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1 Introduction

"The world is, of course, nothing but our conception of it."
— Anton Chekhov

Our understanding of everything that happens is based to a great extent on what we already know and our cognitive abilities to draw connections between the known and unknown. Our physical and social experience plays a crucial role in how we conceptualise the world around us and how we speak about it. We usually speak about abstract topics referring to them as concrete physical objects, relying to a great extent on metaphorical language. It can be explained by the property of our cognitive system to extend our knowledge about physical experience and to apply it to the abstract notions. Interestingly, we often use metaphors without giving much attention or without recognising the fact that we do so. This implies that we do not only speak but think in metaphors.

This idea was expressed in a ground-breaking book, *Metaphors we live by,* in which Lakoff and Johnson (1980) introduced the notion of conceptual metaphors and emphasised their pervasiveness in both our daily communication and our conceptual systems. The omnipresence of metaphors in language and thought makes them attractive for linguistic and cognitive research. Metaphor as a cognitive phenomenon received its recognition not only in the field of cognitive linguistics but on the cross-disciplinary scene. It awakened interest in the fields of psychology, neurology and sociolinguistics.

Over the past two decades, there has been a sustained research activity in the areas of conceptual metaphor production and comprehension. This growing body of research focused on the questions of why and how we use metaphors and how we understand them. Multiple studies provided new insights into the nature of this phenomenon and its role in our communication and social and political behaviour. Some studies proved that metaphorical language can influence our reasoning and decision-making processes on particular social or political issues (Thibodeau and Boroditsky 2011). Considering this ideological potential of metaphors, the investigation of metaphor production might demonstrate how speakers metaphorically frame some abstract notions in order to reach particular communicative objectives, like evaluation, persuasion or influencing others' behaviour.

Choosing particular metaphors to frame a particular topic might be influenced by various factors. Speakers' gender was considered as one of them. Gender-related particularities in the use of metaphors by women and men were explored in various types of discourse: business

media discourse (Koller, 2004), political speeches (Semino & Koller 2009) educational contexts (Fiksdal 1999), emotional communication (Fussell & Moss 1998), and context of depression (Charteris-Black 2012). However, there are no studies that have investigated the association between gender and conceptual metaphor in the discourse on climate change.

Similarly to the above-mentioned studies, this study focuses on the investigation of metaphor and gender, in the rapidly growing discourse of climate change. The main reason for choosing climate change as the main topic is its global importance and its extensive presence in online media. Another essential point is that both female and male authors are concerned about this issue. They have been writing about it in the media, which allows collecting data for analysis of metaphors and gender. Furthermore, climate change and the role of human activity appears to be a complex issue that may trigger controversial public reactions which might demonstrate political polarisation of public opinions. This leads me to the choice of the genre I will focus on in my research, namely opinion article. Employment of metaphors in opinion articles can be a powerful strategy in terms of drawing attention, persuasion and imposing ideological position or even constructing reality. The question is whether a writer's gender and political orientation of an online newspaper can be determining factors for the metaphorical conceptualisation of climate change in such articles.

Thus, this thesis is aimed at exploring lexical and conceptual metaphors in opinion articles of conservative and labour online British newspapers. The main focus is laid on the authors' gender and conceptual metaphors that are used to frame the discourse of climate change.

The aim of this study is threefold. First, to investigate the most frequent (dominant) source domains used to refer to climate change in opinion articles. The second objective is concerned with the question of whether there are similarities and differences between male and female use of climate-change-related metaphors. Finally, as debates about climate change might be characterised by division of opinions influenced by the political orientation of a newspaper, this was considered as the next point of comparison. Similarities and differences between the metaphors employed in the newspapers belonging to different political orientation were explored.

As far as the scope of this study is concerned, investigation of metaphor and gender is restricted to opinion articles of three online British newspapers, The Guardian, The Telegraph and The Times. The timescale of investigated articles is limited to the publication period between July 2018 and August 2019. Due to practical constraints, limited time and the size of the thesis, this research cannot provide a comprehensive review and discussion of all the metaphorical expressions occurred in the texts under investigation. The focus of the investigation is

conceptualisation of climate change by women and men in opinion articles of online British newspapers with opposing political orientation.

This study might reveal whether there are significant gender-specific and political orientation-specific conceptual metaphors employed by female and male opinion columnists writing about climate change. Therefore, the findings of this thesis might contribute to the growing research body on gender and metaphor, as well as universality and variability of metaphors in the discourse on climate change.

The overall structure of the thesis consists of eleven chapters. In this chapter, I have briefly introduced the current study and established its place within the context of the existing research, while in the following chapters, I discuss theoretical background and present the empirical study on metaphor and gender in a discourse on climate change. Chapter 2 is concerned with the overview of the main tenets of Conceptual Metaphor Theory, whereas in chapter 3, the existing views on gender, language and cognition are reviewed. Next, the role of discourse and context in metaphor research are highlighted, followed by an explanation of ideological potential and effectiveness of metaphors in public discourse (chapter 4). In chapter 5, the findings of some studies investigating gender and metaphor in various discourses are reported, while the next chapter deals with the discourse of climate change. The last chapter (7) of the theoretical part deals with the methods applied to explore metaphor in naturally occurring language relevant to the present study. Chapter 8 presents the research design and dwells on the description of data collected for this research, and explanation of the concrete methodology and analytical tools utilised. In the next chapter (9), the results of this study are provided, followed by their discussion (Chapter 10). The final chapter (11) draws upon the whole thesis, connecting theoretical and empirical aspects of the study. Furthermore, it gives a summary of the research findings, highlights the significance of this study, points to the limitations and puts forward some suggestions for the further research in the field of metaphor and gender in the discourse on climate change.

2 Cognitive view of metaphor

This chapter provides a literature review and discussion of some of the most important issues addressed in the recent studies on conceptual metaphor. First, section 2.1 discusses the traditional and cognitive perspectives of metaphor focusing on one of the most widely used cognitive frameworks, Conceptual Metaphor Theory (CMT). Next, an explanation of the main tenets of the CMT view of metaphor is provided, including cross-domain mappings, embodied

cognition, and highlighting and hiding are provided; this is followed by a discussion of some major points of criticism expressed by the opponents of CMT.

2.1 Cognitive view of metaphor

Metaphor was traditionally considered a rhetoric device employed by creative language users. This idea was expressed by Aristoteles (350 B.C; translated by Ingram Bywater 1920: 71-72) who suggested that:

> [m]etaphor consists in giving the thing a name that belongs to something else; […] and it is also a sign of genius, since a good metaphor implies an intuitive perception of the similarity in the dissimilar."

This traditional view that originated in ancient times held for many centuries. Only in the twentieth century did the perspective on metaphor change. The novel idea that metaphors are used not only by brilliant writers in literature but also by ordinary people in their everyday communication fostered development in a new direction. In the modern view, metaphors are considered pervasive in our daily communication (Deignan 2005; Semino 2008). For example, English speakers often talk about life metaphorically in terms of a journey, as the following examples illustrate:

(1) He's without direction in life.
(2) I'm where I want to be in life.
(3) I'm at a crossroads in my life.
(4) She'll go places in life.
(5) He's never let anyone get in his way.
(6) She's gone through a lot in life.

(Kövecses & Benczes 2010: 3)

In these examples, various aspects of life are conceptualised through the notion of travelling. Using the terms of moving in a particular direction, we can describe a particular event or situation in our lives in terms of different stages of a journey due to the mechanism of conceptual metaphor, which is intrinsic to human cognition. It is not just a matter of language but it is first and foremost a matter of thought. Thus, metaphor is not just a rhetorical device, it is also a cognitive phenomenon, a mechanism underlying the conceptualization of the world around us. As such, metaphor has been one of the main subjects of interest in Cognitive Linguistics.

The dissemination and popularity of the cognitive view on metaphor is greatly indebted to Lakoff and Johnson's *Metaphors we live by* (1980, 2003), in which the authors emphasised the ordinary nature and pervasiveness of metaphor "not just in language but thoughts and action" (Lakoff & Johnson 2003: 4). They claimed that "[o]ur ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (Lakoff & Johnson 2003:

4). Conceptual metaphor theory (henceforth CMT), gave rise to immense scholarly interest. Numerous studies have been published within the cognitive framework exploring various aspects and functions of metaphor (Gibbs 1994; Kövecses 2002; Deignan 2005).

2.2 Defining metaphor

The diversity of research on metaphors indicates the complexity and multifaceted nature of this phenomenon. Given this complexity, different definitions of metaphor have been provided. Within CMT, metaphor is defined as "understanding and experiencing one kind of thing in terms of another" (Lakoff & Johnson 2003: 5). In other words, metaphor can be described as a mechanism whereby the attributes of one concept are transferred onto another. Thus, this mechanism involves the cognitive process of drawing connections between two concepts.

However, some linguists have disregarded the cognitive dimensions of metaphor, instead highlighting the linguistic and semantic aspects. By their definition, metaphor

> is a word or expression that is used to talk about an entity or quality other than that referred to by its core, or most basic meaning. This non-core use expresses a perceived relationship with the core meaning of the word, and in many cases between two semantic fields." (Deignan 2005: 34)

In this case, metaphor is described only on the linguistic and semantic levels while the cognitive level is ignored. Therefore, this definition lacks the complexity of the one that also takes the cognitive element into account. Semino (2008), on the other hand, suggests that metaphor is "the phenomenon whereby we talk and, potentially, think about something in terms of something else" (Semino 2008: 1). Although this definition implies the cognitive aspect of metaphor, it slightly differs from the one given by Lakoff and Johnson (2003). While Semino emphasises the linguistic attribute of this phenomenon, her acknowledgement of its cognitive aspect is rather tentative. This uncertainty might be triggered by the fact that we still know very little about how knowledge is represented in our mind.

It should be noted that the process of metaphorical understanding does not necessarily happen on-line. Within the cognitive view, metaphorical thinking or understanding are rather considered to be synonymous to the construing or conceiving of concepts. In this sense, conceptual metaphor implies a phenomenon:

> when we construe a more abstract domain (or concept) through a more physical domain (or concept) offline–either by means of long-term memory or as a result of a historical-cultural process. (Kövecses & Benczes 2010: 8)

Speakers often use metaphors to refer to abstract notions, and in this way, they characterise intangible concepts relying on characteristics of tangible objects. Taking into account

pervasiveness of metaphor, it can be suggested that this is a mechanism which is deeply ingrained in our conceptual system.

2.3 Cross-domain mappings

At this point, it is essential to elucidate the distinction between metaphor in language and metaphor in thought. As Lakoff and Johnson (2003) pointed out "conceptual metaphor is a natural part of human thought, and linguistic metaphor is a natural part of human language" (Lakoff & Johnson 2003: 247). Metaphorical linguistic expressions are words or phrases that are used metaphorically; henceforth these will be given in italics. They are linguistic instantiations of conceptual metaphors, henceforth presented in small capitals.

For example, let us consider one of the phrases mentioned above, to *be at a crossroads in life*. It describes a life situation when a difficult decision is to be made. People in such a situation can be seen as travellers at a crossroads, standing before a difficult choice of one, hopefully, right way out of many. The connection established between two concepts or conceptual domains, the source domain of journey and the target domain of life, involves the transfer of the knowledge and experience about one concept onto the other (Figure 1). Such correspondences between two domains are defined as conceptual or cross-domain mappings which underly conceptual metaphor (Lakoff & Johnson 2003: 247). Turning back to our example, linguistic expression *to be at a crossroads* represents the conceptual metaphor LIFE IS A JOURNEY.

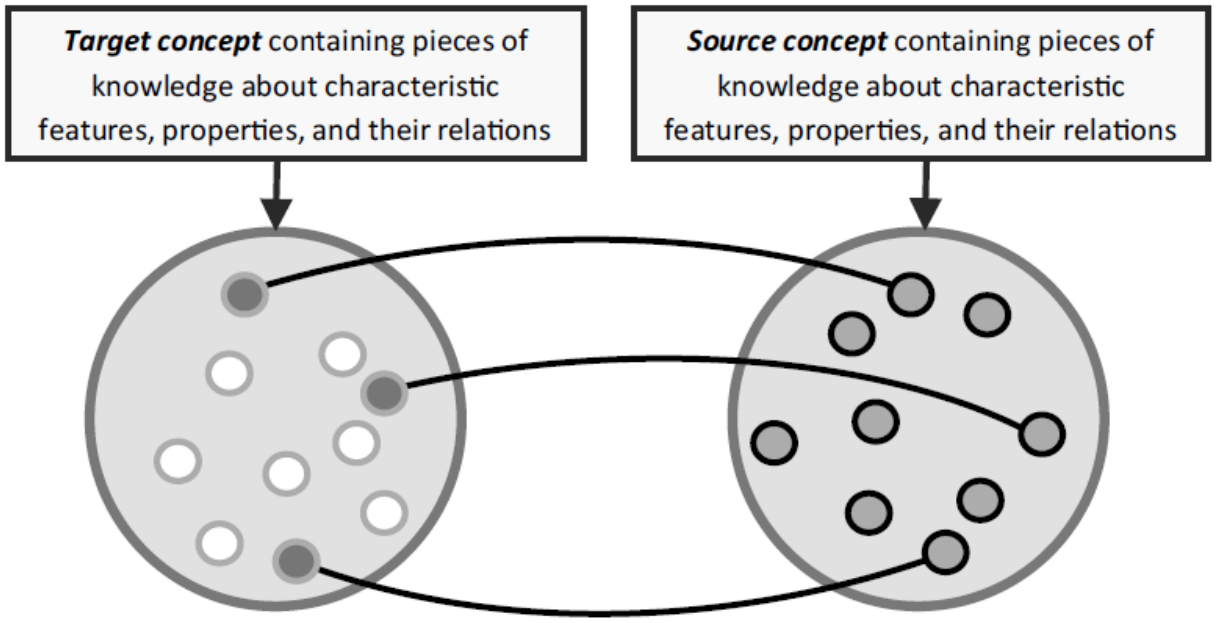

Figure 1. Graphical depiction of a conceptual mapping (Landau et al. 2014: 6)

In this case, the cross-domain mapping is established because people transfer their knowledge about the features and properties of a journey and use it as a framework for the conceptualisation of life situations. The systematicity of such cross-domain mappings gives rise to linguistic metaphorical expressions describing life in terms of a journey. Thus, systematicity of linguistic metaphors can be explained by the existence of conceptual metaphors (Lakoff & Johnson 2003: 8).

2.4 Highlighting and hiding

There is another aspect of systematicity of conceptual mappings worth discussing, namely their partial nature. Obviously, it is not possible that all the characteristic features of one concept can be mapped onto another, otherwise two concepts would be identical. As illustrated in Figure 1, only some aspects are utilized from the source domain and only some aspects are highlighted in the target domain, while the others aspects of the involved concepts are disregarded (Lakoff & Johnson 2003; Kövecses & Benczes 2010). Thus, the partial nature of conceptual mappings presupposes both highlighting and hiding of particular aspects.

In the case of the conceptual metaphor ARGUMENT IS WAR, speakers describe arguments using expressions such as *attack opponent's position, defend one's position* or *win the argument*. While using the vocabulary of war, the competitive nature of an argument is emphasised while the idea of cooperation is downplayed. As Lakoff and Johnson (2003) pointed out that while "attacking our opponent's position and defending our own, we may lose sight of the cooperative aspects of arguing" (Lakoff & Johnson 2003: 10). Therefore, the idea that argument involves time investment by both parties and their efforts to understand each other's point of view in order to develop discussion is downplayed.

Similarly, if we consider LIFE IS A JOURNEY metaphor, the movement in space is projected on the movement in time. While the possibility of movement and being in some places or experiencing life events is emphasised, the fact that we cannot move back in time in the way we can move back in space is absent. In real life, we cannot move back in time, except in our memories, in order to choose some other path. It is impossible to make a different decision in the past.

The property of conceptual metaphor to highlight and hide some aspects might be the main reasons why we use metaphors for explanation and evaluation. First, we use linguistic expressions in a novel way while defining new terms. We employ metaphors as a shortcut strategy to illuminate an unfamiliar concept using a familiar or more concrete concept. In this way, connections between the concepts are drawn which facilitates understanding of novel

terms. For example, in neuroscience, the term 'mirror neurons' was used to refer to the type of neurons that "discharge when an individual performs an action, as well as when he/she observes a similar action done by another individual" (Rizzolatti 2005: 419). The connection to the concept of a mirror is established on the basis of its main function to reflect the objects and actions occurring in front of it. However, instead of reflecting everything at any time, mirror neurons are only activated when an individual actively observes performed actions or emotions, which might lead to imitation of actions.

In addition to its explanatory or informative function, metaphor is often used for expressing evaluation. People express their perspective of a particular concept or their subjective opinion about a particular topic employing conceptual metaphors. Sometimes metaphors are used to emphasise positive or negative characteristics of target domain concept. Thus, by choosing a particular metaphor, a speaker can lead the audience into the direction developed in her or his argument. For example, financial texts in Spanish and American newspapers in time of crisis were analysed to explore positive and negative framing of the financial crisis. In the Spanish newspaper, more positive metaphorical expressions like *winner, victory,* were used because the government, just before the election, refused to accept the difficult economic situation. More negative metaphorical language referring to crisis as *war* and *competition* was found in the American newspapers (Rojo & Orts Llopis 2010). One question that remains is why we chose particular source domains.

2.5 Motivation for choosing source domains

Cross-domain mappings, as argued by cognitive linguists, are not established in a random manner but are triggered by our bodily experience and interaction with the world around us (Gibbs 1994; Kövecses 2002; Lakoff & Johnson 1980). To be more precise, it has been claimed that the motivations behind conceptual metaphors 'have a basis in our physical and cultural experience' (Lakoff & Johnson 1980: 14).

The characteristics of more concrete physical or tangible concepts are usually mapped on abstract intangible concepts, which indicates that cross-domain mappings are potentially motivated by our physical experience. Thus, this account of the cognitive view of metaphor is consistent with the ideas of connection between body, mind and environment advanced in cognitive science; i.e. with the idea of embodied cognition. The emphasis is laid on "the central role of body in shaping the mind" (Wilson 2002: 625) and on potential interactions of body and environment, also known as "affordances" (Gibson 1986). Affordances presuppose that observers or agents perceive objects in terms of the possible bodily actions that are enabled and

constrained by these objects (Gibson 1986). For example, when we look at a chair we perceive that we can sit on this object or lift and move it.

In this sense, experiential nature of conceptual metaphor indicates that our cognition is not disembodied, which contradicts the ideas of Cartesian dualism, which postulates that:

> there is a great difference between mind and body, inasmuch as body is by nature always divisible, and the mind is entirely indivisible... the mind or soul of man is entirely different from the body (Decartes 1901: 220-221).

Rejecting the idea that body and mind are separate systems and, instead, drawing a connection between physical experience, cognition and language, CMT provides an alternative to the modular view of language, one that emphasises that the mind is a modular system and functions as a computer processing and encoding information separately from the bodily experience (Fodor 1983).

The cognitive view challenged the existing approach of mind and body division by postulating that "the body is not merely somehow involved in conceptualization but is shaping its very nature" (Lakoff & Johnson 1999: 37). Our bodily experience influences our cognition in the way that abstract concepts are grounded in states of the body (Lakoff and Johnson 1980, 1999). In other words, we extrapolate intangibles from our physical experience. This idea was elaborated by Grady (1997a), who introduced Primary Metaphor Theory. His framework contributed to the "decompositional account" of metaphor that was integrated into a later version of CMT (Lakoff & Johnson 1999, 2003). According to Grady's theory, there are primary and complex metaphors. As far as their emergence is concerned, primary metaphors rely on our basic physical experience, our perception and on basic events that regularly occur in our life. For example, it concerns our daily actions like going from one place to another, moving objects up and down, receiving information through our visual channel (Grady 1997a: 20). The recognition of primary metaphors shows that conceptual metaphors are grounded in "systematic correlates within our experience" (Lakoff & Johnson 2003: 59). This grounding is reflected in the way our bodily experience provides the basis for source domains of primary metaphors which describe our subjective experiences and judgements. These ideas are related to the conflation theory advanced by Johnson (1999). The author hypotheses that children have a conflation stage when experience is conflated with abstract notions. One of the examples he uses is the conceptual metaphor AFFECTION IS WARMTH. Children associate the warmth of being held or embraced with feelings of caring and affection. Here are some further examples of such primary metaphors and the motivation behind them:

Table 1. Primary metaphors and their motivations (based on Grady 1997a: 281-299)

Metaphor	**Motivation**	**Example**
AFFECTION IS WARMTH	The correlation between affection and body warmth, produced by physical proximity	*They greeted me warmly.* *She has always been cold to me.*
UNDERSTANDING IS GRASPING	Correlation between close manipulation of an object and access to information about it.	*I'm trying to grasp the meaning of this verdict.* *I think I finally have a handle on the statistical principles*
MOMENTS IN TIME ARE OBJECTS IN MOTION ALONG A PATH ("moving-time")	The correlation between the perception of motion and the awareness that the world-state has changed between one moment and the next.	*Time flies.* *Summer always passes too quickly.*
THE EXPERIENCE OF TIME IS OUR OWN MOTION ALONG A PATH ("moving-ego")	The correlation between moving to a new location and being aware of a new set of facts about the world-state.	Let's hope for the best as we enter the new year.
BEING IN CONTROL IS BEING ABOVE	The correlation between being in a higher physical position and having greater control over objects, people, situations.	*She's on top of the payroll situation.* *I've worked under some pretty tough bosses*

As can be seen from the examples above, we heavily rely on our bodily experience while describing abstract ideas. Therefore, it can be inferred that the way we experience and interact with the environment influences the way we structure the concepts and the way we talk about them. For instance, primary metaphors describing moving-time or moving-ego (Table 1) reflect our experience of motion in space which is projected on our conceptualising of time and various events.

Primary metaphors are the constituents of complex metaphors. One example of a complex conceptual metaphor is A PURPOSEFUL LIFE IS A JOURNEY. It is structured by such primary metaphors as PURPOSES ARE DESTINATIONS and ACTIONS ARE MOTIONS (Lakoff & Johnson 1999: 60-63). This complex metaphor is motivated by our cultural belief that "people are supposed to have purposes in life" (Lakoff & Johnson 1999: 61).

There are different factors motivating the emergence and spreading of primary and complex metaphors. Since primary metaphors are triggered by universal bodily experiences, they are often supposed to be universal:

> Since they arise directly from experience—and in many cases, from the bodily experience of the world shared by all humans—they are more likely to be universal than the more complex metaphors which are combinations of them. (Grady 1997b: 288)

Some complex metaphors, however, may vary across cultures, as they tend to rely on common knowledge or beliefs which are culture-specific. Complex metaphors "that are composed of primary metaphors and that make use of culturally based conceptual frames are another matter. Because they make use of cultural information, they may differ significantly from culture to culture" (Lakoff & Johnson 2003: 257). In other words, complex metaphors are more culture-dependent, which leads to variation across cultures. However, as recent research has shown, within-culture variation is also possible (Kövesces 2005; Quinn 1991). Due to the fact that we simultaneously belong to multiple social groups, our social and cultural experience varies within one culture. In this sense, cross-culture variation and within-culture variation are both related to "social and cultural divisions that are likely to produce metaphor variation due to people's divergent experiences in social and cultural life" (Kövecses 2005: 89). Therefore, it can be stated that social, ethnic, religious and political dimensions might influence within-culture variation in the use of metaphor. Before discussing in further detail the influence of cultural dimensions on conceptual metaphor, let us consider the variety of metaphor types.

2.6 Classification of Metaphors

There are several criteria for the classification of metaphors. First, a distinction can be drawn between different kinds of metaphor according to the performed cognitive function, whereby the following kinds can be identified: orientational, ontological and structural metaphors. Second, with regard to the degree of conventionality of a metaphor, as characterised by frequency and duration of use of linguistic metaphors, one can distinguish between conventional and novel metaphors. Finally, as far as the awareness of using metaphors or deliberateness is concerned, there are deliberate and non-deliberate metaphors.

2.6.1 Cognitive function

Lakoff and Johnson (1980, 2003) advanced a typology of conceptual metaphors which has become widely accepted and applied in linguistics, psychology and anthropology. They distinguished between three kinds of metaphors: orientational, structural and ontological. Although the three metaphor types differ with regard to the performed cognitive function, it is stated that they all "have a basis in our physical and cultural experience" (Lakoff & Johnson 2003: 15).

First, let us consider orientational metaphors and their typical features. These metaphors rely on our spatial orientation as a source domain. Some of the most frequently used orientations are "up-down, in-out, front-back, on-off, deep-shallow, central-peripheral" (Lakoff & Johnson 2003: 15). Some examples of up-down orientational metaphors are HAPPY IS UP, HEALTHY IS UP, CONTROL IS UP, CONSCIOUS IS UP, VIRTUE IS UP, RATIONAL IS UP. Explaining the cognitive function of orientational metaphors, Kövecsses and Benczes (2010: 40) suggested calling them "coherence metaphors" because "certain target concepts tend to be conceptualized in a uniform manner" (Kövecsses & Benczes 2010: 40). For example, when we consider the following orientational metaphors, we can observe that "upward" and "downward" orientations are used to refer to concepts with opposite meaning:

> HEALTHY IS UP; SICK IS DOWN: Lazarus rose from the dead. He fell ill.
> CONSCIOUS IS UP; UNCONSCIOUS IS DOWN: Wake up. He sank into a coma.
> CONTROL IS UP; LACK OF CONTROL IS DOWN: I'm on top of the situation. He is under my control.
> HAPPY IS UP; SAD IS DOWN: I'm feeling up today. He's really low these days.
> VIRTUE IS UP; LACK OF VIRTUE IS DOWN: She's an upstanding citizen. That was a low-down thing to do.
> RATIONAL IS UP; NONRATIONAL IS DOWN: The discussion fell to an emotional level. He couldn't rise above his emotions.

(Kövecsses & Benczes 2010: 40)

As we can see from the conceptual metaphors, UP concepts have a positive, and DOWN concepts a negative connotation. This can be related to the embodiment of orientational metaphors, because we consider head or mind as important or in control (UP IS GOOD), whereas feet are less important or are being controlled (DOWN IS BAD). There are further image schemas connected to the spatial orientation that imply positive and negative evaluation. For example, *front, whole, balance, centre, link* usually carry positive evaluation, whereas the opposite concepts *back*, *not whole, imbalance, periphery, no link* tend to have negative connotations (Kövecses & Benczes 2010: 40). This may lead to the conclusion that we categorise and evaluate the world around us by means of orientational concepts.

Similarly to orientational metaphors, ontological metaphors also rely on our body and physical interaction with the environment. However, they enable speakers to refer to abstract ideas by means of entities and substances (Lakoff & Johnson 1980: 26). Using ontological metaphors we "conceive of our experiences in terms of objects, substances, and containers, in general, without specifying exactly what kind of object, substance, or container is meant" (Kövecses & Benczes 2010, 38). To be more precise, this kind of metaphors serves "to refer to, to quantify, or to identify aspects of the experience that has been made more delineated". This enables us to categorise, to group and to reason about abstract notions (Lakoff & Johnson 2003: 26):

Table 2. Source and target domains of orientational metaphors (based on Kövecses & Benczes 2010: 39)

Source Domains	**Target Domains**
physical object	nonphysical or abstract entities (e.g., the mind)
	events (e.g., going to the race), actions (e.g., giving someone a call)
substance	activities (e.g., a lot of running in the game)
container	undelineated physical objects (e.g., a clearing in the forest)
	physical and nonphysical surfaces (e.g. land areas, the visual field)
	states (e.g., in love)

One of the most frequent types of ontological metaphors is personification. Employing personification, we ascribe human qualities to objects, events, emotions etc. It is no wonder that we employ personification since it

> "makes use of one of the best source domains we have – ourselves. In personifying nonhumans as humans, we can begin to understand them a little better" (Kövecses & Benczes 2010: 39)

The last category of this classification is that of structural metaphors. The main function of this kind of metaphor is "to enable speakers to understand target A by means of the structure of source B" (Kövecses & Benczes 2010: 37). In contrast to orientational and ontological metaphors, structural metaphors are more specific and they provide us with a rich structure of source domain, which "allows us not only to elaborate a concept …in considerable detail but also to find appropriate means for highlighting some aspects of it and hiding others" (Lakoff & Johnson 2003: 62). For example, conceptual metaphors PURPOSEFUL LIFE IS A JOURNEY and

ARGUMENT IS WAR can be characterised by the rich potential for elaboration provided by the structure of the source domains. As mentioned before, conceptual metaphors often serve to evaluate something in a positive or negative way while expressing our opinion. Structural metaphors are especially effective for this purpose. Describing positive and negative experience from the domain of journey we can influence the addressee's evaluation of the target domain. These metaphors might be skilfully employed in the discourse of public communication, politics or advertisement.

2.6.2 Conventionality

Degree of conventionality is another major criterion for metaphor classification. A distinction has been made between conventional and novel metaphors (Lakoff & Johnson 1989; Kövecses & Benczes 2010). Conventional or conventionalised metaphors are those that are well entrenched in our conceptual system and in the language use of a community. Their use is well established and speakers "use them naturally and effortlessly for their normal, everyday purposes when they talk about such concepts as argument, love, social organizations, life, and so on" (Kövecses & Benczes 2010: 34). Conventionality is related both to conceptual metaphors and to their realisations in language, linguistic metaphors, as can be deduced from the following definition:

> Conventional conceptual metaphors…are deeply entrenched ways of thinking about or understanding an abstract domain, while conventional metaphorical linguistic expressions are well worn, cliched ways of talking about abstract domains. (Kövecses & Benczes 2010: 34).

In this sense, conventional expressions are "reflections of systematic metaphorical concepts that structure our actions and thoughts" (Lakoff & Johnson 2003: 56).

The question of metaphor conventionality gave rise to a discussion among cognitive linguists about gradability of metaphors. Conventionality of metaphor can be seen as a scale. There are highly conventional metaphors on the one end and highly unconventional or novel or the other end of the scale (Kövecses & Benczes 2010: 35). Novel linguistic metaphors often emerge on the basis of the already existing conceptual metaphor and sometimes there are creative metaphors that employ new source domains.

For example, there can be new linguistic expression representing conceptual metaphor LIFE IS A JOURNEY. In the creative expression *stop the world. I want to get off,* the conventional source domain of JOURNEY is employed in a new way (Kövecses 2002: 35). However, creative metaphors can also involve novel source domains, like in the expression *Life is a mirror. If you smile, it smiles back at you; if you frown, it frowns back.* (Kövecses 2002: 36). Conceptual

metaphor LIFE IS A MIRROR makes use of a novel source domain and it enables us to see familiar things in a new way. However, as we can see from the example, the relation between the concepts in such creative metaphors have to be explained because they bring two distant things together that seem to have nothing in common.

Gradability of metaphors was also addressed by Hanks (2008), who argued that there are dynamic and conventional metaphors. Dynamic metaphors "are coined ad hoc to express some new insight; conventional metaphors are just one more kind of normal use of language" (Hanks 2008: 18). He also claimed that "frequency breeds literalness" (Hanks 2008: 21), which implies that the more frequently a word is used the closer it approaches the literal status. Repeated use and exposure make metaphors worn out and entrenched in our language and conceptual systems.

Extending the notion of gradable conventionality, Goatly (1997) suggested his own taxonomy. According to Goatly, there are Active, Inactive, Tired, Sleeping, Buried and Dead metaphors (1997:32).

Table 3. Goatly's categorisation of metaphor types (adapted from Goatly 1997:32)

Label	**Example**	**Description**
Dead	Germ: a seed Germ: a microbe Pupil: a young student Pupil: circular opening in the iris	Either the former non-metaphorical sense is rarely used, or the connection between the two senses has become so distant with time that it is no longer recognised by most speakers. Homonyms
Buried	Clew: a ball of thread Clue: a piece of evidence	As above. The two senses have become formally different
Sleeping	Vice: a gripping tool Vice: depravity Crane: species of marsh bird Crane: machine for moving heavy weights	The metaphorical meaning is conventional. The literal meaning is still in use and may be evoked by the metaphorical sense on occasion. The two senses are regarded as polysemous.
Tired	Cut: an incision Cut: budget reduction Fox: dog-like mammal Fox: cunning person	As above. However the metaphorical sense is more likely to evoke the literal sense here than in the previous category. The two senses are regarded as polysemous.
Active	Icicle: rod-like ice formation Icicle: fingers ("He had five icicles in each hand" Larkin)	The metaphorical sense is evoked entirely through the literal sense. There is no established lexical relationship between the two senses.

Although such a detailed classification makes clear theoretical distinctions between the categories, when applied in discourse the borderlines between the categories are rather fuzzy. Nevertheless, it is important for a researcher to draw a distinction at least between conventional and novel metaphors. Due to the fact that novel metaphors are rather uncommon, creative and easy to recognise, there should not be great difficulty in recognizing metaphors belonging to this category (Deignan 2005: 40). On the other hand, the question of tired or sleeping metaphors can be rather problematic.

The term of 'dead' metaphor is widely used by researchers, however, some researchers argue that "what is deeply entrenched, hardly noticed, and thus effortlessly used is most active in our thought" and that, therefore…"they are 'alive' in the most important sense – they govern our thought: they are 'metaphors we live by.'" (Kövecses & Benczes 2010: XI). However, I consider the term 'dead' metaphor valid, because they differ from conventional metaphors. The category of dead metaphors comprises the metaphors whose origin can only be traced back by digging into their etymology. Therefore, they do not seem to be active in our thoughts like conventional metaphors are since their original meaning is non-transparent and the relation between the two domains cannot be easily identified. In a language as a dynamic system, some metaphorical meanings of words survive over time while the literal meaning becomes extinct. In that case, the initially metaphorical meaning is regarded as literal synchronically as we cease to recognise its metaphoricity.

The notion that some metaphors are more metaphorical than others was also discussed by researchers who investigated the processing of metaphors. The degree of metaphor conventionality can be related to the mental processes involved in the understanding of metaphorical expressions. In their Career of Metaphor Theory, Bowdle and Gentner (2005) postulate that conventional metaphors require processing by categorisation, while novel metaphors trigger the mental process of comparison. The fact that conventional metaphors occur more frequently implies that most metaphors are not processed by comparison. It might be concluded that they are not processed metaphorically, which might lead to a paradox of metaphor (Steen 2008). Steen (2008) attempts to resolve this paradox by introducing the notion of metaphorical deliberateness.

2.6.3 Deliberateness and communicative purpose

The last criterion for metaphor classification is related to deliberateness, which is the central issue in the three-dimensional model of metaphor suggested by Steen (2008). In his model, Steen emphasises the communicative aspect of metaphor in discourse, which, to his opinion,

was ignored in initial CMT. According to the author, metaphor can fulfil various functions in different discourses. It can be "divertive in literature and conversation, informative in news and science, persuasive in advertising, politics, and science, and instructive in education" (Steen 2008: 214). He suggests that:

> a metaphor is used deliberately when it is expressly meant to change the addressee's perspective on the referent or topic that is target of the metaphor, by making the addressee look at it from a different conceptual domain or space, which functions as a conceptual source. (Steen 2008: 222).

Deliberate and non-deliberate metaphors are claimed to be processed in different ways (Steen 2008). The former involves processing by comparison, whereas the latter by categorisation (Steen 2008: 214). If this is the case, the distinction between creative and conventional metaphors seem to be directly related to the distinction between deliberate and non-deliberate metaphors. However, this relation is not as straightforward as it might seem. Conventional metaphors can be used deliberately and processed by comparison (Steen 2008: 238). Steen suggests that when realised through multiple linguistic metaphors within a text or indicated by signal phrases, like it is often the case in sport reports in newspapers, conventional metaphors are processed as "relatively deliberate cross-domain mappings" (Steen 2008: 223).

In order to differentiate between deliberate and non-deliberate metaphor, it has been suggested we search for so-called metaphorical markers (Goatly 1997) or tuning devices (Cameron & Deignan 2003). These include such words as *metaphorically, figuratively, even, ironically, literally, actually, quite, utterly,* and phrases such as *in more than one sense,* as in *one might say*, and other expressions, such as *so to speak,* and *as it were* (Goatly 1997: 174-175). However, as research has shown, the investigated signalling devices are not metaphor specific (Gibbs 2011a: 34), as not all the so-called metaphor markers are followed by metaphors, and not all deliberate metaphors are marked by these expressions.

Although deliberate metaphor theory thrived to resolve the so-called paradox of metaphor (Steen 2008), it overestimated its applicability for the metaphor theory from a psycholinguistic perspective, as "judgments about deliberation in metaphor, even if they can be made, do not necessarily reflect the underlying cognitive processes used in metaphor interpretation and/or appreciation" (Gibbs 2011a: 32).

Charteris-Black (2012) suggests a notion of 'purposeful metaphor' as an alternative to deliberate metaphor. He emphasises its role in the theory of metaphor in discourse and communication stating that "the interpretation of metaphor in use requires attention to considerations of purpose within specific contexts of communication" which is especially important in pervasive genres like "political speeches,…advertising, propaganda, and media

discourse" (Charteris-Black 2012: 4). This reflects the idea suggested by Lakoff (1996) that the purpose of metaphor in political discourse is related to ideology, which will be discussed in section 4.3.

2.7 Criticism of CMT

There is no doubt that CMT contributed to the development of metaphor as a cognitive phenomenon and, moreover, it triggered a huge interest in the investigation of different aspects of metaphor in Cognitive Linguistics, psychology, sociolinguistics, neurolinguistics, political science, and anthropology. However, some points of criticism have been voiced by researchers questioning and testing the claims posited in conceptual metaphor theory.

One of the fundamental problems addressed by the critics is related to the examples of conceptual metaphors suggested in the CMT. They are claimed to be decontextualized and artificial (Semino et al 2004; Gibbs 2006). Admittedly, the distinctions made by Lakoff and Johnson were based rather on intuition than on empirical evidence from naturally occurring language use. As pointed out by the critics, examples used to illustrate the existence of the dominant conceptual metaphors proposed by researchers were not found to be very frequent in the subsequent studies. For instance, some conceptual metaphors for emotions mentioned by Lakoff (1987) (e.g. ANGER IS HEAT; DESIRE IS HUNGER; FEAR IS COLD) were not proven to be dominant in discourse (Sanford 2008). However, it should be mentioned that orientational metaphors have been widely attested. The frequency of metaphor use can indicate how productive particular source domains are in particular contexts. In this sense, introspection, which was initially applied in CMT, is a rather unreliable method in painting the true picture of the linguistic and cognitive situations. Hence, considering use of metaphors in naturally occurring language can provide us with new insights into the study of linguistic and conceptual metaphors.

Another weak point of CMT concerns the lack of a generally acknowledged methodology and description of analytical procedure of metaphor identification (Deignan 2005; Charteris-Black 2004; Semino et al. 2004; Stefanowitsch 2004; Gibbs 2006, 2011b; Steen et al. 2010). Very often researchers do not describe the steps they follow in identifying metaphors in language and thought (Gibbs 2011b). If linguists conduct and publish studies without an explanation of the analytical procedure they used to identify and analyse metaphors, then it is impossible to use their findings for testing. The critics rightly argued that "the lack of agreed criteria for metaphor identification complicates any evaluation of theoretical claims about the frequency of metaphor, its organization in discourse, and possible relations between metaphoric language and

metaphoric thought" (Pragglejaz Group 2007: 2). In this case, systematic and coherent approaches are required in order to enhance our understanding of metaphor as a linguistic and cognitive phenomenon. Therefore, a description of the analytical steps used is essential for conducting comparative research which facilitates accumulation of findings and building of theory.

To address these methodological shortcomings, some researchers suggested their approaches successfully integrating corpus linguistics and discourse analysis (Pragglejaz Group 2007; Steen et al. 2010; Stefanowitsch 2006a; Charteris-Black 2004) into methodological toolkit applied for metaphors research, which will be discussed in more detail in chapter 3.

Criticism was also expressed concerning the strong emphasis of bodily experience as the main motivation for conceptual metaphors and disregarding of cultural and contextual factors (Kövecses 2005, 2015). According to CMT the main influential factors are physical and cultural experience, which further suggests that primary metaphors are more universal than complex metaphors. However, the question of universality and variation of conceptual metaphors is more complex than it seems at first glance. Some research has shown that "primary metaphors are not necessarily universal" (Kövecses 2005: 4).

Moreover, physical and cultural motivations are far from being the only determining factors to shape our metaphorical conceptualisation. As argued by Kövecses (2015), motivations and constraints influencing the emergence and spread of metaphors also include contextual factors:

> "[…] in many cases metaphorical concepts do not arise from prestored mappings in the conventional conceptual system, as is often assumed in the cognitive linguistic literature on metaphor, but result from the priming effect of contextual factors in real situations of discourse on the human mind to establish metaphors" (Köcecses 2015: 49)

Although the link between physical experience and conceptualisation of complex or abstract notions can be observed in metaphorical linguistic expressions, the reasons why certain conceptual mappings are established do not exclusively rely on our bodily experience but also on culture-specific beliefs and contextual factors. In his publications on metaphor, culture and context, Kövecses (2005, 2006, 2015) criticised CMT for focusing excessively on the role of embodied cognition and ignoring the importance of context. The author tried to revisit the distribution of attention to the main factors of metaphor universality and variation in order to create "a more comprehensive and sophisticated version of the theory" (Kövecses 2005: 5). A more detailed account of contextual factors by Kövecses (2015) is provided in section 4.2.

I agree with the critical arguments about lack of identification methodology and need for integrating of discourse and contextual factors into metaphor research. Although CMT can be

considered as widely acknowledged theory, "such a framework is incomplete when it is not embedded in a broader theory of (verbal and other) social interaction and social structure" (Van Dijk 1998a: 235). I consider the ideas of CMT useful as the foundation or starting point for creating a modified framework which will enhance our understanding of various aspects of metaphor in language and thought. In this case, critical remarks can be seen as an impetus for elaboration and further development of a more comprehensive and sophisticated version of the metaphor theory.

3 Gender, language and cognition

As mentioned before, from a cognitive view, our bodily and social experiences influence the way we think and talk, which is often discussed in relation to sex/gender. There are differences in cognitive and linguistic behaviour between women and men. Two competing groups of theories provided explanations for differences between women's and men's language: biological and sociological. While there is still no agreement among scientists, it seems like biological approach is more acknowledged by public opinion.

According to modern popular literature and the general belief, the spectrum of differences between the way men and women involves not only communication but also cognitive processes. As John Gray describes in his book "Men are from Mars, Women are from Venus" (Gray 1992: 5):

> [n]ot only do men and women communicate differently but they think, feel, perceive, react, respond, love, need, and appreciate differently. They almost seem to be from different planets, speaking different languages and needing different nourishment.

Such strong claims about men and women as opposing species are not sufficiently supported by evidence but are rather based on anecdotal evidence and personal observations, which lack reliability and cannot be generalised. The above-mentioned book is saturated with gender-related dualism based on the old-fashioned stereotypes which continue to strengthen the myth of established dichotomy. In the XXI century, it still enjoys popularity among readers, which implies that the topic of gender dualism is appealing to the audience and the biological model is still quite wide-spread in Western cultures.

3.1 Gendered brain and gendered cognition

This sociological-biological division is also reflected in the more recent popular literature, which is pervaded with such terms as "female brain" and "male brain" (Baron-Cohen 2003; Louann Brizendine 2006). These notions suggest that sex-related differences in the brain

influence social behaviour related to gender. Such claims rely on the frequently discussed difference in brain neuroanatomy and the influence of hormones on social behaviour (Cosgrove et al. 2007; Andreano & Cahill 2009).

In the 19th century, scientists assumed that the difference in absolute brain size and weight determined men's superiority in cognitive and intellectual abilities, while the importance of historically developed political, social and cultural conditions, such as a lack of education and fewer rights and opportunities for women were just ignored. Relying on brain size, however, turned out to be quite problematic as there are some animals which have bigger and heavier brains than humans. Scholars continued to search for an explanation for the social gender gap relying on the biological differences.

After brain imaging was possible, in the 1990s, research consisted of more detailed experiments in order to test the theoretical claims. Recent research indicates that sex may influence cognitive functions like perception, memory and emotion (Cahill 2006). Women and men seem to have different ways of recognizing faces, solving problems, and making decisions.

For example, the female brain is claimed to be better at empathy and understanding people (Christov-Moore & Iacoboni 2019) and deficient at spatial orientation, while male brain is excellent at spatial cognition but poor in emotions and understanding others. This extreme claim, which postulates gendered brain determinism, is sometimes called the "empathising-systemising theory" that. The main idea is that "the female brain is predominantly hard-wired for empathy, while the male brain is predominantly hard-wired for understanding and building systems" (Baron-Cohen 2003: 1).

The claims that differences in behaviour have their origin in evolution and biology has been referred to as "the new biologism" (Cameron 2010). In this perspective, gender differences are caused by biological sex rather than by social and cultural conditions. However, such theories need to be approached critically. Thus, findings on sex/gender differences are rather contradicting and there are still too many unanswered questions in the field of neuroscience. Without strong evidence, it is impossible to state that female and male behaviour exclusively depends on the differences in brain structure and hormones neglecting the role of nurturing, and socio-cultural factors. In her book, neuroscientist Gina Rippon (2019) strongly criticised pseudo-neuroscientific books like "Men are from Mars, Women are from Venus", which have been spreading and sustaining biased stereotypes about gendered brains. She emphasised that considering the status quo in neuroscience it is impossible to say that the influence of the difference in brain structure overrules the impact of gendered treatment. Thus, the existence of a typical "female brain" or "male brain" is not supported by strong evidence. It might be

suggested that our perception of the world depends on our experience, our cultural and social environment, and so does our linguistic behaviour.

3.2 Language and gender

As far as linguistic behaviour is concerned, several stereotypes are established in Western cultures regarding female and male communication styles. Various theories attempted to explain the differences between men and women. Within deficient (Lakoff 1975) and dominance approaches (West & Zimmerman 1983) linguistic differences are considered to be a matter of power relations between sexes, while difference approach (Tannen 1991) explains them by the existence of male and female subcultures. The most recent and widely applied framework is the dynamic or social constructionist approach (Butler 2004; Cameron 1997; Holmes, 1995). It considers gender as something that is performed through communication.

The interest in women's language was triggered by the deficient approach advanced by Robin Lakoff (1975). In her book *Language and woman's place*, she suggested that men's language was a norm whereas women's language was considered a deviation from that norm. The main difference pointed out by Lakoff was that women's use of hedges and 'empty' adjectives like nice, charming, made their language deficient, weak, and less confident. Very similar ideas were suggested by the dominance approach that emphasised that men's language is superior to women's language. Following this approach, researchers sought to demonstrate how linguistic behaviour reveals the hidden ideology of male dominance and female subordination (West & Zimmerman 1983).

A different perspective on gender and language was taken by one of the famous sociolinguists investigating gender and communication, Deborah Tannen (1991). In her book *You Just Don't Understand*, Tannen emphasised that linguistic differences between the sexes are not based on dominance relation but just a matter of difference between gender subcultures. The cultural difference between women and men emerges due to different ways of nurturing and belonging to different social groups. The stereotypical female linguistic style involves seeking connection, expressing emotions, supportive interruptions, conflict avoiding, while male speakers tend to pursue status, avoid emotions, interrupt to receive attention, and use conflicts as a strategy for status gaining. These differences are suggested to have emerged because women and men are brought up in different groups and have different experiences of meaning-making. Tannen urged us to deepen our understanding of different communicative styles performed by women and men instead of trying to change what she called "genderlect", typical female "rapport-talk"

and male "report-talk" styles. Understanding each other's subculture is a way we can improve our communication (Tannen 1991).

While the ideas of gender difference and dominance perspectives have been popularised in media and have been reinforcing preconceptions and existing stereotypes about gender, academic research has delivered contradicting evidence regarding the differences in linguistic behaviour between sexes. Some scholars argue that identified differences are significant (Woods 1984; Tannen 1991; Locke 2011), while the others deny this claim (Cameron 2010; Holmes 1995; Coates & Johnson 2001; Simkins-Bullock & Wildman 1991) suggesting that even if there are differences, they are not significant and clear-cut. Moreover, other influencing factors like social, cultural and linguistic contexts should not be ignored.

These ideas are integrated into the most recent framework, known as the dynamic or social constructionist approach, which is relevant to the present study. Researchers who take this perspective sometimes consider gender not a noun but a verb. The speakers do not belong to a particular gender but they do gender (Butler 2004). In this sense, the notion of gender is not static but dynamic and it can change every time we communicate. Speakers often tend to replicate linguistic behaviour which is typical of a particular gender. As Cameron pointed out:

> we have a tendency to treat any generalisation about men and women as a source of information about "normal" male or female behaviour, which therefore has implications for how we ourselves should behave (Cameron 2007: 165).

Therefore, speakers can "represent themselves as masculine or feminine" through their language behaviour (Koller & Semino 2009: 9). Moreover, according to the social constructivist approach, the role of context is crucial for the choice the linguistic strategies speakers apply in order to create a particular representation (Koller & Semino 2009: 9-10). This can be reflected in metaphors speakers and writers use in various contextual situations and discourses. Before moving to the discussion of conceptual metaphor and gender, let us consider the role context and discourse play in the metaphor research.

4 Metaphor, context and discourse

The importance of context and discourse for metaphor research was emphasised by the critics of CMT (Semino et al 2004; Gibbs 2006; Steen 2009). Decontextualization and artificiality of the examples used in the CMT provoked critical comments regarding the distorted reflection of the reality of linguistic and cognitive metaphors and misleading generalisations. This section discusses contextual and discursive factors and their role in shedding light on how and why metaphors are used.

4.1 Discourse

While a variety of definitions of the term discourse have been suggested in linguistic literature, this thesis will follow the definitions given by Semino (2008). She distinguished between two terms of discourse. The first term is a countable noun discourse ('discourses' as plural), which is defined as "ways of speaking or writing about particular topics (e.g. medical discourse) or in particular settings (e.g. classroom discourse), usually from particular perspectives" (Semino 2008: 227). This definition is in line with the one provided by Foucault, who defined discourses as "practices that systematically form the objects of which they speak" (1972: 49). The second term is an uncountable noun discourse that implies "naturally occurring language use: real instances of writing or speech which are produced and interpreted in particular circumstances and for particular purposes" (Semino 2008: 1).

Investigating linguistic phenomena in discourse is beneficial as it can provide new insights about our linguistics choices and reasons behind them. As argued by Steen, "the study of discourse, defined as concrete events of language use, is able to refine our view of the nature and function of the various phenomena involved" (Steen 2009: 27). In this sense, metaphor research in discourse might shed new light on linguistic and conceptual metaphors and facilitate sophistication of the theory. To reach this goal, researchers undertaking discourse-oriented studies explored metaphors in discourse, authentic language use, taking into account different discourses, various topics and settings.

4.2 Context

In comparison to discourse, the notion of context is broader, since it encompasses "the structured set of all properties of a social situation that are possibly relevant for the production, structures, interpretation and functions of text and talk" (Van Dijk 1988a: 211). In her metaphor research, Semino (2008: 31) specifies the term of context as involving:

> the role, identities and goals of addressers and addressees, their mutual relationships, and the relevant co-text and context, broadly conceived (i.e. including situational, social, political, historical and cultural aspects.

Thus discourses are produced within particular physical situations and in particular social, political, historical and cultural contexts. Kövecses (2010, 2015) elaborates on this idea and suggested his model of contexts, which involved the structure of nested frames (Figure 2) moving from general context, shared by larger groups, to specific contexts, involving a particular discourse or topic. According to his explanation:

> We can imagine these contexts as frames that are nested in one another, such that the physical setting as the outermost frame includes the social frame that includes

the cultural frame, and so on, where in the "innermost" frame we find the speaker/conceptualizer, the hearer/conceptualizer, and the topic, as well as the diagram for the flow of discourse (functioning as the immediate linguistic context, or context) (Kövecses 2015: 71)

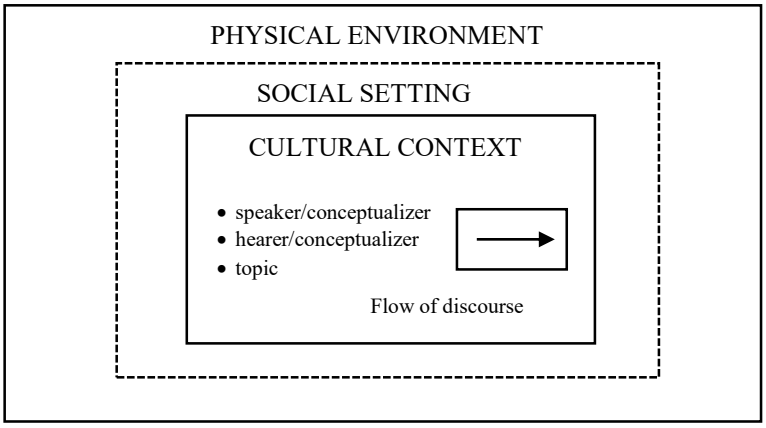

Figure 2. Nested contexts (Kövecses 2010: 691)

Both linguists, Semino and Kövecses, demonstrated their agreement by emphasising that contextual factors are essential for studying the reasons why some metaphors are applied in a particular discourse. However, Semino made a distinction between discourse, discourses and context, while Kövecses proposed a model of contextual factors, in which the flow of discourse is embedded.

In his more recent publication, *Extended conceptual metaphor theory* (Kövecses 2020), Kövecses suggested a new model of conceptual metaphor, which includes a contextual component. This model involves interrelation between metaphor and four types of context: situational, discourse, bodily, and conceptual-cognitive contexts (Kövecses 2020: 168). All of these contexts can influence the use of linguistic and conceptual metaphors (Figure 3)

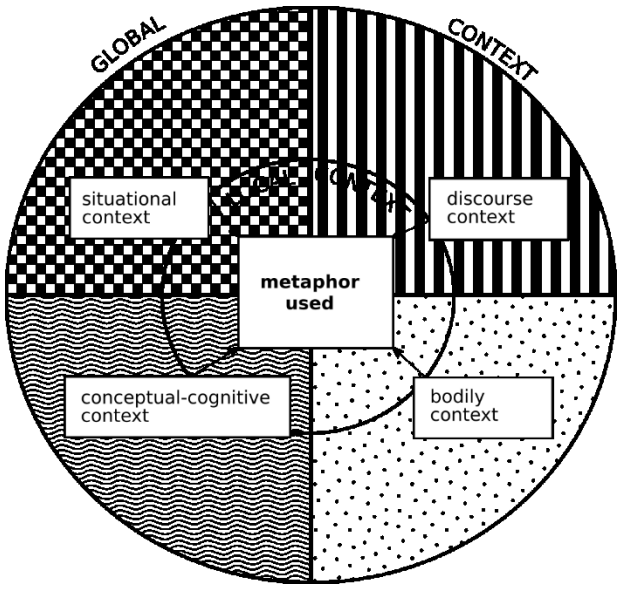

Figure 3. Types of contextual factors (Kövesces 2020: 101)

Situational context involves "the physical environment, the social situation, and the cultural situation." (Kövecses 2020: 96), the three outer frames of the nested frames model (Figure 2). Discourse context is related to the topic, the element of the innermost level of the previous model (Figure 2). It implies "the surrounding discourse, knowledge about the main elements of discourse, the previous discourses on the same topic, and the dominant forms of discourse related to a particular subject matter" (Kövecses 2020: 97). The notion of discourse context is similar to the countable noun discourse proposed by Semino (2008). The bodily context suggests that our body state, e.g. illness, or bodily specificities, e.g. being right-handed or left-handed, might determine the use of metaphors. Finally, conceptual-cognitive context comprises "the metaphorical conceptual system, ideology, knowledge about past events, and interests and concerns" (Kövecses 2020: 98). All the above-mentioned types of context that influence the use of metaphor can be either on the local or on the global level. Local level implies the knowledge that is related to the "immediate commutative situation", while global level refers to "knowledge shared by an entire community of conceptualizers" (Kövecses 2020: 100).

One may expect contextual factors also to influence the frequency of particular metaphors on different levels of discourse and even across discourses. This is sometimes referred to in linguistic literature as metaphor systematicity. Cameron (Cameron 1999: 129) distinguished between three levels of metaphor systematicity:

- "*local systematicity* of metaphors within a particular discourse event" which can be found in a particular text;
- "*discourse systematicity* of metaphors within use in specific discourse communities" which is characteristic of a particular genre or discourse;
- *"global systematicity* of metaphors across a range of discourse types and content" which can be found in a language or across languages.

Later on, Cameron (2010: 91) introduced a term of "systematic metaphor" which implies:

> […] an emergent discourse phenomenon that is produced when discourse participants, over a discourse event or longer period of time, use a particular set of linguistic metaphor vehicles in talking about a particular topic, or closely connected topics. (Cameron 2010: 91)

Metaphors that have been constantly used over a longer period of time in various texts of a particular discourse are also referred to as intertextual metaphors (Charteris- Black 2014: 160). Such metaphors can establish themselves in one discourse or across discourses and become conventional. The existence of well-established metaphorical patterns can reflect in the way we talk and think about particular topics, our perspective on reality.

4.3 Ideological potential of metaphor in discourse

Taking into account that texts are produced for some communicative purpose, it can be stated that "[t]here is no neutral discourse: whenever we speak we have to choose between different systems of meaning, different sets of values" (Coates 1998: 302) and in doing so, we follow some ideology. Although the term "ideology" has gained pejorative flavour, it should be acknowledged that we all act in accordance with certain values and principles, we all follow a particular ideology that shapes our mindset. Ideology can be defined as" a coherent set of ideas and beliefs that provides an organised and systematic representation of the world" (Charteris-Black 2011: 21-22).

Semino (2008) drew a connection between metaphor, discourses and ideology describing discourses "as linguistic phenomena, i.e. as particular ways of talking about particular aspects of reality within particular social contexts and practices", whereas ideologies are described as "cognitive phenomena, i.e. as (shared) conceptualizations of particular aspects of reality, which include conventional conceptual metaphors alongside other long-term mental representations" (Semino 2008: 90). She suggests that there is a dynamic correlation between the two notions, whereby:

> discourses reflect particular ideologies, but also contribute to shape them and change them; ideologies result from discoursal and social practices but also determine and constrain these practices" (Semino 2008, 90).

One of the most famous researchers to investigate ideology, Van Dijk (1998a 2008), provided his definition of ideology as the foundation for our beliefs and moral perspectives. He suggested that ideology is:

> the basis of the social representations shared by members of a group. This means that ideologies allow people, as group members, to organize the multitude of social beliefs about what is the case, good or bad, right or wrong, for them, and to act accordingly" (van Dijk 1998a: 8)

Furthermore, apart from determining our viewpoints on morality, ideologies might shape our evaluation of truth and understanding of reality (van Dijk 1998a: 8). In this sense, metaphors might strengthen or change our positions. Due to their properties to highlight and hide particular aspects of the target domain concept, metaphors might carry some latent ideological potential. (Lakoff & Johnson 1980, Goatly 2007). They help shape the message in a particular way, to emphasise what is needed to be shown and to conceal what is supposed to be less visible or left unnoticed. As stated by Goatly (1997: 155):

> Metaphor…is not a mere reflection of a pre-existing objective reality but a construction of reality, through a categorization entailing the selection of some

> features as critical and others as noncritical…metaphors can consciously be used to construct…reality."

In line with this argument, some researchers suggested that systematic metaphoric patterns in language can be influenced by the ideological purposes that speakers pursue when interacting with each other (Charteris-Black 2004; Goatly 2007; Koller 2004, Kövecses 2020). As Charteris-Black pointed out (2004: 28), "metaphors are used persuasively to convey evaluations and therefore constitute part of the ideology of texts". An example of political ideology reflected in the use of metaphors was described by Lakoff (1996). He explored NATION IS A FAMILY metaphors in American politics and found that conservatives prefer NATION IS A STRICT FATHER metaphors, while liberals use NATION IS A NURTURANT PARENT metaphors. Ideology can influence metaphor production in a particular discourse.

The influence of ideology can also work in the reverse direction. Metaphors employed by speakers might have ideological or manipulative potential as they can influence the audience's reasoning. While discussing a particular social issue, speakers tend to frame it in accordance with their value systems and they can choose specific metaphors. Metaphor choices can influence the audience's reasoning about the discussed issue. This effect was described by Thibodeau and Boroditsky (2011). They explored and described the consistency of reasoning and metaphors used in the discourse about crime. Conducting five experiments, researchers provided participants with two versions of a text describing the crime situation in invented city Addison. In the first text, crime was framed as a beast, while in the second as a virus. The results showed that "even the subtlest instantiation of a metaphor (via a single word) can have a powerful influence over how people attempt to solve social problems". The tendency to choose enforcement and punishment as a solution was much higher in the case when the participants were exposed to the beast framing structure. In contrast, structuring crime as a virus was likely to provoke the participants to choose social reforms and prevention measures to solve the crime situation. Surprisingly, according to the interviews, participants were convinced that statistical data, which was the same in both texts, and not metaphors were a guiding factor in shaping their decisions. It indicates the covert subtle nature of metaphor to influence our way of thinking and acting. As Lakoff and Johnson (1980) righty argued:

> "metaphors may create realities for us, especially social realities. A metaphor may thus be a guide for future action. Such actions will, of course, fit the metaphor. This will, in turn, reinforce the power of the metaphor to make experience coherent. In this sense metaphors can be self-fulfilling prophecies." (Lakoff & Johnson 1980: 156)

Creating social reality is connected to the frequency of metaphor use and the process of metaphor conventionalisation. Similarly, discourse systematicity of particular metaphors also contributes to the way we talk and think about some complex issue.

4.4 Effectiveness of metaphor in public communication

In the argumentative language of public communication, conceptual metaphor is often employed as a powerful strategy to maintain new or reinforce existing ideologies (Charteris-Black 2004, 2009, 2011; Goatly 2007; Musolff 2007). The explanation of why the use metaphors in public communication can be effective was provided by Charteris-Black (2014: 160) who stated that metaphor:

> […] draws on the unconscious emotional associations of words and assumed values that are rooted in cultural and historical knowledge. For this reason it has potentially as highly persuasive force and activates unconscious, often mythic, knowledge to influence our intellectual and emotional responses by evaluating actions, actors and issues.

According to Charteris-Black (2014), there are two different ways in which metaphor can provoke an unconscious emotional response triggered by the mental associations we make between source and target domains. It can occur directly, when creative, novel metaphors are employed which "may be active in the short-term memory" (Charteris-Black 2014:160). Otherwise, it happens indirectly, when conventional or intertextual metaphors are used. They "are no longer processed actively but have become systematically present in long-term memory" (Charteris-Black 2014:160). In both cases, the emotional response can influence our reasoning about a particular topic. It can explain different reasoning provoked by the use of the different source domains for the same target domain which was described by Thibodeau and Boroditsky (2011) in their study of consistency of reasoning and metaphors.

One of the most prevalent source domains in public communication is the domain of war (Flusberg & Thibodeau 2018). This source domain is effective for several reasons. First, because it employs established "schematic knowledge for a prototypical war" which entails:

> a fight between opposing forces with a clear distinction between an in-group (us, "good") and out-group (the enemy, "evil"), who are engaged in a struggle to achieve different goals; there are strategic decisions to be made about how to use resources for attack and defense. (Flusberg & Thibodeau 2018: 4)

Second, the experience of war is omnipresent in our lives. Some people learn about past wars and some are involved to a different extent in the present military conflicts. Therefore, fighting metaphorical wars is familiar and widespread. The concept of war is transferred to other topics because they resemble the structure of military conflict. A wide range of problem-related topics which involve social, political, medical, environmental issues rely on WAR metaphors.

Therefore, they constitute a well-established framework. Finally, war metaphors stimulate emotions, especially those related to the feeling of anxiety and fear which "can motivate people to pay attention, change their beliefs, and take action about important social issues" (Flusberg & Thibodeau 2018: 6).

In receiving information through the media we can be influenced by the language they use. Considering the language of newspapers, some researchers claim that political affiliation of newspapers might influence ideological framing of social, political and economic issues (Van Dijk 1998b). This can be reflected not only in news articles but also in opinion pieces. As Van Dijk (1998b: 21) remarks:

> Depending on the type and the stance of the newspaper, these opinions may vary considerably in their ideological presuppositions. This rather common formulation seems to imply that the ideologies of journalists somehow influence their opinions, which in turn influence the discourse structures of the opinion articles." (Van Dijk 1998b: 21)

Given this consideration, exploring metaphors that describe a particular issue in different newspapers might dismantle certain worldviews or ideologies hidden behind the choice of the conceptual metaphors. Ideology represented by metaphors sustains in their regular consistent use that shapes "long-term mental representations which contribute to a particular view of the world that can be described as political myth" (Charteris-Black 2014: 211).

5 Gender and variation of conceptual metaphor

Investigating metaphor in discourse, some scholars sought to find out whether there is any relation between gender and the use of conceptual metaphor. There are three main directions of research on gender and metaphor. While most of the studies focused on how men and women are conceptualised in different cultures (Hines 1999; Nilsen 1996; Stirling 1987; Hiraga 1991), in the recent decades, there has been an increasing interest in discovering gender-specific metaphorical use in discourse and how discourse is constructed through gender-specific metaphors. These two directions will be discussed in this section since they are relevant to the present study.

Recent research has focused on a variety of discourses: political speeches (Koller & Semino 2009; Charteris-Black 2009, 2014), business media discourse (Koller 2004), educational context (Fiksdal 1999), emotional communication (Fussell & Moss 1998), and context of depression (Charteris-Black 2012). These studies aimed to explore similarities and differences between women's and men's linguistic behaviour with regard to the metaphors they used to

frame a particular discourse. Most of these studies followed the social constructionist approach, mentioned before.

The discourse that has triggered enormous scholarly interest in relation to conceptual metaphor and gender is political discourse (Koller & Semino 2009; Semino & Koller 2009; Charteris-Black 2014). Various genres of political communication were analysed to investigate the use of linguistic and conceptual metaphors. For instance, Koller and Semino (2009) conducted two studies focusing on the choice of metaphors in the interviews and speeches given by famous German and Italian politicians. While the first study investigated metaphors used by two German chancellors, Angela Merkel and Gerhard Schröder, in the second study, the metaphorical language employed by two Italian politicians, Silvio Berlusconi and Emma Bonino, was explored. In both studies, researchers followed the social constructionist approach to gender and language, which suggests that:

> speakers exhibit particular linguistic behaviour which makes them come across as masculine or feminine, often regardless of their biological sex (Koller & Semino 2009: 10).

They used quantitative and qualitative methods to examine the number of metaphor tokens, metaphor types, metaphoric type-token ratio and metaphor density per 1,000 words, as well as the most frequent source domains of employed by the politicians: JOURNEY, WAR and SPORTS. The results of the analyses demonstrated that all the politicians used WAR metaphors in order to "present themselves as 'fighting for' positive outcomes and 'against' negative situations" (Semino & Koller 2009: 54). The findings of the first study suggested that Merkel's use of metaphors was denser but at the same time more "formulaic", which means that she frequently uses the same patterns. Schröder's metaphorical language relied more often on WAR metaphors. In their second study, Koller and Semino demonstrated that both Italian politicians, Silvio Berlusconi and Emma Bonino, use conceptual metaphors from the source domains of WAR and SPORTS. However, while Berlusconi conformed to more conventionalised linguistic metaphorical expressions of these conceptual metaphors which are associated with masculinity, Bonino applied more creative metaphorical expressions, challenging conventionality, which requires more interpretation skills from her audience because unconventional phrases "tend to appeal to their intellect and reasoning abilities more than to their emotions" (Koller & Semino 2009: 56). Having conducted these two studies, Koller and Semino concluded that differences in metaphors cannot be explained only by gender-specific language use. As suggested by the linguists, other contextual factors should be taken into consideration. These include speakers' political orientation, professional background, current events and topics discussed (e.g. elections may cause more frequent use of WAR metaphors) and the fact that political speeches

are usually written by professional speech writers, which might imply strategical use of metaphors associated with masculinity or femininity in order to achieve particular objectives.

In educational discourse, women and men demonstrated different uses of linguistic metaphors for communication during a seminar (Fiksdal 1999). The study focused on conduit metaphors (Reddy 1979) like IDEAS ARE OBJECTS, LANGUAGE IS A CONDUIT and metaphors framing the seminar as A BUILDING and A JOURNEY. The main findings were related to the differences in the conceptual framing of the seminar. Men used metaphorical expressions to frame the discussions of the seminar as A GAME with its rules and winners/losers. Women applied the expressions relying on metaphor SEMINAR IS A COMMUNITY that involves "sharing, valuing, and helping other seminar members" (Fiksdal 1999: 348). This finding is in line with the difference theory of gender postulating that men use competitive and women supportive communicative strategies.

However, some studies showed that masculine linguistic behaviour prevails in a particular discourse and that it can be adopted by female and male speakers. In her book, Koller (2004) described her investigation of the relation between gender and metaphor in business media discourse. The author claimed that the prevalence of WAR metaphors used by women and men in business discourse serves as 'masculinizing force on both discourse as well as on related social practices' (Koller 2004: 172). She argued that the use of aggressive military metaphors negatively influence the working atmosphere, provoking hostility and impeding the feeling of partners' equality. This argument is in line with the statement that "selective use of metaphor may help create [a] reality which is unequal […] and the metaphorical reality constructed is male dominated' (Wilson 1992: 884). Koller suggests that there is a need to unlearn WAR metaphors and replace them with less aggressive source domains like RACING or MATING. According to Koller (2004) such a shift in metaphorical framing to non-violent metaphors would improve the way we understand and behave in business organisations. The question is whether it can also be observed in other discourses.

6 Discourse of climate change

This section focuses on the discourse of climate change, differences in perspectives and conceptual framing. In section 6.1, a brief overview of two lines of division in public opinion on climate change, political orientation and gender, is provided, followed by the discussion of some studies on conceptual metaphors and climate change (section 6.26.2).

6.1 Different perspectives on climate change

Climate change is a complex issue that influences various spheres of our lives, including our value systems and political, social, economic and linguistic behaviour. The attitude towards this issue often politically and socially polarised. There are several lines of division, as far as the understanding and the level of worry about climate change is concerned. Most frequently discussed influencing factors are political affiliation and gender.

Existing research suggests that political affiliation can play a significant role in the attitude towards climate change. For example, left-wing parties tend to pay more attention to climate change than their right-wing counterparts. Moreover, the former show more willingness to make adjustments to sustain the climate. The bigger the gap between the ideologies of the parties in a country, the less plausible reaching of the targets of carbon emissions (Jensen and Spoon 2011).

The political divide can be also observed in public opinion. In one of the recent studies in Great Britain, certain tendencies were observed in the level of worry about the climate change expressed by the supporters of different parties (Table 4)

Table 4. Level of worry about climate change, by party identification (based on Fisher et al. 2018: 165)

		Extremely worried	Very worried	Somewhat worried	Not very worried	Not at all worried	Unweighted base
All	%	6	19	45	22	6	1858
Party identification	%						
Conservative	%	3	15	47	28	5	548
Labour	%	6	23	48	17	4	512
Liberal Democrats	%	6	29	51	9	2	130
Scottish National Party	%	5	22	44	25	3	57
Green Party	%	28	23	40	11	0	53
UKIP	%	4	9	35	40	8	114
None	%	6	17	42	23	10	414

Source: European Social Survey wave 8 (2016), British respondents aged 18+

The results indicated that there is a certain political divide with regard to the attitude to climate change. The respondents who voted for Conservative, Scottish National Party and UKIP demonstrated a lower level of concern about climate change, while the answers given by supporters of Labour, Liberal Democrats and Green Party illustrated that the respondents are

worried to a greater extent about the situation. This situation reflects political polarisation which might be influenced by political ideology.

Another potential influencing factor for different position towards climate is gender. The studies investigating gender with regard to the perception of climate change demonstrated that there are some gender differences in the behaviour and attitudes towards climate change. For instance, in a study conducted in Finland, women showed more climate-friendly dietary choices than men (Korkala et al 2014). These results showed that there is a relation between gender and the different level of concern about climate change. Female respondents demonstrated a better understanding and higher concern about the issue. Similar results were obtained in a study that investigated American respondents (McCright 2010). The research showed that a higher number of women considered human activity mainly responsible for greenhouse gas emissions. Moreover, women are more concerned about the effects of climate change.

As illustrated by another study, gender and political orientation may influence denial of climate change (Jylhä et al. 2016). The results of online questionnaires collected from respondents from Brazil and Sweden showed that conservative male individuals tend to deny climate change more often than other adults. This finding is consistent with previous research on the main characteristics of climate change deniers (McCright & Dunlap 2011; Milfont et al. 2015; Poortinga et al. 2011). Different attitudes or ideologies regarding climate change can be expressed by means of different conceptual metaphors. Due to the main functions of metaphor to enhance our understanding of complex or abstract topics and to convey our evaluation of a particular situation or event, they can be used as strategies to provoke actions.

6.2 Metaphors in discourse of climate change

Nowadays the notion of climate change encompasses all the environmental changes happening globally. However, it is even more than this. Climate change "has more potency now as a mobilizing idea than it does as a physical phenomenon" (Hulme 2009: 328). It is reflected in our linguistic behaviour, in the metaphors we use.

Studies that concentrated on metaphors in the discourse on climate change have demonstrated how metaphors as framing devices contribute to the construction of the reality of this topic. Research involved investigation of different genres: corporate reports (Karpanov 2017), editorials and opinion articles (Atanasova & Koteyko 2017a, 2017b), blog postings (Nerlich 2010), and articles from popular science magazine (Jaspal & Nerlich 2012). The research showed that dominant source domains used in the context of climate change are WAR, RELIGION,

JOURNEY, ECONOMICS and ILLNESS. Moreover, these source domains were used to different extents and for different purposes in various media.

Some studies revealed that metaphors from the source domains of WAR and RELIGION fulfilled different functions (Flusberg et al 2017; Nerlich 2010). For instance, Nerlich (2010) discovered that religious metaphors are often used to frame the science of climate change as untrue and, therefore, they might cause so-called "political paralysis", inaction on climate change (Nerlich 2010: 437). WAR metaphors, in contrast, might mobilise action and therefore, they can be used as an effective strategy to raise public awareness about the urgency of the situation (Flusberg et al 2017).

One of the recent studies conducted by Atanasova and Koteyko (2017a) confirmed these findings. Moreover, it demonstrated that the political orientation of the medium might influence the choice of metaphors in the discourse of climate change. Atanasova and Koteyko (2017a) investigated the use of metaphors in opinion articles of two online British newspapers, Guardian, a medium of centre-left political orientation, and Mail Online, targeting a right centre political audience. The researchers explored conceptual metaphors in the discourse on climate change in the selected media from a pragmatic perspective. The main focus was in particular on the dominant conceptual metaphors with regard to their functions as pro-climate arguments and arguments mitigating action on climate change. The findings showed that metaphors of WAR were prevailing in the Guardian Online, whereas RELIGION was the dominant source domain in Mail Online. Moreover, WAR metaphors were applied to support pro-climate argumentation emphasising the high priority of acting on climate change, while the main functions of RELIGION metaphors were to intensify argumentation of scepticism and to mitigate political action (Atanasova & Koteyko 2017: 452).

The use of particular conceptual metaphors may be also culture-specific or country-specific (Atanasova & Koteyko 2017b). A cross-linguistic study by Atanasova and Koteyko (2017b) focused on climate-change-related metaphors in editorial and opinion articles in popular online newspapers from Germany, the United Kingdom, and the United States. They searched *Sueddeutsche.de*, *theguardian.com* and *NYTimes* for the editorials and op-eds containing the phrase "climate change" and the word "Klimawandel", published between 1, January 2006 and September 30, 2013. They discovered that prominent metaphors differ across the countries they "are closely intertwined with national contexts and cultures, political identities, and policy making." (Atanasova & Koteyko 2017b: 84). In the German newspaper, climate change was described in terms of ILLNESS, in British as WAR and in American as A JOURNEY. For instance, WAR metaphors in British newspapers seem to be a long-term tendency. Previous research

stated that British media rely heavily on WAR metaphors (Cohen 2011). This source domain is highly conventionalised and is being implemented for various target domains especially in the political context and therefore it can be seen as an element of the British narrative style (Mangan 1996: 12).

Other source domains like ECONOMICS or ILLNESS are also often used in the discourse of climate change. As Shaw and Nerlich (2015) emphasised, climate change is frequently framed in terms of economics, which involves monetising of climate change policies. Such framing, however, might lead to oversimplification of the problem and wrong understanding of relations between the growing economy and sustainability of the environment as the one that can easily be resolved by means of money. Similarly, describing climate change as an ILLNESS and geoengineering as a techno-medical treatment for the planet, as a PATIENT, might create an illusion that the recovery of the planet can be easily fixed by the intervention into Earth's climate (Jaspal & Nerlich 2012: 139).

7 Methodologies employed for investigation of metaphor in discourse

In the course of conducting research on metaphor in discourse, several approaches have been introduced. Some of them have been widely adopted and adapted. The most prominent methods applied in metaphor studies that are relevant to this study are the main focus of the current chapter. First, a combination of cognitive and discourse analysis approaches to metaphor is described. In particular, as an example of this complementary approach, a framework known as Critical Metaphor Analysis (Charteris-Black 2004, 2014), is explained. Section 7.2 provides a brief explanation of two directions of metaphor analysis, whereas section 7.3 deals with the role of corpus linguistics methods in the development of metaphor research. Finally, in section 7.4, two main strategies for metaphor identification, namely metaphor pattern analysis proposed by Stefanowitsch (2004) and the metaphor identification procedure (Pragglejaz Group 2007), are discussed.

7.1 Integration of cognitive and discourse-based approaches to metaphor analysis

From the cognitive point of view, patterns of metaphorical linguistic expressions confirm the existence of conceptual metaphors that are realised through these expressions. Within the discourse approach, if a particular metaphorical framing is used very frequently, then it can be considered a *systematic metaphor*, a metaphor that is prevalent in a particular discourse or

similar discourses over time. Adopting dynamic systems theory, discourse-based approaches rely on the idea that explanation of metaphorical expressions cannot be exclusively related to the activation of conceptual metaphors that pre-exist in our conceptual system. They can rather be explained by a dynamic interplay of different factors, whereby "cognitive, linguistic, social and cultural forces simultaneously shape, along different time-scales, people's use and understanding of metaphoric discourse." (Gibbs & Cameron 2008: 74)

Cognitive and discourse approaches have been successfully integrated in multiple studies (Koller 2004; Cameron et al 2010; Charteris-Black 2004, 2014; Semino 2008; Semino et al 2018). As mentioned before, dominant conceptual metaphors in a particular discourse might reflect underlying worldviews and ideologies. Thus, investigating systematic metaphors can be beneficial for revealing existing attitudes and worldviews. This became the main focus of a framework known as critical metaphor analysis (Charteris-Black 2004, 2014). This framework, which often implements corpus-based methodology, is aimed at the exploration of dominant conceptual metaphors in discourse and providing possible explanations for metaphor choices. It comprises four stages (Figure 4): contextual analysis, identification, interpretation, and explanation (Charteris-Black 2014: 193).

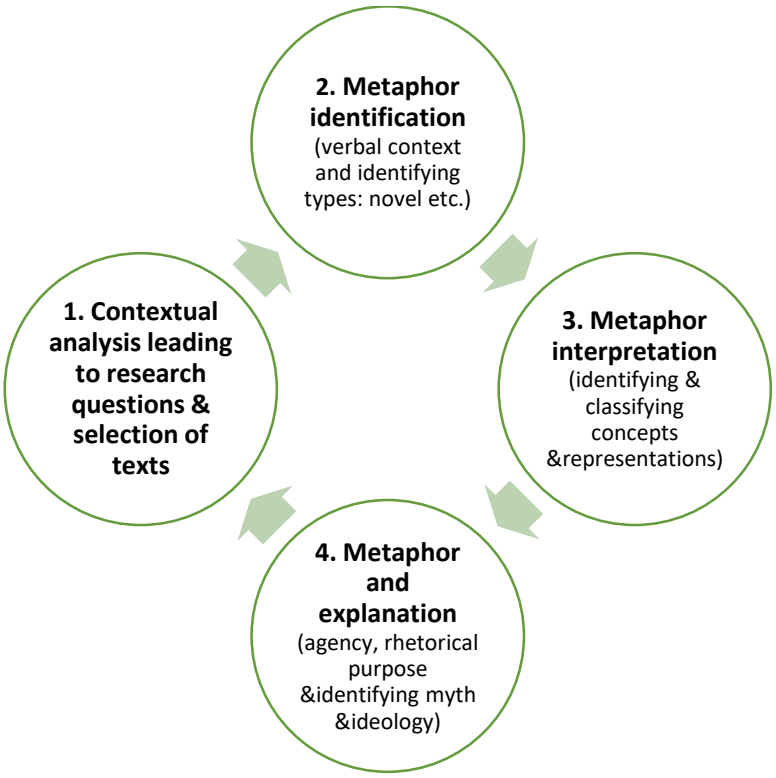

Figure 4. Principle stages of critical metaphor analysis (adapted from Charteris-Black 2014: 175)

At the first stage, the context of the corpus under investigation should be identified and described. For this purpose, such information as time, genre, sub-genre as well as speakers, or metaphor users, should be provided. The next step is to identify linguistic metaphors and to

determine their type (conventional, novel, structural, ontological and orientational). At the interpretation stage, metaphors are classified according to concepts or domains they represent. Finally, at the explanation stage, the range of metaphor use and possible reasons behind metaphor choices are provided (Charteris-Black 2014: 193). Although Charteris-Black (2014) applied this framework for the investigation of metaphors in political discourse, the range of discourses can be expanded. It is rather a broad framework and can be used as guidelines for metaphor research, whereby single steps, like the procedure for metaphor identification in a corpus, can differ. This depends on research questions that are addressed in a research project.

7.2 Direction of analysis

Analysis of metaphors can be undertaken in two different manners, inductively and deductively. The main difference lies in the direction of the analysis and its outcome. Top-down research design begins with a big picture and moves towards detecting the constituting elements, while in a bottom-up approach, the starting point involves searching for the elements which then create a big picture. Applying these approaches to metaphor research requires different procedures, as illustrated in Figure 2. A top-down research design, one starts with predetermined conceptual metaphors and searches for linguistic expressions that instantiate them. Bottom-up research involves the same steps in reverse order. First, linguistic metaphors are retrieved, followed by defining of cross-domain mappings by means of which conceptual metaphors are established.

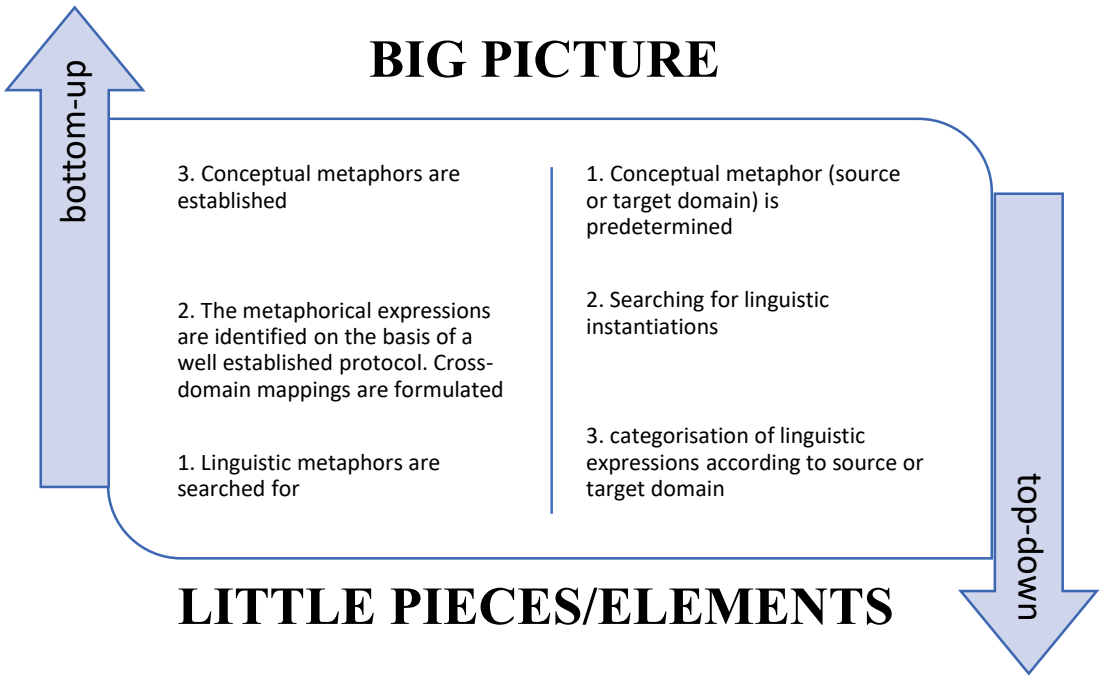

Figure 5. Bottom-up and top-down approaches to investigation of metaphor in discourse (based on Kövecses 2008: 170)

Top-down research design has been often criticised as it focuses on particular conceptual metaphors and therefore it predetermines to some extent and limits the results. The bottom-up approach, in contrast, seeks to detect linguistic expressions that instantiate conceptual metaphors in a corpus of texts. While studies working within CMT preferred top-down approach, discourse oriented research tended to apply bottom-up research design. However, these approaches can be effectively combined to enhance our understanding of how conceptual metaphors contribute to the conceptualisation of particular topics. For this purpose, a corpus-assisted approach is usually employed.

7.3 Corpus-assisted approaches to metaphor

Corpus linguistics offers a useful instrumental for the investigation of various linguistic phenomena in discourse. A vast range of significant contributions of corpus linguistics methodology to advancements of conceptual metaphor research can be explained by variations of corpora types and a variety of tools.

To begin with, let us consider how a corpus has been defined in linguistic literature. According to Semino (2008: 196), a corpus is "a collection of texts which is stored in electronic form and is searchable by means of appropriate software". This definition might seem rather incomplete as the reference to the origin of the texts, which is important, is missing. It is a key attribute of any corpus that the collected texts originate from real language use, which implies their authenticity. This idea is reflected, for example, in the definition proposed by Charteris-Black (2004: 31) who stated that: "[a] corpus is any large collection of texts that arise from natural language use." While the authenticity of texts is a characteristic all corpora share, there are multiple features that differentiate them. I would like to touch upon some of the corpora categories relevant to the present study.

Depending on the purpose of a corpus, a distinction can be drawn between general and specialised corpora. Both types are being widely used for metaphor research. The choice depends on research questions addressed by a researcher. General corpora are usually pre-existing large collection of texts. They are used for detection of linguistic metaphors on the level of the whole language, several languages or language varieties. For examples, application of BNC, British National Corpus, (100 million words) or COCA, Corpus of Contemporary American English (one billion words) can reveal general trends of metaphor use in British or American English. Specialised corpora, in contrast, vary in size and they are designed by a researcher for a particular project. They serve for investigating the use of metaphors in a particular discourse, e.g. economical, medical, political, which can be even narrowed-down to

a particular practice as, for example, doctor-patient consultation. The texts chosen for such corpora have to fulfil selection criteria specified by a researcher.

This typology is crucial and should be taken into consideration as the size of the corpus and the source of the texts play an important role in the interpretation of the results. Choosing or compiling a corpus for metaphor analysis means defining/determining the boundaries of potential generalisation and interpretation of the results.

Using corpus linguistics methods for metaphor research has multiple advantages. This methodology provided new insights into the conceptual metaphor theory. First, the empirical nature of corpus methodology contributed to a great extent to the development of metaphor research in discourse providing approach for analysing actual linguistic behaviour in a systematic manner. Considering the examples of conceptual metaphors introduced in the initial CMT, corpus methods "allow the researcher to put such claims to the test for the first time" (Stefanowitsch 2006a: 9). Second, it enables analysis of a large amount of data as it "can give information about the frequency and use of linguistic metaphors which is otherwise difficult to access" (Deignan 1999: 177). Thus, it "allows us to quantify the frequency of individual metaphors" (Stefanowitsch 2006a: 63) that reflect pervasiveness and systematicity of conceptual metaphors in a corpus. Third, the analysis assisted by computerised corpus can be conducted faster because linguistic patterns can be automatically detected. Finally, this systematic quantitative instrumental adds objectivity and credibility to the metaphor analysis compared to the methods based merely on intuition.

However, there are some downsides of this methodology that have to be pointed out. The most serious shortcoming concerns the task of metaphor identification. The main difficulty can be explained by the fact that "conceptual mappings are not linked to particular linguistic forms" (Stefanowitsch 2006a: 2). Therefore, searching for linguistic items cannot provide all the instances of conceptual metaphors existing in a corpus. Another drawback of working with a corpus, in particular, if it is a specialised one, is the limitation of generalisation, as mentioned before.

Corpus linguistics contributed to the refinement of the conceptual metaphor theory as it provided systematic investigation of authentic language that has been producing a growing body of evidence for the existence of conceptual metaphors. The advantages this methodology offers considerably outweigh the downsides which can be handled to great extent by various strategies described in the following section.

7.4 Methods of metaphor identification

As mentioned before, the identification of metaphors might be a challenging undertaking. To overcome this problem, a clear and consistent procedure for metaphor analysis is required. In this section, two the most wide-spread methods that were developed to identify metaphors are discussed: metaphor pattern analysis (MPA) developed by Stefanowitsch (2004) and metaphor identification procedure (MIP) introduced by a group of researchers called the Pragglejaz Group (2007). Although these methods differ, they can be successfully combined.

To begin with, depending on the type of corpus, extracting metaphors can be undertaken by means of various strategies. If a corpus is not annotated for semantic fields or domains, which is often the case, the following methods can be applied (Stefanowitsch 2006a: 2-3):

1) manual search
2) searching for source domain vocabulary
3) searching for target domain vocabulary
4) searching for sentences containing lexical items from both the source domain and the target domain
5) searching for metaphors based on 'markers of metaphor'

Some of these methods are more applicable and effective than others. The disadvantage of manual research is that it requires enormous time investment. Searching for 'markers of metaphor' is rather ineffective as it cannot provide consistent results. The reason is that not all the metaphors are preceded by such markers and not all the markers indicate the use of metaphors (Gibbs 2011a: 34.) The most beneficial methods involve searching for lexical items from source or target domain or both, also known as metaphor pattern analysis (henceforth MPA). According to Stefanowitsch (2006b: 66), **a metaphorical pattern** is "a multi-word expression from a given source domain (SD) into which one or more specific lexical items from a given target domain (TD) have been inserted". Of course, in such a way, only the conceptual metaphors that are specific for the lexical items under scrutiny can be detected while the others remain undiscovered. However, this disadvantage can be minimised if the lexical items are chosen with great consideration (Stefanowitsch 2006b: 66). Moreover, the presence of the lexical items from target and source domain can be seen as a benefit. They facilitate a more clear definition of underlying conceptual metaphors because one constituent, source domain or target domain, is already present. Most frequently used strategy is the search based on target domain vocabulary, which is also applied in the present study. Using this strategy implies talking the following steps:

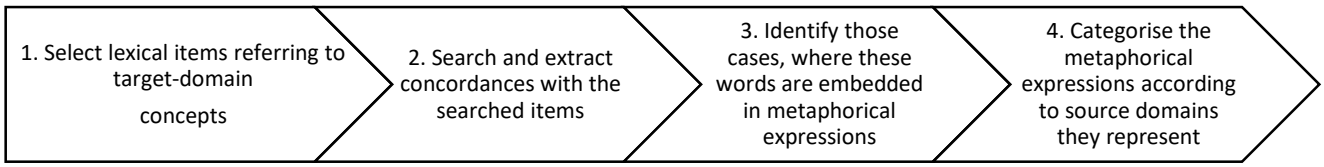

Figure 6. Metaphor pattern analysis based on search of target domain vocabulary (based on Stefanowitsch 2006a: 3)

Although this method does not enable the retrieval of the metaphorical expressions that do not contain lexical items from the target domain, existing studies demonstrated that "it seems to identify all mappings posited in the literature as well as additional ones" (Stefanowitsch 2006a: 4). Therefore, considering the effectiveness "this approach is superior in terms of data coverage compared to the traditional method of eclectically collecting citations or gathering data from introspection" (Stefanowitsch 2006b: 63).

Another more effective and detailed, however, also the more time-consuming method is metaphor identification procedure, MIP (Pragglejaz Group,2007). Applying this approach, it is possible to identify all the metaphors in the corpus under investigation. One of the biggest drawbacks is that the analysis is conducted manually. Therefore, the corpus size and time of the research project should be taken into account. The steps of MIP are as follows (Pragglejaz Group 2007: 3):

1) Read the entire text–discourse to establish a general understanding of the meaning.
2) Determine the lexical units in the text–discourse
3)
   a. For each lexical unit in the text, establish its meaning in context, that is, how it applies to an entity, relation, or attribute in the situation evoked by the text (contextual meaning). Take into account what comes before and after the lexical unit.
   b. For each lexical unit, determine if it has a more basic contemporary meaning in other contexts than the one in the given context. For our purposes, basic meanings tend to be:
      - more concrete (what they evoke is easier to imagine, see, hear, feel, smell, and taste);
      - related to bodily action;
      - more precise (as opposed to vague);
      - historically older;
      - basic meanings are not necessarily the most frequent meanings of the lexical unit.
   c. If the lexical unit has a more basic current–contemporary meaning in other contexts than the given context, decide whether the contextual meaning contrasts with the basic meaning but can be understood in comparison with it.
4) If yes, mark the lexical unit as metaphorical.

To identify the more basic meaning of a lexical item, it is essential to consult a contemporary dictionary. In such a way, one can avoid or minimise biased or intuition-based results. Combining these two methods of metaphor identification enables a researcher to conduct a systematic, relatively fast analysis of linguistic and conceptual metaphors in a particular discourse.

8 Research design

This section provides a description of the data used for the present study, as well as an explanation of the methodology and the steps used in the analysis. As pointed out by Charteris-Black (2014: 187), the choice of data and methodology should be guided by the research questions addressed in a study. Therefore, before introducing the approach undertaken in this project, let us consider the research question that is addressed:

> To what extent do such variables as an author's gender or the political affiliation of a newspaper influence the use of conceptual metaphors framing climate change in pinion articles of online British newspapers?

This question is rather a complex one and requires examination of how writers conceptualise climate change in opinion articles and whether there any significant differences between female and male writers and between contributors to newspapers of opposing political orientations. Taking into account that dependent variables, conceptual metaphors, should be tested by independent variables of gender and political orientation, the following set of sub-questions was developed:

RQ1. Which source domains are used to frame the discourse of climate change in opinion articles of online British newspapers?

RQ2. Are there any similarities or differences between the female and male authors in terms of metaphorical conceptualisation of climate change?

RQ3. How does the political orientation of the newspaper influence the use of conceptual metaphors in discourse of climate change?

In order to answer these sub-questions, a specialised corpus was created, and a combination of quantitative and qualitative methods was employed for the analysis of linguistic and conceptual metaphors.

8.1 Data

For this project, a specialized electronic corpus was compiled. The data was drawn from opinion articles of online versions of three British newspapers. The main reason why newspapers were chosen as the source for data analysis was that their content might have an informative and persuasive influence on the public. Newspapers play an essential role in raising public awareness and enhancing understanding of the most important regional and international issues. The language of a newspaper guides its readers "through shaping understandings, influencing audience attitudes and beliefs (particularly through their reinforcement), and transforming the consciousness of those who read and consume it" (Richardson 2007: 29). To narrow down the selection criteria and enable comparative analysis, the genre of opinion articles was chosen. This choice can be explained by the argumentative nature of this genre which might imply the frequent use of metaphors. Due to the fact that metaphors function "to persuade; reason; evaluate; explain; theorize, offer new conceptualizations of reality" (Semino 2008:31), they can be expected to be commonly used in opinion pieces. Opinion article or op-ed can be defined as a format of public argumentation and it can be defined as "an argumentative newspaper article that communicates an opinion attributed to the individual author" (Drury Mehltretter 2019: 262). The author's identity and gender can be established, which is essential for the present study. In order to optimise the collection of data, online versions of newspapers were eventually chosen since their content can be easily accessed and downloaded. Finally, to enable comparison of metaphors used to refer to a particular TD, articles about climate change were chosen. Due to the fact that this topic has triggered heated debates in the media in the last two decades, it was a perfect candidate for the study of metaphor in the newspapers. Another essential point is that both female and male authors are concerned about this issue. They have been writing about it in the media, which allows collecting data for a comparative analysis of metaphors and gender. Furthermore, climate change as a complex issue may trigger controversial public reactions which might demonstrate political polarisation of public opinions.

To answer the research question, two variables needed to be tested, the social variable (gender) and the political variable (affiliation of the newspaper). Therefore, both of these were taken into account while compiling the corpus. Opinion articles written by male and female writers that appeared in newspapers supporting views of opposing political parties were selected for the analysis. Taking into consideration the target audience's political affiliation as the main selection criteria, opinion pieces from the following newspapers were collected: The Guardian, The Telegraph and The Times. The Guardian attempts to appeal to the audience with centre-

left political orientation, whereas the Times and The Telegraph support centre-right political views. This difference in the political background enables a comparative analysis of metaphors used to conceptualise climate change.

To narrow down the range of articles following criteria were used for article selection:

1. the topic of the article is climate change
2. article appeared in opinion column in online daily newspapers: The Guardian (centre-left political orientation), the Times (centre-right political orientation) and The Telegraph (centre-right political orientation).
3. timeline of online publication (July 2018- August 2019)
4. author's identity and gender can be established

Following these guidelines, the online newspapers were searched for opinion articles with the phrase "climate change" in their headline or with climate change as the main topic. Such a narrow focus on climate change content might provide dense occurrence of climate change metaphors (Wallis & Nerlich 2005: 2631). It should be mentioned that there were some issues with the accessibility of The Telegraph and The Times articles. Downloading their content from the newspaper websites was not possible due to the limited access only for registered (i.e. paying) subscribers. Therefore, in this case, the collection of data was conducted through the database for academic research, NexisUni, a version of LexisNexis (https://www.lexisnexis.com) for students which provides access to legal, business and online newspaper texts.

For each newspaper, a corpus of opinion articles written by female and male authors was compiled with the help of the online corpus manager and text analysis software, Sketch Engine (https://www.sketchengine.eu). The main reasons for using this software was its multiple functions and user-friendly interface. First, Sketch Engine enables a researcher to create and save a corpus online and access it again wherever there is an internet connection, which is a great advantage in comparison with other software like Antconc, which does offer this option. Second, the software automatically annotates a corpus with part of speech (POS) tags which might facilitate faster and more detailed analysis. The data is processed very fast and the results are provided by means of clear visualisations. For example, the function WordSketch gives information regarding collocation od a word or a phrase, categorised by part of speech. Concordance tool provides co-texts of the searched word shedding light on the meaning in the context. Finally, the search results can be saved and viewed again.

The three corpora compiled for this study comprises 240 opinion articles (in total 199,043 words). The corpus of each newspaper was further divided into two sub-sections, with the articles written by female and male authors.

Table 5. Distribution of opinion articles on climate change across the British newspapers regarding author's gender

	The Guardian	The Telegraph	The Times	**Total**
Political orientation	centre-left	right-centre		
Female	54 articles (49,050 words)	30 articles (21,775 words)	21 articles (16,750 words)	105 articles (87, 575)
Male	55 articles (53,030 words)	45 articles (39,385 words)	35 articles (19,053 words)	135 articles (111, 468)
Total	109 articles (102,080 words)	75 articles (61,160 words)	56 articles (35,803)	240 articles **(199,043)**
Average article length	916 words	810 words	639 words	829 words

Table 5 shows the distribution of the opinion articles about climate change with regard to the gender of the authors across the three newspapers under investigation is rather unbalanced. The number of articles written by female and male authors is approximately equal in the Guardian, while in The Telegraph and The Times the male contributors' articles comprise 60% of the total number of articles. Thus, the articles written by male authors outnumber those written by their female counterparts by three to two. This might suggest that opinion writing is rather male-dominated in right-centre newspapers whereas in left-centre The Guardian there is equality of male and female voices. It should be mentioned that this imbalance is crucial for the analysis of metaphor frequencies, and should be taken into account (in the sense that the results need to be normalised).

8.2 Methodology

The methodological approach taken for the analysis of metaphors is a combination of quantitative and qualitative methods, which has been proven to be beneficial in metaphor research (Koller & Semino 2009). To be more precise, a mixed methodology based on Conceptual Metaphor Theory, Critical Metaphor Analysis (Charteris-Black 2004) and Corpus Linguistics was adopted for investigation of linguistic and conceptual metaphors in opinion articles about climate change. The quantitative study was conducted with application of Corpus Linguistics methods, MPA (Stefanowitsch 2004) and metaphor identification procedure (Pragglejaz Group 2007), while the qualitative insight into the data was gained through the

frameworks of Conceptual Metaphor Theory (Lakoff & Johnson 2003) and Critical Metaphor Analysis (Charteris-Black 2004).

In this project, I followed the framework of critical metaphor analysis (Charteris-Black 2004), which is "is aimed at exploration of discourse systematicity, existence and dominance of metaphorical patterns in a particular discourse or context" (Charteris-Black 2014: 185). This approach comprises four phases (Figure 7): contextual analysis and selection of data, identification, interpretation and explanation. However, I modified it by adding a stage of comparison preceding explanation. This adjustment was necessary in order to conduct a critical metaphor analysis that involves a comparison of conceptual metaphors regarding gender and political variables.

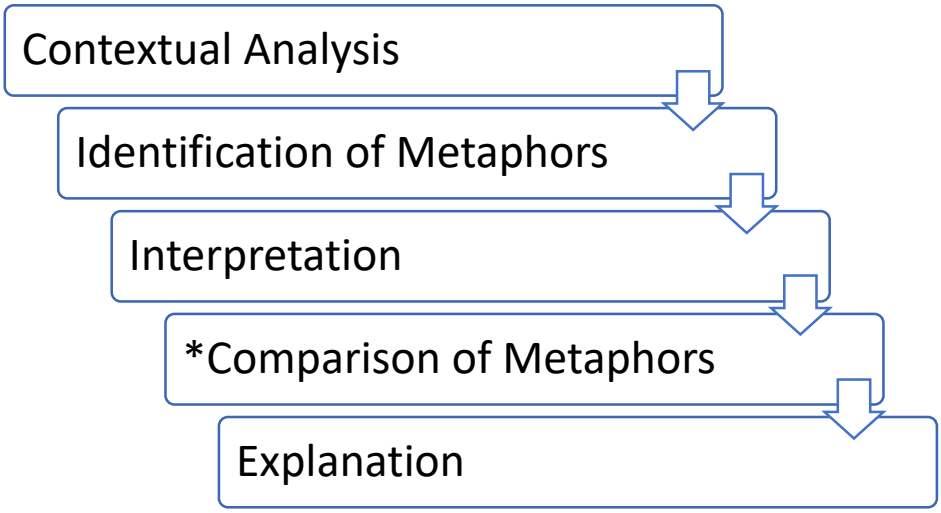

Figure 7. Phases of critical comparative metaphor analysis (adapted from Charteris-Black 2004)

In the first phase, it was essential to describe the cultural and historical context of the collected data. In this case, it is vital to consider environmental, political and social events in Great Britain within the time span when the articles were published. Next, in the identification phase, the target domain based Metaphor Pattern Analysis (Stefanowitsch 2004) and metaphor identification procedure (Pragglejaz Group 2007) were applied. Integration of two methods enables researchers to identify and categorise metaphors in a systematic manner by searching for a target domain word or phrase and considering its co-text to identify the meaning in a particular context. Thus, it reduces the chances of misinterpretation and minimises subjectivity bias.

By categorising metaphors according to their conceptual source domain at the interpretation stage it is possible to detect which source domains are dominant in the British online newspapers under scrutiny. A more detailed analysis is enabled at the comparison stage. At this

point, the aim is to detect whether there is a potential variation of conceptual metaphors regarding social and political variables. If the differences in metaphorical framing are identified, it is important to test whether they are significant. Finally, at the last stage, plausible explanations of the results are suggested, which is the focus of chapter 10.

8.3 Steps of the analysis

To answer the research sub-questions, the following analytical steps were undertaken for each of the three corpora. First, the nominal collocates modified by the word *climate* were searched for in order to find out how the situation of climate change is referred to. The most frequent phrases were chosen for the further analysis as target domain concepts (MPA). The following phrases were selected: *climate change, climate crisis, climate emergency, climate breakdown, climate disaster*.

The second step consisted of extracting the sentences containing the chosen phrases by means of concordance search. Next, all the concordance lines were inserted in the excel spreadsheets created for further analysis. Out of 1125 automatically retrieved instances, 104 were eliminated, because the phrase was a part of a proper name (Intergovernmental Panel on Climate Change, Committee on Climate Change, Climate Change Act, Climate Change Intelligence Unit etc.). The remaining 1021 examples were further categorised as metaphorical or non-metaphorical. The non-metaphorical cases were disregarded and only metaphorical examples were analysed. For identification of linguistic realisations of cross-domain mappings, metaphor identification procedure (MIP by Pragglejaz Group 2007) was applied to the collocates of the phrases under investigation. A metaphoric usage was considered relevant when it involved climate change as: 1) a modified object; 2) an object acted upon; 3) agent of action.

Following this method, the basic meaning of the word was determined and compared to the meaning in the context. I consulted the following online dictionaries to fulfil this task: Lexico Online Dictionary (https://www.lexico.com), Oxford English Dictionary (https://www-oed-com), and Macmillan Online Dictionary (https://www.macmillandictionary.com). Once a metaphorical use of a phrase was identified it was categorised on the basis of its source domain.

After identifying and categorising conceptual metaphors in all three corpora, the prominent source domains referring to climate change were established. This part of the analysis provides the answer to the RQ1: Which source domains are used to frame the discourse on climate change in opinion articles of three online British newspapers?

At the stage of comparison, two main steps were undertaken. First, conceptual metaphors used by female and male opinion columnists were compared in order to answer to the RQ2: How

does gender influence the use of conceptual metaphors in the discourse on climate change? Are there any similarities or differences between the female and male authors in terms of metaphorical conceptualisation of climate change?

Finally, dominant source domains found in the Guardian are compared to those detected in The Telegraph and The Time in order to ascertain whether the political orientation of online newspaper influences the metaphors used to frame climate change (RQ3).

9 Results

This chapter present the results of the critical metaphor analysis (Charteris-Black 2004). First, contextual analysis of the corpora under scrutiny is provided, followed by the description, interpretation and comparison of linguistic and conceptual metaphors found in the corpora.

9.1 Contextual analysis

In the first phase of the analysis, it is essential to establish the context of the discourse under investigation. As mentioned before, the corpus compiled for this study consists of opinion articles about climate change published in the period between July 2018 and August 2019. Let us consider the political and socio-cultural situation of this time in the United Kingdom.

Apart from Brexit, which led to conflicting opinions and a controversial situation in the country, the period of 2018 and 2019 became a remarkable time in the history of the United Kingdom in terms of the weather anomalies and climate change activism. Increasing frequency and intensity of extreme weather events like heatwaves, droughts, wildfires, heavy rains and flash floods influenced lives and raised public awareness of changing trends in climate. 2018 and 2019 were record-breaking years of hot weather in summer. As reported in the media, 2018 saw record high temperatures as its summer was one of the driest and hottest seasons since 1910 (https://www.bbc.com/news/uk-45399134). These extreme weather trends, together with the loss of biodiversity and political inaction on the issues became the factors that fuelled public climate activism. In 2018 the group known as Extinction Rebellion (XR) was established. Together with the school strike movement, Fridays For Future, which was inspired by the famous teenager-activist, Greta Thunberg in 2018 and became widespread in the UK in 2019, XR organised strikes and protests in which they appealed to the government to take action on climate change. Their demands were:

- The government must declare a climate ‘emergency’
- The UK must legally commit to reducing carbon emissions to net zero by 2025

- A citizens' assembly must be formed to "oversee the changes" (https://www.bbc.com/news/uk-48607989)

On the 1st of May 2019, the parliament declared a national state of climate emergency (https://www.parliament.uk/business/news/2019/may/mps-debate-the-environment-and-climate-change/). Moreover, further steps were taken by the government in 2019. For instance, the new target was legislated to reduce emissions to zero to become carbon neutral by 2050. Later on, climate change was an essential part of most of the parties' programmes for the United Kingdom general election in December 2019.

The media coverage of climate change has been increasing in the UK and worldwide (https://sciencepolicy.colorado.edu/icecaps/research/media_coverage/europe/index.html). This tendency is also reflected in the data under investigation. The diachronic distribution of the opinion articles from the dataset (Figure 8) shows that the topic of climate change gained more coverage and reached a peak in July 2019.

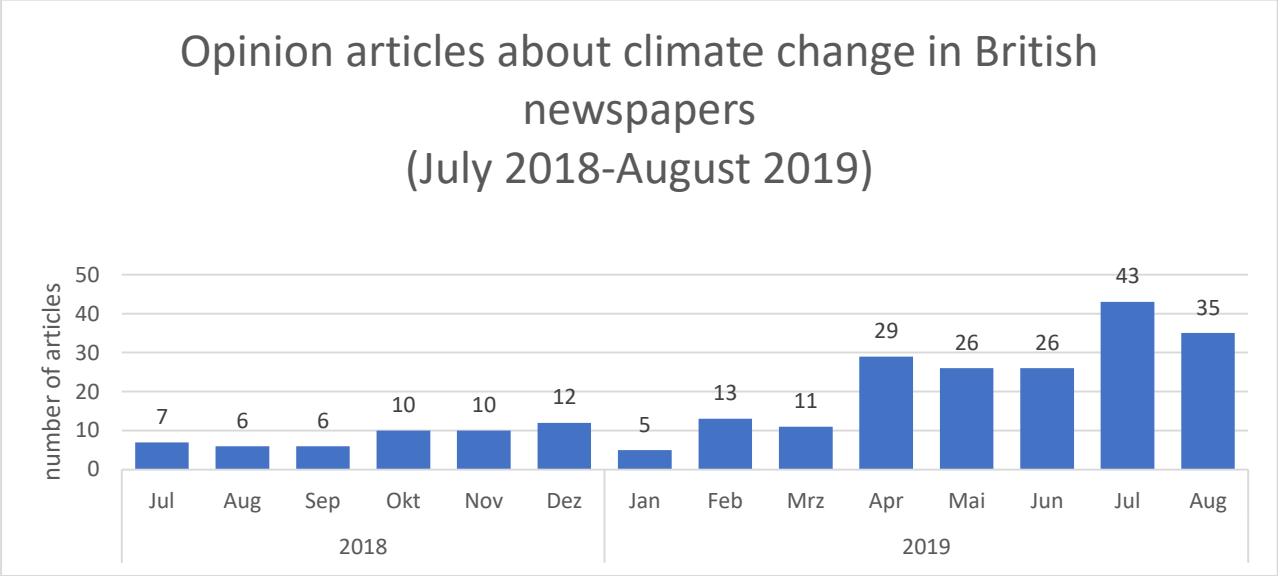

Figure 8. Distribution of opinion articles about climate change published in the Guardian, the Telegraph and the Times between July 2018 and August 2019.

This upward trend started in April 2019, when the number of opinion articles addressing the issue of climate change increased. The reasons for this development are three-fold. First, the issue of climate change became an important topic of discussion in politics and economics worldwide. Second, weather severe events of 2018 and 2019, and their potential relation to the greenhouse emissions and climate change triggered urgency to deal with these issues. Third, the trend of increasing attention can be related to numerous climate protests and oncoming general election.

However, the topic of climate change received a different amount of attention in the newspapers under investigation. The difference in coverage of climate change across the newspapers is

reflected in the distribution of the published opinion articles about this topic. Over the period between July 2018 and August 2019 (Figure 9) the Guardian devoted most attention to the topic, with 109 published articles, while the Telegraph and Times published only 75 and 55 articles, respectively.

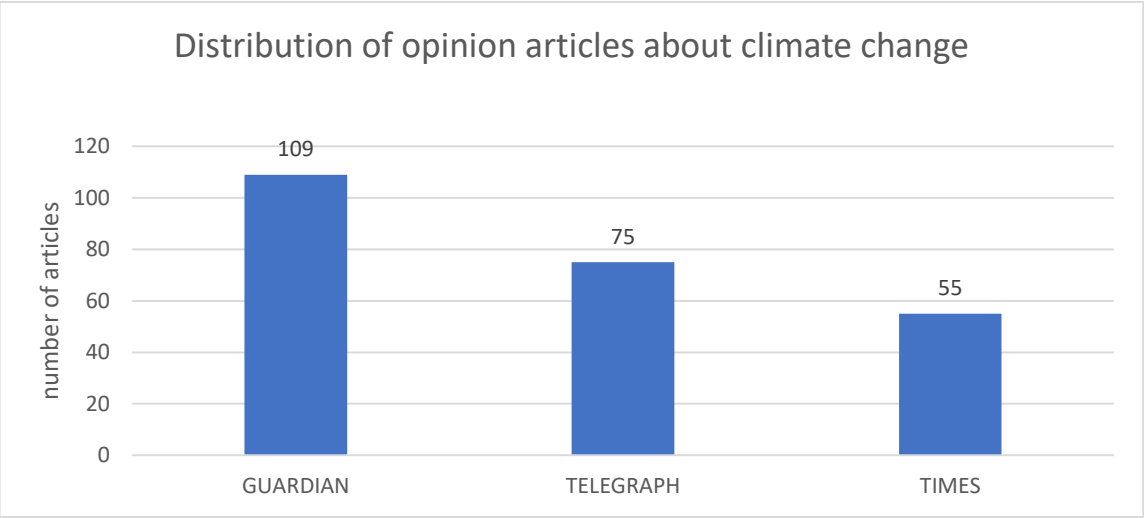

Figure 9. Distribution of opinion articles across three British newspapers (the Guardian, the Telegraph and the Times) from July 2018 to August 2019.

Climate change is often related to different attitudes and behaviour with regard to gender. For instance, eco-conscious behaviour is rather characteristic of women than men. As one study conducted in 2018 showed:

> [a]t a national level, 65% of Brits say they are trying to live more ethically than a year ago. But while a conscientious 71% of women are increasing their commitment to ethical living, just 59% of men say they've been living more ethically over the past year. (https://www.mintel.com/press-centre/social-and-lifestyle/the-eco-gender-gap-71-of-women-try-to-live-more-ethically-compared-to-59-of-men)

The fact that women seem to behave in a more environmental-friendly manner than their male counterparts creates so-called eco gender gap.

However, considering the number of articles produced by female and male op-eds writers, there were some surprising results. As Figure 10 illustrates, women contributed fewer opinion articles about climate change than men did. Men wrote 135 articles, whereas women wrote 104 articles. Considering the distribution of the articles written by female and male writers across the newspapers, there are notable differences. In the Guardian, women and men produced an almost equal number of the articles, 54 and 55 articles respectively, while in both the Telegraph and the Times, around 60% of the articles on climate change were written by male authors.

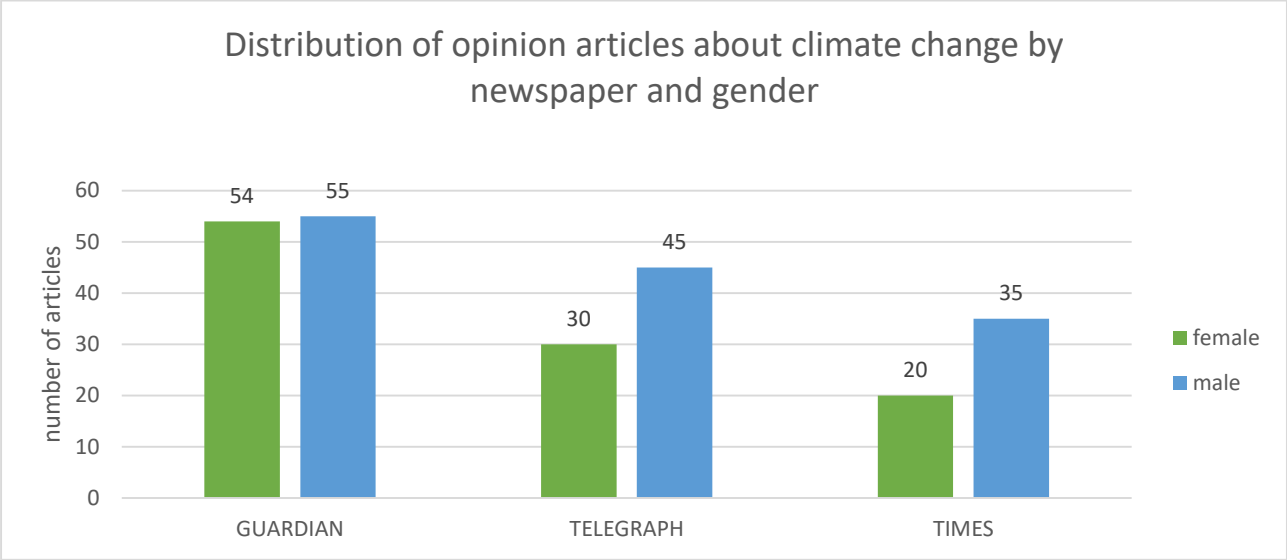

Figure 10. Distribution of opinion articles across three British newspapers (the Guardian, the Telegraph and the Times) from July 2018 to August 2019 by gender.

In the next phase, the analysis focuses on climate change metaphors used in the corpus of opinion articles. First, identified metaphors are discussed with regard to the categories of their cognitive function and source domain. Then, the most frequent metaphors are compared across gender and newspapers.

9.2 Identified linguistic and conceptual metaphors

At the identification phase, the method of target-vocabulary based search, metaphor pattern analysis (Stefanowitsch 2004) was implemented. The phrase *climate change* and similar phrases were searched for. Then the concordances containing the searched phrases were extracted into an excel spreadsheet for further analysis. First, the concordance lines where the searched phrase was a part of a proper name were eliminated. In total, 1,007 concordance lines of the searched phrases were chosen for further analysis.

Considering the detailed analysis of the distribution of the raw frequencies of the searched phrases (Table 6), *climate change* is the most frequent collocation with 742 occurrences, which constitutes approximately 74% of all the collocations under investigation. In second place is *climate crisis* with the frequency of 136 instances (13%), followed by other alternative collocates, *climate emergency* and *climate breakdown*, represented by 70 and 50 instances, respectively. *Climate disaster* is the least frequent collocate with only 9 occurrences, and it was found exclusively in the Guardian.

Table 6. Distribution of raw frequencies of searched phrases across newspapers

Searched phrase (TD)	The Guardian	The Telegraph	The Time	Total
climate change(s)	425	169	148	**742**
climate crisis	122	8	6	**136**
climate emergency (ies)	50	8	12	**70**
climate breakdown	48	1	1	**50**
climate disaster(s)	9			**9**
Total	**654**	**186**	**167**	**1,007**

In the next step, the co-text of the searched phrases were examined in order to identify metaphorical and literal uses of the lexical units collocating with the search phrases. After this, metaphorical instances of the searched phrases were extracted and further categorised according to the cognitive function, conventionality and the target domains. Finally, conceptual metaphors were compared across gender and the newspapers.

9.2.1 Climate-change-related metaphors in British newspapers

First, in order to identify metaphorical meanings and categorise them according to the source domains, I applied MIP to the concordances of the collocations under investigation. Each concordance or, if it was necessary, a broader co-text of the TD phrases, was examined in order to identify basic and metaphorical meanings. For the basic meanings of the searched phrases, online dictionaries, https://www.lexico.com/, https://www.macmillandictionary.com/ and https://www.oed.com/, were consulted. Unclear examples were excluded from the analysis. As the result, 502 instances out of 1,007 hits were identified as metaphorical. This constitutes around 50% of all the concordance lines initially selected from the corpus.

After the metaphorical occurrences of the searched TD phrases were extracted, they were categorised according to their cognitive function: ontological, orientational and structural. Furthermore, they were grouped with regard to the SD of conceptual metaphors they instantiated.

As far as cognitive function is concerned, the most numerous group are structural metaphors, as can be observed in Table 7. This category is followed by structural and orientational metaphors. The orientational metaphors are rather underrepresented in the corpus.

Table 7. Distribution of raw frequencies of climate metaphors in op-eds of British online newspapers according to cognitive functions and conventionality of the climate metaphors

Cognitive function	Raw frequency (relative frequency in %)	Frequency of conventional metaphors (relative frequency in %)	Frequency of novel metaphors (relative frequency in %)
ontological	199 (40%)	189 (37.6%)	10 (2%)
orientational	5 (1%)	5 (1.2%)	0 (0%)
structural	298 (59%)	207 (41.2%)	91 (18%)
Total	**502 (100%)**	**401 (80% of total)**	**101 (20% of total)**

Regarding conventionality, the majority of the detected metaphors are conventional, constituting approximately 80 % of the analysed metaphors. Only 20% of metaphors were categorised as novel. Conventional and novel metaphors are mostly represented by structural category, which comprises 207 conventional and 92 novel metaphors. The ontological category consists also mainly of conventional metaphors (189) and considerably smaller part of novel metaphors (10). Orientational metaphors are exclusively conventional.

Next, the most prevailing source domains from each category are discussed in detail, starting with the most numerous category, structural metaphors, followed by ontological and orientational metaphors.

9.2.1.1 Structural metaphors

Structural metaphors found in the corpus demonstrate both variety and recurrence of metaphorical framing of climate change. As illustrated by Table 8, 45 source domains could be identified in the dataset. The seven top source domains are discussed in more detail in this sub-section. The most productive and systematic SD for climate change is the domain of WAR. This domain is a clear favourite in conceptualising climate change in British newspapers under investigation. Less prevalent but still frequently used domains, with more than 10 occurrences of linguistic metaphors, include JOURNEY, BELIEF, FAULT/CRIME/ IMMORAL DEED, DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS, ILLNESS.

Table 8. Source domains of structural conceptual metaphors for climate change

Source domain	Raw frequency	Relative frequency (per 100,000 words)
WAR	88	44.21
JOURNEY	25	12.56
BELIEF	21	10.55
DIFFICULT TASK/MATHEMATICAL PROBLEM	19	9.55
BUSINESS	19	9.55
FAULT/CRIME/ IMMORAL DEED	19	9.55
ILLNESS	12	6.03

DANGER/HARM	9	4.52
SUCCESS; ACHIEVEMENT	8	4.02
POLITICS	8	4.02
NARRATIVE	7	3.52
RACING; COMPETITION	6	3.01
THEATRE	5	2.51
RELIGION	5	2.51
MACHINE	4	2.01
FOUNDATION, BUILDING	3	1.51
DEATH	3	1.51
HOAX	3	1.51
GRAVITY	3	1.51
WATER	2	1.00
CLIFF	2	1.00
GAME	2	1.00
SPACE	2	1.00
CHALLENGE	2	1.00
ACTIVITY	1	0.50
TICKING BOX	1	0.50
PLANT	1	0.50
ALARMIST NONSENSE	1	0.50
LIGHT	1	0.50
PROPERTY	1	0.50
PETROL	1	0.50
BY-PRODUCT	1	0.50
CONSTANT	1	0.50
VIOLENCE	1	0.50
CYCLE	1	0.50
BEAST	1	0.50
BIRD	1	0.50
INSPIRATION	1	0.50
AIR PRESSURE	1	0.50
SPORTS	1	0.50
TECHNOCRATIC PROBLEM	1	0.50
ALARM CLOCK	1	0.50
TEST, TRIAL	1	0.50
RESULT	1	0.50
OBSESSION	1	0.50
Total	**298**	**149.72**

The most frequently used war-related linguistic items in the dataset under investigation were *war, fight, combat, battle, frontlines, threat,* as examples below demonstrate:

(1) Our measuring stick is not politics; it is physics, and the urgent demands of justice for all **on the frontlines** of climate change. (GF35)

(2) The climate emergency is our **third world war**. (GM8)

(3) For the less well-off in developed nations, the **battle** against climate change promises fuel poverty, and the loss of personal transportation as petrol and diesel vehicles are priced off the road before being banned altogether. (TELM 33)

(4) Fertilising ocean with iron can **combat** climate change. (TM16)

(5) Climate change is **a ticking time bomb**, literally threatening to end human life on earth over the coming centuries. (GF30)

All the linguistic metaphorical expressions above conceptualise climate change in military terms. However, they involve different mappings. This indicates that WAR is a very productive source domain for climate change. Examples (1) and (2) conceptualise climate change as a war, while in examples (3) and (4), climate change is referred to as an enemy. Thus, the underlying conceptual metaphor is DEALING WITH CLIMATE CHANGE IS BEING INVOLVED IN A WAR. All the metaphorical linguistic expressions discussed are conventional but example (5), in which climate change is described as a ticking time bomb. Such an analogy might be extremely powerful as referring to climate change as a time bomb, "a bomb that can be set to explode at a particular time" (https://www.macmillandictionary.com/dictionary/british/time-bomb), involves it involves strong emotions of fear and urgency, being under pressure of limited time for action.

The next most frequently used source domain is related to the notion of JOURNEY. Closer investigation of linguistic examples of journey-related metaphors also revealed the existence of various mappings. Climate change is conceptualised in different ways: as an undesirable destination (6), a leader bringing humanity to some destination, a driver (7-9) and a vehicle (10), in some cases uncontrolled one (11).

(6) But we need to admit that even if every plastic bottle and tin can ever produced was recycled, we'd still **be on track for** catastrophic climate change. (GF42)

(7) As Merck notes in its disclosure to CDP, climate change may **lead** to "expanded markets for products for tropical and weather-related diseases including water-borne illness". (GF41)

(8) Last year's summer broiled, from the rice fields of Japan to the sugar beet fields of East Anglia, and climate change was its **driver**. (TM20)

(9) At the same time, the climate crisis is a **driver** of injustice, widening the gap between the haves and the have-nots (GM6)

(10) In a nutshell, the findings suggest that emissions **drive** climate change that trigger abrupt changes to Earth systems when they cross certain thresholds. (GF24)

(11) Let's not pretend that by changing your socks for organic cotton you can halt **runaway** climate change or the number of species lost. (TF9)

The source domain of JOURNEY is closely related to our perception of space and time. Considering examples 6, 7 and 11, we can observe underlying primary metaphors (Grady 1997a: 286-287) MOMENTS IN TIME ARE OBJECTS IN MOTION ALONG A PATH or AN EVENT IS THE

MOTION OF AN OBJECT (6 and 7) and THE EXPERIENCE OF TIME IS OUR OWN MOTION ALONG A PATH (11). They reflect moving-ego (6 and 7) and moving-time (11). In case of moving-ego, an observer is moving towards climate change, while the event is a stationary object. Another perspective is represented by moving-time, whereby climate change is in motion and the observer is stationary.

Next source domain is related to judgement about truth. In the following examples, climate change is seen as something to accept or to deny. Hence, the abstract notion of climate change is conceptualised through the abstract notion of a BELIEF, which demonstrates that the existence of climate change is put into question.

(12) Using the big freeze to **deny** climate change ... stupidity or cynicism? (GM25)

(13) You may want to **deny** the climate emergency, you may want to hang on to the luxury and irresponsibility that denial allows. (GF10)

(14) If you can't stand the heat ... stop being a climate change **denier**. (GF10)

(15) If you **doubt** climate change, look out of the window. (TM33)

Other recurring source domains detected in the dataset are FAULT/CRIME/IMMORAL DEED, DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS and ILLNESS. The next source domain discussed is closely related to the notion of morality. The conceptualisation of climate change in terms of FAULT/CRIME/IMMORAL DEED indicates that it became a part of our understanding of moral behaviour. There are two kinds of mappings defined in the dataset. On the one hand, climate change is referred to as an offender or wrongdoer (16), responsible for extreme weather events. On the other hand, climate change is an immoral action, for which a particular social group is responsible (17-20).

(16) It quoted the climate scientist Peter Stott **blaming** 'human-induced climate change' for the increasing global risk of extreme heatwaves. (GM55)

(17) How much easier to close the debate and **blame** all biodiversity loss and climate change on the rich for their profligate lifestyles. (GM47)

(18) Many older people resent being **blamed** for the climate crisis. (GM43)

(19) In recent years we have been sold a lie: that ordinary people are to **blame** for the climate crisis. (GF54)

(20) She has mobilised hundreds of thousands of school pupils across the world to **shame** their parents" and grandparents on climate change. (TF17)

Even though it might seem that, in example (16), it is climate change that is responsible for the extreme weather events, the phrase 'human-induced' shifts the blame to human. In examples (17-20), different social groups are implied as offenders who are to blame for the wrong-doing or for a crime called climate change.

Another well-established source domain for climate change is A DIFFICULT TASK/MATHEMATICAL PROBLEM. This domain is represented by the following metaphorical linguistic expressions:

(21) Climate justice means a people-centred **solution** to climate change. (GF4)

(22) **Solving** climate change is about power, money, and political will. (GM38)

(23) As the government's climate advisors reminded us this week, we cannot **half-solve** climate change, either. (TM20)

As illustrated by the examples above, climate change is conceptualised in terms of a problem we need to solve. The meaning of the verb to *solve* in the online dictionary www.lexico.com is "to find an answer to, explanation for, or means of effectively dealing with (a problem or mystery)". This metaphor is highly conventional. If we dig even deeper and look into the etymology of the word, then we can discover the initially metaphorical meaning. The verb *to solve* derives from Latin *solvĕre* 'to loosen, unfasten'(www-oed-com). However, this meaning has become obsolete and its metaphoricity is not transparent anymore for the speakers. In case of collocations with climate change, frequent occurrence of phrases containing *solve* and it's derivatives, *solving* or *solution*, indicates that the event of changing climate is increasingly considered a problem we have to deal with.

The next source domain is rather unusual and creative. Climate change is often described in terms of economics or business. Metaphorical linguistic expressions below reveal that climate change is framed as a product (24), investment (25 and 26), and business opportunity and threat (27 and 28).

(24) With the Guardian and now the Government **branding** climate change an "emergency", they can travel whenever and wherever they want while trying to permanently ground the rest of us. (TELM28)

(25) Lastly, whenever these headlines are blasted across the papers one point is always lost: these results don't include the **cost of** climate change itself. (GM24)

(26) Barclays **funds** climate breakdown. (GF54)

(27) Climate change represents a huge **threat** and **opportunity** to companies around the world. (TELM42)

(28) Rather than being consumed by doom and gloom, or considering the idea that we should curb consumerism, corporations have realised climate change is an exciting **business opportunity**. (GF41)

The appearance and spread of this source domain indicate that the changing climate is related to the finances. This connection is threefold. First, fossil fuels are among the most lucrative businesses, which, however, causes global warming by producing greenhouse gas emissions. Therefore, companies and banks that are related to the fossil fuel industry are seen as investors that finance climate change. Second, the policies of mitigation and adaptation to climate change

require considerable investments. Finally, the policies lead to the change in energy production, which involves new chances and challenges for entrepreneurs.

Climate change is also conceptualised in terms of ILLNESS/DISEASE/INFECTION. Various linguistic expressions represent this source domain. Climate change is referred to as an infection spreading regardless people's social status (29), a diagnosed disease that needs a treatment based on science (30) and an illness that causes most suffering to the poor (31).

(29) The California wildfires have shown that even the rich and famous are not **immune** to climate change and the authentic response of many of them is a message to us all. (GF44)

(30) This is because while the **diagnosis** of climate change being a problem is a scientific issue, the response to it is not. (GM38)

(31) When world leaders gather at climate summits they love to issue communiques saying that they are out to help the world's poor - making out it is they who will **suffer** most from climate change if nothing is done. (TELM 33)

9.2.1.2 Ontological metaphors

As Table 9 shows, the most frequently used ontological metaphor is CLIMATE CHANGE IS A PERSON, which is followed by CLIMATE CHANGE IS AN OBJECT. The other three source domains are FORCE, SUBSTANCE, and CONTAINER.

Table 9. Source domains of ontological metaphors for climate change according to their source domain

Source domain	**Raw frequency**	**Relative frequency (per 100,000 words)**
PERSON	118	47.23
OBJECT	57	40.69
FORCE	13	6.53
SUBSTANCE	9	4.52
CONTAINER	2	1.00
Total	**199**	**99.98**

Personification, apart from describing climate change as a person, often involves description of specific actions or characteristics of a person. There are two types of collocations that involve personification and action, V+*climate change* and *climate change*+V. On the one hand, climate change is referred to as a person who is an recipient of action. In this case, climate change is described as a person we need *to address* (32) and *respond to* (33). This might imply that climate change is considered a dialogue partner.

(32) We know we need to keep pushing for the type of bold and courageous action required to **address** the climate crisis and make steps toward climate justice. (GF36)

(33) The British government needs to adopt a pragmatic, sensible **response** to climate change instead. (TELM43)

Very frequently, climate change is conceptualised as an opponent. One of the most frequently used collocations is *to tackle climate change* (34 and 35), which occurred 43 times. This metaphorical expression is highly conventionalised. The basic meaning of the verb *to tackle* is related to a physical action "to grip, lay hold of, take in hand, deal with; to fasten upon, attack, encounter (a person or animal) physically" (www-oed-com.). Although this verb is often used in the context of sports, which might suggest that the collocations detected in the corpus represent conceptual metaphor DEALING WITH CLIMATE CHANGE IS SPORTS, in the present analysis the basic meaning from the Oxford English Dictionary provided above was considered and underlying conceptual metaphor CLIMATE CHANGE IS A PERSON was established. In the metaphorical sense, *to tackle* implies to "make determined efforts to deal with (a problem or difficult task)" (www.lexico.com).

(34) We cannot **tackle** climate change and build new runways, or prop up North Sea oil and gas, or spend billions on new roads. (GF20)

(35) **Tackling** the climate change offers a profound opportunity to create better lives for people. (GM48)

On the other hand, climate change is referred to as an agent of action. The agent is able to perform such actions as *telling, bringing, caring*, *awaiting, coming home to us, demanding, chasing, touching, making, introducing, building, shaping,* as some of the examples (36-41) below demonstrate:

(36) You can't **run** from climate change and you can't **hide**. (GM40)

(37) But what the report didn't add, leaving it instead to Neil Young's website, was that climate change **cares** even less. (GF44)

(38) Brexit has distracted us from the climate disaster **awaiting** us. (GM11)

(39) The Democrats owe it to voters housing, immigration, health – there's no policy area that won't be **touched** by the climate crisis. (GF15)

(40) Even in the shorter term, climate change will **make** the world far more dangerous.(GM30)

(41) But climate change has introduced a new, dangerous normal. (GF5)

Moving to the conceptual metaphor CLIMATE CHANGE IS AN OBJECT, similar tendency can be observed. Similarly to personification, some linguistic expressions emphasise different attributes or actions related to climate change as an OBJECT. For example, climate change is frequently described as a moving object that is being *accelerated* (42) or that has to be *stopped* (43 and 44).

(42) Whatever it might say about its ethical credentials, while it continues to invest in fossil fuels, it **accelerates** climate breakdown and the death of the habitable planet. (GM4)

(43) Because if climate change has to **stop**, then we must stop it. (GF1)

(44) Your pension saving clout can help **stop** climate change. (TELM5)

Comparably to the conceptualisation of climate change in terms of a JOURNEY, conceptual metaphor CLIMATE CHANGE IS A MOVING OBJECT demonstrates that we project our recurrent experience of space to refer to time or events. The underlying primary metaphor, in this case, is AN EVENT IS THE MOTION OF AN OBJECT, which is related to another primary metaphor MOMENTS IN TIME ARE OBJECTS IN MOTION ALONG A PATH ("moving-time") (Grady 1997a: 286).

Other attributes ascribed to climate change in the category of OBJECT are illustrated in Table 10.

Table 10. Sub-domains of conceptual metaphor CLIMATE CHANGE IS AN OBJECT.

Source domain	**Raw frequency**	**Relative frequency (per 100,000 words)**
MOVING OBJECT	24	12.06
OBJECT	17	8.54
UNDESIRABLE OBJECT	5	2.51
UNCONTROLLED OBJECT	3	1.51
VISIBLE/ PRESENT OBJECT	3	1.51
BREAKABLE OBJECT	2	1.00
HOT OBJECT	1	0.50
DANGEROUS	1	0.50
SHARP OBJECT	1	0.50
Total	**81**	**40.69**

Climate change often collocates with verbs as a direct or indirect object, V+*climate change* or V+Prep+*climate change*. As examples below illustrate, it is conceptualised as a concrete tangible object that can be *brought home*, or *shaped*:

(45) The number of weather and climate records surpassed in this last term of government **has brought** climate change "**home**" to many Australians. (GM20)

(46) On top of colonialism and racism, the third system of oppression **shaping** the climate crisis is patriarchy. (GF12)

Some other attributes of climate change as AN OBJECT derived from the meaning of the collocates, which describe climate change as *undesirable* (47), *uncontrolled* (48-50), *visible* (51), *breakable* (52), *hot* (53)*, dangerous* (54), or *sharp* object (55).

(47) Reducing our meat intake is crucial to **avoiding** climate breakdown, since food production accounts for about a quarter of all human-related greenhouse gas emissions, and is predicted to rise. (GF48)

(48) The other sees the rest of the world trying to **control** climate change. (GM1)

(49) There are reasons to think the world is, finally, **getting to grips with** climate change. (GM33)

(50) Even they were surprised, though, when people unanimously said they were prepared to give up flying, change their boilers and cars, eat less meat and even overthrow capitalism to **get a grip on** climate change. (GM15)

(51) Following their protests, the public now **sees** the climate change as a pressing issue. (GM5)

(52) Capitalism can **crack** climate change. (GM37)

(53) Farmers must work to **take the heat out** of the climate crisis. (TM34)

(54) Scientists the world over are now unequivocal about the real and present **danger** we face **from** climate change. (TF14)

(55) Conservative government has shown nothing but disdain for local democracy, climate science and communities **at the sharp** end of climate breakdown. (GF47)

The last three sub-categories of source domains of ontological metaphors are FORCE, SUBSTANCE and CONTAINER. Climate change is often described as a destructive force (56 and 57), a substance that should be reduced and limited (58-59) and some space or container we are in (60) or we are about to fall in (61).

(56) To judge by the devastation climate breakdown is **wreaking**, we appear already to have reached this point. (GM35)

(57) Left unchecked, climate change will **ravage** our natural environment, both at home and abroad. (TF14)

(58) You might blame Volkswagen for emissions cheating, but if we are to **reduce** climate change and at the same time try and keep our economies running, we need to forgive and move on just as we did with the MPs" expenses cheating scandal. (TELM12)

(59) In the US a group of young people is challenging the federal government for failing to act to **limit** climate change. (TF13)

(60) It's no longer possible to deny or ignore: we are **in** a climate crisis: (GF 32)

(61) This won't shock anybody who has been watching the government's pathetic record on all things climate – its blatant disregard for the school strikers; its persistent support for fracking; its decimation of the wind and solar sectors; and an ignorance about the triggers Extinction Rebellion warn will tip us **into** climate breakdown. (GM53)

In all the examples above, climate change is seen as an entity with negative connotations, be it a force, a substance or a container.

9.2.1.3 Orientational metaphors

The occurrences of orientational metaphorical expressions as a part of collocate with climate change was rather rare in the dataset under scrutiny. One of the possible explanations might be that metaphors of this category do not occur frequently with the search phrases. There were only five instances of orientational metaphor referring to spatial relations, central-peripheral. They describe the central position of climate change or aspects that are central to climate change, as examples below demonstrate. Central position in the examples implies importance of an object in the centre.

(62) The EU elections were seen by many as a de facto referendum on Brexit, yet a strong current of concern **around** climate breakdown was evident among voters in the UK, and across the continent. (GM11)

(63) Food - the way we grow, catch, transport, process, trade and consume it - **is central to** climate change. (TELM32)

Conceptual metaphors, the linguistic patterns of which are the most numerous in the dataset are considered systematic climate change metaphors. Table 11 shows ten most frequent source domains for climate change which are considered in the comparative analysis to follow. There are seven source domains of structural conceptual metaphors (WAR, BELIEF, JOURNEY, FAULT/CRIME/ IMMORAL DEED, DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS, ILLNESS) and three source domains of ontological metaphors (OBJECT, PERSON, FORCE). Orientational metaphors are not included in the list, as they are the most infrequent in the dataset.

Table 11. Top ten source domains for climate change

Rank	Source domain	Raw frequency	Relative frequency (per 100,000 words)
1	PERSON	118	59.28
2	WAR	88	44.21
3	OBJECT	57	28.64
4	JOURNEY	25	12.56
5	BELIEF	21	10.55
6	FAULT/CRIME/ IMMORAL DEED	19	9.55
7	DIFFICULT TASK/MATHEMATICAL PROBLEM	19	9.55
8	BUSINESS	19	9.55
9	FORCE	13	6.53
10	ILLNESS	12	6.03

Ten most frequent systematically used metaphors are the focus of the comparative analyses of metaphorical framing of climate change with regard to writer's gender and political affiliation which are presented in the subsequent sub-sections.

9.2.2 Gender-specific climate-change-related metaphors

In this sub-section, the results related to the RQ2 are discussed. Ten most frequent conceptual metaphors that frame climate change are compared across gender in order to find out whether there are any similarities or differences between the female and male op-eds writers in terms of metaphorical conceptualisation of climate change. For this purpose, the results of both female and male sub-corpora were normalised per 100,000 words.

Before moving to the comparison of top ten metaphors across gender, let us consider the distribution of metaphors according to their cognitive function. Although considering the raw frequencies, men use considerably more structural and ontological metaphorical expressions

than women do, relative frequencies (per 100,000 words) reveal that there are no significant differences with regard to these categories of metaphors. As far as orientational metaphors are concerned, there were only 5 occurrences of this category detected in the database and they were used exclusively by male writers.

Table 12. Distribution of conceptual metaphors across gender with regard to the cognitive function

	Female		Male		Total	
Cognitive function	**Raw frequency**	**Rel. freq. per 100,000 words**	**Raw frequency**	**Rel freq per 100,000 words**	**Raw frequency**	**Rel. freq. per 100,000 words**
ontological	81	92.49	117	104.96	199	99.98
orientational	0	0.00	5	4.49	5	2.51
structural	129	147.30	169	151.61	298	149.71
Total	210	239.79	291	261.06	502	252.21

Further comparison of discourse metaphors for climate change showed that there were some similarities and differences in the choice of source domains made by female and male op-eds writers. There are three top source domains, PERSON, WAR, and OBJECT, which are the most frequent source domains in both female and male sub-corpora. However, men used more metaphorical expressions from these domains than women did. The widest gap can be observed in the use of WAR metaphors. Male op-eds writers employed 52.03 military metaphorical expressions per 100,000 words. This considerably surpasses the relative frequency of occurrences in female sub-corpus, which was 34.26 WAR metaphors per 100,000 words.

Table 13. Frequency of top ten source domains for climate change used by female and male op-eds writers.

Source domain	**Female**		**Male**	
	Raw frequency	**Relative frequency (per 100,000 words)**	**Raw frequency**	**Relative freq. (per 100,000 words)**
PERSON	46	52.53	72	64.59
WAR	30	34.26	58	52.03
OBJECT	23	26.26	34	30.50
JOURNEY	13	14.84	12	10.77
BELIEF	13	14.84	8	7.18
FAULT/CRIME/ IMMORAL DEED	11	12.56	8	7.18
DIFFICULT TASK/MATHEMATICAL PROBLEM	6	6.85	13	11.66
BUSINESS	6	6.85	13	11.66
FORCE	8	9.14	5	4.49
ILLNESS	5	5.71	7	6.28

Another tendency was revealed by the further analysis. Some source domains are exclusive or prevalent either in women's or men's articles. Female op-eds writers describe climate change in terms of JOURNEY, BELIEF, FAULT/CRIME/ IMMORAL DEED, and FORCE more often than their

male counterparts. On the other hand, such source domains as DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS, and ILLNESS was more frequently used in the corpus of texts written by male op-eds writers.

Considering these dissimilarities in metaphorical framing of climate change, it is essential to find out whether these gender differences are statistically significant. In other words, it should be determined whether the variables of gender and metaphorical framing are associated with each other. To answer this question, a Fisher exact test was conducted, which is an alternative to χ^2-test (chi-square) and it can be applied for small sample sizes, less than 1,000. At first, the null hypothesis and alternative hypothesis were stated as follows:

H_0: Gender and preferences of metaphorical framing of climate change are independent.

H_a: Gender and preferences of metaphorical framing of climate change are not independent.

According to the result of the test, the p-value was 0.1231, which is >0,05. This implies that null hypothesis cannot be rejected. Although, there are differences between women and men in terms of some source domains, like WAR and PERSON, Fisher's exact test showed that there is no significant association between the variables of gender and the all the top ten source domains for climate change. There is no gender-dependent source domain preference.

However, further qualitative examination of linguistic metaphors from each source domain showed some interesting results. The most frequently used conceptual metaphor is CLIMATE CHANGE IS A PERSON. In this case, both female and male writers employed similar conventional phrases to refer to climate change as A PERSON, including verbs *to tackle* (43 tokens; 21.6 per 100,000 words)*, to address* (19 tokens; 10.55 per 100,000 words*) and respond to* (9 tokens; 4.5 per 100,000 words). However, the collocation *to tackle+ searched phrase*, was more frequently used by male writers (27 tokens; 24.2 per 100,000) than by their female counterparts (16 tokens; 18.3 per 100,00 words). This implies that sports, like football, which is more popular among men, might have an impact on use of these linguistic metaphors.

There were two instances of novel metaphors found in the dataset, one in each sub-corpus:

(64) Then there is the risk that the climate crisis could **foster** a new generation of authoritarian, top-down rulers who will try bypassing consumers and institutions. (GM15)

(65) We at Extinction Rebellion call for the National Portrait Gallery and Royal Opera House to stop enabling this **agent** of climate breakdown. (GF30)

Climate change is conceptualised as a foster parent (64) and a person that is represented by an agent (65). In example 64, climate change is portrayed as a parent, however, the word *foster* is used with a negative connotation in the given context. This meaning is contrasting to the basic

meaning of the word in the dictionary, to "bring up (a child that is not one's own by birth" or to "encourage the development of (something, especially something desirable)"(https://www.lexico.com/definition/foster). It is clear from the context that climate crisis encourages rather undesirable development. In example 67, climate change is referred to as a person or an actor on whose behalf the agent acts. In this case, the agent was the multinational oil and gas company BP.

The comparative analysis of the sub-domains of ontological metaphor CLIMATE CHANGE IS AN OBJECT (Table 14) revealed that the most common ways to refer to climate change for both female and male authors is CLIMATE CHANGE IS A MOVING OBJECT in a specific way and CLIMATE CHANGE IS AN OBJECT in general. In case of MOVING OBJECT, climate change is seen as an OBJECT that moves very fast and should be stopped or halted. The collocations which the search phrase is a part of, include adjective *rapid* and verbs *to accelerate, to halt, to stop, to reach the point of no return.* Although both women and men used linguistic metaphors from this sub-domain, the relative frequency of use is almost twice as high in the corpus of male op-eds writers as in the corpus of their female counterparts, which can be regarded as a significant difference.

Table 14. Quantitative comparison of metaphor CLIMATE CHANGE IS AN OBJECT used by female and male op-eds writers.

Source domain	**Female**		**Male**	
	Raw frequency	**Relative frequency (per 100,000 words)**	**Raw frequency**	**Relative freq. (per 100,000 words)**
MOVING OBJECT	7	7.99	17	15.25
OBJECT	8	9.14	9	8.07
UNDESIRABLE OBJECT	4	4.57	1	0.90
UNCONTROLLED OBJECT	0	0.00	3	2.69
VISIBLE; PRESENT OBJECT	2	2.28	1	0.90
BREAKABLE OBJECT	0	0.00	2	1.79
HOT OBJECT	0	0.00	1	0.90
SHARP OBJECT	1	1.14	0	0.00
DANGEROUS OBJECT	1	1.14	0	0.00
Total	**23**	**26.26**	**34**	**30.50**

Other differences can be observed if we consider the further sub-domains of OBJECT. While men describe climate change as UNCONTROLLED, BREAKABLE and HOT OBJECT, women refer to it as UNDESIRABLE; SHARP and DANGEROUS OBJECT. Male writers tend to use such expressions as *to get a grip on, to control, to crack, to take the heat out of climate change.* In contrast, female writers prefer to describe climate change using such words and phrases as *to avoid, the sharp end of, danger from climate change.* Women and men conceptualise climate change as a different kind of OBJECT. Male writers' emphasise the active physical, sometimes aggressive,

action upon the object that should be controlled, whereas by female writers point out the danger of the object that should be avoided.

Considering the military metaphors, no significant differences were observed in the use of linguistic metaphors. Although men used WAR metaphors more frequently, both women and men used similar expressions such as *threat of*, *war against, fight against, battle against, combat, the frontlines of, warriors.* These linguistic metaphors can be considered conventionalised ways to talk about climate change. There are also some instances of creative use of war metaphor, as illustrated by the following example:

(66) **'Dad's Army approach**' to climate change leaves Britons exposed. (TF3)

In this case, cultural knowledge is required in order to understand the meaning of this metaphor. In the online dictionary www.lexico.com, the meaning of this phrase is '(a nickname for) any military force likened to the Home Guard as portrayed in the television series Dad's Army, especially one whose members are elderly, inexperienced, or poorly equipped'. This implies that, in the example above, the use of the phrase is a humorous and creative way of portraying government unable to deal with the problem properly.

In summary, the results in this sub-section suggest that both female and male op-eds writers tend to conceptualise climate change most often relying on the source domains of OBJECT, WAR and PERSON. The main differences in the use of conceptual metaphors were observed with regard to the other seven source domains. Female writers prefer the source domains of BELIEF, JOURNEY, FAULT/CRIME/ IMMORAL DEED, and FORCE, whereas their male counterparts tend to describe climate change in terms of DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS, and ILLNESS. Although the result of Fisher exact test demonstrated that the association between gender and the top ten source domains for climate overall is not statistically significant, qualitative analysis provided some interesting insights concerning considerable differences in conceptual framing of climate change by female and male op-eds writers. In the next sub-section, similar analysis of climate metaphors across the British online newspapers is described.

9.2.3 Climate-change-related metaphors across newspapers

In order to answer RQ3, a comparative analysis of climate-change-related metaphors used in the three newspapers was conducted. First, the distribution of metaphors according to their cognitive function is discussed, followed by the detailed comparison of source domains of conceptual metaphors and linguistic metaphors for climate change used in the newspapers.

The analysis of distribution of conceptual metaphors according to their cognitive function revealed some similarities and differences between the newspapers. As Table 15 shows,

structural metaphors constitute the most frequent category in each of the three newspapers. In second place, we find the ontological metaphors. However, in the Times, the frequency of ontological and structural are almost the same. Overall, in the Guardian, the relative frequency of climate-change metaphors is the highest, followed by the Times and the Telegraph.

Table 15. Frequency of climate-change-related metaphors with regard to their cognitive function

	The Guardian		**The Telegraph**		**The Times**		**Total**	
Cognitive function	**Raw freq.**	**Rel. freq. per 100,000 words**	**Raw freq**	**Rel freq. per 100,000 words**	**Raw freq**	**Rel. freq. per 100,000 words**	**Raw freq**	**Rel. freq. per 100,000 words**
ontological	125	122.45	34	55.59	40	111.72	199	99.98
orientational	3	2.94	2	3.27		0.00	5	2.51
structural	197	192.99	61	99.74	40	111.72	298	149.72
Total	325	318.38	97	158.60	80	223.44	502	252.21

Moving to the top ten source domains for climate metaphors across the newspapers (Table 16), there are two tendencies that should be mentioned. First, all the newspapers share the top three source domains of PERSON, WAR and OBJECT. The writers of the Guardian and the Times heavily rely on the source domain PERSON. In the Times, this domain is twice as frequently used as the source domains of WAR or OBJECT. In the Telegraph, climate change is almost equally frequent described as A PERSON or in terms of WAR, while metaphors from source domain of OBJECT are less frequent.

Table 16. Frequency of top ten source domains for climate change used in the Guardian, the Telegraph and the Times

Source domain	**The Guardian**		**The Telegraph**		**The Times**	
	Raw frequency	**Relative freq.(per 100,000 words)**	**Raw frequency**	**Relative freq.(per 100,000 words)**	**Raw frequency**	**Relative freq.(per 100,000 words)**
PERSON	75	73.47	21	34.34	22	61.45
WAR	57	55.84	19	31.07	12	33.52
OBJECT	39	38.21	8	13.08	10	27.93
JOURNEY	19	18.61	2	3.27	4	11.17
BELIEF	14	13.71	2	3.27	5	13.97
BUSINESS	11	10.78	6	9.81	2	5.59
DIFFICULT TASK/MATHEMATICAL PROBLEM	12	11.76	4	6.54	3	8.38
FAULT/CRIME/ IMMORAL DEED	15	14.69	3	4.91	1	2.79
FORCE	9	8.82	1	1.64	3	8.38
ILLNESS	9	8.82	3	4.91	0	0.00

Another tendency concerning the other seven source domains is that, whereas the writers of the Guardian tend to use source domains of JOURNEY, BELIEF, and FAULT/CRIME/ IMMORAL DEED more often, in the Telegraph, metaphors from the source domains of BUSINESS and DIFFICULT TASK/MATHEMATICAL PROBLEM are more prevailing in comparison with other source domains. The writers of opinion pieces in the Times prefer to describe climate change in terms of BELIEF and JOURNEY. Furthermore, there were no linguistic expressions of conceptual metaphor CLIMATE CHANGE IS ILLNESS in the Times.

In the next step, the association between the variables of newspaper and source domain for climate change was statistically tested by means of Fisher exact test, which is an alternative to Pearson's chi-square test. The reason for choosing this test is because the sample is rather small, many observed values are less than 5 and the value of one cell of the contingency table equals zero (category of ILLNESS in the Times). The null hypothesis and alternative hypothesis were stated as follows:

> H_0: Newspaper and preferences of metaphorical framing of climate change are independent.
>
> H_a: Newspaper and preferences of metaphorical framing of climate change are not independent.

According to the result of the test, p-value was 0.03453, which is <0,05. This means that H_0 can be rejected. There is a significant association between the variables of newspaper and source domains for climate-change-related metaphors.

Closer investigation of the linguistic expressions representing conceptual metaphors provided some interesting insights. There are similar preferences in terms of lexical choices for the most frequent source domains. As far as the most frequent conceptual metaphor CLIMATE CHANGE IS A PERSON is concerned, in all three newspapers, it is realised by collocates of the searched phrase with the verbs *tackle, address* and *respond to.* There are 43 hits (Guardian: 19, Telegraph: 12, Times: 12) of the collocates with verb to *tackle* and 28 hits (Guardian: 21, Telegraph: 3, Times: 4) of those with *address* or *respond*. The op-eds in the Guardian tend to be describe climate change in terms of conversation, while in the Telegraph and the Times as a game (football).

Another difference is related to the variety of linguistic expressions used for realisation of PERSON source domain. The range of linguistic metaphors of climate change personification was much wider in the Guardian than other two newspapers. The search phrase was used with such verbs as *introduce, care, touch, shape, make, transform, demand, come, require, foster and await.*

Similarity in use of linguistic metaphors was observed in case of CLIMATE CHANGE IS A MOVING OBJECT metaphor. In all three newspapers, climate change is referred to as a *rapid, accelerating* OBJECT that has to be *stopped, halted*, *turned around.* The richest variety of sub-domains of OBJECT metaphors can be observed in the Guardian, where climate change is portrayed as UNDESIRABLE, VISIBLE, UNCONTROLLED, SHARP but also BREAKABLE OBJECT. In the Times, linguistic expressions from such sub-domains as VISIBLE, HOT and DANGEROUS OBJECT are employed, while the Telegraph op-eds writers use exclusively OBJECT and MOVING OBJECT metaphors.

Concerning WAR metaphors, they are twice as frequently used in the Guardian (55,84 per 100,000 words) as in the Telegraph (31,07 per 100,000 words) or in the Times (33,52 per 100,000 words). In all the newspapers, climate change described by the expressions like *an enemy, a national security threat, a ticking bomb,* and *a war.* As a part of collocations preceded by the verbs *fight* and *combat*, climate change is conceptualised as AN ENEMY.

These results suggest that, although the main three source domains for climate change are the same in the three newspapers, there are still differences in the frequency and variety of linguistic expressions employed for each domain. Moreover, considering the distribution of frequencies of linguistic expressions from another top seven source domains, the preferences differ even to a greater extent.

To investigate the influence of newspaper and gender on the choice of metaphors, two additional statistical tests were conducted. The first test investigated whether there is significant association between different newspapers and source domain preferences in female corpus. The second one aimed to explore the correlation between newspapers and the choice of source domains in male corpus. According to the results of the tests, p-values were 5.956e-10 in female corpus and 0.002805 in male sub-corpus. Hence the tests demonstrated that there is a significant association between newspaper and source domains in both female and male sub-corpora.

Taken together, results obtained in all the analyses provide important insights into the conceptual framing of climate change in opinion articles of British newspapers under investigation. The most prevailing ways of describing climate change rely on source domains of OBJECT, WAR and PERSON. The comparative analysis of climate-change-related conceptual metaphors used by female and male writers demonstrated that there are some differences regarding the choice of source domains. Although Fisher's exact test showed that there is no significant association between gender and the top ten source domains for climate-change-related metaphors, the further qualitative analysis demonstrated differences regarding sub-domains of OBJECT. Comparative analysis of source domains across newspapers suggests that,

although there are some similarities in choice of metaphorical framing of climate change, as far as three dominant source domains are concerned, the frequency of metaphorical expressions from the other seven top source domains are differently distributed. The association between the newspapers and source domains is statistically significant.

10 Discussion

At this phase of the study, the key findings of the analyses are discussed and explained to provide the answers to the research questions. This study was aimed to explore to what extent do such variables as an author's gender of the political affiliation of a newspaper influence the use of conceptual metaphors framing climate change in the opinion articles of online British newspapers. To provide an answer to this complex question, first, the sub-question of how climate change is metaphorically framed in opinion pieces of three online British newspapers was considered. Further, the authors' gender was taken into account to identify whether conceptual metaphors women and men used differed, and if so, to what extent. Additionally, comparison between the newspapers was drawn which provided the insight into similarities and differences between the metaphorical framing of the media with different political orientations. The methodology relied on conceptual metaphor theory (Lakoff & Johnson 1980), critical metaphor analysis (Charteris-Black 2004), metaphor pattern analysis (Stefanowitsch 2004) and metaphor identification procedure (Pragglejaz Group 2007).

The contextual analysis of the political and social situations, as well as the distribution of articles, demonstrated that the topic of climate change became more popular in the media over time, in the period between July 2018 and August 2019, which might be related to the growing importance of the issue and its influence on all the spheres of our lives. Another reason for this tendency can be the campaigns before the general election and increasing eco-activism in the UK. The distribution of articles across newspapers demonstrated that the centre-left newspaper, the Guardian, devoted more attention to the topic of climate change than the centre-right newspapers, the Telegraph and the Times, did. Moreover, although social research showed that women are more concerned about the issue of climate change and they also pursue more eco-friendly behaviour, the number of articles published by male writers surpasses that of their female counterparts. However, this trend was observed exclusively in centre-right newspapers and might be related to the conservative idea of the prevalence of male voices in the media. It seems that not only the political scene is dominated by men, but the information we receive by the media is mostly produced by men.

Concerning the conceptual framing of climate change in the whole corpus, the most numerous metaphors to refer to climate change belong to the group of structural metaphors, followed by ontological and orientational. However, considering the top three source domains, it could be observed that ontological source domains PERSON and OBJECT took the first and the third places respectively. Thus, objectification and personification belong to prevalent metaphorical framings for climate change. This finding suggests that the way people describe the abstract notion of climate change heavily rely on their bodily experience and interaction with the environment in general. Thus, it confirms that ontological metaphors are essential for our understanding of abstract concepts which we describe as the entities we can see, quantify or classify. The experiential motivation was also reflected by sub-domain of OBJECT source domain, namely MOVING OBJECT. Referring to climate change as AN OBJECT IN MOTION relies on the primary metaphors AN EVENT IS THE MOTION OF AN OBJECT, which is related to another primary metaphor MOMENTS IN TIME ARE OBJECTS IN MOTION ALONG A PATH ("moving-time") (Grady 1997a). The other attributes of climate change as AN OBJECT identified reflected the author's attitude or evaluation of the topic. For instance, climate change is frequently described as AN UNDESIRABLE and UNCONTROLLED OBJECT. Most of the attributes involved negative connotations.

Another conceptual metaphor among the top three was DEALING WITH CLIMATE CHANGE IS BEING INVOLVED IN A WAR. The source domain of WAR is clearly one of the most productive in conceptualising of climate change in British newspapers, which is consistent with the results of the previous studies on climate-change-related metaphors in British media discourse (Atanasova & Koteyko, 2017a). Their frequent use indicates discourse systematicity and therefore, they can be referred to as **systematic metaphors** (Cameron 2010). They can be seen as framing devices of the climate change discourse. Taking into account the consistency of findings with the previous research, the present study confirms that the conceptual framing of climate change in terms of WAR is prevalent and persistent in British culture. The military conventional metaphor DEALING WITH CLIMATE CHANGE IS BEING INVOLVED IN A WAR seems to be a well-established way of writing about this topic. The prior studies that have noted the importance of military metaphors emphasised that war-related metaphorical expressions are very effective in public discourse because they can awake strong emotions. In this case, this can be the feeling of urgency, anxiety and fear which "can motivate people to pay attention, change their beliefs, and take action about important social issues" (Flusberg & Thibodeau 2018: 6). It can be also seen as a mobilising strategy to unify people against the common enemy.

The main findings are that climate change is metaphorically framed by means of source domains: PERSON, OBJECT, WAR, which are systematically used in the corpus. Additionally, source domains of BELIEF, JOURNEY, FAULT/IMMORAL DEED, DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS, FORCE and ILLNESS were also frequently employed by the op-eds writers. These findings provide the answer to the first sub-question.

As far as gender-specific metaphors are concerned, the comparative analysis demonstrated that military metaphors are very common in both female and male sub-corpora. However, they are still more frequently used by male op-eds writers than their female counterparts. As pointed out in some studies, war-related metaphors can be seen as "masculinizing force on both discourse as well as on related social practices" (Koller 2004: 172). It implies that the discourse of climate change is rather masculinised. Nevertheless, another interpretation can be suggested. Metaphorical framing in war-related terms can be seen as characteristic of a crisis situation and serves as mobilising strategy: to attract attention and provoke action. The discourse on climate change can be referred to as a discourse of crisis.

Considering other source domains, some differences could be noticed. Female op-eds writers prefer to describe climate change in terms of BELIEF, JOURNEY, FAULT/CRIME/ IMMORAL DEED, and FORCE, while their male counterparts tend to rely on DIFFICULT TASK/MATHEMATICAL PROBLEM, BUSINESS, and ILLNESS source domains. These findings suggest that the morality aspect is more important for women than men, which can be related to their eco-conscious behaviour, reported in social studies. Men, in contrast, describe climate change as a problem that should be solved and often refer to financial aspects of the issue.

Although statistical test showed that there was no significant association between gender and the top ten source domains, considerable differences in use of war metaphors and linguistic metaphors in some other source domains demonstrated that women and men conceptualise climate change in a different way.

Moving to the question of the political affiliation of newspapers and its influence on the conceptual framing of climate change, the findings suggest that although the newspapers shared three top source domains (PERSON, OBJECT, WAR), there are differences in the linguistic expressions that realised these source domains. For instance, in the Guardian, dealing with climate change tends to be described in terms of conversation (*address, respond*), while in the Telegraph and the Times as a football game (*tackle*). The op-eds writers in the Guardian used significantly more military metaphors, which might indicate a high level of worry and employment of war-related vocabulary to raise awareness and provoke action. Taking into account the fact that there were almost equal amount of female and male authors in the Guardian

sub-corpus and the number of military metaphors is the highest in this newspaper, it can be suggested that female writers use WAR metaphors performing gender to express their ideological views on the issue of climate change.

Taken all the discussed findings together, it can be concluded that gender and political orientation of the newspapers influence the use of metaphors to some extent. Although there are similar prevailing metaphorical framings of climate change, the analysis of the distribution of frequencies and qualitative analysis of linguistic metaphorical expression proved that there is a wider gap with regard to conceptualising of climate change.

The next chapter provides a critical overview of the current study, its methodology, implications, limitations and suggestions for further research.

11 Conclusion

In this study, I focused on the investigation of climate-change-related linguistic and conceptual metaphors in opinion articles published in British online newspapers with different political views. The main objective of this study was to explore whether a writer's gender and political orientation of an online newspaper can be determining factors for the metaphorical conceptualisation of climate change. To reach this objective, this research combined cognitive and discourse approaches.

Some studies on gender and metaphors in discourse claimed that there are differences in the way women and men metaphorically frame particular topics. Taking into consideration that the topic of climate change provoked polarised opinions and attitudes among women and men, as well as among left-wing and right-wing politicians, the influence of such factors as gender and political affiliation of newspapers were explored in opinion articles. This research relies on the cognitive view of metaphor (Lakoff & Johnson 1980) and discourse analysis methodology, namely critical metaphor analysis (Charteris-Black 2004) in combination with corpus linguistics methodology. For the identification of linguistic and conceptual metaphors, MPA (Stefanowitsch 2004) and MIP (Pragglejaz Group 2007) were adopted.

The first part of the analysis concentrated on establishing the political and social context of the study as well as an overview of the distribution of the articles across gender and newspapers. The period in which the articles were published was characterised by extreme weather events, eco-activism and political campaigns for the general election. The supporters of left-wing parties appeared to be more concerned about the impacts of climate change than those of the right-wing parties. This is also reflected in the coverage of climate change in the newspapers,

which is rather unbalanced. The number of articles published in the Guardian considerably surpasses that in the Telegraph and in the Times. Another interesting finding is that, in the centre-right newspapers, the female writers contributed fewer articles in comparison with their male counterparts. This inequality caused by giving more space for male voices might determine a rather one-sided perspective of the described topics in general.

As the second step, linguistic and conceptual metaphors that shaped the discourse of climate change in the whole corpus of articles were identified and categorised according to their cognitive function and source domains they represented. They were further compared across gender and newspapers. The most frequent three source domains (PERSON, WAR and OBJECT) were characteristic of all the sub-corpora, which implies that these are the prevailing metaphorical framings for climate change. The findings of the comparative analyses suggested there were some differences between female and male writers with regard to the choice of source domains. The most noticeable difference was in the use of military metaphors, which were more prevailing in the articles written by men. Although, according to Fisher's test of gender and the top ten source domains, there were no gender-dependent preferences regarding source domains, a closer analysis of sub-domains and linguistic metaphors revealed that there was a wider gap between the way women and men metaphorically refer to climate change.

Finally, the comparison of conceptual metaphors across newspapers demonstrated that there is a significant association between the variables of newspaper and choice of source domains. The most striking finding was that the war-related metaphors were twice as frequent in the Guardian as in the Telegraph or the Times. This indicates a higher level of worry and more commitment to deal with the issue expressed by the writers of centre-left newspaper, the Guardian. Moreover, there are differences in preference of the other source domains. The Guardian op-eds contributors tend to use JOURNEY and FAULT/CRIME/IMMORAL DEED source domains, while in the Telegraph, BUSINESS and DIFFICULT TASK/MATHEMATICAL PROBLEM are more preferred. The Times relied more on BELIEF and JOURNEY source domains.

Based on the findings, it can be concluded that objectification, personification and enmification of climate change reflect the prevailing attitudes and conceptualisation of this event in the British newspapers under investigation. By means of conceptual metaphor, writers of opinion pieces not only make abstract notions more tangible, but they also express their evaluation and attitude towards the issue. This study confirms the assumption of CMT that metaphors contribute to a great extent to the conceptualisation of abstract concepts. Moreover, it is consistent with the idea that metaphor can be used as an instrumental of ideology. The current study found that while gender has a rather insignificant influence on the use of conceptual

metaphors, the role of the political orientation of a newspaper might play a more important role for the choice of climate-change-related metaphors. Therefore, the use of conceptual metaphors to describe a particular topic can be influenced by the political orientation of a newspaper and to some extent by the author's gender. Female writers might tend to use war-related metaphors, which are more characteristic for male authors, in order to express their ideological views. It implies that investigation of conceptual metaphor can be used for learning of critical reading and understanding of information in public communication.

Regarding the research design, this study demonstrated that the implementation of cognitive and discourse approaches in combination with corpus methodology is beneficial for the investigation of linguistic and conceptual metaphors. Moreover, the identification methodology of MPA (Stefanowitsch 2004) can be considered an effective instrumental for investigation metaphors in discourse. Despite the fact that not all the metaphorical expressions can be retrieved, it provided a variety of linguistic metaphorical expressions representing a wide array of conceptual metaphors. Furthermore, the study demonstrated that the framework of critical metaphor analysis (Charteris-Black 2004), initially applied to political discourse, can be implemented to other discourses.

Several limitations to this comparative study need to be acknowledged. First, investigation of metaphor and gender is restricted to opinion articles of three online British newspapers and to a timescale of approximately one year (July 2018 and August 2019). The study deals with the genre-specific and topic-specific corpus, it is only focused on the similarities and differences of discoursal systematic metaphorical patterns and underlying conceptual metaphors in the specific discourse. Thus, a potential problem is that the scope of this thesis may be too specific. Due to practical constraints, limited time and the size of the thesis, this research cannot provide a comprehensive review and discussion of all the metaphorical expressions occurred in the texts under investigation. Another limitation is related to the lack of previous studies, which constrains the comparison of the results to existing findings.

These limitations create ideas for further research. Further work needs to be done to establish whether different kinds of crises are described with similar metaphors. A natural progression of this work is to analyse the use of climate-related metaphors and gender in other cultures or cross-culturally. Finally, a greater focus on linguistic metaphors representing the same conceptual metaphors could produce interesting findings that account more for variation in metaphor use.

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Data and primary sources

The Guardian https://www.theguardian.com.

The Times https://www.thetimes.co.uk/

The Telegraph https://www.telegraph.co.uk/

NexisUni https://lexisnexis.com

13 Appendix

A. Corpus of the opinion articles from the Guardian

Document ID	Name of the article	Author's name	Date of publication
GF01	I'm striking from school to protest inaction on climate change – you should too	Greta Thunberg	26.11.2018
GF02	Standing Rock inspired Ocasio-Cortez to run. That's the power of protest	Rebecca Solnit	14.01.2019
GF03	What happened to our electricity system in the heat? Coal and gas plants failed	Nicky Ison	30.01.2019
GF04	Meet the inspiring, hopeful women fighting for climate justice	Maeve Higgins	24.07.2018
GF05	Alaska's vanishing ice threatens to destroy cultures – including our own	Victoria Herrmann	14.12.2018
GF06	At 68, my climate activism made me a criminal. But I refuse to give up	Angie Zelter	26.07.2019
GF07	Why I'm climate striking against Fox News on Friday	Alexandria Villaseñor	26.07.2019
GF08	Climate crisis: what you can do while government does nothing	Nicky Ison	21.07.2019
GF09	We must transform our lives and values to save this burning planet	Susanna Rustin	15.06.2019
GF10	If you can't stand the heat … stop being a climate emergency denier	Nell Frizzell	26.07.2019
GF11	Britain is boiling, and ditching the duvet won't solve the problem	Elle Hunt	24.07.2019
GF12	We were already over 350ppm when I was born	Jamie Margolin	12.07.2019
GF13	Urgency is what's demanded by young activists. But they're met with crumbling complacency	Eve Livingston	11.07.2019
GF14	It's time to change the climate disaster script. People need hope that things can change	Nicky Hawkins	26.06.2019
GF15	A climate-themed debate? The Democrats owe it to voters	Kate Aronoff	25.06.2019
GF16	Theresa May's carbon emissions plan will fail if the chancellor remains complacent	Miatta Fahnbulleh	12.06.2019
GF17	Theresa May's net-zero emissions target is a lot less impressive than it looks	Caroline Lucas	12.06.2019
GF18	There's a climate crisis – but Trump's cabinet continues to backtrack on science	Kate Aronoff	29.05.2019
GF19	Thank you, climate strikers. Your action matters and your power will be felt	Rebecca Solnit	15.03.2019
GF20	Parliament must declare a climate emergency – not ignore it	Caroline Lucas	04.03.2019
GF21	Don't trust the adults in the room on climate change	Kate Aronoff	25.02.2019
GF22	If the Coalition has had a climate epiphany, I'm Beyoncé	Katharine Murphy	25.02.2019
GF23	Disempower far-right climate change deniers. Don't debate with them	Molly Scott Cato	03.09.2018
GF24	It's the end of the Earth as we know it. Read all about it!	Lucy Siegle	19.08.2018
GF25	I'm a scientist. Under Trump I lost my job for refusing to hide climate crisis facts	Maria Caffrey	25.07.2019
GF26	The world is literally on fire – so why is it business as usual for politicians?	Arwa Mahdawi	23.07.2019
GF27	Greta Thunberg's visit to Britain is a huge moment for the climate movement	Caroline Lucas	22.04.2019

GF28	I am joining the climate strike because the world needs wilderness	Hannah Laga Abram	15.03.2019
GF29	Heathrow's expansion plans make a mockery of the zero emissions strategy	Caroline Lucas	18.06.2019
GF30	Arts institutions: cut your ties with BP	Farhana Yamin	09.06.2019
GF31	Sin taxes on meat or flying won't change a climate hypocrite like me. Rationing might	Sonia Sodha	01.06.2019
GF32	Labour is right: it's crucial that children are taught about climate breakdown in school	Lola Okolosie	24.05.2019
GF33	As the left wakes up to climate injustice, we must not fall into 'green colonialism'	Dalia Gebrial	08.05.2019
GF34	Sorry, Emma Thompson, but you'll never be perfect enough to save the planet	Zoe Williams	06.05.2019
GF35	We can't save the planet with half measures. We need to go all the way	Varshini Prakash	02.05.2019
GF36	Our school climate strikes have been a success and we're only getting started	Anna Taylor	26.04.2019
GF37	The answer to climate breakdown and austerity? A green new deal	Caroline Lucas	27.03.2019
GF38	Why climate action is the antithesis of white supremacy	Rebecca Solnit	19.03.2019
GF39	Wake up, Philip Hammond. The climate crisis needs action, not lip service	Caroline Lucas	14.03.2019
GF40	I can't wait for the striking schoolchildren to grab the reins of power	Suzanne Moore	19.02.2019
GF41	Looking on the bright side of climate change, think of all the money corporations can make	Arwa Mahdawi	28.01.2019
GF42	One person's recycling won't stop climate change in itself. We must act collectively	Emily Mulligan	02.01.2019
GF43	Neil Young's made a start, but the arts must do more to oppose dirty money	Molly Scott Cato	12.12.2018
GF44	If celebrity victims of climate change can't silence the deniers, who can?	Zoe Williams	14.11.2018
GF45	heathrow's expansion plans make a mockery of the zero emissions strategy	Catriona Sandilands	09.07.2018
GF46	As panic about climate change sets in, I'm thinking about escape – to Canada	Emma Brockes	10.08.2018
GF47	I was arrested for direct action against fracking. This is too important to stand aside	Esme North	16.10.2018
GF48	Would you eat insects to save the planet from global warming?	Jessica Brown	15.10.2018
GF49	Don't despair: the climate fight is only over if you think it is	Rebecca Solnit	14.10.2018
GF50	What 500,000 Americans hit by floods can teach us about fighting climate change	Elizabeth Rush	30.08.2019
GF51	With hajj under threat, it's time Muslims joined the climate movement	Remona Aly	30.08.2019
GF52	Welcome to the US, Greta. With your help we can save the planet and ourselves	Rebecca Solnit	29.08.2019
GF53	Export coal emissions: consider the social impacts, don't just account for them	Georgina Woods	29.08.2019
GF54	Barclays funds climate breakdown. We are determined to make it stop	Seema Syeda	30.03.2019
GM01	The will of the people is to halt climate change, what about politicians?	John Vidal	11.12.2018
GM02	The children skipping school aren't ruining the planet – you are	Srećko Horvat	06.02.2019
GM03	Young climate strikers can win their fight. We must all help	George Monbiot	20.02.2019
GM04	Shell is not a green saviour. It's a planetary death machine	George Monbiot	26.06.2019

GM05	Paper straws won't save the planet – we need a four-day week	Andre Spicer	21.06.2019
GM06	No, climate action can't be separeted from social justice	Julian Brave NoiseCat	11.06.2019
GM07	Extinction Rebellion's tactics are working. It has pierced the bubble of denial	Matthew Todd	10.07.2019
GM08	The climate crisis is our third world war. It needs a bold response	Joseph Stiglitz	04.07.2019
GM09	Conservatives should change how they think about global warming. I did	Jerry Taylor	10.07.2019
GM10	Individuals can't solve the climate crisis. Governments need to step up	Anders Levermann	10.07.2019
GM11	Brexit has distracted us from the climate disaster awaiting us. Britain must step up	Jake Woodier	06.06.2019
GM12	As a warming world wreaks havoc, Trump wages war on climate science	John Podesta	27.11.2018
GM13	467 ways to die on a warming globe	Clive Hamilton	27.11.2018
GM14	The climate crisis demands more than blocking roads, Extinction Rebellion	James Butler	26.11.2018
GM15	Has the politics of climate change finally reached a tipping point?	John Vidal	15.05.2019
GM16	How to stop climate change? Nationalise the oil companies	Owen Jones	25.04.2019
GM17	We are full of bright ideas to solve ecological problems. So let's act on them	Chris Packham	06.05.2019
GM18	I worked on David Attenborough's documentary. The grim reality gave me climate anxiety	Liv Grant	28.04.2019
GM19	The Green New Deal doesn't just help climate. It's also a public health new deal	Abdul El-Sayed	26.04.2019
GM20	Adaptation is the poor cousin of climate change policy	Rob Law	10.04.2019
GM21	Come on, UK weather forecasters – tell it like it is on climate change	Adam Corner	20.03.2019
GM22	Ending climate change requires the end of capitalism. Have we got the stomach for it?	Phil McDuff	18.03.2019
GM23	Remember the days when we weren't freaked out by freak weather?	Ian Jack	02.03.2019
GM24	Australian headlines are designed to scare people into not acting on climate change	Erwin Jackson	21.02.2019
GM25	Using the big freeze to deny climate change... stupidity or cynicism?	Michael Mann	02.02.2019
GM26	Should we stop eating meat? Not while humans are the real weapons of climate destruction	Tony Lovell	24.01.2019
GM27	In 1993 my agency warned of climate change. In 1995 it was abolished	William Westermeyer	27.12.2018
GM28	Five ways to talk to your family and friends about the climate crisis this Christmas	Simon Black	12.12.2018
GM29	With the planet burning, we need to take control ourselves	Jeff Sparrow	05.12.2018
GM30	The ticking bomb of climate change is America's biggest threat	Michael H Fuchs	29.11.2018
GM31	There are three options in tackling climate change. Only one will work	Mayer Hillman	30.10.2018
GM32	The IPCC global warming report spares politicians the worst details	Bob Ward	08.10.2018
GM33	Climate change apathy, not denial, is the biggest threat to our planet	Leo Barasi	05.10.2018
GM34	The speed of #MeToo gives me hope – we can still stop climate change	Andrew Simms	01.10.2018

GM35	While economic growth continues we'll never kick our fossil fuels habit	George Monbiot	26.09.2018
GM36	Hurricane Florence is a climate change triple threat	Michael Mann	14.09.2018
GM37	Capitalism can crack climate change. But only if it takes risks	Larry Elliott	16.08.2019
GM38	Don't despair – climate change catastrophe can still be averted	Simon Lewis	07.08.2018
GM39	Climate change denial won't even benefit oil companies soon	Phil McDuff	31.07.2018
GM40	Our scorched Earth needs voters to put more heat on their politicians	Andrew Rawnsley	29.07.2018
GM41	Our phones and gadgets are now endangering the planet	John Harris	17.07.2018
GM42	This heatwave is just the start. Britain has to adapt to climate change, fast	Simon Lewis	06.07.2019
GM43	Greta Thunberg's attackers are morally bankrupt, but her deification isn't helpful	Julian Baggini	19.08.2019
GM44	Politics-as-usual can't fix the climate crisis. Maybe it's time to try a citizens' assembly	David Farrell	28.08.2019
GM45	Sucking carbon out of the air is no magic fix for the climate emergency	Simon Lewis	01.08.2019
GM46	Ditch your air conditioning. You'll be fine	Franklin Schneider	11.08.2019
GM47	Well done, Prince Harry, for talking about population – but ditch the private jets	John Vidal	31.07.2019
GM48	Enough of the climate nightmare. It's time to paint the dream	Ed Miliband	04.07.2019
GM49	Australia's standing in Pacific has plummeted because of our climate change failure	Dermot O'Gorman	07.06.2019
GM50	Republicans aren't just climate deniers. They deny the extinction crisis, too	Jimmy Tobias	23.05.2019
GM51	Loss of biodiversity is just as catastrophic as climate change	Robert Watson	06.05.2019
GM52	I have felt hopelessness over climate change. Here is how we move past the immense grief	Rob Law	09.05.2019
GM53	Why are taxpayers subsidising the oil and gas companies that jeopardise our future?	Clive Lewis	30.04.2019
GM54	The natural world can help save us from climate catastrophe	George Monbiot	03.04.2019
GM55	Was this the heatwave that finally ended climate denial?	Michael McCarthy	01.08.2018
GF01	I'm striking from school to protest inaction on climate change – you should too	Greta Thunberg	26.11.2018
GF02	Standing Rock inspired Ocasio-Cortez to run. That's the power of protest	Rebecca Solnit	14.01.2019

B. Corpus of the opinion articles from the Telegraph

Document ID	Name of the article	Author's name	Date of publication
TELF01	Greta Thunberg may be annoying, but at least she isn't a hypocrite	Angela Epstein	15.08.2019
TELF02	Don't our woke universities have better things to do than debate the ethics of beef stroganoff?	Charlotte Gill	13.08.2019
TELF03	I'm happy to be flight shamed when the alternative is so glorious	Jane Shilling	29.07.2019
TELF04	Do the children taking part in today's 'pupils strike' really know what they're protesting about?	Judith Woods	15.02.2019
TELF05	University should be a place for intellectual challenge, not virtue signalling	Joanna Williams	16.08.2019

TELF06	Our short-sighted politicians have fallen prey to mindless green posturing	Dia Chakravarty	10.08.2019
TELF07	The People's Front of Extinction Rebellion points to a deeper divide within the Green cause	Julie Burchill	28.07.2019
TELF08	How we can protect the world's most vulnerable countries against climate shocks	Claudia Ringler	26.07.2019
TELF09	Our hypocritical eco-youth can only be bothered to save the world when it's convenient	Judith Woods	17.06.2019
TELF10	Climate change is forcing a cold front into my marriage	Judith Woods	02.05.2019
TELF11	Populism, like climate change, is a product of today's mass prosperity	Janet Daley	27.04.2019
TELF12	Do any of these smug, protesting green activists actually work for a living?	Julie Burchill	21.04.2019
TELF13	There is hope to be found in the climate protesters' youthful desire to change the future	Charlotte Lytton	20.04.2019
TELF14	Looks like the climate protesters have won - we can't stop talking about them	Judith Woods	19.04.2019
TELF15	Can we please stop garlanding children for being wrong?	Madeline Grant	16.03.2019
TELF16	If children really want to understand climate change, they're better off in the classroom	Joanna Williams	18.02.2019
TELF17	Climate change is a grave threat to our health. Time is running out to act	Helen Stokes-Lampard	28.11.2018
TELF18	No more heatwave, please… we□□'re British!	Bryony Gordon	22.07.2018
TELF19	Drive la révolution: why it makes financial sense to buy an electric car	Lauren Davidson	16.07.2018
TELF20	Flygskam and 9 other things you're probably being shamed for this summer	Shane Watson	15.08.2019
TELF21	Eco-zealots and hardline Remainers are driven by their feelings, not facts	Madeline Grant	07.08.2019
TELF22	Brexit and eco doom-mongers are driving us to despair, but in fact we've never had it so good	Zoe Strimpel	28.04.2019
TELF23	Rich 'eco-sinners' can't buy environmental absolution through carbon offsetting	Madeline Grant	21.08.2019
TELF24	There's only one way for fashion to be sustainable, and that's for us all to stop buying new clothes	Julie Burchill	07.07.2019
TELF25	Barcelona may be balmy, but neither London nor I are built for such heat	Jemima Lewis	12.07.2019
TELF26	The worst thing about hot weather? Being told the bleeding obvious...	JUDITH WOODS	24.07.2019
TELF27	Why now is the right time for global fashion leaders to take centre-stage at the G7 summit	Tamara Abraham	21.08.2019
TELF28	Our fight against climate change will be hopeless unless we choose to have smaller families	Bella Lack	26.04.2019
TELF29	Martha Lane Fox: Why I have gone vegan and you should, too	Martha Lane Fox	27.12.2018
TELF30	The Walney Extension means big business and bigger opportunity for the UK	Claire Perry	06.09.2018
TELM01	Greta Thunberg is selling the rich an eco-lifestyle the rest of us will never be able to afford	Tim Stanley	19.08.2019
TELM02	In exhorting us not to eat meat, green preachers place morality over reason	Charles Moore	09.08.2019
TELM03	Why slashing red meat production is a win for British farmers, public health and the planet	Adam Briggs	08.08.2019

TELM04	Smart meters are supposed to make our lives easier, has anyone in Government ever actually used one?	Sam Meadows	24.07.2019
TELM05	Your pension saving clout can help stop climate change	Guy Opperman	17.07.2019
TELM06	The real Mark Field scandal is that Greenpeace was even allowed to perpetrate this stunt	Ross Clark	21.06.2019
TELM07	Hammond's £1 trillion bill for hitting net zero is innumerate nonsense	Ambrose Evans-Pritchard	12.06.2019
TELM08	We must stop pointing fingers and work together to tackle the environment's biggest threats	Ben Fogle	03.06.2019
TELM09	We've had quite enough of the law-breaking environmental fanatics of Extinction Rebellion	Tom Welsh	02.06.2019
TELM10	Jeff Bezos' billionaire mid-life crisis could cost the Earth	Tom Hoggins	10.05.2019
TELM11	When will green zealots figure out that Britain cannot fight climate change alone?	Nick Timothy	09.05.2019
TELM12	Despite Greta Thunberg raising the profile of climate change, no one is listening to the car industry – and that's a tragedy	Andrew English	02.05.2019
TELM13	Three cheers for the Climate Committee, but there is no 'cost' to zero emissions	Ambrose Evans-Pritchard	02.05.2019
TELM14	Jeremy Corbyn's eye-watering hypocrisy on environmentalism	Tom Harris	29.04.2019
TELM15	The time for denial is over. Conservatives have to take the climate crisis seriously	William Hague	22.04.2019
TELM16	Dear Extinction Rebellion: your aims are worthy, but take your pink boat to China instead	Boris Johnson	21.04.2019
TELM17	We need to plant 3 billion trees to save the planet – but not just any trees	Alexandre Antonelli	12.06.2019
TELM18	The climate protesters seeking a return to a pre-industrial age would doom us to lives of misery	Jeremy Warner	19.04.2019
TELM19	These hardened rabble-rousers are more interested in Marxism than climate change	Ross Clark	17.04.2019
TELM20	Agri-tech will be the next boom industry as climate warriors turn on Big Food	Ambrose Evans-Pritchard	27.02.2019
TELM21	Saving the world is not a job for Left or Right	Tim Stanley	12.02.2019
TELM22	Sorry BBC. The world isn't interested in the West's groupthink obsession with global warming	Christopher Booker	23.12.2018
TELM23	For all the hot-headed talk of climate change, the world is still building coal-fired power stations	Christopher Booker	11.12.2018
TELM24	The UN's latest mega-panic climate change report is based on pure fantasy	Christopher Booker	14.10.2018
TELM25	Targeting 'net zero' emissions can unite Britain around a new economic mission	Alex Chalk	25.04.2019
TELM26	Donald Trump should take global warming more seriously – it's his voters in red states who suffer most	David Millward	02.09.2018
TELM27	There's a strong Conservative case to be made for global warming	Philip Johnston	08.08.2018
TELM28	Let's stand up to David Attenborough and the neo-Malthusians who want to control our lives	Matt Kilcoyne	10.07.2019
TELM29	We must cut foreign aid until Brazil faces up to its duty to protect the Amazon	Harry Hodges	23.08.2019
TELM30	Groundwater, the unexpected villain in India's air pollution crisis	Balwinder Singh	15.07.2019

TELM31	Spare us the deluded arrogance of the middle-class climate warriors	Tom Harris	16.04.2019
TELM32	We need more magic beans to help us offset the effects of climate change	Elwyn Grainger-Jones	13.12.2018
TELM33	Preening Macron is learning to his cost that you can't save the planet on the back of the poor	Ross Clark	04.12.2018
TELM34	The Carry On climate protests embodied a wonderfully nostalgic sense of Britishness	John Eifion Jones	26.04.2019
TELM35	Our anti-capitalist, anti-Western universities no longer care about excellence	Douglas Murray	17.08.2019
TELM36	We will never save the rainforest until a living tree is worth more to Brazil than an incinerated one	Johan Eliasch	25.08.2019
TELM37	The War on Meat has begun, and there are many reasons to join the resistance	Matt Ridley	11.08.2019
TELM38	The UK's aid budget must reflect the fact that global poverty and climate change devastation go together	Zac Goldsmith	08.07.2019
TELM39	It's technology, not hair shirt deprivation, that will allow us to have our environmental cake and eat it	Harry de Quetteville	23.07.2019
TELM40	Without even voting on it, MPs waved through green targets which will make the cost of no deal look like small change	Christopher Snowdon	25.06.2019
TELM41	At last, climate change action from investors and companies	Bruce Duguid	20.05.2019
TELM42	The four winds of change that investors must heed	Tom Stevenson	25.08.2019
TELM43	Theresa May is about to spend £1 trillion on a pointless policy. This climate madness has to end	Bjorn Lomborg	10.06.2019
TELM44	Does public pressure mean big business has no option but to go Green?	Ben Page	02.07.2019
TELM45	How banks can save the world	Simon Thompson	30.06.2019

C. Corpus of the opinion articles from the Times

Document ID	**Name of the article**	**Author's name**	**Date of publication**
TF01	Beef is off the menu at Goldsmiths College	Rosemary Bennett,	13.08.2019
TF02	Extinction Rebellion prigs must get real	Libby Purves	05.08.2019
TF03	Climate change warriors turn to courts	Catherine Baksi	11.07.2019
TF04	'Dad's Army approach' to climate change leaves Britons exposed	Emma Snaith	10.07.2019
TF05	Why I've seen the light on the environment	Emma Duncan	26.07.2019
TF06	Mankind isn't doomed, just facing a challenge	Gillian Bowditch	02.06.2019
TF07	Solar panels lead charge into green vehicles	Emily Gosden,	27.05.2019
TF08	Gas boilers are on the way out — what are the greenest alternatives?	Martina Lees	12.05.2019
TF09	The do's and don'ts of eco-living	Lucy Siegle	04.05.2019
TF10	It's a question of when not if we end our contribution to global warming	Claire Perry	02.05.2019
TF11	Fracking has a crucial role on the road to renewables	Natascha Engel	29.04.2019
TF12	I welcome the green protests, but we have already done a lot	Rebecca Pow	24.04.2019
TF13	Science shows it's vital to be carbon neutral before 2050	Lily Cole	27.11.2018

TF14	Britain is world leader in clean growth; let's help others follow in our footsteps	Claire Perry	14.11.2018
TF17	Here's to the protesters taking a lonely stand	Ann Marie Hourihane	25.04.2019
TF18	A greener Britain is a job for businesses as well as government	Nicky Morgan	05.06.2019
TF19	Snow and chill will be a ghost of Christmas past	Gabrielle Monaghan	23.12.2018
TF20	Only fierce, committed energy can prevent climate catastrophe	Claire Foster-Gilbert	20.10.2018
TF21	Caitlin Moran: is it too late for me to help the planet?	Caitlin Moran	23.08.2019
TF22	Producers must innovate to stop us drowning in single-use plastics	Samantha Harding	21.09.2018
TM01	Climate change: Bigger waves will redraw coastlines around globe	Bernard Lagan	21.08.2019
TM02	Edinburgh council gives green light for children to skip class for climate strikes	Mark McLaughlin	17.08.2019
TM03	Cash from carbon dioxide, and reducing climate change	Paul Simons	24.07.2019
TM04	You take the £15m yacht, Greta Thunberg, and I'll fly. Only one of us is speeding towards a climate change solution	Jeremy Clarkson	04.08.2019
TM05	Workers in fossil-fuel industries deserve help, says climate expert	Ronan Early	23.07.2019
TM06	Magnus Linklater: Giving up the roast won't stop global warming	Magnus Linklater	12.08.2019
TM07	Eco-warriors march into French camp for protest training	Adam Sage	09.08.2019
TM08	Eat less meat to save the Earth, urges UN	Ben Webster	08.08.2019
TM09	The futuristic farm that's impervious to flooding	Paul Simons	04.08.2019
TM10	Climate department still buying diesel cars	Ben Haugh	25.07.2019
TM11	Colourful way to put the climate change message across	Paul Simons	23.07.2019
TM12	Politicians and the police must stop indulging Extinction Rebellion	Dominic Lawson	21.07.2019
TM13	High-flyers must save planet, says Victor boss	Andrew Ellson	20.07.2019
TM14	Global benefits of Saharan dust	Paul Simons	18.07.2019
TM15	Perhaps less is more when it comes to growth	Kenny Farquharson	17.07.2019
TM16	Fertilising ocean with iron can combat climate change	Tom Whipple	03.07.2019
TM17	How we measure the environment could change how the world works	Philip Aldrick	15.06.2019
TM18	Declaring a climate emergency won't help without action	Jamie Livingstone	02.05.2019
TM19	Greenpeace has a plan to help politicians tackle the climate emergency	John Sauven	02.05.2019
TM20	We all agree on climate change — so let's do something now	Sir Nicholas Soames	03.05.2019
TM21	Climate change: Positive picture glosses over likelihood of missing existing target	Ben Webster	02.05.2019
TM22	Saving the planet will be pricey and painful	David Aaronovitch	01.05.2019
TM23	We don't need climate lectures from Greta	Iain Martin	25.04.2019
TM24	Now is the time to switch to renewable power and put a tragedy behind us	Stephen King	23.04.2019
TM25	It's not hysterical to face up to reality of climate change	Ben Cooke	23.04.2019
TM26	We have been too timid in trying to reduce carbon emissions	Sir John Armitt	18.04.2019

TM27	It's worth celebrating independence and integrity when we get a chance	Paul Johnson	26.11.2018
TM28	Climate analysis: Chances of limiting warming to 1.5C have become even more remote	Ben Webster,	08.10.2018
TM29	Climate change is reaching the point of no return	John Gibbons	24.08.2018
TM30	To tackle carbon emissions we must rethink how we live, travel and eat	Matthew Pennycook	05.07.2019
TM31	Sir David Attenborough was this year's Glastonbury hero	Hugo Rifkind	02.07.2019
TM32	This is the climate change election, and it's a vital one	Ciarán Cuffe	15.05.2019
TM33	Climate change is real, Mr Trump. But, yep, those leftie scientists are out to get you	Rod Liddle	03.02.2019
TM34	Farmers must work to take the heat out of the climate crisis	Tom Bowser	04.06.2019
TM35	Lord Deben should come clean about his ties to business	Matt Ridley	05.02.2019

Abstract (English)

Metaphor as a cognitive phenomenon has been extensively investigated in different discourses. However, the role of gender in production of metaphor has received insufficient attention. This study aimed to investigate the factors that determine metaphor use in the discourse on climate change. Specifically, it analyses whether such factors as gender and political orientation influence the choice of source domains to refer to climate change. Opinion articles from three online British newspapers with different political orientation were analysed with regard to linguistic and conceptual metaphor employed to describe climate change. The combination of cognitive and discourse corpus-based approaches was implemented for the analyses.

The results suggested that there are differences in the way prevailing conceptual metaphors were used by women and men. However, investigation of a more specific level, the linguistic metaphors, demonstrated a wider gap concerning the choice of metaphors. Regarding the results obtained in the comparative analysis of metaphors employed in different newspapers, it can be argued that there are significant differences in the preferences of particular source domains between the media under investigation.

This research provided an important opportunity to advance the understanding of the way conceptual metaphor frame the climate change discourse. Moreover, it demonstrated the way cognitive and discourse approaches can be applied to explore factors, like gender and political affiliation, that can influence the choice of metaphors for climate change.

Keywords: ***conceptual metaphor, corpus linguistics, climate change, discourse***

Abstract (German)

Die Metapher als kognitives Phänomen ist in verschiedenen Diskursen ausführlich untersucht worden. Der Rolle des Geschlechts bei der Bildung von Metaphern wurde jedoch nicht genügend Aufmerksamkeit geschenkt. Ziel dieser Studie war es, die Faktoren zu untersuchen, die die Verwendung von Metaphern im Diskurs über den Klimawandel bestimmen. Insbesondere wird analysiert, ob Faktoren wie Geschlecht und politische Orientierung die Wahl der Quellenbereiche beeinflussen, in denen auf den Klimawandel Bezug genommen wird. Meinungsartikel aus drei britischen Online-Zeitungen mit unterschiedlicher politischer Orientierung wurden im Hinblick auf sprachliche und konzeptuelle Metaphern analysiert, die zur Beschreibung des Klimawandels verwendet werden. Für die Analysen wurde eine Kombination aus kognitiven und datenbasierten korpuslinguistischen Ansätzen angewandt.

Die Ergebnisse legten nahe, dass es Unterschiede in der Art und Weise gibt, wie die vorherrschenden konzeptuellen Metaphern von Frauen und Männern verwendet werden. Insbesondere bei der Wahl der sprachlichen Metaphern zeigten sich die größten Unterschiede. Die Analyse der verwendeten Metaphern in unterschiedlichen Zeitungen, zeigte signifikante Unterschiede in den Präferenzen bestimmter Quellbereiche.

Diese Arbeit fördert das Verständnis der Art und Weise, wie konzeptuelle Metaphern den Diskurs über den Klimawandel prägen. Darüber hinaus zeigte sie, wie kognitive und Diskursansätze kombiniert werden können, um Gender und politische Zugehörigkeit als Einflussfaktoren für die Wahl von Metaphern im Zusammenhang mit dem Klimawandel, zu analysieren.
Schlagwörter: ***konzeptuelle Metapher, Korpuslinguistik, Klimawandel, Diskurs***