’ en de fundamentele verschillen tussen verschillende culturen.
And the European empires rose and flourished thanks also to factors other than science.	1a	En de Europese grootmachten groeiden en bloeiden ook dankzij andere dan wetenschappelijke factoren.
Behind the meteoric rise of both science and empire lurks one particularly important force: capitalism.	2	Achter de bliksemopkomst van zowel de wetenschap als het imperialisme gaat een uitermate belangrijke kracht schuil: het kapitalisme.
It is not easy to grasp the true role of economics in modern history.	3	Het is niet makkelijk om de werkelijke rol van de economie in de moderne geschiedenis te doorgronden.
moved the wheels of industry and drove hundreds of species into extinction.	2	het raderwerk van de industrie in gang zette en honderden soorten tot uitsterven dreef.
If all of the account holders at Barclays Bank suddenly demand their money, Barclays will promptly collapse	1a	Als alle rekeninghouders bij de Rabobank ineens hun geld opnemen, stort de Rabobank meteen in
What enables banks – and the entire economy – to survive and flourish is our trust in the future.	4	Banken – en de hele economie – kunnen overleven en winst maken dankzij ons vertrouwen in de toekomst.

Venice might flourish, but only by impoverishing Genoa.	1a	Venetië kon een bloeitijd meemaken, maar dan werd Genua weer armer
The idea of progress is built on the notion that if we admit our ignorance and invest resources in research, things can improve.	2	De vooruitgangsgedachte steunt op het idee dat alles beter kan worden als we toegeven hoe weinig we weten en investeren in onderzoek
New trade routes in the Atlantic could flourish without ruining old routes in the Indian Ocean.	4, 1a	Nieuwe handelsroutes in de Atlantische Oceaan konden winst opleveren zonder afbreuk te doen aan de oude routes in de Indische Oceaan.
But over the long run, with the bumps evened out, the general direction was unmistakable.	2	Maar over het geheel genomen en ondanks alle pieken en dalen ging het allemaal een en dezelfde kant op.
Smith denied the traditional contradiction between wealth and morality, and threw open the gates of heaven for the rich.	1a	Smith ontkende de traditionele tegenspraak tussen rijkdom en moraal en gooide de hemelpoorten open voor de rijken
The rich are accordingly the most useful and benevolent people in society, because they turn the wheels of growth for everyone's advantage.	2	De rijken zijn dus de nuttigste en goedhartigste mensen van de gemeenschap, omdat ze de groeimachine in gang zetten voor het welzijn van iedereen
Ordinary folk and government agencies think along similar lines.	1a	Gewone mensen en overheidsinstanties denken volgens dezelfde lijnen
How many dinner conversations in modest neighbourhoods sooner or later bog down in interminable debate about whether it is better to invest one's savings in the stock market, bonds or property?	1a	Hoeveel eettafelconversaties in bescheiden woonwijken verzanden vroeg of laat in oneindige debatten over wat beter is, je spaargeld investeren in aandelen, obligaties of onroerend goed
you are likely to get a lecture on how economic affluence and a thriving middle class are essential for stable democratic institutions	1a	een college over economische welvaart en een bloeiende middenklasse en hoe essentieel dat is voor een stabiele democratie

A project that can't clear these hurdles has little chance of finding a sponsor.	4	Als het antwoord nee is, maakt het project weinig kans om gesponsord te worden.
pumping cheap credit into the system, and hoping that the scientists, technicians and engineers will manage to come up with something really big, before the bubble bursts.	1a, 2	waarmee goedkoop krediet in het systeem wordt gepompt in de hoop dat wetenschappers en technici met iets heel groots kunnen komen voordat de bom barst.
If the labs do not fulfil these expectations before the bubble bursts, we are heading towards very rough times.	1a, 1a	Als de witte jassen die verwachtingen niet inlossen voordat de zeepbel knapt, staan ons nog heel zware tijden te wachten.
Capitalism played a decisive role not only in the rise of modern science, but also in the emergence of European imperialism.	1a	Het kapitalisme speelde niet alleen een beslissende rol bij de opkomst van de moderne wetenschap, maar ook bij de opkomst van het Europese imperialisme.
However, in the sociopolitical systems of China, India and the Muslim world, credit played only a secondary role.	2	Maar in de sociaal-politieke systemen van China, India en de islamitische wereld speelde krediet een marginale rol.
The English, for instance, wasted a lot of capital in fruitless attempts to discover a north-western passage to Asia through the Arctic.	1a	De Engelsen hebben bijvoorbeeld heel wat kapitaal verspild aan vruchteloze pogingen om een noordwestelijke route naar Azië te vinden via de Noordelijke IJszee.
At first the rebels seemed to play the role of Don Quixote, courageously tilting at invincible windmills.	1a	Aanvankelijk leken de rebellen de rol van Don Quichot te spelen in een dapper steekspel tegen onoverwinnelijke windmolens.
but had managed to replace the Spaniards and their Portuguese allies as masters of the ocean highways,	4	ze wisten de Spanjaarden en hun Portugese bondgenoten ook nog te vervangen als heersers van de wereldzeeën.

but the Dutch were able to finance their military expeditions more easily than the mighty Spanish Empire because they secured the trust of the burgeoning European financial system at a time when the Spanish king was carelessly eroding its trust in him.	1a	maar de Hollanders konden hun militaire expedities makkelijker financieren dan het machtige Spaanse rijk, omdat ze het vertrouwen van het ontluikende Europese financiële systeem wisten te wekken in een tijd waarin de Spaanse koning het vertrouwen in zijn persoon onbekommerd liet afkalven
Instead, it flows into states upholding the rule of law and private property.	1a	Het stroomt juist toe naar staten waar de wet en het privé-eigendom hoog in het vaandel staan.
certain that property values there will skyrocket as the Hudson River turns into a major trade artery.	3, 1a	omdat hij ervan overtuigd is dat de landprijzen daar de pan uit zullen rijzen zodra de Hudsonrivier een belangrijke verkeersader voor de handel wordt.
The paterfamilias has a soft spot for his youngest, and agrees with a heavy heart.	4, 4	De pater familias heeft altijd al een zwak gehad voor zijn benjamin en stemt na enig aarzelen toe.
Meanwhile in Amsterdam, things are looking bright.	3	Intussen gaan de zaken in Amsterdam uitstekend.
As the seventeenth century wound to an end, complacency and costly continental wars caused the Dutch to lose not only New York, but also their place as Europe's financial and imperial engine.	1a	Toen de zeventiende eeuw ten einde liep, raakten de Hollanders met hun zelfgenoegzaamheid en hun dure continentale oorlogen niet alleen New York kwijt, maar ook hun positie als de financiële en koloniale motor van Europa.
The stock price plummeted further, setting off an avalanche.	2, 1a	De aandelenprijs kelderde nog verder, wat een ware lawine in gang zette.
In order to stabilise prices, the central bank of France – at the direction of its governor, John Law – bought up Mississippi shares	1a	Om de prijzen te stabiliseren kocht de Franse staatsbank op last van bankpresident John Law Mississippi-aandelen op,

This placed the entire French financial system inside the bubble.	1b	waarmee hij het hele Franse financiële systeem de zeepbel in sleepte.
And not even this financial wizardry could save the day.	1b	En zelfs dit staaltje financiële tovenarij bracht geen redding
The big speculators emerged largely unscathed	2	De grote speculanten kwamen er zonder al te veel kleerscheuren van af, want die hadden op tijd verkocht.
The Mississippi Bubble was one of history's most spectacular financial crashes.	1a	De Mississippizeepbel was een van de spectaculairste financiële crashes uit de geschiedenis.
The royal French financial system never recuperated fully from the blow.	1a	De financiële sector van het Franse koninkrijk is de klap nooit helemaal te boven gekomen.
While the French overseas empire was crumbling, the British Empire was expanding rapidly.	1a	Terwijl het Franse wereldrijk afbrokkelde, breidde het Britse rijk zich rap uit.
heir managers and large shareholders now pulled the strings of power in London, Amsterdam and Paris,	1b	De bestuurders en grootaandeelhouders van deze ondernemingen trokken nu aan de touwtjes in Londen, Amsterdam en Parijs
Egypt, too, learned to respect the long arm of British capitalism.	1a	Ook Egypte leerde ontzag te krijgen voor de lange arm van het Britse kapitalisme
The bear hug between capital and politics has had far-reaching implications for the credit market.	2	De houdgreep tussen kapitaal en politiek heeft verstrekkende implicaties gehad voor de kredietmarkt.
THE LAST 500 YEARS HAVE WITNESSED A breathtaking series of revolutions	1a	De laatste vijfhonderd jaar hebben we een adembenemende opeenvolging van revoluties meegemaakt
whether the rise of Islam made Egyptians more pleased with their	1a, 1a	of de opkomst van de islam de Egyptenaren een prettiger leven

lives, or how the collapse of the European empires in Africa have influenced the happiness of countless millions.		bezorgde of hoe de teloorgang van de Europese koloniale rijken in Afrika het levensgeluk van talloze miljoenen heeft beïnvloed.
Most current ideologies and political programmes are based on rather flimsy ideas concerning the real source of human happiness	3	De meeste huidige ideologieën en politieke programma's zijn gebaseerd op tamelijk oppervlakkige ideeën over de uiteindelijke bron van menselijk geluk.
Some challengers of this view take a diametrically opposed position.	1a	Sommige tegenstanders van deze opvatting nemen een standpunt in dat er diametraal tegenover staat.
as humankind gained more and more power, it created a cold mechanistic world ill-suited to our real needs	1a	naarmate de mens meer macht vergaarde, creëerde hij een kille, mechanistische wereld die slecht aansloot bij onze diepste behoeften.
this romantic insistence on seeing a dark shadow behind each invention	2	deze romantische hardnekkigheid om achter elke uitvinding een donkere wolk te zien
A more nuanced position takes the middle road	1a	Ergens in het midden ligt een iets genuanceerdere mening
Hence, though the last few decades have been an unprecedented golden age for humanity, it is too early to know whether this represents a fundamental shift in the currents of history	1a	De laatste paar decennia zijn dus een ongekende Gouden Eeuw voor de mensheid gebleken, maar het is nog veel te vroeg om vast te stellen of dit een fundamentele verschuiving in de getijdenstroom van de geschiedenis weergeeft
Secondly, even the brief golden age of the last half-century may turn out to have sown the seeds of future catastrophe.	1a, 4	Ten tweede zou achteraf ook kunnen blijken dat de kortstondige Gouden Eeuw van de laatste vijftig jaar een toekomstige catastrofe teweeg heeft gebracht.
A lot of evidence indicates that we are destroying the foundations of	1a	Veel wijst erop dat we de fundamenteën van de menselijke rijkdom aan het

human prosperity in an orgy of reckless consumption.		vernietigen zijn in een orgie van roekeloze consumptie.
The first step is to define what is to be measured.	1a	De eerste stap is bepalen wat er gemeten moet worden.
An impecunious invalid surrounded by a loving spouse, a devoted family and a warm community may well feel better than an alienated billionaire	3	Een minvermogende invalide die zich omringd weet door een liefdevolle partner, een toegewijde familie en een hartelijke omgeving, kan zich heel goed beter voelen dan een ontwortelde miljardair,