Metaphorical construal of time in English, German, and Croatian

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Abstract

This diploma thesis deals with time metaphors in English, German and Croatian. A corpus of 500 entries for each language was used to establish the similarities and differences between the aforementioned languages in terms of time metaphors.

In addition to the linguistic aspect of the concept of time, other aspects were discussed briefly. Time, as the central topic of this thesis, was defined as a cultural construct. It is, however, of great importance to the human world, which is visible in languages throughout the world, due to their devices for expressing various aspects of time.

I have compiled a corpus for German, the tables and results of the study conducted by Omazić and Schmidt were adopted for English and Croatian. The corpus-based study was conducted following the same methodology as Omazić and Schmidt did and the results are presented in the same way.

According to the results of the corpus-based study, these three languages (two Germanic and one Slavic) exhibit striking similarities in terms of time metaphors.

Key words: cognitive linguistics, conceptual metaphor, concept of time, English, German, Croatian

Contents

1. Introduction

Conceptual metaphor is one of the central topics in cognitive linguistics. The Conceptual Metaphor Theory by Lakoff and Johnson was a turning point in the attitude towards metaphors. The correlation between language and culture, consequently conceptualization, is one of the most interesting topics in cognitive linguistics.

The aim of this diploma thesis is to provide a contrastive analysis of time metaphors in English, German and Croatian and find differences and similarities in metaphorical construal of time in these three languages. A small corpus of five hundred entries for each language was used for this purpose. The results of this corpus-based study are to some extent indicative.

In the following section, a theoretical framework is given. A short definition of cognitive linguistics, conceptual metaphor and the problem of time were given. The problem of time is elaborated as a cultural construct. A short definition of the linguistic problem of time is given at the end of the section.

Further on, time is elaborated in terms of conceptual metaphors. The results of the corpus-based study are presented and discussed, followed by a concluding section.

2. Theoretical framework

2.1. Cognitive linguistics

Cognitive linguistics is a relatively new branch of linguistics, which developed in the late 1970s and early 1980s. Evans defines cognitive linguistics as "a school of linguistics and cognitive science which (...) places central importance on the role of meaning, conceptual processes and embodied experience in the study of language and the mind and the way in which they intersect. [It is] an enterprise or an approach to the study of language and the mind rather than a single articulated theoretical framework" (Evans 2007: 22).

According to Geeraerts and Cuyckens (2007: 4), there are several topics of interest in cognitive linguistics, "the structural characteristics of natural language categorization (such as prototypicality, systematic polysemy, cognitive models, mental imagery, and metaphor); the functional principles of linguistic organization (such as iconicity and naturalness); the conceptual interface between syntax and semantics (as explored by Cognitive Grammar and Construction Grammar); the experiential and pragmatic background of language-in-use; and the relationship between language and thought, including questions about relativism and conceptual universals".

One of the central topics in cognitive linguistics is conceptual metaphor. "The Conceptual Metaphor Theory was first presented by Lakoff and Johnson in their 1980 volume *Metaphors we live by*" (Evans 2007: 34). This theory broke new grounds in the attitude towards metaphors, which were generally considered to be "irrational and dangerous" (Lakoff and Johnson 1980: 453). Lakoff and Johnson (1980: 454) argue that metaphors are not only a matter of language, on the contrary "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature".

2.2. What is a metaphor?

The online version of Oxford Dictionaries defines *metaphor* as "a figure of speech in which a word or phrase is applied to an object or action to which it is not literally applicable", the origin of that word is also provided "late 15th century: from French *métaphore,* via Latin from Greek *metaphora,* from *metapherein* 'to transfer'".

The term metaphor as a figure of speech was defined by Aristotle (XXI) in *Poetics* as: "Metaphor is the application of an alien name by transference either from genus to species, or from species to genus, or from species to species, or by analogy, that is, proportion".

It moved from the realm of poetry and figures of speech to the philosophers' topic of interest in the 1980s with the development of cognitive linguistics. As Johnson (1981: ix) describes in the *Preface of Philosophical Perspectives on Metaphor* "only three decades ago the situation was just the opposite: poets created metaphors, everybody used them, and philosophers (linguists, psychologists, etc.) ignored them. Today we seem possessed by metaphor".

Evans (2007: 136) defines conceptual metaphors in *A Glossary of Cognitive Linguistics* as "a form of conceptual projection involving mappings or correspondences holding between distinct conceptual domains. Conceptual metaphors often consist of a series of conventional mappings which relate aspects of two distinct conceptual domains [in order to] provide structure from one conceptual domain, the SOURCE DOMAIN, by projecting the structure onto the TARGET DOMAIN". Conceptual metaphors are understood as cross-domain mappings between a SOURCE (SD) and TARGET DOMAIN (TD) – the SOURCE DOMAIN provides structure for the understanding of the TARGET DOMAIN. For example, in the metaphor LOVE IS A JOURNEY, *love* is the TD and *journey* the SD.

Lakoff and Johnson (1980: 455) state that "the essence of metaphor is understanding and experiencing one kind of thing or experience in terms of another". They argue that speakers actually experience arguments as some sort of war giving the metaphor ARGUMENT IS WAR as an example. "We can actually win or lose arguments. We see the person we are arguing with as an opponent. We attack his positions and we defend our own. We gain and lose ground. We plan and use strategies" (Lakoff and Johnson 1980: 455).

The same metaphor is also present in German, e.g. *Kleinkrieg der Worte*, and Croatian, e.g. *verbalna paljba*. Lakoff and Johnson also conclude that another culture that conceptualizes arguments in another way (e.g. as a dance) also thinks of arguments in another way. The situation with time metaphors is different; most speakers do not think about space necessarily when talking about time.

2.2.1. Types of metaphor

Lakoff and Johnson distinguish three types of metaphor, namely structural, orientational and ontological. "Structural" metaphors structure one concept in terms of another, as illustrated by the following examples:

(2.1) ARGUMENT IS WAR

a. *win* an argument

b. He *shot down* all of my arguments (Lakoff and Johnson 1980: 454)

DISKUSSION IST KRIEG

c. rhetorisch *ausgefochtene Schlachten*

d. Die vertrauten Redeweisen (...) gehören zu ihrem *Arsenal* (Jhee 2011: 37)

(ARGUMENTIRANA) RASPRAVA JE RAT

e. verbalna *paljba*

f. verbalna *bitka*/verbalni *sukob*

In "ontological" metaphors, substance or object status is being ascribed to abstract entities (e.g. emotions) to facilitate their categorisation and to enable speakers to refer to them.

(2.2) ABSTRACTS ARE THINGS

a. *hold on* to the same wish

b. an *accumulation* of problems

ABSTRAKTA SIND OBJEKTE/SUBSTANZEN

c. *scharfe/stechende* Blicke

d. *massive* Probleme (Jhee 2011: 36)

APSTRAKTNO JE SUPSTANCA/OBJEKT

e. *raspršiti/srušiti* snove

f. *najveći* problem

"Orientational" metaphors "[do] not structure one concept in terms of another, but organize a whole system of concepts with respect to one another" (Lakof and Johnson 1980: 461). Spatial orientation is crucial for most of such metaphors: UP-DOWN, FRONT-BACK, IN-OUT, ON-OFF, DEEP-SHALLOW, CENTRAL-PERIPHERAL.

(2.3.) HAPPY IS UP

a. I'm feeling *up*

b. My spirits *rose*

SAD IS DOWN

c. I'm feeling *down*

d. I *fell* into a depression (Lakoff and Johnson 1980:)

VIEL IST HÖHE/GRÖßE

e. *hohe* Schulden

f. Wie kommt man zum *großen* Geld?

ZUNAHME IST AUFWÄRTSBEWEGUNG

g. Die Preise *steigen*

h. Man *erhöht* den Umsatz (Jhee 2011: 34)

DOBRO JE GORE

i. *visoka* kvaliteta

2.3. What is time?

"What then, is time? If no one asks me, I know. If I wish to explain it to someone who asks, I know it not" (St. Augustine, qtd. in Levine 2006: 24). It seems virtually impossible to give a precise definition of such an elusive concept as time. It is defined as "a duration; possessing past, present, and future; every moment that has been or will be; the entire period of existence of the known universe; a system of measuring duration; a precise instant; and a measured interval, to name just a few" (Perry 2009: 1283). "Following Einstein, time is operationally defined by what is measured on a clock" (Stenger 2009: 1294).

This thesis is concerned primarily with the linguistic problem of time. Nonetheless, two opposing theories will be mentioned to illustrate the complexity of the problem of time in physics. First of which is the Newtonian concept of absolute time "[which] assume[s] that time runs at the same rate for all the observers in the universe, or in other words, the rate of time of each observer can be scaled to the absolute time by multiplying the rate by a constant" (Mughal 2009: 1254). Einstein's theory of relativity abolished the idea of the uniform flux of time – "the invariant flow of time came to an end in 1905, when Albert Einstein formulated the special theory of relativity. He showed that motion affected how clocks kept time. A fast-moving clock, really fast moving, keeps slower time" (Perry 2009: 1284).

As such, time has been a topic in numerous fields, ranging from theology to physics. Due to numerous definitions of the concept of time and the changes in the attitude towards time – i.e. the aforementioned outdated Newtonian absolute time and Einstein's relative time – it is very hard to tackle this problem in any other way than from multiple perspectives (i.e. physics, philosophy, linguistics, etc.).

The topic of this thesis is the linguistic problem of time, that is, "we talk about the 'passage' or the 'flow' of time and about being 'located in' time. In so doing we spatialise time" (Evans 2004: 5). The following question arises "(...) why do we use language pertaining to motion through three-dimensional space and locations in three-dimensional space in order to think and talk about time" (Evans 2004: 5). The root of this problem may lie in the fact that the first attempts to measure time were elaborated in a mathematical and geocentric manner. As Krob (2009: 1309) explains: "(...) anywhere we talk about time, there is a hidden movement included.

Time measurements are therefore nothing but a comparison of two or more movements, one of them considered the etalon. A question remains whether the comparison of movements in various orders (e.g., biological and physical) is always informative and whether it is even possible to conduct the comparison (e.g., the changes in the early states of the universe and the later movements)".

One of the most compelling arguments in favour of conceptualizing time in terms of motion is the fact that "time is measured in discernible units, all related to solar and lunar motion across the terrestrial sky" (Collins 2009: 1281), this method of time measurement was employed as early as the Sumerians "various theories state that, excluding thumbs, there are 24 segments on the remaining eight human fingers, which Sumerians are believed to have used as a basis for counting. At night, time was measured by the appearance of given stars crossing a certain sky point to mark the time passage. For tracking time during the day, the sundial was invented" (Collins 2009: 1281).

Some scientists believe that time per se does not exist "time does not exist, only events do" (Krob 2009: 1309) and I agree. People cannot perceive duration or any other aspect of time, only change and events may be seen, "felt" or perceived. Time as most people "experience" and define it is a human construct, not something existent on its own.

2.4. Is time an arrow or a cycle?

The notion that time is linear, that is, that it flows in one way from past to future and that (many) events are irreversible (i.e. ageing) is widespread and widely accepted in the Western world. It is still nothing more than a convention, even though it is a matter of "common sense" for most people. The Moving Time and Moving Ego mappings also suggest a linear notion of time, namely motion along a path in one direction.

The direction of time within an axis may vary across cultures, which proves that such views are in no way universal: "one factor that affects the perceived direction of time is writing direction. People who read text arranged from left to right, tend to lay out time as proceeding from left to right, and people who read text arranged from right to left (e.g., Arabic, Hebrew) arrange time from right to left" (Boroditsky 2011: 336).

An “opposing” idea is that time is not like an arrow, namely linear and a string of irreversible events, but rather “(...) a part of a greater dimension, a circular or cyclical one, that is far more encompassing and that can be seen in the daily rotation of the earth, the lunar cycle, the seasons of the year, [etc.]” (Lamb 2009: 1259), symbolized as Ouroboros (a serpent or dragon devouring its tail) in some cultures.

Radden (2003: 229) points out that there are, however, examples of the cyclical time in English as it is visible in the following expressions “history always repeats itself” or “our shop is open round the clock”. Radden (2003: 229) explains that “the circular understanding of a 24-hour day is iconically motivated by the round shape and the small hand of a clock”. Omazić and Schmidt (2011) also found examples of cyclical time in English and Croatian in their corpus-based study (*circles of time, vrijeme biti zaokruženo*), one such example also occurs in the German corpus (*Rad der Zeit*).

Both views are, to some extent and for the sake of the argument, “correct” – there are some events or processes that are irreversible and those which occur in cycles. Still, they are simply notions or views, not the absolute truth. Both are cultural constructs, therefore the answer to the question whether time is an arrow or a cycle would be neither.

2.5. The linguistic problem of time

The fact that time is always conceptualized via other concepts (e.g. space) presents the linguistic problem of time. The easiest answer to that problem would be that it is not surprising at all to conceptualize an abstract entity in terms of another, more tangible or graspable entity. Evans (2004: 21) states that "(...) temporality (...) constitutes a subjective response to (...) events" and that "there is nothing physical in the external world which can be unambiguously identified as time". The question arises: How do we conceptualize an abstract entity we cannot feel, touch or see? The most frequent way of conceptualizing time in English, German and Croatian (probably in numerous other languages) is spatialization, as it is visible from the corpus-based study. Some lexemes also prove the tight correlation between space and time in the Western thought, e.g. *spacetime*, *Zeitraum*, etc.

Table 1. Space-time correspondences in English. Source: Gentner, Imai and Boroditsky (2002: 538)

Space	*Time*
at the corner	*at* noon
from here *to* there	*from* two o'clock *to* four o'clock
through the tunnel	*through* the night
he stood *before* the house	it happened *before* evening
he was running *ahead* of me	he arrived *ahead* of me

3. The conceptual metaphor approach to time

3.1. Temporal lexical concepts

Table 2. The elaboration of temporal lexical concepts in terms of motion events. Source: Evans (2004: 72)

Temporal lexical concept	Motion event	Examples
1. (Magnitude of) Duration:		
(i) 'protracted duration'	Slow motion	*drag, move slowly, etc.*
	Stationariness	*stand still, stop, freeze, etc.*
(ii) 'temporal compression'	Rapid motion	*move fast, fly, whizz, zoom, etc.*
	Imperceptible motion	*disappear, vanish, has gone, etc.*
2. Temporal Matrix	Non-terminal motion	*flow, move on, go on, etc.*
3/4. Temporal Moment/ Temporal Event	Deictic/terminal motion	*come, arrive, approach, get closer, move up on, etc.*

Evans distinguishes four distinct sets of lexical concepts associated with the lexeme *time*: a Moment Sense, a Duration Sense, an Event Sense, and a Matrix Sense.

3.1.2. Duration Sense

Evans (2004: 108) defines the Duration Sense as "an interval bounded by two 'boundary' events, i.e., the beginning and ending of the interval".

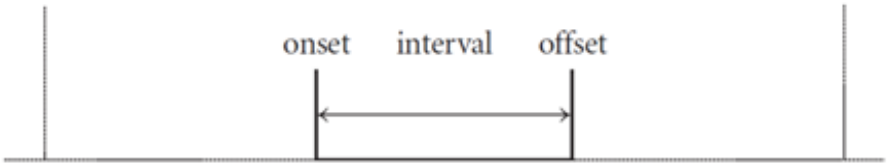

Figure 1. The Duration Sense for time. An interval relating two events, sequentially related to other events. Source: Evans (2004: 108)

Evans (2004: 111) also concludes that the Duration Sense is the prototypical sense due to the fact that "the form *time* is hypothesised to have derived from an earlier form ***tî-mon*, comprised of a reconstructed verb root ***tî*, 'to extend/stretch', and the suffix *-mon*, denoting an abstract entity. (...) the earliest attested meaning associated with the form *time* (the form *tide* was used in Old English) is related to the notion of an interval, and that the etymology of *time* also relates to this notion".

The abstract level mapping TIME IS A SPACE OF A CERTAIN LENGTH is, as it is visible in the corpus-based study, the most productive way of elaborating the Duration Sense in English. Evans proposes journeys as a possible motivation. "We describe journeys in terms of their *length*, which follows as a journey is measured in terms of distance. Distance constitutes an assessment of physical length and thus a quantification of length. A *long* journey constitutes a greater distance, while a *short* journey constitutes a journey of less distance to travel. Crucially, journey length correlates in an extremely tight way with our experience of duration (...) lexical concepts relating to Length come to be metaphorically mapped onto the lexical concept of Duration" (Evans 2004: 114).

Boroditsky (2011: 337) explains that representations of duration also vary across cultures: "English speakers talk about duration more often in terms of linear distance, whereas Greek speakers talk about duration more often in terms of amount". A test was performed on a group of native speakers of both languages, the findings of which "demonstrate that (a) people who talk about time differently also think about it differently, and (b) language not only reflects the structure of our non-linguistic mental representations, it can also shape those representations in fundamental ways that can be observed even in low-level perceptuo-motor tasks".

3.1.2.1. Perceived duration

Evans distinguishes between 'temporal compression' and 'protracted duration' in terms of human perception of temporality relating to duration of events. "Perceptual illusion has been defined as "a perception of a thing which misrepresents it, or gives it qualities not present in reality" and as "distortions or incongruities between percept and reality." Such definitions are often considered as aspects of the psychology of time, as there are states during which time perception does not faithfully represent what is regarded as objective time. This is especially the case for the dimension of event duration" (Zakay 2009: 1270).

The experience of ‘protracted duration’ occurs in “filled” intervals, namely such intervals during which there is a larger number of information to be processed or when a person is exposed to a larger stimulus array. There were numerous reports that time slowed down in life-threatening situations. ‘Protracted duration’ may also occur in cases of few distracting events, i.e. boredom, when the focus of attention shifts to time.

‘Temporal compression’ is experienced in “empty” intervals, namely in such situations which require less attention, such as routine activities. It may also occur when one is too absorbed in an activity and consequently does not pay attention to time. As Einstein (qtd. in Levine 2006: 26) explains “When you sit with a nice girl for two hours, it seems like two minutes; when you sit on a hot stove for two minutes, it seems like two hours. That’s relativity”.

Motion is employed when elaborating these two instances of time illusion. Rapid motion suggests ‘temporal compression’ (*time fly, die Zeit naht eilend heran, die Zeit verstreicht schnell, vrijeme hitati*), whereas slow motion, even the absence of motion suggests ‘protracted duration’ (*usporeno vrijeme, vrijeme teći sporo*), thus this sense may be correlated to the mapping TIME IS SOMETHING MOVING AT A CERTAIN SPEED. Evans (2004: 118) explains these relations: “manner of motion correlates, in experiential terms, with our ability to attend to the details of the entity, or with our ability to perceive an entity’s passage”. Evans (2004: 117) provides following examples for the elaboration of ‘protracted duration’ (3.1) and ‘temporal compression’ (3.2):

(3.1) a. Time *stood still*
b. Time seemed to be *passing/moving slowly*
c. The time *dragged*

(3.2) a. Time *whizzed/zoomed/flew/sailed/raced/dashed along*
b. Time *sneaked/tiptoed by*
c. The time has *vanished/disappeared*

3.1.2.2. “Experienced duration” vs. “remembered duration”

These two types of duration, “experienced” and “remembered” one, are subject to distortions. As it is already mentioned, violent or life-threatening situations have a strong influence on human perception of duration. There was a study which proves that the vast majority of eyewitnesses overestimate how long it took the police to arrive at the scene. Numerous studies report that subjects, without access to sunlight or timepieces, have almost no sense of duration.

Even though Evans argues that the Duration Sense may be the prototypical one, these facts indicate that it is also the most elusive sense in terms of perception.

The following illustration by Virginie van Wassenhove shows how attention and memory play an important role in the perceived flow of time.

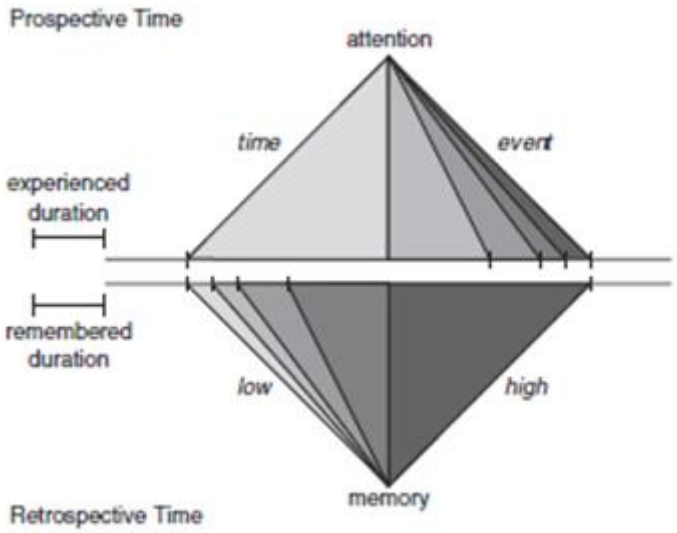

Figure 2. Paradoxical experience of the flow of time. Source: Wittmann (2009: 1323)

“*Notes:* The upper triangle shows how paying more attention to time leads to a subjective slower passage of time and longer time intervals. In retrospect, however, the passage of time seems slower and time intervals appear to be longer when initially (prospectively) more attention was paid to a time period containing a lot of events that we stored in memory” (Wittmann 2009: 1323).

3.1.3. Moment Sense

The Moment Sense "constitutes an event, albeit of a restricted kind, namely the occurrence of a temporal moment" (Evans 2004: 71). It is understood to be "punctual, it can be said to occur (...) [and] the anticipated occurrence of arrival correlates with motion" (Evans 2004: 124). The Moment Sense can be linked to the mapping TIME IS A POINT IN SPACE (*at [a/one/the/that/this…] time, by [the/this/…] time*) and TIME IS SOMETHING MOVING TOWARDS US (*time come*).

Apart from the aforementioned motion, dimensional prepositions are used in English and German to indicate time notions, e.g. duration. Radden (2003: 227) notes that "(...) a moment of time is metaphorized as a zero-dimensional "point in time", duration is described one-dimensionally as having "length" or being "long" or "short", and a period of time is seen either two-dimensionally as a "stretch" (…) or as a "span"".

Table 3. English and German dimensional prepositions of time. Source: Radden (2003: 227)

	English		German	
time notions	dimension	preposition	dimension	preposition
point	0	*at* (this moment)	3	*in* (dem Moment)
duration		*for (*a week)	1	(eine Woche) *lang*
period: days	2	*on* (this day)	1	*an* (diesem Tag)
other units	3	*in* (a week)	3	*in* (einer Woche)

3.1.4. Matrix Sense

The Matrix Sense "prompts for an entity which is unbounded (...) something infinite, eternal and independent of all other events" (Evans 2004: 141). This sense is conceptualized by the mapping TIME IS A LIQUID (*die Zeit fließt, protok vremena*) because it is "characterised by its eternal nature (it continues indefinitely)" (Evans 2004: 147). Evans (2004: 142) provides following examples of the Matrix Sense:

(3.3) a. Time flows/runs/goes on forever
b. Time has no end
c. The unending elapse of time

3.2. Moving Time and Moving Ego

3.2.1. Moving Time

In the Moving Ego metaphor, motion along a time-line towards the future is ascribed to the EGO, whereas in the Moving Time metaphor, time is "conceived as a river or conveyor belt on which events are moving from the future to the past" (Gentner, Imai and Boroditsky 2002: 539).

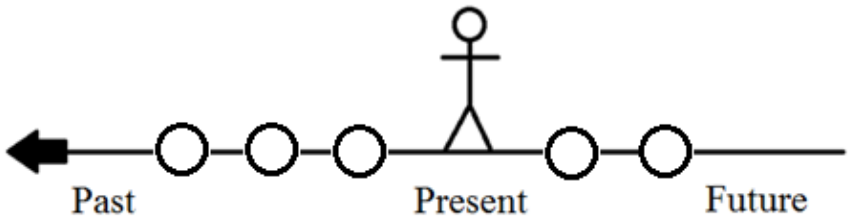

Figure 3. Moving Time metaphor

Moore (2006: 219) proposes experiential motivation for the Moving Time metaphor. He divides the *grounding scenario* into three parts: "a moving entity's approach to EGO, its arrival at EGO'S location, and its continued motion which takes it away from EGO". Moore (2006: 218) defines grounding scenarios as parts of the SOURCE DOMAIN "in which SD and TD concepts correlate saliently with each other". The author uses the term *frame* instead of *domain*; for the sake of a consistent terminology in this thesis, I decided to use the term *domain*.

Table 4. Moving Time metaphor. *Example*: Winter is coming. Source: Moore (2006: 204)

SOURCE DOMAIN RELATIVE MOTION		TARGET DOMAIN EGO-CENTERED TIME
An entity moving toward EGO	→	A time in EGO'S future
EGO'S "here"	→	EGO'S "now"
Arrival of the entity at EGO's location	→	Occurence of a time
Co-location	→	Simultaneity
An entity moving away from EGO	→	A time in EGO'S past
Change in degree of proximity	→	Change in the degree of immediacy of the expected or remembered time

Moore illustrates this grounding scenario with a baseball player who waits for the ball to reach him. The closeness of the ball signifies that the event will soon occur, it occurs at the EGO'S location, thus "here" mapps onto "now". Moore verifies his claim by psychological research with animals and humans, as well as everyday experience (e.g. expecting an arrival). Examples of the Moving Time Metaphor include:

(3.4) a. The deadline is *approaching*
b. Christmas is *coming up* on us
c. Time *flies/drags/flows on*
d. The summer has just *zoomed by* (Evans 2004: 61)

3.2.2. Moving Ego

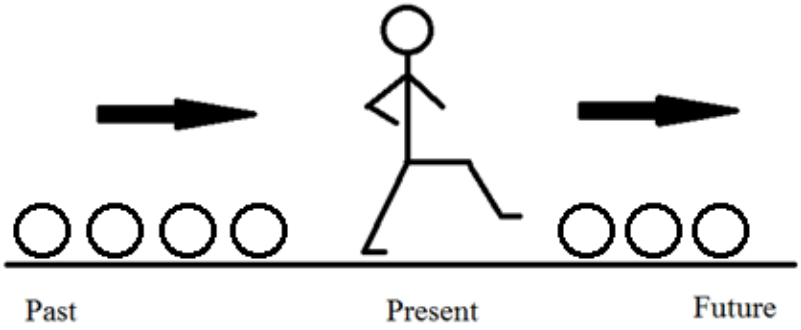

Figure 4. Moving Ego metaphor

Table 5. Moving Ego Metaphor. *Example*: When we get a little farther down the road, we can set up a time to meet. Source: Moore (2006: 202)

SOURCE DOMAIN RELATIVE MOTION		TARGET DOMAIN EGO-CENTERED TIME
Space ahead of EGO	→	EGO'S future
EGO'S "here"	→	EGO'S "now"
EGO'S arrival at a place	→	Occurrence of a time
Co-location	→	Simultaneity
Space behind EGO	→	EGO'S past
Change in degree of proximity	→	change in degree of immediacy of the expected or remembered time

The construal of the EGO as agentive and assuming motion over a temporal landscape is motivated by the EGO'S anticipated arrival at a location and the correlation of the arrival with a future event. As Evans (2004: 219) explains "being agentive and hence responsible, to a large extent, for the occurrence of a particular event, the active-determinative principle ascribes motion to the EGO" (e.g. referees signalling the time at a sports match).

Examples of the Moving Ego metaphor include:

(3.5) a. We've *reached* June
b. We're *coming up* on Christmas
c. We're *getting close* to Christmas (Evans 2004: 61)

3.2.3. Sequence is a relative position on a path

Moving Ego and Moving Time are the two most prominent metaphors used to sequence events in time. Moore (2006: 200) argues that a third type, namely SEQUENCE IS A RELATIVE POSITION ON A PATH, "has been largely overlooked". In contrast with Moving Time and Moving Ego, this metaphor is perspective neutral (it does not depend on the EGO'S perspective).

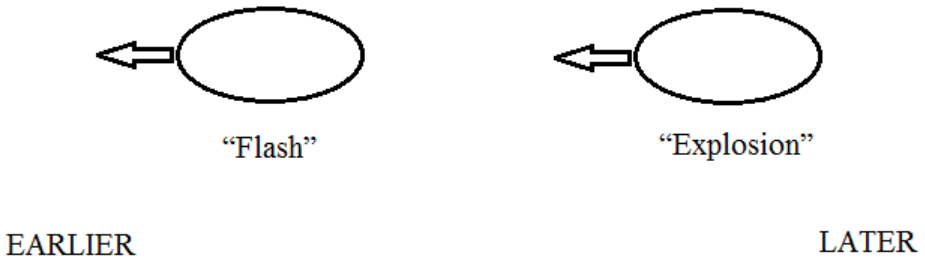

Figure 5. SEQUENCE IS A RELATIVE POSITION ON A PATH. *Example*: An explosion followed the flash. (The concepts EARLIER and LATER are independent of the concepts PAST and FUTURE). Source: Moore (2006: 206)

Moore explains that the grounding scenario for such a metaphor may be illustrated by two entities using the same path and heading for the same goal. Two competitors in a race may be used to illustrate this, their order of arrival as well as the IN FRONT or BEHIND position will be noticed, thus IN FRONT OF maps onto EARLIER THAN.

Table 6. SEQUENCE IS A RELATIVE POSITION ON A PATH. *Example*: An announcement followed dinner. Source: Moore (2006: 206)

SOURCE DOMAIN ORDERED MOTION		TARGET DOMAIN SUCCESSION
Moving entities at different points on a (one-dimensional) path	→	Times in sequence
An entity that is ahead of another entity	→	A time that is earlier than another time
An entity that is behind another entity	→	A time that is later than another time

All three event sequencing metaphors also exist in German and Croatian, as it is visible from the following examples:

(3.6) MOVING TIME

a. *im Laufe* der Zeit
b. die Zeit *anhalten*
c. die Zeit *rennt*
d. *stiže/dolazi* zima
e. *zaustaviti* vrijeme
f. vrijeme *prolazi*

MOVING EGO

g. wir *nähern* uns dem Moment
h. Wir erblicken den *Horizont* der Zeit
i. Wir *kommen* aus der Vergangenheit
j. *bližimo* se trenutku
k. *kretanje/putovanje* kroz vrijeme
l. *prolaziti* kroz (...) razdoblje

SEQUENCE IS A RELATIVE POSITION ON A PATH

m. der Explosion folgte ein Lichtblitz
n. nakon eksplozije uslijedilo je (jako) svjetlo

3.3. Position of times relative to the observer

Radden (2003: 230) notes that "the EGO occupies a prominent role as the temporal reference point". In English, the Past is considered to be located behind the EGO and the Future in front. It is visible in the mapping FUTURE IS FORWARD (*X look forward to the next time*). It is also visible in German (*wir haben eine große Zukunft* ***vor uns***) and Croatian (***pred nama*** *je svijetla budućnost*). Evans (2004: 193) explains: "(...) human sensory organs such as eyes are located on the front part of the body (...) the experiencer must rely on visual information previously obtained, and stored in memory, regarding the environment located behind. As with the Future, this correlation is independent of motion; we tend to face away from objects when we have completed working on them, such that they are located behind us (...) concepts which pertain to the past (relative to an experiencer), are elaborated in terms of conceptual content derived from the region behind the experiencer". Radden (2004: 228) points out that "the preference for the longitudinal axis may be due to our spatial experience of motion, which is almost invariably directed to the front". These positions of the Past and Future were believed to be a cross-linguistic universal, because such conceptualizations were found in unrelated languages.

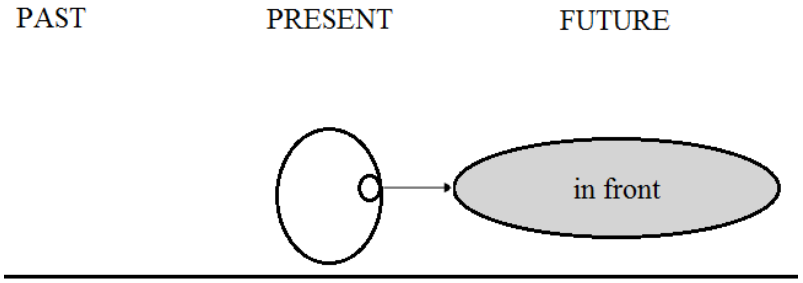

Figure 6. The future is in front of the observer. *Example*: I can't face the future. Source: Radden (2011: 15)

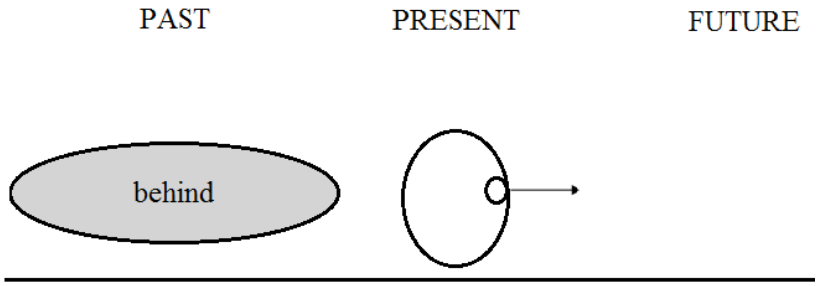

Figure 7. The past is behind the observer. *Example*: The worst is behind us. Source: Radden (2011: 15)

An exception to such a "universal" is the Aymara language "spoken in the Andean region of Peru, Chile and Bolivia" (Evans 2004: 194). In this language, the Past is in front and the Future behind the EGO. A possible explanation would be that the Aymara culture places a great deal of value on previously attested information (as in the metaphor KNOWING IS SEEING), thus the previously experienced or seen is placed in front of the EGO and the unknown behind.

In English, time may also be conceptualized as motion along a vertical axis (past is up, present is down), as it is visible from the following examples:

(3.7) a. These stories have been passed *down* from generation o generation.
b. This tradition has lasted *down* to the present day. (Radden 2004: 228)

Radden also states that there is a different model for future, i.e. future is down and comes up to the observer's present (a.), from which it may go down into the past (b.):

(3.8) a. The new year is coming *up*
b. This year went *down* in family history (Radden 2004: 228)

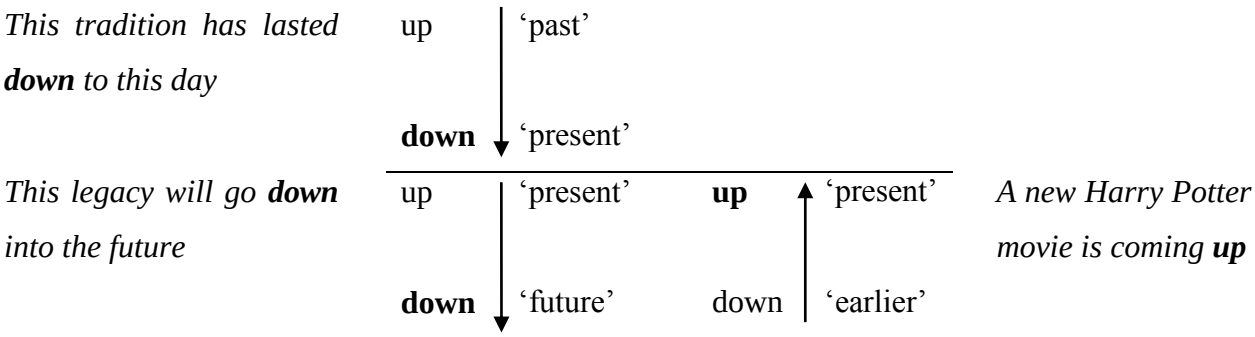

Figure 8. Vertical time in English. Source: Radden (2011: 9)

Examples of the TIME IS VERTICAL metaphor were found in the English and German samples (*high time, come up to (...) time, time rise; höchste Zeit, die hohe Zeit*).

4. Time metaphors in English, German and Croatian – a corpus-based study

4.1. Metaphorical pattern analysis (MPA)

"Corpus-based methods have established themselves as the major empirical paradigm" (Stefanowitsch 2006: 1). Such methods have not been applied in the research on metaphor and metonymy until recently. The collection of essays edited by Stefanowitsch and Gries *Corpus-Based Approaches to Metaphor and Metonymy* proves that the situation is changing.

Several methods for extracting linguistic expressions manifesting conceptual mappings have been proposed (Stefanowitsch 2006: 2):

1. Manual searching (the researcher carefully reads through the corpus extracting all metaphors s/he comes across);
2. Searching for SOURCE DOMAIN vocabulary (the researcher searches for lexical items from this domain, then s/he identifies the TARGET DOMAINS in which these items occur and the mappings in which they participate);
3. Searching for TARGET DOMAIN vocabulary (this procedure identifies only a subset of metaphorical expressions, because the research is focused on TARGET DOMAIN concepts, namely *metaphorical patterns*);
4. Searching for sentences containing lexical items from both the SOURCE DOMAIN and TARGET DOMAIN (combination of procedures 2. and 3. – the researcher searches for sentences containing both SOURCE and TARGET DOMAIN vocabulary);
5. Searching for metaphors based on 'markers of metaphor' (linguistic devices that may signal the presence of a metaphor, e.g. quotation marks or expressions like *metaphorically/figuratively speaking*).

According to Stefanowitsch (2006: 65), two types of metaphorical expressions may be distinguished: (1) those that contain target domain items and (2) those that do not. For example: "(1) ARGUMENT IS WAR (*SD* WAR, *TD* ARGUMENT) *he shot down all of my arguments*, (2) LOVE IS WAR (*SD* WAR, *TD* LOVE) *he is slowly gaining ground with her*" (Stefanowitsch 2006: 65).

Stefanowitsch (2006: 66) defines *metaphorical patterns* [example (1)] as "a multi-word expression from a given SOURCE DOMAIN into which one or more specific lexical item from a given TARGET DOMAIN have been inserted, [they] provide a basis for TARGET DOMAIN oriented studies on the basis of corpus data". Stefanowitsch refers to the process of extracting occurrences of TARGET DOMAIN items and identifying metaphorical patterns as *metaphorical pattern analysis* (MPA). MPA is used in this thesis and it proved itself to be useful for the purpose of a contrastive analysis of time metaphors in English, German and Croatian.

Even though metaphorical pattern analysis captures only a subset of metaphorical expressions, Stefanowitsch (2006: 66) provides arguments, which prove that MPA has nonetheless far more advantages:

1. MPA allows us to quantify the importance of any given metaphorical pattern for particular (sets of) lexical items, [as well as] make generalizations concerning the importance of the conceptual metaphors underlying these patterns;
2. [MPA enables us to see specific level mappings along with abstract level mappings, because] metaphorical patterns establish specific paradigmatic relations between TARGET DOMAIN lexical items and the SOURCE DOMAIN items that would be expected in their place in a non-metaphorical use (as opposed to metaphorical expressions that do not constitute metaphorical patterns);
3. Metaphorical patterns may have different degrees of conventionality – there are cases where a TARGET DOMAIN item is much more likely to occur than SOURCE DOMAIN items;
4. There may be more than two domains (and thus, more than one metaphor) involved in a metaphorical pattern;
5. MPA provides us with a standard of comparison for cross-linguistic research (...), since MPA focuses on individual lexical items from a given target domain (time, *Zeit*, *vrijeme*).

4.2. On the corpora

Three corpora have been used for this thesis. For English and Croatian time metaphors, the results of a corpus-based study conducted by Omazić and Schmidt were used. In their research, Omazić and Schmidt used the BNC (British National Corpus) and the HNK (Hrvatski nacionalni korpus).

"The British National Corpus (BNC) is a 100 million word collection of samples of written and spoken language from a wide range of sources, designed to represent a wide cross-section of British English from the later part of the 20th century, both spoken and written.

The written part of the BNC (90%) includes, for example, extracts from regional and national newspapers, specialist periodicals and journals for all ages and interests, academic books and popular fiction, published and unpublished letters and memoranda, school and university essays, among many other kinds of text. The spoken part (10%) consists of orthographic transcriptions of unscripted informal conversations and spoken language collected in different contexts, ranging from formal business or government meetings to radio shows and phone-ins.[1]"

Hrvatski nacionalni korpus (HNK) is a collection of selected texts covering a wide range of sources (literary and scientific texts, newspaper, etc.). It is of the same size as the British National Corpus (approx. 100 million words)[2].

In order to produce consistent results, I had to find a corpus of the same size. For German time metaphors I have compiled a rather small corpus using DWDS (Digitales Wörterbuch der deutschen Sprache des 20. Jahrhunderts) – more specifically the DWDS-Kernkorpus.

The DWDS-Kernkorpus is a collection of 100 million words. It is comprised of five kinds of texts: fiction (27%), journalistic texts (26%), scientific texts (22%), functional texts (20%) and transcripts of spoken German (5%)[3].

[1] British National Corpus. Web.
[2] Hrvatski nacionalni korpus. Web.
[3] DWDS-Kernkorpus. Web.

4.3. Methodology

The same methodology was followed for the German corpus as was for the English and Croatian. This methodology was proposed by Stefanowitsch (2006: 64):

1. Choose a lexical item referring to the TD under investigation and extract (a sample of) its occurrences in the corpus;
2. Identify all metaphorical patterns that the search word is part of and group them into general mappings;
3. Quantify the frequency of occurrence of metaphorical mappings;
4. Compare the results for the two languages.

The results for each language are presented in two tables. Tables 7a – 11a show all the metaphorical patterns found in the samples, tables 7b – 11b show their frequency of occurrence. In tables 7b – 11b, the percentage is for all three languages less than 100, because not all specific level mappings could be grouped into the three abstract level mappings (TIME IS SPACE, TIME IS A SUBSTANCE, and TIME IS SOMETHING MOVING).

Two sets of results are presented for English and Croatian. The results for English and Croatian were taken from Omazić and Schmidt (2011); therefore I have compiled an additional corpus for each language in order to investigate whether the results vary significantly if another sample is subject of research. The results for this corpus are presented in tables 8a, 8b (English) and 11a, 11b (Croatian). The results of these analyses are given in curly brackets throughout the text.

All three languages seem to exhibit the same three abstract level mappings: TIME IS SPACE, TIME IS A SUBSTANCE and TIME IS SOMETHING MOVING. TIME IS SPACE prevails in all three languages, namely 53.84% {57.36%} in English, 48.15% in German and 50.45% {46.9%} in Croatian. The specific mapping within the more general mapping TIME IS SPACE, namely TIME IS A POINT IN SPACE is the most frequent in English (40.7%) {37.3%} and German (19.73%), in contrast with Croatian, in which TIME IS A BOUNDED SPACE/CONTAINER prevails, covering 32.37% {29.49%} of the sample.

Even though these three samples of 500 occurrences of the lexemes *time*, *Zeit* and *vrijeme* constitute less than 1% of the search results in all three languages, they seem to be indicative nonetheless. As expected, TIME IS SPACE was the predominant abstract level mapping in all three languages, followed by TIME IS A SUBSTANCE and TIME IS SOMETHING MOVING. The additional corpora for English and Croatian prove that the frequency of occurrence of abstract level mappings does not vary according to different samples. Specific level mappings exhibited some differences. Some specific level mappings were found only in one corpus, which proves that the absence of a specific level mapping in a sample is in no way to be interpreted as non-existent in general, it may only occur less frequently.

4.3. The results

4.3.1. English time metaphors

Table 7a. Metaphorical patterns manifesting time metaphors identified via metaphorical pattern analysis. Source: Omazić and Schmidt (2011: 238)

TIME IS	N
A BOUNDED SPACE/CONTAINER	27
in time, in […] time, in (…) time (of), within […] time, X place themselves in time, in […] short space of time, full time	
SPACE OF A CERTAIN LENGTH	14
length of time, a (…) long time, a short time, time be extended, over […] time	
A POINT IN SPACE	127
at [a/one/the/that/this…] time, about (…) time, by [the/this/…] time, from that time on, from time to time, from the time […] to the time […], X come to an end of time	
A SUBSTANCE	1
the time contained in an event	
A WHOLE THAT CAN BE DIVIDED INTO PARTS	3
fraction of time, half (the) time	
SOMETHING THAT CAN BE QUANTIFIED	30
amount of time, plenty of time, some time, all (the/this) time, less time, a lot of the time, most of the time, time scale	
AN OBJECT	3
big time, the immensity of […] time, time warp	
SOMETHING THAT CAN BE POSSESSED	22
his/our/their/X's time, have (got) (the) time, spend […] time	
MONEY	11
spend […] time	
A LIMITED RESOURCE	39
waste (…) time, allow time, X run out of time, time run out, X find time, X get the time, (X) give (Y) (…) time, X devote time (…) to, X's spare time, X allot time for, X's gifts of time, the time allocated, X take time, Y take (up) (X) […] time, the time taken, time	

saver, X leave […] time, use X's […] time profitably	
A THING FOR WHICH THERE IS A NEED	11
the requisite time, need for […] time, X need (…) time, time pressure, time […] be a valuable commodity, time constraints, be time enough, there be […] time, X want […] time […]	
SOMETHING HAVING CONTROL OVER US	1
time permit	
SOMETHING WE CAN CONTROL	1
time controller	
A STRUCTURED THING	1
X structure X's time	
A MOVING/FLYING OBJECT	1
time fly	
SOMETHING MOVING TOWARDS US	9
time come, time pass, passage of time, X pass […] time	
SOMETHING MOVING ALONG A ROUTE	1
course of time	
SOMETHING MOVING AND BRINGING CHANGES	2
changes with time, improve with time	
A CIRCLE	1
circles of time	
OUR OPPONENT IN A RACE	3
race against time, time push, time lags	
FUTURE IS FORWARD	1
X look forward to the next time	
TIME IS VERTICAL	1
high time	
A FRUIT	2
time seem/be ripe	
TOTAL	312

Table 7b. The main metaphorical mappings with the target domain TIME. Source: Omazić and Schmidt (2011: 240)

TIME IS SPACE	**53.84%**
TIME IS A POINT IN SPACE **40.7%**	
TIME IS A SPACE OF A CERTAIN LENGTH	
TIME IS A BOUNDED SPACE/CONTAINER	
TIME IS A SUBSTANCE	**39.42%**
TIME IS A WHOLE THAT CAN BE DIVIDED INTO PARTS	
TIME IS SOMETHING THAT CAN BE QUANTIFIED	
TIME IS AN OBJECT	
TIME IS SOMETHING THAT CAN BE POSSESSED	
TIME IS MONEY	
TIME IS A LIMITED RESOURCE	
TIME IS A THING FOR WHICH THERE IS A NEED	
TIME IS SOMETHING MOVING	**4.48%**
TIME IS A MOVING/FLYING OBJECT	
TIME IS SOMETHING MOVING TOWARDS US	
TIME IS SOMETHING MOVING ALONG A ROUTE	
TIME IS SOMETHING MOVING AND BRINGING CHANGES	
TOTAL	**97.74%**

In their English sample, Omazić and Schmidt found 312 metaphorical uses (62.4% of the sample). The results show that in English, the most frequent abstract level mapping is TIME IS SPACE (53.84%) and TIME IS A POINT IN SPACE dominates among the specific mappings (40.7%). The results are in no way surprising – it is already mentioned in this paper that the most prominent way of conceptualizing such an abstract concept as time is by means of a concrete one, that is, space.

TIME IS A SUBSTANCE is the second abstract level mapping (39.42%), Omazić and Schmidt (2011: 240) explain that "in order to measure time, we need to think of it as if it were a substance, something solid. This in turn allows us to think of time as a possession, something we can own, need or lack". TIME IS A LIMITED RESOURCE is the most frequent specific level mapping, followed by TIME IS SOMETHING THAT CAN BE QUANTIFIED. The notion that time is a (valuable) resource and money originates in Western cultures, it spread to other cultures due to globalization.

TIME IS SOMETHING MOVING covers 4.48% of the sample, with TIME IS SOMETHING MOVING TOWARDS US as the most frequent specific level mapping.

Table 8a. Metaphorical patterns manifesting time metaphors identified via metaphorical pattern analysis.

TIME IS	N
A BOUNDED SPACE/CONTAINER	29
in time, in […] time, in (…) time (of), into time, full time	
SPACE OF A CERTAIN LENGTH	26
a (…) long time, a short time, over […] time	
A POINT IN SPACE	119
at [a/one/the/that/this…] time, around (…) time, by [the/this/…] time, from that time on, from time to time, end of time	
SPACE WE ARE MOVING THROUGH	1
step back in time	
SURFACE	8
on time, time covered	
A SUBSTANCE	1
measure time	
A WHOLE THAT CAN BE DIVIDED INTO PARTS	3
half (the) time, part of time, whole time	
SOMETHING THAT CAN BE QUANTIFIED	24
amount of time, some time, all (the/this) time, percentage of time	
AN OBJECT	1
considerable time	
SOMETHING THAT CAN BE POSSESSED	20
X's time, have (got) (the) time	
MONEY	17
spend […] time, save time, lend time	
A LIMITED RESOURCE	37
waste (…) time, allow time, X find time, (X) give (Y) (…) time, X devote time (…) to, X's spare time, X allot time for, the time allocated, X take time, Y take (up) (X) […] time, the time taken, X leave […] time, time use, buy time, available time, loss of time, time is finite, considerable resources of time, extra time	
A THING FOR WHICH THERE IS A NEED	4

time enabling X to do Y, time (needed) for, X have time to do Y, demands on X's time	
SOMETHING HAVING CONTROL OVER US	1
time permit	
SOMETHING WE CAN CONTROL	4
X pick time, limit time	
A MOVING/FLYING OBJECT	1
time fly	
SOMETHING MOVING TOWARDS US	12
time come, time pass, passage of time, time go on, time approach	
SOMETHING MOVING AT A CERTAIN SPEED	2
time pass slowly, fastest time	
A CIRCLE	1
spin time	
A LIVING BEING	3
mad time, sad time, in honour of (...) time	
SOMETHING THAT HAS THE ANSWERS	1
time show	
TIME IS VERTICAL	1
high time	
A FRUIT	1
time seem ripe	
TOTAL	319

Table 8b. The main metaphorical mappings with the target domain TIME.

TIME IS SPACE	**57.36%**
TIME IS A POINT IN SPACE **37.3%**	
TIME IS SPACE OF A CERTAIN LENGTH	
TIME IS A BOUNDED SPACE/CONTAINER	
TIME IS SPACE WE ARE MOVING THROUGH	
TIME IS A SURFACE	
TIME IS A SUBSTANCE	**35.1%**
TIME IS A WHOLE THAT CAN BE DIVIDED INTO PARTS	
TIME IS SOMETHING THAT CAN BE QUANTIFIED	
TIME IS AN OBJECT	
TIME IS SOMETHING THAT CAN BE POSSESSED	
TIME IS MONEY	
TIME IS A LIMITED RESOURCE	
TIME IS A THING FOR WHICH THERE IS A NEED	
TIME IS SOMETHING MOVING	**5%**
TIME IS A MOVING/FLYING OBJECT	
TIME IS SOMETHING MOVING TOWARDS US	
TIME IS SOMETHING MOVING AT A CERTAIN SPEED	
TOTAL	**97.46%**

I have compiled a second corpus for English (Table 8a, Table 8b) in order to prove that even a small sample may be indicative. I have used BNC (British National Corpus), which is available online (provided by Mark Davies at BYU). The search for the lexeme *time* returned 150,232 results. Five hundred random hits were used for this sample (= 0.332% of all results).

In this sample there were 319 metaphorical uses (= 63.8% of the sample). The frequency of occurrence of abstract level mappings does not differ significantly from the results presented in Table 7b. The abstract level mapping TIME IS SPACE covers 57.36% of the sample (53.84% in the first sample), followed by TIME IS A SUBSTANCE covering 35.1% (39.42% in the first sample) and TIME IS SOMETHING MOVING covering 5% (4.48% in the first sample). This proves that even small samples may be indicative. TIME IS A POINT IN SPACE is the most frequent specific level mapping within the abstract level mapping TIME IS SPACE, covering 37.3% (40.7% in the first English sample).

There are differences between specific level mappings. Some of the specific level mappings found in this sample were not found in the first sample and vice versa. Specific level mappings found only in the second English sample include: TIME IS SPACE WE ARE MOVING THROUGH, TIME IS A SURFACE, TIME IS A LIVING BEING, TIME IS SOMETHING MOVING AT A CERTAIN SPEED and TIME IS SOMETHING THAT HAS THE ANSWERS. Specific level mappings found only in the first English sample include: TIME IS A STRUCTURED THING, TIME IS SOMETHING MOVING ALONG A ROUTE, TIME IS SOMETHING MOVING AND BRINGING CHANGES, TIME IS OUR OPPONENT IN A RACE and FUTURE IS FORWARD.

Such differences were expected, as Omazić and Schmidt (2011: 238) explain "by selecting a larger sample we would get more mappings, but the underlying conceptual metaphors would probably be the same".

4.3.2. German time metaphors

Table 9a. Metaphorical patterns manifesting *Zeit* (time) metaphors identified via metaphorical pattern analysis.

DIE ZEIT IST (TIME IS)	N
EIN BEGRENZTER RAUM/BEHÄLTER (A BOUNDED SPACE/CONTAINER)	47
in (…) Zeit, aus (…) Zeit, innerhalb (…) Zeit, binnen (…) Zeit, begrenzte Zeit, weit über (…) Zeit hinaus[leben/schießen]	
EIN RAUM VON BESTIMMTER LÄNGE (SPACE OF A CERTAIN LENGTH)	52
kurze/lange Zeit, in kürzester/langer Zeit, Länge der Zeit, seit langer Zeit, vor langer Zeit, nach kurzer/längerer Zeit, für eine /kurze/lange/lägere Zeit, umfasst eine kurze Zeit, die Zeit verkürzte sich, kurze Zeit später, [nach/seit/vor] geraumer Zeit	
EIN RAUM IN DEM WIR UNS BEWEGEN (SPACE WE ARE MOVING THROUGH)	3
die (…) Zeit hindurch, durch die Zeit rauschen, durch die Zeit fallen	
EIN PUNKT IM RAUM (A POINT IN SPACE)	75
zu (…) Zeit, zur (…) Zeit, Zeit von X bis Y, um [diese/die gleiche] Zeit, in der Zeit zwischen X und Y, am Ende dieser Zeit, in der Zeit um (…)	
EINE FLÄCHE (A SURFACE)	6
an der Zeit, auf dem Niveau der Zeit [stehen]	
ETWAS, WAS WIR DURCH DEN RAUM FÜHREN (SOMETHING WE ARE LEADING THROUGH SPACE)	7
die Zeit verbringen, die verbrachte Zeit, mit der Zeit gehen	
ETWAS, WAS SICH UNS ENTGEGENBEWEGT (SOMETHING MOVING TOWARDS US)	7
die Zeit ist gekommen, vergangene Zeit, kommende Zeit, Zeit versäumen	
ETWAS, WAS SICH MIT EINER BESTIMMTEN GESCHWINDIGKEIT BEWEGT (SOMETHING MOVING AT A CERTAIN SPEED)	2
die Zeit naht eilend heran, die Zeit verstreicht schnell	
ETWAS, WAS SICH BEWEGT UND ÄNDERUNGEN BEWIRKT (SOMETHING MOVING AND BRINGING CHANGES)	10
im Laufe der Zeit, mit der Zeit	
UNSER GEGNER IM WETTRENNEN (OUR OPPONENT IN A RACE)	4
vor der Zeit, (…) Zeit voraus, (…) Zeit weit vorausseilend, weit zurückliegende Zeit	

ETWAS, WAS SICH IN EINER BESTIMMTEN RICHTUNG BEWEGT (VON DER VERGANGENHEIT IN DIE ZUKUNFT)/SOMETHING MOVING IN A CERTAIN DIRECTION (PAST TO FUTURE)	14
in letzter Zeit	
KREIS (A CIRCLE)	1
Rad der Zeit	
EINE FLÜSSIGKEIT (A LIQUID)	5
die Zeit war abgelaufen, die Fließrichtung der Zeit, das Fließen der Zeit, die Zeit fließt, Meer der Zeit	
EINE SUBSTANZ (A SUBSTANCE)	4
die Zeit wird konserviert, sich mit Zeit füllen, die Zeit verdichtet sich, Zeit ist Stoff	
ETWAS, WAS IN TEILE GETEILT WERDEN KANN (A WHOLE THAT CAN BE DIVIDED INTO PARTS)	19
die ganze Zeit, die meiste Zeit, großer Teil (...) Zeit, die Zeit gliedert sich in (...)	
ETWAS, DAS QUANTIFIZIERT WERDEN KANN (SOMETHING THAT CAN BE QUANTIFIED)	20
einige Zeit, unendlich viel Zeit, nach all der Zeit	
EIN OBJEKT (AN OBJECT)	3
verlorene/wiedergefundene Zeit, die große Zeit	
EINE (BEGRENZTE) RESSOURCE/A (LIMITED) RESOURCE	7
Restriktion der Zeit, Zeit stehlen, Zeit sinvoll nutzen, Zeit nehmen, Zeit nutzbringend aufwenden, Kampf um die Zeit	
EIN KOSTBARES GUT (A VALUABLE COMMODITY)	3
wertvolle Zeit, kostbare Zeit	
GELD (MONEY)	4
Zeit verschwenden, kostet (...) Zeit, gesparte Zeit, Zeit sparen	
ETWAS, WONACH BEDÜRFNIS BESTEHT (A THING FOR WHICH THERE IS A NEED)	4
brauchte mehr Zeit, mindestens erforderliche Zeit, mehr Zeit als absolut notwendig	
ETWAS, WAS MAN IM BESITZ HABEN KANN (SOMETHING THAT CAN BE POSSESSED)	47
Zeit haben, jemandes Zeit, Zeit von X, Zeit des X, Xs Zeit, eigene Zeit	
ETWAS, WAS WIR KONTROLIEREN KÖNNEN (SOMETHING WE CAN CONTROL)	8
Planung der Zeit, die Zeit reglementieren, Zeit lassen, Umgang mit der Zeit, die Zeit beherrschen, die Zeit ordnen	
EINE FRUCHT (A FRUIT)	1
die Zeit ist reif	

EIN FAHRZEUG (A VEHICLE)	3
in den Zug der Zeit einsteigen, Ausstieg aus der Zeit	
AUSRÜSTUNG (ARMAMENT)	1
Zeit ist Ausrüstung	
EIN LEBEWESEN (A LIVING BEING)	18
Zahn der Zeit, die alte Zeit, Puls der Zeit, in jüngster Zeit, Gedächtnis der Zeit, glückliche Zeit, die Zeit nimmt keine Rücksicht, Kinder ihrer Zeit, die Zeit tot schlagen, Unerbittlichkiet der Zeit, die Zeit vertreiben	
DIE ZEIT IST SENKRECHT (TIME IS VERTICAL)	3
höchste Zeit, die hohe Zeit	
GEFANGENSCHAFT (CONFINEMENT)	3
von dieser schweren Zeit erlöst, aus der Zeit gespannt sein, aus der Zeit auszubrechen	
TOTAL	380

Table 9b. The main metaphorical mappings with the target domain ZEIT (time).

ZEIT IST RAUM (TIME IS SPACE)	**48.15%**
TIME IS A POINT IN SPACE **19.73%**	
TIME IS A BOUNDED SPACE/CONTAINER 12.36%	
TIME IS SPACE OF A CERTAIN LENGTH 13.68%	
TIME IS SPACE WE ARE MOVING THROUGH	
ZEIT IST EINE SUBSTANZ (TIME IS A SUBSTANCE)	**33.15%**
TIME IS A WHOLE THAT CAN BE DIVIDED INTO PARTS	
TIME IS SOMETHING THAT CAN BE QUANTIFIED	
TIME IS AN OBJECT	
TIME IS A LIMITED RESOURCE	
TIME IS MONEY	
TIME IS A THING FOR WHICH THERE IS A NEED	
ZEIT IST ETWAS, WAS SICH BEWEGT (TIME IS SOMETHING MOVING)	**11.57%**
TIME IS SOMETHING MOVING TOWARDS US	
TIME IS SOMETHING MOVING AT A CERTAIN SPEED	
TIME IS SOMETHING MOVING AND BRINGING CHANGES	
TIME IS SOMETHING MOVING IN A CERTAIN DIRECTION	
TOTAL	**92.89%**

The lexeme *Zeit* was taken as representative for the whole domain. This was the only form used in the corpus search. The difference between the German and Croatian lexeme is that in German it has only two forms, *(die/der/der/die) Zeit* in singular and *(die/der/den/die) Zeiten* for plural. The latter was omitted because the aforementioned authors decided to look for singular only.

The search in DWDS-Kernkorpus returned 76,906 results. Five hundred random hits (= 0.65% of all solutions) were taken into consideration. The hardest part was to eliminate non-metaphorical uses from the corpus and to group the relevant results into underlying conceptual metaphors.

I have found 380 metaphorical uses in the German corpus (76% of the sample), which is a more representative sample than the English (62.4%) {63.8%} and Croatian (70.1%) {71.36%} samples. The abstract level mapping TIME IS SPACE dominates with 48.15%. The specific level mapping TIME IS A POINT IN SPACE covers 19.73%, followed by TIME IS A SPACE OF A CERTAIN LENGTH (13.68%) and TIME IS A BOUNDED SPACE/CONTAINER (12.36%).

TIME IS A SUBSTANCE covers 33.15% and it is the second abstract level mapping according to its frequency. TIME IS SOMETHING THAT CAN BE POSSESSED is the most frequent specific level mapping, followed by TIME IS SOMETHING THAT CAN BE QUANTIFIED.

TIME IS SOMETHING MOVING covers 11.57% of the metaphorical uses of *Zeit* (time) in the German sample. This comes as a surprise, because motion also implies space. As it is already mentioned, motion is employed in conceptualizing various aspects of the concept of time, such as duration (which is also elaborated in terms of physical length).

TIME IS SOMETHING MOVING IN A CERTAIN DIRECTION is the most frequent specific level mapping, which suggests that time is an arrow, or that its movement is unidirectional. However, one example of the circularity of time was also found.

4.3.3. Croatian time metaphors

Table 10a. Metaphorical patterns manifesting *vrijeme* (time) metaphors identified via metaphorical pattern analysis. Source: Omazić and Schmidt (2011: 242)

VRIJEME JE (TIME IS)	N
OMEĐEN PROSTOR/SPREMNIK (A BOUNDED SPACE/CONTAINER)	109
puno radno vrijeme, u (…) vrijeme, unutar […] vremena, izvan […] vremena, iz (…) vremena	
PROSTOR ODREĐENE DULJINE (SPACE OF CERTAIN LENGTH)	25
kratko/kraće/najkraće vrijeme, skraćeno radno vrijeme, dugo/dulje/najduže vrijeme, produljiti/produžiti vrijeme	
PROSTOR KROZ KOJI SE KREĆEMO (SPACE WE ARE MOVING THORUGH)	5
kroz (to) vrijeme	
PLOHA (A SURFACE)	26
na vrijeme, na (ne)određeno vrijeme, „bulevar vremena“	
TOČKA U PROSTORU	3
od (toga) vremena	
NEŠTO ŠTO SE KREĆE PREMA NAMA I PROLAZI PORED NAS I ODMIČE OD NAS (SOMETHING MOVING TOWARDS US AND COMING TO US AND PASSING US)	15
vrijeme doći/dolaziti, vrijeme (…) proći, vrijeme odmicati	
NEŠTO ŠTO SE KREĆE ODREĐENOM BRZINOM (SOMETHING MOVING AT A CERTAIN SPEED)	1
usporeno vrijeme	
NEŠTO ŠTO SE KREĆE I SA SOBOM DONOSI PROMJENE (SOMETHING MOVING AND BRINGING CHANGES)	8
s vremenom (X) postati/se dogoditi/biti bolje/izabrati, vrijeme donositi PROMJENA	
TEKUĆINA (A LIQUID)	5
vrijeme proteći, istek (…) vremena, protok vremena	
NEŠTO ŠTO MI VODIMO KROZ PROSTOR (SOMETHING WE ARE LEADING THROUGH SPACE)	7
X provesti/provoditi vrijeme	
NEŠTO ŠTO SE KREĆE USMJERENO (OD PROŠLOSTI PREMA BUDUĆNOSTI)/SOMETHING MOVING IN A CERTAIN DIRECTION (PAST TO FUTURE)	23
u prvo vrijeme, u posljednje/zadnje vrijeme	

KRUG (A CIRCLE) *vrijeme biti zaokruženo*	1
SUPSTANCA (A SUBSTANCE) *„prljavo" vrijeme*	1
CJELINA KOJA SE MOŽE DIJELITI (A WHOLE THAT CAN BE DIVIDED INTO PARTS) *cijelo (to) vrijeme, čitavo vrijeme, veći dio vremena*	9
NEŠTO ŠTO SE MOŽE KVANTIFICIRATI (SOMETHING THAT CAN BE QUANTIFIED) *neko vrijeme, nešto vremena, određeno vrijeme, jedno vrijeme, manje vremena, sve/svo (ovo) vrijeme, N posto vremena*	31
PREDMET (AN OBJECT) *vrijeme se stavlja pod povećalo*	1
NEŠTO ŠTO SE MOŽE POSJEDOVATI (SOMETHING THAT CAN BE POSSESSED) *njegovo/naše/svoje/X-ovo vrijeme, X imati (dovoljno/puno/...) vremena*	16
(OGRANIČEN) RESURS/ A (LIMITED) RESOURCE *imati (...) vremena, vrijeme dopušteno, X iskoristiti (ovo) vrijeme, X uzeti puno vremena, preostalo vrijeme, izgubljeno vrijeme, X gubiti vrijeme, X dati (neko) vrijeme Y-u, X kupiti vrijeme, kupnja vremena, uštediti vrijeme, Y stajati vremena, preraspodijeliti vrijeme*	22
NEŠTO ZA ČIM POSTOJI POTREBA (A THING FOR WHICH THERE IS A NEED) *X-u biti potrebno vrijeme, trebati (...) vremena, vrijeme potrebno za, (...) vrijeme biti nužno, nedostatak vremena, X zahtijeva vrijeme*	12
NOVAC (MONEY) *X uložiti (...) vremena, X potrošiti (...) vremena, vrijeme potrošeno za*	4
ŽIVO BIĆE (A LIVING BEING) *X ubiti vrijeme, duh (X-ovog) vremena*	3
NEŠTO ŠTO RADI ZA NAS (SOMETHING WORKING FOR US) *vrijeme radi za X (=osoba)*	1
DIKTATOR (A DICTATOR) *diktat vremena*	1
NEŠTO ŠTO IMA ODGOVORE (SOMETHING THAT HAS THE ANSWERS) *vrijeme pokazati*	4
TOTAL	333

Table 10b. The main metaphorical mappings with the target domain *vrijeme* (time). Source: Omazić and Schmidt (2011: 244)

VRIJEME JE PROSTOR/TIME IS SPACE	**50.45%**
TIME IS A POINT IN SPACE	
TIME IS SPACE OF A CERTAIN LENGTH	
TIME IS SPACE WE ARE MOVING THROUGH	
TIME IS A SURFACE	
TIME IS A BOUNDED SPACE/CONTAINER **32.73%**	
VRIJEME JE SUPSTANCA/TIME IS A SUBSTANCE	**28.82%**
TIME IS A WHOLE THAT CAN BE DIVIDED INTO PARTS	
TIME IS SOMETHING THAT CAN BE QUANTIFIED	
TIME IS AN OBJECT	
TIME IS SOMETHING THAT CAN BE POSSESSED	
TIME IS A (LIMITED) RESOURCE	
TIME IS A THING FOR WHICH THERE IS A NEED	
TIME IS MONEY	
VRIJEME JE NEŠTO ŠTO SE KREĆE/TIME IS SOMETHING MOVING	**18.1%**
TIME IS SOMETHING MOVING TOWARDS US AND COMING TO US AND PASSING US	
TIME IS SOMETHING MOVING AT A CERTAIN SPEED	
TIME IS SOMETHING MOVING AND BRINGING CHANGES	
TIME IS A LIQUID	
TIME IS SOMETHING WE ARE LEADING THROUGH SPACE	
TIME IS SOMETHING MOVING IN A CERTAIN DIRECTION (PAST TO FUTURE)	
TOTAL	**97.28%**

The abstract level mapping TIME IS SPACE is the most frequent one (50.45% of the sample). Within this abstract level mapping, the most frequent specific level mapping by far is TIME IS A BOUNDED SPACE/CONTAINER (32.73%).

TIME IS A SUBSTANCE is the second abstract level mapping according to its frequency of occurrence (28.82%). TIME IS SOMETHING THAT CAN BE QUANTIFIED is the most frequent specific level mapping in this abstract level mapping, followed by TIME IS A (LIMITED) RESOURCE.

Table 11a. Metaphorical patterns manifesting *vrijeme* (time) metaphors identified via metaphorical pattern analysis.

VRIJEME JE (TIME IS)	N
OMEĐEN PROSTOR/SPREMNIK (A BOUNDED SPACE/CONTAINER)	100
puno/nepuno radno vrijeme, u (…) vrijeme, unutar […] vremena, iz (…) vremena, ispuniti vrijeme, ograničeno vrijeme	
PROSTOR ODREĐENE DULJINE (SPACE OF CERTAIN LENGTH)	23
kratko/kraće/najkraće vrijeme, skraćeno radno vrijeme, dugo/dulje/najduže vrijeme, produljiti/produžiti vrijeme, prikratiti vrijeme, vrijeme se skraćuje	
PROSTOR KROZ KOJI SE KREĆEMO (SPACE WE ARE MOVING THORUGH)	1
putovanje kroz vrijeme	
PLOHA (A SURFACE)	26
na vrijeme, na (ne)određeno vrijeme, s vremena na vrijeme, pokrivati vrijeme	
TOČKA U PROSTORU	9
od (...) vremena, od vremena do vremena, vrijeme od X do Y	
NEŠTO ŠTO SE KREĆE PREMA NAMA I PROLAZI PORED NAS I ODMIČE OD NAS (SOMETHING MOVING TOWARDS US AND COMING TO US AND PASSING US)	7
vrijeme doći/dolaziti, vrijeme (…) proći, vrijeme odmicati, vrijeme promicati	
NEŠTO ŠTO SE KREĆE ODREĐENOM BRZINOM (SOMETHING MOVING AT A CERTAIN SPEED)	2
vrijeme teći sporo, vrijeme hitati	
NEŠTO ŠTO SE KREĆE I SA SOBOM DONOSI PROMJENE (SOMETHING MOVING AND BRINGING CHANGES)	8
s vremenom (X) postati	
TEKUĆINA (A LIQUID)	2
u tijeku vremena, protjecanje vremena	
NEŠTO ŠTO MI VODIMO KROZ PROSTOR (SOMETHING WE ARE LEADING THROUGH SPACE)	8
X provesti/provoditi vrijeme	
NEŠTO ŠTO SE KREĆE USMJERENO (OD PROŠLOSTI PREMA BUDUĆNOSTI)/SOMETHING MOVING IN A CERTAIN DIRECTION (PAST TO FUTURE)	19
u prvo vrijeme, u posljednje/zadnje vrijeme	
PREDMET KOJI SE KREĆE/LETI (A MOVING/FLYING OBJECT)	2
vrijeme leti, prohujala vremena	

PROTIVNIK U UTRCI (OUR OPPONENT IN A RACE)	2
vrijeme protiv svih, prije vremena	
SUPSTANCA (A SUBSTANCE)	3
probaviti vrijeme, mjerilo vremena, požderati puno vremena	
CJELINA KOJA SE MOŽE DIJELITI (A WHOLE THAT CAN BE DIVIDED INTO PARTS)	11
cijelo/čitavo vrijeme	
NEŠTO ŠTO SE MOŽE KVANTIFICIRATI (SOMETHING THAT CAN BE QUANTIFIED)	48
neko vrijeme, određeno/neodređeno vrijeme, jedno vrijeme, malo/manje vremena, sve/svo (ovo) vrijeme, N posto vremena, prosječno vrijeme, jedinica vremena, ukupno vrijeme	
PREDMET (AN OBJECT)	1
teško vrijeme	
NEŠTO ŠTO SE MOŽE POSJEDOVATI (SOMETHING THAT CAN BE POSSESSED)	18
njegovo/naše/svoje/X-ovo vrijeme, X imati (dovoljno/puno/...) vremena (napretek)	
(OGRANIČEN) RESURS/ A (LIMITED) RESOURCE	26
gubiti vrijeme, gubljenje/gubitak vremena, X kupiti vrijeme, kupnja/kupovina vremena, preraspodijeliti vrijeme, vrijednost i trajnost vremena, ograničeno vrijeme, dati X-u vremena, izgubljeno vrijeme, dragocjeno vrijeme, dobiti na vremenu, iskoristiti vrijeme	
NEŠTO ZA ČIM POSTOJI POTREBA (A THING FOR WHICH THERE IS A NEED)	9
X-u biti potrebno vrijeme, trebati (...) vremena	
NOVAC (MONEY)	5
ušteda vremena, vrijeme je novac, X potrošiti (...) vremena	
ŽIVO BIĆE (A LIVING BEING)	4
vrijeme pregaziti X-a, duh vremena, zub vremena, vrijeme biti na X-ovoj strani	
NEŠTO ŠTO NAS KONTROLIRA (SOMETHING THAT HAVING CONTROL OVER US)	1
vrijeme dopustiti	
BUDUĆNOST JE ISPRED NAS (FUTURE IS FORWARD)	1
pred nama je vrijeme	
VOĆE (A FRUIT)	1
vrijeme sazrijeti	
NEŠTO ŠTO IMA ODGOVORE (SOMETHING THAT HAS THE ANSWERS)	1
vrijeme pokazati	
TOTAL	339

Table 11b. The main metaphorical mappings with the target domain VRIJEME (time).

VRIJEME JE PROSTOR/TIME IS SPACE	**46.9%**
TIME IS A POINT IN SPACE	
TIME IS SPACE OF A CERTAIN LENGTH	
TIME IS SPACE WE ARE MOVING THROUGH	
TIME IS A SURFACE	
TIME IS A BOUNDED SPACE/CONTAINER **29.49%**	
VRIJEME JE SUPSTANCA/TIME IS A SUBSTANCE	**35.69%**
TIME IS A WHOLE THAT CAN BE DIVIDED INTO PARTS	
TIME IS SOMETHING THAT CAN BE QUANTIFIED	
TIME IS AN OBJECT	
TIME IS SOMETHING THAT CAN BE POSSESSED	
TIME IS A (LIMITED) RESOURCE	
TIME IS A THING FOR WHICH THERE IS A NEED	
TIME IS MONEY	
VRIJEME JE NEŠTO ŠTO SE KREĆE/TIME IS SOMETHING MOVING	**14.74%**
TIME IS SOMETHING MOVING TOWARDS US AND COMING TO US AND PASSING US	
TIME IS SOMETHING MOVING AT A CERTAIN SPEED	
TIME IS SOMETHING MOVING AND BRINGING CHANGES	
TIME IS A LIQUID	
TIME IS SOMETHING WE ARE LEADING THROUGH SPACE	
TIME IS SOMETHING MOVING IN A CERTAIN DIRECTION (PAST TO FUTURE)	
TOTAL	**97.33%**

I have compiled a second corpus for Croatian (Table 11a, Table 11b) in order to prove that even a small sample may be indicative. I have also used HNK (Hrvatski nacionalni korpus). The search for the lexemes *vrijeme* (nominative), *vremena* (genitive), *vremenu* (dative) and *vremenom* (instrumental) returned 99,228 results. The plural form *vremena* (11 occurences = 2.19%) was discarded, as well as the lexeme *vrijeme* with the meaning 'weather' (14 occurences = 2.8%), thus reducing the sample from 500 to 475 entries.

In this sample there were 339 metaphorical uses (= 71.36% of the sample), which indicates that this is a slightly more representative sample than the Croatian sample presented in tables 8a and 8b (70.1%). The frequency of abstract level mappings in this sample (TIME IS SPACE, TIME IS A SUBSTANCE, TIME IS SOMETHING MOVING) corresponds to the results presented in Table 8b. TIME IS SPACE is the most frequent abstract level mapping, followed by TIME IS A SUBSTANCE and TIME IS SOMETHING MOVING. The abstract level mapping TIME IS SPACE covers 46.9% (compared to 50.45% in the previous sample), TIME IS A SUBSTANCE covers 35.69% (28.82% in the previous sample) and TIME IS SOMETHING MOVING covers 14.74% (18.1% in the previous sample). Such a distribution of abstract level mappings according to their frequency of occurrence proves that these samples are indicative. There is no significant difference with respect to abstract level mappings.

There are, however, differences between specific level mappings. This sample exhibited certain specific level mappings, which were not found in the previous sample. They include: TIME IS A MOVING/FLYING OBJECT, TIME IS OUR OPPONENT IN A RACE, TIME IS SOMETHING HAVING CONTROL OVER US, TIME IS A FRUIT and FUTURE IS FORWARD. Specific level mappings found only in the first Croatian sample include: TIME IS A CIRCLE, TIME IS SOMETHING WORKING FOR US and TIME IS A DICTATOR. As it is already mentioned, such differences were expected. They do not change the fact that such small samples are representative nonetheless.

4.3.4 Comparison of results for all three languages

The study encompasses three languages, two Germanic (English and German) and one Slavic (Croatian). Germanic languages are not closely related to Slavic languages, therefore it is rather surprising that the results of the study exhibit striking similarities in the metaphoric construal of time.

In all three languages, time is predominantly conceptualized in terms of space, which is visible from the tables 7b – 11b. Approximately 50% of the metaphorically used lexemes *time, Zeit* and *vrijeme* fall into the abstract level mapping TIME IS SPACE. Within the abstract level mapping TIME IS SPACE, the most frequent specific level mapping in English and German is TIME IS A POINT IN SPACE, whereas the mapping TIME IS A BOUNDED SPACE/CONTAINER prevails in Croatian. This would be an obvious difference between those three languages. The fact that TIME IS SPACE is the most frequent abstract level mapping in all three languages does not come as a surprise, as time and space were defined by Einstein as inseparable (*spacetime*).

As Omazić and Schmidt noted, the "low" frequency of the TIME IS SOMETHING MOVING (18% {14%} in Croatian, 11% in German and "only" 4% {5%} in English) is rather surprising. These mappings are often discussed in literature (most notably event sequencing metaphors Moving Time and Moving Ego).

The mappings that were not found in the English samples were TIME IS A LIQUID, TIME IS SOMETHING WORKING FOR US, TIME IS A DICTATOR. The mapping TIME IS A STRUCTURED THING, appears only in the first English sample. The mapping TIME IS VERTICAL appears only in English and German samples. TIME IS SOMETHING HAVING CONTROL OVER US appears in the English and second Croatian sample, and the mapping TIME IS SOMETHING THAT WE CAN CONTROL appears in the English and German sample. Following mappings appear only in the German sample: TIME IS A VEHICLE, TIME IS ARMAMENT, and TIME IS CONFINEMENT.

TIME IS VERTICAL seems to be specific for English and German, whereas the mapping TIME IS SOMETHING WE ARE LEADING THROUGH space seems to be specific for Croatian and German. The EGO'S motion along the vertical axis is visible in the expressions "it is high time" and "*es ist höchste Zeit*", which are quite usual in English and German. Such expressions do not exist in Croatian. The expressions "*provoditi vrijeme*" and "*die Zeit verbringen*" do not exist in English. Both lexemes (*provesti*, *verbringen*) translate into "to show the way, lead somebody though something; take something somewhere[4]". This similarity may not be surprising due to the influence of German on Croatian throughout history (nowadays English influences both German and Croatian). Of course, this equivalence may also be a coincidence – I did not do any research on this topic, therefore I can only make assumptions.

The absence of certain mappings in one of these languages is in no way to be understood as if they were non-existent; it may only suggest that such mappings may be used less frequently. A sample of 500 occurrences of a lexeme is in no way sufficient to claim that the absence of a mapping means that it does not exist in general. The fact that some of the specific level mappings are elaborated in the sections preceding the results of the study proves their existence, even if they did not occur in the sample (e.g. TIME IS A LIQUID is mentioned in the section dealing with the Matrix Sense). Even though small samples were used for each language, they were indicative for the purpose of this diploma thesis.

The notion that TIME IS A COMMODITY is present in all three languages. Omazić and Schmidt divided this metaphor into three specific level mappings, namely TIME IS MONEY, TIME IS A LIMITED RESOURCE and TIME IS A THING FOR WHICH THERE IS A NEED. In the table displaying the results for the German corpus, I added a fourth mapping: TIME IS A VALUABLE COMMODITY (*kostbare Zeit*).

I found a Harvey MacKay quote on the internet, which sums up the irony underlying the conceptualization of time as a valuable commodity: "Time is free, but it's priceless. You can't own it but you can use it. You can't keep it, but you can spend it. Once you've lost it you can never get it back".

[4] Hrvatski jezični portal, Duden online

The universality of the metaphor TIME IS A (VALUABLE) COMMODITY suggests similarities in cultures and in the way of life. The TIME IS MONEY metaphor spread across cultures due to globalization. Evans (2004: 102) suggests various motivating factors for such a metaphor "(...) intervals of time are finite (...) an entity which is finite is accordingly valuable. (...) in the modern industrialised world, as we are paid in terms of conventionally fixed temporal intervals, typically the hour, then this reinforces the implicature that time is valuable (...) having more time entails greater opportunity to realise goals and objectives, this also implicates that time is valuable".

Lakoff and Johnson (1980: 457) explain: "(...) in modern Western culture, where work is typically associated with the time it takes and time is precisely quantified, it has become customary to pay people by the hour, week, or year. (...) TIME IS MONEY in many ways: telephone message units, hourly wages, hotel room rates, yearly budgets, interest on loans, and paying your debt to society by serving time".

In addition to the mentioned motivating factors, I would like to add that there is no other entity which dominates every aspect of human life like time. Nowadays the pace of life is extremely high and people are always "in a race against time", thus it is not surprising that time is conceptualized as OUR OPPONENT IN A RACE. Saving time has become as important as saving money. We may not think of space when we talk about time in terms of space, however, most people do think of time as something invaluable.

The issue here is that this is a two-way process – our experience and perception influence language, however, language (as well as the culture we are born into) may also influence and limit our way of thinking. I recall an example from one of the lectures; the professor mentioned a study with native speakers of Spanish and German. The same study could be conducted with native speakers of Croatian and German, because the lexeme *bridge* has a different grammatical gender in these two languages. The Croatian lexeme *most* is a masculine noun like the Spanish *el puente*, whereas the German lexeme *Brücke* is a feminine noun. We were told that in that study subjects were asked to describe a bridge. Spanish participants described the bridge in terms of "masculine" attributes (e.g. strong), as opposed to German participants, who described it using "feminine" attributes (e.g. beautiful).

This study is mentioned, because it is my opinion that our belief in time is based on cultural beliefs and socialization. Most people take such "knowledge" for granted. Thus linguistic and consequently cultural constructs of time are regarded as absolute truths. I believe that time per se does not exist, it cannot be perceived and its "measurement" is a matter of pure convention – "in other calendars the year 1961 of the Christian era was not even a self-contained whole: in one Indian era it combined portions of 1882 and 1883, in another of 2017 and 2018, in Ethiopia of 1953 and 1954, in the Jewish calendar of 5721 and 5722, in the Muslim calendar of 1380 and 1381" (Holford-Strevens 2005: Preface). It is interesting how such an entity dominates every aspect of human life in the Western cultures. Even more interesting are the cross-cultural and cross-linguistic differences which could not be shown in this thesis due to the prevailing similarities in the results of the corpus-based study.

In terms of physics, the concept of time was subject to great change. Newton's absolute time replaced the notion of a "countable" time dependant of the motion of celestial bodies. Minkowsky spacetime was absolute until the completion of Einstein's theory of relativity when it became dynamical. This constitutes the "problem of time" in physics: "time is absolute in quantum theory, but general in relativity" (Kiefer 2009: 2). These scientific ideas and innovations shape the notion of time in general. It is visible from the metaphor TIME IS MONEY that new trends, be they in the sphere of the way of life or science, may spread from one culture to another. As sciences develop, there will be even more changes in the attitude towards the "problems of time".

5. Conclusion

This study suggests that English, German and Croatian have a lot in common in terms of time metaphors. The samples for all three languages exhibit very similar mappings, with the exception of TIME IS VERTICAL, which is specific for English and German, and TIME IS SOMETHING WE ARE LEADING THROUGH SPACE, which is specific for Croatian and German.

The results for all three languages can be grouped into three abstract level mappings, namely TIME IS SPACE, TIME IS A SUBSTANCE and TIME IS SOMETHING MOVING. The abstract level mapping TIME IS SPACE is, as expected, the most frequent one (approx. 50% in all three samples). The frequency of occurrence of the abstract level mapping TIME IS SOMETHING MOVING was not as high as expected in English – it is far more represented in both Croatian samples. Spatialization is the most productive way of conceptualizing time in all three languages.

The abstract level mapping TIME IS A SUBSTANCE is the second most frequent in all the three languages. Specific level mappings within this category include TIME IS A LIMITED RESOURCE, TIME IS A WHOLE THAT CAN BE DIVIDED INTO PARTS and TIME IS SOMETHING THAT CAN BE QUANTIFIED. This notion of time as a substance allows for time to be measured, and nowadays our culture and human interaction (e.g. appointments) are dominated by timepieces.

The sections preceding the results of the study prove that time is subject to different metaphorical construal even within a single language; for example, there are two prevailing metaphors of event sequencing in English, namely Moving Time and Moving Ego. This proves that time is an elusive concept. Time metaphors, as well as conceptual metaphors in general, also provide an insight into cultural values and beliefs (i.e. TIME IS MONEY).

6. List of figures and tables

6.1. List of figures

6.2. List of tables

7. Works cited

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