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Metaphors we fight by: A critical corpus-based analysis of war metaphors in Moroccan news discourse on climate change

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Abstract

Metaphors are pervasive in climate change communication. This study explores the cognitive and pragmatic effects of metaphors in a specialized corpus of online news articles about climate change in Morocco. The corpus is comprised of 195 news articles retrieved from three online news sources. The analysis identifies CLIMATE ACTION IS WAR as a dominant metaphor, systematically mapping the complex domain of climate change onto the experientially grounded frame of war. The analysis highlights TECHNOLOGY IS A WEAPON and CLIMATE CHANGE IS AN ECONOMIC OPPORTUNITY as metaphorical entailments reinforcing techno-fix narratives and promoting market-oriented responses to climate change. Though war metaphors evoke urgency and seek to promote collective action, they risk externalizing responsibility by portraying climate change as an autonomous adversary, thereby obscuring its anthropogenic causes and diverting attention from the human and systemic drivers of crisis. They constrain public discourse to narrow, economically-driven solutions that overlook the need for deeper structural transformations. The study concludes that although war metaphors can be persuasive tools in climate communication, their effectiveness is context-dependent and may lead to unintended consequences; thus, there is a need for more nuanced and context-sensitive metaphorical framings.

Keywords: climate change communication; conceptual metaphor theory; climate policy framing; news discourse

1. Introduction

Meta-research on climate change communication reveals a significant geographical gap, as countries in the Global South remain underrepresented in scholarly investigations (Schäfer

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& Painter, 2021; Schäfer & Schlichting, 2014). This is particularly concerning given that developing and underdeveloped nations are among the most vulnerable to the impacts of climate change. Boykoff et al. (2009) and Boykoff (2011) emphasize the concept of the "cultural politics of climate change", referring to the contested, power-laden, and politicized processes through which meaning, value, and rhetoric are negotiated by various actors within mediated spaces. Climate change is no longer regarded as solely an environmental or scientific concern; it has become a highly politicized and high-stakes issue, deeply entangled in the social, economic, political, and cultural dimensions of everyday life in complex and non-linear ways. Consequently, climate change has increasingly permeated the public sphere, where traditional, digital, and social media function as key mediators between scientific communities, policymakers, and the general public. In this context, critical examination of how these media shape climate discourse is essential for fostering effective climate governance and enhancing public engagement.

Metaphors are a fundamental property of human cognition, whose roles extend far beyond the figurative and poetic functions they were traditionally assumed to fulfill (Lakoff & Johnson, 1980, 1999). There is now robust empirical evidence from cognitive psychology and linguistics supporting the cognitive view of metaphor as a core mechanism of thought (Gentner et al., 2001; Gibbs, 1994, 2011; Landau et al., 2010; Thibodeau & Boroditsky, 2011, 2013, 2015; Thibodeau et al., 2019). Metaphors pervade climate change communication (Cohen, 2011; Flusberg et al., 2017, 2018; Forgács & Pléh, 2022; Nerlich & Koteyko, 2009; O'Neill & Nicholson-Cole, 2009; Russill, 2011), shaping how the public conceptualizes and responds to the issue. Given their ubiquity and influence, a thorough understanding of climate metaphors is essential. Accordingly, a substantial body of research has emerged to investigate their role in climate discourse. One of the most promising strands of this work draws on the *metaphor-as-thought* approach, which analyzes metaphor as a cognitive and discursive tool for structuring complex social and environmental issues. This approach is widely regarded as the dominant theoretical framework in metaphor studies (Gibbs, 2011).

Numerous studies have highlighted the prevalence of "war metaphors" in public communication (Asplund, 2011; Atanasova & Koteyko, 2015; Atanasova, 2022; Boyd, 2003; Cohen, 2011; Deignan, 2017; Flusberg et al., 2017, 2018; Goatly, 2007; Hayes, 1998; Karlberg & Buell, 2005; Kövecses, 2002, 2008; Lakoff & Johnson, 1980; Lakoff, 2002; Larson, 2011; Mangat & Dalby, 2018; Negrea-Busuioc, 2017; Nerlich & Jaspal, 2012; Shaw & Nerlich, 2015; Romaine, 1996; Semino & Masci, 1996; Semino, 2008, 2020; Schnepf & Christmann, 2022; Stibbe, 2015; Taylor & Dewsbury, 2018; Thibodeau, 2016; van der Hel et al., 2018; Welsh, 2016). In particular, this rhetorical militarization has been shown to be a prevailing linguistic and conceptual representation of climate change. Romaine (1996), for example, examines the role of metaphors in communicating climate change and other environmental issues. She stresses that "war … acts as the prime source domain" in the metaphors characterizing the environment (1996, p. 175). Specifically, she identifies the conceptual metaphor ENVIRONMENTAL DEGRADATION IS WAR. Goatly (2007) identifies

the more general metaphor ACTIVITY IS FIGHTING/COMPETITION/ CONFLICT/RACE by which terms related to FIGHTING are applied to aspects of ACTIVITY.

Seen from a critical perspective, metaphor possesses considerable argumentative force and is widely harnessed in political persuasion (Charteris-Black, 2005; Semino, 2008). Gibbs et al. (2011, p. 3) argue that speakers often "intend to communicate messages beyond those expressed by the metaphorical meaning" in order to "concretely achieve various social, pragmatic goals" (Gibbs, 2023, p. 1). These intentions are frequently realized through the construction of scenarios or *mini-narratives* (Musolff, 2006), which may influence personal, social, environmental, and political behavior by embedding "latent ideologies" within conceptual metaphors (Goatly, 2007, p. 3). Given the widespread use of metaphor in public discourse on pressing global issues such as climate change, critically analyzing the discursive functions of metaphor can offer important insight into why political rhetoric resonates with audiences and how it aligns with broader agendas of social and ecological justice (Charteris-Black, 2005, p. 197). By tracing how these metaphors manifest linguistically in a corpus of news texts and evaluating their potential ecological implications, this study aims to identify the deeper cognitive structures that shape public understanding of climate change.

2. Conceptual metaphor theory

In their widely acclaimed book, *Metaphors We Live By*, Lakoff and Johnson (1980) put forward the fundamental premise that "our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" (p. 3). This is referred to as the "conceptual metaphor theory" (CMT) (Lakoff & Johnson, 1980, 1999; Lakoff & Turner, 1989; Lakoff, 1993, 2010). Our conceptual system is made up of concepts that govern our thought processes and structure how we perceive the world and how we relate to one another. How we think, act, and experience our daily realities is largely a matter of metaphor.

Metaphors are not a peripheral linguistic device merely serving a rhetorical, poetic, or "decorative" function (Deignan, 2005, p. 2), but also a property of thought and reason; they are structures that define our conceptual systems — hence, conceptual metaphors. The ubiquity of both novel and conventional metaphors in language and the systematic semantic relations between metaphorically related expressions offers empirical support for the existence of conceptual metaphors. The traditional view of metaphor as "a matter of extraordinary rather than ordinary language" (Lakoff & Johnson, 1980, p. 3) fails to account for the observation that "whole clusters of semantically-related words are sometimes used with related metaphorical meanings" (Deignan, 2005, p. 3). In this regard, Lakoff and Johnson (1980) maintain that "metaphors as linguistic expressions are possible precisely because there are metaphors in a person's conceptual system" (p. 6).

Because many aspects of human experience are not sensorial or perceptual in nature, they are conceptually represented through metaphors. As the strong version of the theory

posits (Murphy, 1996), the structure of our understanding of a more abstract concept comes from the structure of our knowledge of a more concrete concept (Lakoff & Turner, 1989). Based on linguistic evidence, the central argument is that metaphors function as ontological mappings in which a typically concrete source domain (also called the *vehicle*) is projected onto a more abstract target domain (the *tenor*), allowing individuals to "understand and experience one kind of thing in terms of another" (Lakoff & Johnson, 1980, p. 5).

Lakoff and Johnson (1980, p. 4) illustrate how the conceptual metaphor ARGUMENT IS WAR is systematically manifested in many contemporary English expressions. Terms such as *defend*, *attack*, and *strategy*, drawn from the war domain, are commonly used to describe argumentative interactions. These linguistic expressions reflect an underlying conceptual structure in which aspects of the source domain *war* are mapped onto the target domain *argument*. Although arguments and wars are fundamentally different phenomena, the metaphor structures the way arguments are conceptualized and enacted. Thus, the concept of *argument* is, at least partially, metaphorically understood in terms of *war*, shaping both language and behavior in argumentative contexts. Lakoff (1993) summarizes the metaphor-as-thought evidence in three characteristics: "The systematicity in the linguistic correspondences. The use of metaphor to govern reasoning and behavior based on that reasoning. The possibility for understanding novel extensions in terms of the conventional correspondences" (p. 7). This last characteristic implies that conceptual metaphors not only structure our understanding of conventional metaphors, but also structure our understanding and creation of novel metaphors. In addition, because our experiences of both physical and social realities are partly mediated by metaphor — and because culturally shaped social realities influence how we conceptualize the physical world — metaphors play a significant role in shaping human thought and constructing reality. Accordingly, they are said to possess "psychological reality" (Kövecses, 2002).

One of the main criticisms leveled at conceptual metaphor research methodology is the lack of empirical support and explicit criteria for the identification and linguistic analysis of metaphor in naturally occurring discourse (Gibbs, 2007, 2008, 2011; Kövecses, 2008, 2011; The Pragglejaz Group, 2007; McGlone, 2007; Deignan, 2005). Critics suggest that researchers in the Lakoffian tradition lack precision about what counts as metaphor and have largely relied on "intuitive judgment" (Gibbs, 2011) of their "mental lexicons" (Kövecses, 2008, 2011) and "isolated constructed examples" (The Pragglejaz Group, 2007) such as those found in dictionaries and thesauri. Gibbs (2008), for example, expresses concern that claims about the importance and ubiquity of metaphors are made without empirical support, such as reporting their frequencies in texts.

Nevertheless, several attempts have been made to devise clear and systematic procedures for metaphor identification and analysis (Steen, 1999, 2002; Cameron & Low, 1999; Semino et al., 2004; Charteris-Black, 2004; Deignan, 2005; The Pragglejaz Group, 2007). A growing trend of research into metaphor involves incorporating techniques from corpus linguistics (Sardinha, 2011; Abdul Malik et al., 2022). Notably, Deignan (2005)

develops a bottom-up method focused on the syntagmatic relations between words in corpora of natural textual data. Using concordancing software, her study of collocational patterns and their relevance to CMT suggests the importance of corpus data in understanding how people use metaphor both conventionally and innovatively.

Similarly, Charteris-Black's (2004) critical metaphor analysis integrates corpus linguistics, cognitive linguistics, and critical discourse analysis. He proposes three criteria for identifying metaphors: the linguistic, the pragmatic, and the cognitive. The Pragglejaz Group (2007) developed a detailed Metaphor Identification Procedure, which determines metaphoricity at the word level by establishing the basic and contextual meanings of each word, using dictionaries and corpus materials as references to check individual researchers' intuitions.

In response to these criticisms, this study of climate metaphors exploits corpus techniques that provide quantitative accounts and empirical support for findings drawn from analyses of natural discourse. Investigating "metaphor in the wild" (The Pragglejaz Group, 2007) is clearly necessary, as acknowledged by the foundational assumption in CMT that metaphor is ubiquitous in ordinary, everyday language and thought (Lakoff & Johnson, 1980).

3. Method and materials

The data for this study comprises a specialized corpus of 195 news articles (99,507 words) collected from three Moroccan online news sources: *Morocco World News* (*MWN*) (https://www.moroccoworldnews.com), *Hespress* (https://en.hespress.com), and *Maghreb Agence Presse* (*MAP*) (https://www.mapnews.ma). *MWN* is an independent e-newspaper based in Washington D.C. and Rabat, covering a broad range of topics related to Morocco and the MENA region. *Hespress* is also an independent digital news outlet based in Morocco. *MAP* is the country's official state-owned news agency. Among these, *Hespress* ranks as the most visited Moroccan online news platform in 2022, based on average monthly visits reported by the Statista Research Department (2023).

Using the search terms *climate change* and *global warming*, articles were retrieved spanning an 11-year period (2011–2022). This period aligns with major global and national climate milestones, including COP17 (2011), the Paris Agreement (2015), and COP22 in Marrakech (2016), which significantly shaped media narratives. It also corresponds to the consolidation of Moroccan digital journalism, as platforms like *MWN* and *Hespress* gained prominence after 2011, which provides a stable and mature online media environment for analysis. Extending the corpus to 2022 ensures the inclusion of recent developments and offers contemporary relevance and a representation of how Moroccan news outlets have conceptualized climate change over the past decade.

A semantically tagged version of the corpus was prepared using the web-based USAS semantic tagging system developed by Lancaster University's Centre for Computer Corpus Research on Language (UCREL) to help identify and assess the salience of items pertaining

to the semantic field of technology.

Concordances for both expressions were generated using corpus software, yielding 342 occurrences of *climate change* and 14 occurrences of *global warming*. Their surrounding contexts were then examined. Metaphoricity was identified based on the presence of semantic tension defined as a contrast between a word's contextual meaning and its basic contemporary meaning shown in *MacMillan English Dictionary for Advanced Learners* (2nd ed., 2007) and *Collins COBUILD Advanced Dictionary* (6th ed., 2009). Finally, the frequency and distribution of metaphorical expressions related to climate change and global warming were calculated to assess the prominence of different source domains.

4. Results and discussion

An initial examination of the concordance lines for *climate change* indicates that mitigation efforts are frequently conceptualized through war-related metaphors. This pattern aligns with a broader tendency in discourse to draw on war as a dominant conceptual source for framing complex societal challenges.

To move beyond observational or *intuitive* metaphor identification, this study evaluates the extent to which linguistic expressions such as *combat climate change* instantiate a particular conceptualization of climate change. This is achieved by examining how extensively the entailment potential of the conceptual metaphor is activated in context. The table below presents the frequencies and range of lexical items drawn from the source domain of WAR, which were interpreted as metaphorical based on their contextual usage. For example, the lemma *fight* appears 18 times in total, with 17 instances classified as metaphorical and only one used in the literal sense.

Table 1: Lexical items from the domain of WAR

domain of WAR	**Freq.**	**Range**	**domain of WAR**	**Freq.**	**Range**
combat	28	20	*attack*	1	1
fight	12	9	*battle*	1	1
fighting	5	4	*weapons*	1	1
mobilize	8	8	*defenders*	1	1
mobilized	6	6	*rallying against*	1	1
mobilizes	3	3	*shield*	2	2
target	8	7	*grapples*	2	2
targets	7	6	*confront*	2	2
deploying	3	3	*confronting*	2	2
deployment	2	1	*confronted*	1	1
deployed	1	1	*arsenal*	1	1
deploys	1	1			

Lexical items such as *combat*, *fight against*, *arsenal*, and *shield* generate semantic tension due to

the contrast between their basic contemporary meanings and their contextual usage. In their primary sense, these terms denote concrete entities, actions, and objects associated with physical conflict involving distinct opponents. However, in the context of climate discourse, these items take on metaphorical meanings. For instance, *arsenal* is used to denote a range of climate solutions, such as renewable energy technologies, rather than a literal stockpile of weapons. From a cognitive perspective, these expressions activate the highly concrete and experientially grounded frame of WAR, which is more accessible to human cognition due to its vivid imagery and embodied associations. This frame evokes mental representations of violence, destruction, fear, and mortality, thereby lending urgency and salience to the abstract and complex domain of climate action. Within the cognitive theory of metaphor, it is assumed that such metaphorical expressions rely on shared folk knowledge or cultural models — in this case, the conceptual structure of war — to make sense of less tangible domains (Kövecses, 2002). This raises a critical question: to what extent is *climate action* conceptualized in terms of *war*? More specifically, which elements from the source domain WAR are mapped onto corresponding elements in the target domain CLIMATE ACTION? To explore this, I developed a set of conceptual correspondences based on selected corpus extracts in which these mappings are realized:

1. Climate change is an enemy that has declared and waged war against us and is threatening our security. Solving climate change thus means fighting this enemy.

    - *Morocco aims to continue its efforts to* ***fight against climate change*** *within the framework of a global sustainable development vision.* [Text 175]
    - *Morocco acknowledges the severe* ***threat*** *of water insecurity, exacerbated by climate change.* [Text 39]
    - *Morocco partnered with Niger in July 2018 to* ***confront*** *issues such as youth employment and climate change.* [Text 48]
    - *To* ***attack*** *the problem, the head of government said that all governmental departments must ensure the provision of drinking water to the population.* [Text 23]

2. People, governments, nations, organizations, banks, and companies are soldiers, armies, troops, companies, battalions, etc. To win the war, we must have allies and design fighting strategies, build weapons, and deploy our troops in the battlefields.

    - *Launched by Morocco in 2016 during the COP22 climate change conference in Marrakech, the initiative aims "to encourage and* ***mobilize political, financial, and institutional actors*** *to design and implement a priority action plan for* ***water security*** *of the African continent".* [Text 26]
    - *Morocco World News spoke to Fatiha Charradi, Vice-President in charge of agricultural development at OCP Group, who underlined that the group's engineers are* ***deployed*** *in several provinces to work hand in hand with local farmers.* [Text 107]

- *By pooling efforts and consolidating* ***cooperation*** *with our* ***strategic partners****, I am convinced we can redress the climate injustice affecting our continent.* [Text 13]
- *Through multiple initiatives over the past decade, the Moroccan government has set the* ***fight against*** *water scarcity at the heart of its climate change* ***strategy****.* [Text 121]

3. Finance, technology, green energy, solar, wind power, desalination plants, etc., are the arsenal we must acquire and use in our fight against climate change.

- *With two long coastlines and a growing* ***arsenal*** *of* ***green energy*** *solutions, Moroccan* ***investment*** *in* ***desalination technology*** *is a no-brainer according to Minister Baraka.* [Text 104]
- *With the exchange of knowledge and* ***win-win trade deals*** *as their primary* ***weapons****, Moroccan diplomats are welcomed in African capitals looking for genuine partners.* [Text 126]
- *The BBC added in its report that Morocco is equipped with a* ***financial arm*** *that is Casablanca Finance City (CFC), a leading financial center in Africa positioned "at the crossroads of continents".* [Text 98]

The first metaphorical correspondence frames climate change as an *enemy*, thereby implicitly evaluating it as hostile or even malevolent. Although climate change is an abstract and complex phenomenon rather than a tangible entity that can be physically confronted, this framing involves a degree of personification. By attributing physical or agentive qualities to climate change, the metaphor enables it to be conceptualized as an adversary that can be fought, resisted, or overcome. Notice in the extracts below the use of the expressions in bold letters:

- *Participants recognized the vulnerability of Africa's agriculture,* ***in the face*** *of climate change and global warming.* [Text 11]
- *Climate, then, he appeared to suggest, will be the "invisible* ***hand****" behind most, if not all, of "the conflicts to come".* [Text 47]
- "*No country can meet the challenge of climate change alone. Climate change* ***carries*** *no passport; emissions released anywhere contribute to the problem everywhere." – Ban Ki-Moon.* [Text 46]

These examples substantiate the metaphorical mapping of CLIMATE CHANGE IS AN ENEMY, as they all attribute agentive or confrontational qualities to climate change which make it appear as an unregulated, borderless invader and a target for collective resistance.

I interpret this antagonistic personification as a metaphor that frames climate change as an enemy whose threats are experienced physically. This metaphor underscores the perceived intentionality and hostility of the enemy and portrays climate change as an imminent and active threat. It evokes a sense that we are *under attack* and must *fight back*,

thereby inducing fear and emphasizing urgency and risk. In this context, several scholars have shown that war metaphors in climate change communication serve to capture attention and convey negative emotional valence (Atanasova & Koteyko, 2015; Flusberg et al., 2018; O'Neill & Nicholson-Cole, 2009). This is reflected in the corpus through the frequent use of alarmist and fear-inducing language. Climate change, water scarcity, and their consequences are often described using highly charged terms such as *devastating*, *dangerous*, *alarming*, *catastrophic*, *threatening*, *deadly*, *shocking*, *acute*, *urgent*, and *disastrous*.

What is made less apparent by this metaphorical framing, however, are the root causes of the perceived hostility; at the very least, it discourages inquiry into those causes (Hartmann-Mahmud, 2002). If we are metaphorically *under attack*, the question arises: *by whom?* Framing climate change as an external enemy to be fought may obscure its fundamentally anthropogenic nature. It risks diverting attention from the true sources of environmental degradation, namely, fossil-fuel dependence, consumerism, and growth-driven economic models. These are human-centered and systemic in origin. In conventional metaphors such as *fighting terrorism* or *fighting crime*, the identity of the enemy — terrorists or criminals — is clear. In contrast, the metaphor *fighting climate change* lacks a clearly defined adversary, thereby complicating efforts to hold specific actors or systems accountable.

One possible explanation for the personification of climate change as a war enemy is offered by Lakoff and Turner (1989), who propose that events are conceptualized as actions (EVENTS ARE ACTIONS). This generic-level metaphor leads to the personification of external events, as actions are typically associated with intentional agents (Kövecses, 2002). Moreover, since human experience is partially embodied (Lakoff & Johnson, 1999; Lakoff, 2012), it is common to draw on embodied knowledge — particularly that of intentional bodily movement — as a source domain for understanding abstract phenomena. Within this framework, the broad metaphor CLIMATE ACTION IS WAR readily gives rise to the more specific entailment CLIMATE CHANGE IS AN ENEMY.

The interpretation of this metaphorical mapping is informed by inferences drawn from expressions such as *fighting climate change*. While not all individuals may interpret such phrases in the same way, this analysis illustrates one plausible response to metaphorical linguistic stimuli. These reflections intersect with key questions in response-elicitation research (Boeynaems et al., 2017), as well as work on the pragmatic effects of metaphor in discourse (Gibbs, 2011) and on how metaphor influences public attitudes and perceptions of risk related to climate change and other global issues (Flusberg et al., 2017).

As correspondence (3) indicates, the metaphor CLIMATE ACTION IS WAR gives rise to sub-metaphors such as TECHNOLOGY IS A WEAPON and FINANCE IS A WEAPON. The latter, in particular, aligns with the prevalent non-metaphorical framing of climate change as an economic problem. This framing emphasizes cost-benefit analyses and positions finance, technological innovation, and investment as appropriate solutions. The extracts below exemplify this economic framing, wherein financial and technological tools are metaphorically mobilized as strategic instruments in the fight against climate change.

- *HM the King went on, "we must promote innovation, encourage scientific research and state-of-the-art technology, and improve the match between the training we provide and the needs of the job market". Such policies should "withstand global changes and upheavals, and help us address the key issues of poverty, vulnerability, food security, water scarcity and climate change, as well as problems pertaining to the liberalisation of world trade and the disruption of global financial markets", the Sovereign noted.* [Text 3]
- *Climate change affects not only the environment, but the economy as well, points out the Arab Barometer, as the majority of MENA publics consider the economy to be "the greatest challenge facing their country". Therefore, clarifying the effects of climate change on the economy is crucial for increasing climate engagement among ordinary citizens in the region*… [Text 173]

Using a semantically tagged version of the corpus, I extracted all lexical items related to the domains of *science* and *technology* to assess the salience of technological discourse. The search yielded a total of 209 occurrences, indicating a strong emphasis on the integration of technology into major climate policies. However, this focus on so-called *techno-fix* solutions remains highly contentious. When *finance* and *technology* are framed as the primary weapons in the fight against climate change, attention may be diverted from the deeper cultural and socio-cognitive transformations required to address the crisis holistically. As Stibbe (2015, p. 143) argues, appeals to the authority of science "… have the potential to turn climate change into a technical issue where objective scientific facts are sufficient to determine what actions need to be taken".

Another key aspect highlighted by this metaphor is the emphasis on collective action and cooperative strategy, as illustrated in correspondence (2). The metaphor of war evokes the necessity of forming alliances and coordinating strategic efforts to strengthen one's position and increase the likelihood of victory. Within this frame, any threat or weakness affecting one party in the alliance is perceived as compromising the collective strength of the group as a whole. This conceptualization reinforces the suitability of the CLIMATE ACTION IS WAR metaphor for portraying climate change as a shared adversary requiring unified global action. As Atanasova and Koteyko (2015, p. 7) observe, "as war metaphors evoke images of collective effort, they are often used by political figures to instill a sense of unity and patriotism".

Because *real* wars almost always involve political and economic conflicts, often with significant consequences such as casualties and widespread disruption, the metaphor CLIMATE ACTION IS WAR risks losing some of its figurative power. In contemporary discourse, climate change is deeply entangled with political and economic debates, and for some commentators, it has become a largely politicized issue (Boykoff & Boykoff, 2004; Boykoff, 2011; Chinn et al., 2020; Marquardt & Lederer, 2022). As climate change discourse increasingly intersects with conceptual domains where POLITICS IS WAR (Romaine, 1996) and FINANCE IS A WEAPON, the war metaphor becomes more conceptually accessible and arguably more literal. This is particularly evident given that

economies are increasingly vulnerable to the impacts of climate change paralleling the vulnerabilities caused by traditional warfare.

Furthermore, the metaphor begins to blur with literal references when considering the geopolitical risks associated with climate change. Warnings of future *water wars* and escalating conflicts over land and natural resources driven by ecological degradation illustrate how the language of war may reflect not only metaphorical framing but also emerging realities. Consider the following extract:

- *"The third world war is at our gate, and it will be about water if we don't do something about this crisis," Rajendra Singh, Indian water conservationist, told the intellectual body Carnegie Council for Ethics in International Affairs in 2016.* [Text 117]

Similarly, Atanasova and Koteyko (2015, p. 8) note that war metaphors are characteristic of political communication. Based on their critical analysis of metaphor use in *The Guardian Online* and *Mail Online*, they argue that such metaphors serve to politicize climate action by framing it as an "object of political battle … that is only partially focused on environmental issues … and often involves economic and business arguments".

It is important to note that the metaphorical entailment potential of CLIMATE ACTION IS WAR is not fully exploited in the corpus. Not all constituent elements of the war frame are mapped onto the domain of climate action; rather, only select aspects such as conflict, urgency, and adversarial dynamics are emphasized, while others, like violence or military hierarchy, may be absent or downplayed.

In sum, the ideas discussed thus far corroborate previous research findings concerning the widespread use of war metaphors in climate change discourse. Through the identification of conceptual correspondences between war-related concepts and climate action within the corpus, it becomes evident that climate change is often metaphorically represented in systematic and structured ways. This pattern reflects a broader global trend in which war metaphors are frequently employed across domains such as business, health, and environmentalism, particularly in the context of crisis communication. This raises a central question: What roles or functions do war metaphors serve in communicating climate change? Drawing on the general framing functions proposed by Entman (1993), the metaphorical militarization of climate discourse can be analyzed through four key dimensions: problem definition, causal interpretation, moral evaluation, and treatment recommendation. These framing functions help explain how war metaphors shape public understanding, guide perception of responsibility, and influence policy preferences regarding climate action.

4.1. Fear appeals and the limitations of war rhetoric

As several researchers have indicated (Atanasova & Koteyko, 2015; Cohen, 2011; Flusberg et al., 2017, 2018; Hartmann-Mahmud, 2002; O'Neill & Nicholson-Cole, 2009; Semino,

2008), owing to their inherently negative emotional valence, war metaphors are used in climate change communication to capture attention, make clear the magnitude of the crisis, and instill a sense of urgency into the public. While such metaphors may initially serve persuasive functions, this communicative strategy is not without limitations. Atanasova and Koteyko (2015, p. 12), for instance, draw attention to "the potential unintended consequences of the war rhetoric" particularly in light of empirical research suggesting that appeal to fear in communicating climate change may prove ineffective or even counter-productive (O'Neill & Nicholson-Cole, 2009). This concern is especially pertinent given that many of the large-scale impacts of climate change are perceived as temporally and spatially distant from the everyday experiences of individuals. Thus fear-inducing representations of climate change may have the adverse effects of disempowering and distancing individuals more from the issue, and leading to apathy, a sense of helplessness, and denial. Without complementary narratives and representations that establish personal relevance, fear imagery will only inhibit personal engagement and action. Likewise, Larson (2011, p. 177) similarly warns that overreliance on war metaphors may trigger a "boomerang effect", rendering such language ineffective over time: "The overuse of war metaphors may lead to their becoming vapid when we really need them, like crying wolf." Though war metaphors may offer motivational potential in the short term, they may prove inadequate in fostering sustained socioecological awareness and long-term behavioral change.

It is worth mentioning that the emotional valence of war metaphors may be determined by the issue characteristics they are used to frame as well, such as in a metaphor framing the human immune system as an army, thus creating a positive frame (Boeynaems et al., 2017). From this fact, one can argue that if climate change is not perceived seriously as a threat by the public, depicting it as a war enemy may not create the intended emotional effect nor suggest enough "morbidity". However, despite the hyperbolism, people may not be motivated or incited into action without being "given something they can do" (Gobster, 2005, as cited in Larson, 2011, p. 170). The bottom line is that until further research establishes exactly the psychological and behavioral effects of war as a fear-invoking rhetoric, it is advised that such imagery be used with caution.

4.2. Friend or foe? Collective action and the polarizing power of war rhetoric

Another key function of war metaphors is their capacity to frame climate change as a shared global threat that necessitates collective action. As Nerlich and Jaspal (2012) observe, early media portrayals of climate change were marked by a "collectivization" of threat, which served to justify the need for coordinated international responses. The war frame does not merely emphasize danger and urgency; it also evokes positive associations such as courage, solidarity, and patriotism. These qualities contribute to a moral dichotomy between those who support climate action and those who resist it. In this context, the language of war becomes a tool for polarization, mobilizing support, and casting opposition as a form of

disloyalty or even treason (Hartmann-Mahmud, 2002). This moral framing can strengthen public resolve but also risks oversimplifying complex political disagreements and alienating dissenting voices.

4.3. What's your weapon of choice? The role of finance and technology in policy framing

We have seen that the metaphors CLIMATE ACTION IS WAR and FINANCE/TECHNOLOGY IS A WEAPON simplify and ground the discussion of climate policy primarily in terms of economic growth and financial investment in technology. As Hartmann-Mahmud (2002, p. 427) states, "declaring war on someone or something or some idea allows for a simplified policy agenda, a justification for reallocation of funds". In the corpus, this framing is often accompanied by cost-benefit discourse that positions climate action as an economic opportunity or problem, thereby legitimizing large-scale climate policy initiatives and technological mega-projects. The metaphorical entailments thus reinforce a conception of climate change as a challenge that can be solved through financial resources and technological innovation. As such, the abstract nature of climate action is made more tangible through references to measurable and actionable solutions. However, this technocratic framing risks narrowing the scope of public discourse. By emphasizing economic instruments as the primary means of intervention, it may obscure the deeper structural, cultural, and behavioral transformations needed to address the crisis. As Flusberg et al. (2017, pp. 2–3) and Shaw and Nerlich (2015) caution, this approach "may be overly restrictive and lead people to assume that there is a straightforward trade-off between sustainable environmental policies and economic growth".

Furthermore, the non-metaphorical framing CLIMATE CHANGE IS AN ECONOMIC PROBLEM carries the implicit assumption that the crisis can be resolved through the application of a discrete technological or financial solution, after which the problem effectively disappears (Nerlich & Jaspal, 2012; Stibbe, 2015, p. 51). Within the war metaphor, this logic is mirrored: "if the enemy is still not defeated, the problem is perceived as being not enough arms or not a big enough army" (Hartmann-Mahmud, 2002, p. 427). This reasoning leads to calls for additional "armaments", metaphorically understood as increased financial and technological intervention. However, such linear and reductionist representations fail to capture the complexity and multi-dimensionality of climate change.

Cohen (2011, p. 207) suggests that equating climate action with armed conflict may normalize or legitimize certain controversial technological interventions, such as geoengineering, which might otherwise be deemed inappropriate or excessively risky. Nerlich and Jaspal (2012, p. 136) similarly observe that such solutions are often supported by a "master argument from catastrophe", which interacts with dominant metaphors such as THE PLANET IS A MACHINE and THE PLANET IS A BODY, both of which appear in the corpus. These metaphors imply that in the event of systemic failure, the Earth can be "repaired" or "treated" through technological means. However, as Stibbe (2015, p. 69)

argues, these metaphorical framings are not without problems because they promote the idea that environmental problems can be fixed by isolated technical solutions without addressing the broader social and cultural systems behind them. They also reduce living beings to mere components and fail to recognize or value their intrinsic lives.

As previously outlined, Entman's (1993) four framing functions offer a useful lens for analyzing the functions of war metaphors in climate change discourse. Within this framework, war metaphors serve a problem-defining function by conceptualizing climate change as a hostile and external threat. This framing simplifies the complexity of the issue, presenting it as an urgent and unified crisis that demands immediate action. Second, in terms of causal interpretation, the war frame externalizes responsibility by attributing the persistence of the problem to insufficient "weapons" (i.e., finance and technology) rather than to deeper structural or behavioral causes. It directs attention away from systemic contributors such as consumption patterns, political inertia, or socio-economic inequality. Third, the metaphor performs a moral evaluative function by constructing a binary between allies and adversaries: those who support climate action are cast as heroic and loyal, while those who resist it may be viewed as negligent or even treasonous. This polarization, though effective in mobilizing support, can marginalize dissent and obscure nuanced debate. Finally, the war metaphor advances a treatment recommendation centered on financial and technological solutions. Climate action becomes a matter of acquiring more advanced "weapons" to win the battle leading to the dominance of techno-fix narratives and cost-benefit rationales. However, as several scholars caution, this framing may constrain the discourse by ignoring the cultural, ethical, and transformative dimensions of climate solutions, thereby reinforcing a reductionist and potentially counterproductive approach to climate governance.

5. Conclusion

Consistent with findings from both early and recent studies, the analysis revealed a significant use of metaphorical language in discourse surrounding climate change and climate action. This figurative language underpins the conceptual metaphor identified as CLIMATE ACTION IS WAR, which performs a cognitive function by mapping structural elements from the more concrete and familiar domain of *war* onto the more abstract and complex domains of *climate change* and *climate action*. Through this metaphor, war-related schemas are employed to shape public understanding, frame urgency, and encourage mobilization in response to climate-related challenges.

As demonstrated throughout this analysis, the ubiquity of metaphorical language in climate change discourse attests to its deeply conceptual nature. From a cognitive linguistic perspective, metaphor is not merely a rhetorical device but serves a fundamental cognitive function. It enables the structuring of abstract target concepts by attributing to them ontological status and internal coherence derived from more concrete, experientially grounded source domains. In doing so, metaphor anchors complex phenomena within

familiar narratives and schemas that are more readily accessible to human understanding (Lakoff & Johnson, 1980, 1999). A moderate interpretation of this view suggests that metaphor influences, for instance, our conceptualization of climate action by partially aligning its structure with that of *war*, thereby shaping, though not determining, how the target domain is understood (McGlone, 2007). A weaker version, as proposed by Gibbs (1992, 1994), holds that understanding expressions like *fighting climate change* depends on recognizing their relation to a broader conceptual mapping such as PURPOSEFUL ACTIVITY IS FIGHTING (Goatly, 2007). In this view, metaphor comprehension is grounded in our conventional linguistic knowledge and does not necessarily entail a deep conceptual restructuring of the target domain.

War metaphors constitute a dominant and resonant framing of climate change in public discourse (Cohen, 2011; Oreskes, 2011; Atanasova, 2022). Quantitative findings from the corpus confirm their prevalence in comparison to *journey* and *racing* metaphors which were observed. Military-related language is used to convey urgency and legitimize climate policies. Phrases such as "fight against climate change", "shield the country against the exponential threat", and references to a "growing arsenal of green energy solutions" exemplify how climate action is framed as a strategic response to a hostile force. This metaphorical pattern constructs what Musolff (2006) calls a *mininarrative*. The war frame not only emphasizes the severity of the crisis but also functions evaluatively. It offers a moral interpretation of climate action (Entman, 1993; Musolff, 2006). It collectivizes both the threat and the response, and promotes regional and international cooperation while reinforcing national unity. However, its emotional intensity does not guarantee effectiveness; its impact depends on the cultural and political context. Notably, the metaphor often personifies climate change as a hostile agent, which may obscure its anthropogenic roots by deflecting responsibility from human actions to climate itself.

War metaphors were also found to contribute to the reification of climate action by reducing it to a set of financial and technological interventions. In this framing, what is portrayed as a "weapon" in the fight against climate change often refers to technological advancements. This reinforces a form of *misplaced optimism* (Stibbe, 2015) that the ecological crisis can be solved solely through innovation and industrialization. It reflects a localized enactment of the global discourse of ecological modernization, which seeks to attract investment in desalination, solar, hydrogen energy, and other industrial projects. The techno-fix orientation functions as a treatment recommendation (Entman, 1993) within the economic frame, and reinforces a simplistic problem-solution binary that prioritizes economic growth. As a result, it sidelines the deeper socio-cultural and cognitive dimensions of climate change and limits the potential for alternative, systemic responses. In the corpus, this discourse supports initiatives promoting the modernization of agriculture and the integration of digital tools aiming to build climate-resilient, profit-driven agricultural systems that sustain economic development.

Wars typically produce winners and losers. Those mastering weaponry often emerge victorious. Similarly, the non-metaphorical framing CLIMATE CHANGE IS AN ECONOMIC

OPPORTUNITY promotes the commodification of climate solutions and creates space for trade- and market-driven responses. However, this framing raises critical concerns. It remains uncertain whether businesses, in maximizing profit, can ensure minimal ecological harm. Additionally, the prospect of collaboration between the fossil fuel industry and green technology sectors appears incompatible with the former's entrenched profit-driven models. Furthermore, since many of the countries most affected by climate change are economically disadvantaged, questions arise about their ability to meet the financial demands of adopting the technological solutions encouraged by this framing. Alternative metaphors that encourage engagement without fear, accountability without alienation, and action rooted in cultural meaning may prove more useful.

Data access statement

The author confirms that the data supporting the findings of this study are available within the article and its supplementary materials which can be accessed through this hyperlink.

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