



War metaphors in public discourse

Stephen J. Flusberg^a, Teenie Matlock^b, and Paul H. Thibodeau^c

^aPurchase College; ^bUniversity of California, Merced; ^cOberlin College

ABSTRACT

War metaphors are ubiquitous in discussions of everything from political *campaigns to battles* with cancer to *wars* against crime, drugs, poverty, and even salad. Why are warfare metaphors so common, and what are the potential benefits and costs to using them to frame important social and political issues? We address these questions in a detailed case study by reviewing the empirical literature on the subject and by advancing our own theoretical account of the structure and function of war metaphors in public discourse. We argue that war metaphors are omnipresent because (a) they draw on basic and widely shared schematic knowledge that efficiently structures our ability to reason and communicate about many different types of situations, and (b) they reliably express an urgent, negatively valenced emotional tone that captures attention and motivates action. Nevertheless, we find that the meaning (and consequences) of war metaphors is intimately tied to the context in which they are used, which may result in either positive or negative outcomes, depending on the situation. Thus, blanket statements about whether or not a war frame is useful are misguided or overly constraining. Here we situate our case study results in relation to popular theories of metaphoric representation and processing and offer some guidelines for using a war framing effectively. This work helps illuminate the complex, dynamic, and nuanced functions of metaphor in cognition in general, and in public discourse in particular.

Introduction

On June 18, 1971, the United States declared war on drugs. President Richard Nixon made the following statement at a press conference that day: “America’s public enemy number one in the United States is drug abuse. In order to fight and defeat this enemy, it is necessary to wage a new, all-out offensive” (qtd. in Sharp, 1994, p. 1).

This was neither the first nor the last time the U.S. government invoked the specter of war to describe a significant domestic policy initiative. In 1964, President Lyndon B. Johnson outlined new legislation in his State of the Union address that became associated with the so-called “War on Poverty” (Farmby, 2014). The following year, Johnson established the President’s Commission on Law Enforcement and Administration of Justice while remarking, “I hope that 1965 will be regarded as the year when this country began in earnest a thorough, intelligent, and effective war against crime” (Johnson, 1965, p. 785). And Nixon himself, who escalated the “War on Crime” during his own term, is also remembered for declaring “War on Cancer”; in 1971, he vowed to “launch an intensive campaign to find a cure for cancer” (McMann-Seaman & Seaman, 2009, p. 152; see also Coleman, 2013), and he signed the National Cancer Act into law later that same year. By the end of the decade, President Gerald Ford had declared the “War on Inflation” (Stelzner, 1977). And the list goes on.

CONTACT Stephen J. Flusberg  stephen.flusberg@purchase.edu  Department of Psychology, Purchase College, State University of New York, Purchase College, SUNY 735 Anderson Hill Road Natural Sciences Building Purchase, Purchase, NY 10577, USA.

The authors are listed alphabetically as all contributed equally.

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Table 1. A sample of recent headlines that include a war metaphor.

Headline	Source
<i>UN Declares War on Ocean Plastic</i>	<i>UN Environment</i> , 2017 http://www.unep.org/newscentre/un-declares-war-ocean-plastic
<i>Fast Food's Secret Weapon in the War on Salad</i>	Upworthy.com, 2012 http://www.upworthy.com/fast-foods-secret-weapon-in-the-war-on-salad
<i>In the Great Gluten Wars, I Can't Sit on the Fence</i>	<i>The Guardian</i> , 2016 https://www.theguardian.com/commentisfree/2016/sep/06/gluten-intolerance-celiac-disease-research
<i>The Plastic Bag Wars</i>	<i>Rolling Stone</i> , 2011 http://www.rollingstone.com/politics/news/the-plastic-bag-wars-20110725
<i>Can We Forgive Hillary Clinton For Her Past War On Video Games?</i>	<i>Forbes</i> , 2016 https://www.forbes.com/forbes/welcome/?toURL=https://www.forbes.com/sites/insertcoin/2016/02/05/can-we-forgive-hillary-clinton-for-her-past-war-on-video-games/&refURL=&referrer=#5fdcf34512aa
<i>Duterte Declares War on Manila Traffic Jams</i>	<i>Financial Times</i> , 2016 https://www.ft.com/content/35a0e14c-a235-11e6-82c3-4351ce86813f
<i>Fitbit and Jawbone Might be Fighting a War Neither Can Win</i>	<i>The Washington Post</i> , 2015 https://www.washingtonpost.com/news/the-switch/wp/2015/06/16/fitbit-and-jawbone-might-be-fighting-a-war-neither-can-win/?utm_term=.04654c731831
<i>The War On Sunshine is Leading To More Fragile Bones</i>	Science20.com, 2013 http://www.science20.com/news_articles/war_sunshine_leading_more_fragile_bones-116118
<i>Inside the Civil War Over Hillary Clinton's "Pantsuit Nation"</i>	<i>Vice</i> , 2016 https://www.vice.com/en_us/article/inside-the-civil-war-over-hillary-clintons-pant-suit-nation
<i>Grocery War Looming? Analysts See Several Potential Sprouts Bidders</i>	<i>Financial Times</i> , 2017 https://www.ft.com/content/2a89afc3-ecb2-3367-9fe9-0c4a21661ce7

Today, the “War on X” frame is so ubiquitous, and so embedded in partisan squabbling, that it is threatening to become a *reductio ad absurdum* against the use of warfare metaphors in public discourse. Consider the recent spate of headlines shown in Table 1.

Right-wing pundits regularly decry the American “War on Christmas,” an assault on public displays of Christianity by the left (O’Reilly, 2012, 2016),¹ and a *conflict* that is often lampooned by liberal satirists such as Jon Stewart (Gummow, 2013; for a somewhat exasperated history of this issue, see Stack, 2016).² And in the past year alone, several books were published warning us about “The War on Science” (Otto, 2016), “The War on Cops” (Mac Donald, 2016), “The War on Guns” (Lott, 2016), “The War on California” (Jennings, 2017), “The War on Sex” (Halperin & Hoppe, 2017), “The War on Truth” (Fairley, 2016), and, of course, the “Metaphor Wars” (Gibbs, 2017).

Some observers are now tired of the endless carnage that litters these figurative battlefields. Calling for a ceasefire, they hope to scale back our reliance on the warfare metaphors that have invaded nearly every domain of social and political life (Cespedes, 2014; Hartmann-Mahmud, 2002; Huckins, 2016; Larson, 2005; Simons, 2015; Wiggins, 2012). These critics suggest that war metaphors are misleading at best, and harmful at worst, resulting not only in increased political and cultural polarization, but in risks to personal and social well-being as well. And yet the media’s appetite for metaphorical combat seems to be insatiable: One study found that 17% of all articles published in *Time Magazine* and 15% of all articles published in *Newsweek* between 1981 and 2000 used at least one war metaphor (Karlberg & Buell, 2005).

¹Notably, at least two books by conservative authors sounding the alarm on this issue have been published in recent years: *The war on Christmas: How the liberal plot to ban the sacred Christian holiday is worse than you thought*, by John Gibson (2006)—which may have kicked off this conservative talking point—And “War on Christmas: Battles in Faith, Tradition, and Religious Expression,” by Bodie Hodge (2013). A third book with a similar title, “War on Christmas: The Complete Series,” by Edward Lorn (2016), is unrelated to this issue and does not appear to be a figurative use of the word “war”: it is a collection of fictional stories about Santa Claus violently battling evil.

²Less well known—and somewhat more surprising—than the contemporary Liberal War on Christmas, is the Puritan War on Christmas of the 17th century (Durstun, 1985).

Why have war metaphors become so pervasive in public discourse, and why do they span such a wide range of topics? And what are the cognitive and behavioral consequences of using (or being exposed to) the war frame? In the present article, we address these questions by reviewing the empirical literature on this topic, and by advancing our own theoretical account of the structure and function of war metaphors in discussions of social and political issues. We begin with a quick overview of the role of metaphor in everyday thought and communication, and go on to analyze what motivates the popularity of warfare metaphors. We then describe research on the efficacy of the war frame, paying special attention to the positive and negative consequences of the metaphor and to the context-sensitive nature of metaphorical meaning and reasoning. Based on the results of our case study, we then offer a general set of guidelines for using the war frame effectively, and situate our findings in relation to popular theories of metaphoric representation and processing. We conclude with a brief discussion of future research opportunities in this domain.

The structure and function of war metaphors

Metaphors are useful because they allow us to talk and think about complex or abstract information in terms of comparatively simple and more concrete information (Gibbs, 1994; Lakoff & Johnson, 1980; Pinker, 2007; Thibodeau & Boroditsky, 2011). A societal drug problem, for example, is a complex sociopolitical issue with an array of causes and consequences. Metaphors can help us talk and think about the problem by simplifying the issue, highlighting certain aspects and deemphasizing others. For instance, the drug problem is often framed metaphorically as a disease or in terms of war (or both, as in the headline, “Opioid epidemic: Another drug war failure”; Chapman, 2017). The two metaphors represent different ways of expressing how drug use spreads and how to address the problem. However, both serve a similar cognitive function by allowing people to leverage what they know—about disease or war—as a mental model for thinking about a nuanced issue that lacks a well-defined solution. In this way, metaphors fill in gaps, and thereby extend our language and conceptual knowledge (Gibbs, 1994, 2017; Gibbs & Colston, 2012; Lakoff & Johnson, 1980; Ortony, 1975).

In addition to the structural framework that war metaphors provide for communicating and thinking about abstract and complex phenomena, they are notable for the emotional valence that they can convey. For instance, using the language of *disease* to talk and think about the societal drug problem seems to conjure a different emotional tone—of compassion, care, and perhaps disgust—compared to talking and thinking about the societal drug problem in terms of a war—which triggers a sense of threat, fear, and panic (Elwood, 1995). Although metaphors are known to be an effective means of communicating and evoking emotion (Citron & Goldberg, 2014; Horton, 2007, 2013; Lakoff & Johnson, 1980; Thibodeau, Crow, & Flusberg, 2017), the power of emotion has been underemphasized in recent theoretical accounts of the role that metaphors play in communication and reasoning, which treat metaphor as a conventionalized form of analogy (e.g., Bowdle & Gentner, 2005; Gentner, Bowdle, Wolff, & Borona, 2001; Keefer & Landau, 2016). At the heart of analogy is the process of structure mapping across conceptual domains, which emphasizes the relational structure of semantic representations over other properties of language like emotional valence (Gentner, 1983). The current article further illustrates the importance of relational structure in effective metaphors and shows that some metaphors derive their meaning (and efficacy) from the emotional tone that they establish.

In the following sections, we first discuss some general principles that make metaphors effective tools for communication and reasoning. Then we review experiments and linguistic analyses of war metaphors to paint a nuanced picture of what war metaphors signify in public discourse, and how their meaning is shaped by context. An important take away from this exercise is that even relatively conventional metaphors do not have a singular meaning per se; like all forms of language, the interpretation of a particular instance of a war metaphor is shaped by a variety of factors, such as

culture (Gibbs, 1999; Kövecses, 2005) and under what circumstances it is used (Gibbs, 2011; Gibbs & Colston, 2012; Gibbs & Cameron, 2008).

What makes a metaphor useful for thinking?

Metaphors are effective when (a) the source domain calls to mind a salient knowledge structure (or feeling); (b) this knowledge is well known to speakers of the linguistic community; and (c) the comparison of the target to the source domain is apt in a given culture (Boroditsky, 2000; Bowdle & Gentner, 2005; Gentner, 1983; Gibbs, 1994, 1996, 2011; Kendall-Taylor, Erard, & Haydon, 2013; Kövecses, 2003, 2005; Lakoff, 2008; Thibodeau & Durgin, 2011; Thibodeau, Hendricks, & Boroditsky, 2017; Williams Camus, 2009).

Each of these properties is seen in *war* metaphors. First, there is well-defined schematic knowledge for a prototypical *war*. It involves 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; there is a hierarchy to military force with roles for a leader like a general, lower-level fighters like ground troops, and a support staff like medics, as well as a role for people who have a stake in the outcome even though they are not actively involved in combat (civilians); and there is a hierarchy of events that unfold over time and space, since a war typically involves more than a single battle, with the ultimate goal of harming or even obliterating the opposing side. Further, *wars* convey a sense of risk and urgency: They naturally bring on fear and anxiety because the stakes are high and there are tremendous risks, for instance, loss of lives, loss of resources, and feelings of despair.

Second, knowledge of a prototypical war is widespread. Wars are an important part of human experience: They have defined what we know as the world’s sociopolitical landscape, and we continue to fight them. Many people have had first-hand experience fighting in war, and even more have had extensive second-hand experience with war, including learning about important wars of history in school, reading about contemporary wars in the newspaper, seeing it or hearing about it on television or through social media, and simulating warlike activities in video games. In other words, war metaphors are meaningful because exposure to war is frequent in our everyday experience.

Third, many common topics of discussion resemble war. They share structural relations and can evoke similar emotions. Everything from arguments, sports, politics, and relationships to healthcare, fundamental biological phenomena (e.g., “invasive” species), and even scientific research have something in common with war. Arguments, politics, and sports, for example, are like war because they involve a conflict between opposing forces, require strategic decisions to be made about how to allocate resources, unfold over time, and have identifiable winners and losers. As a result, the domain of war can serve as an *apt* source domain to structure how we communicate and think about a wide range of topics. Indeed, Lakoff and Johnson (1980) opened their seminal discussion of *Metaphors We Live By* by noting that we cannot help but talk about, and enact, arguments in terms of the concept of war (but see Howe, 1988; Ritchie, 2003).

Finally, war metaphors are effective in communication *because* they are prevalent in communication. One reason that prevalence makes war metaphors effective relates to three of the points outlined above. Frequent discussion of figurative wars helps to (a) define the *war* schema, (b) make it culturally salient, and (c) highlight ways in which the structure of a war is similar to the structure of other types of events. A second reason relates to the cognitive mechanisms that support metaphor processing—like structure mapping (Gentner, 1983). People process conventional metaphors more quickly and understand their meaning more easily than novel metaphors (Blank, 1988; Bowdle & Gentner, 2005). A more deliberate comparison process drives comprehension of novel metaphors; a more automatic categorization process drives comprehension of conventional metaphors (Bowdle & Gentner, 2005; Glucksberg, 2008). Because war metaphors are so conventional (with the exception of novel extensions of the metaphor), they are easy for people to process and understand in context.

In contrast, metaphors are ineffective when the source domain does not call to mind a salient structure (or emotion), when knowledge of the structure of a source domain, or its emotional connotation, has limited reach, or when the comparison of the target domain to the source domain is not apt. A recent example from American politics illustrates the importance of structure and aptness in metaphor. A representative (Republican Drew Ferguson of Georgia) tried to explain why he thought the Affordable Care Act (Obamacare) was bad policy by describing it as a goat in his home: “One day I heard a knock on the door and before I knew it my colleagues from the other side of the aisle had let a goat loose in my house. Now for 6 years, that goat has been messing and destroying my house” (Bryan, 2017; for an illustrated guide to Republican healthcare metaphors, see Sanger-Katz, 2017). In this extended metaphor, the healthcare law is a goat and the United States is a house. It is fairly clear that this is a bad situation. However, the metaphor does not reveal why Obamacare is bad policy because it fails to call to mind a coherent knowledge structure (what is the goat-in-my-house schema?) and lacks aptness (why is Obamacare like a goat?).

It is useful to consider sports metaphor to illustrate the importance of *common ground*—how people achieve a mutual understanding in communication (see Clark, 1996). Unlike the dubious comparison of Obamacare to a goat, sports metaphors are often linked to a salient structure like the value of teamwork to achieve a common goal, as seen in statements such as “team player” and “quarterback” when referring to individuals working together on a project. However, an important limitation of sports metaphors is their cultural resonance: Metaphorical “handoffs,” “touchdowns,” “punts,” and “fumbles” are meaningful only to people who know the basics of American football. One study tested whether sports metaphors would affect how students responded to an argument about whether their university should require a senior thesis project (Ottati, Rhoads, & Graesser, 1999). The results suggested that students who liked sports found the argument framed with a sports metaphor more engaging than its literal counterpart, whereas students who did not like sports showed no effect of the metaphor.

What do war metaphors mean?

The prevalence of war metaphors in natural discourse has been paralleled by a large body of scholarly work—both empirical and theoretical—on how war metaphors are used and what they mean (see Table 2 and Table 3 for an overview of some of this research). These studies provide support for general claims about the meaning of war metaphors. For instance, war metaphors are notable for the fear that they evoke and their tendency to frame adversarial relationships. However, studies of war metaphors in natural language and experimental contexts also paint war metaphors as dynamic figures of speech that are capable of achieving different communicative goals in different

Table 2. Examples of experimental studies of war metaphors.

Target domain	Source domain(s)	Key findings	Reference(s)
Cancer	War vs. journey	More difficult to accept adversity with war	Degner et al. (2003); Hendricks and Boroditsky (2016)
Cancer	War vs. neutral	War reduces intentions for preventative behavior	Hauser and Schwarz (2015)
Climate change	War vs. race	More urgent, and more conservation intentions on war metaphor	Flusberg et al. (2017)
Police officers	Warriors vs. guardians	Less positive attitude toward police on war	Thibodeau, Crow, et al. (2017)
Politics	War vs. neutral	Violent metaphors led to support for political violence (e.g., physical violence against politicians) among people higher in trait aggression	Kalmoe (2013)
Relationship	War vs. two-way street	More guarded communication on war	Robins and Mayer (2000)
Trade	War vs. two-way street	More support for trade tariffs on war	Robins and Mayer (2000)
Worker strike	War vs. dance	Violence and property damage more likely and acceptable on war metaphor; also more likely to think about winner and loser	Robins and Mayer (2000)

Table 3. Examples of theoretical/discourse analyses of war metaphors.

Business: In general	War	Hostility between retailers and in mergers/acquisitions	Audebrand (2010); Koller (2002); Whysall (2001)
Business: Trade	War	Different uses of war metaphor in discourse on trade reflect different conceptions of trade	Eubanks (2000)
Biology: Invasive species	Military	Personification of plants as unwelcome killers	Glotfelty (2000); Larson (2005); Larson et al. (2005)
Medicine: In general	War (& journey)	Can be useful but also counterproductive	Hodgkin (1985); Nie et al. (2016); Khullar (2014)
Medicine: For diseases like cancer	War	Preference for overly aggressive treatment options; increase funding for research; politicize the disease; fear and unintended consequences	Chiang and Duann (2007); Coleman (2013); George et al. (2016); Nerlich, Hamilton, and Rowe (2002); Reisfield & Wilson (2004); Sontag (1978); Williams Camus (2009)
Politics: In general	War (& sport)	Used to describe adversarial context for controversial legislation; to describe political process as unpredictable exercise of power; frequently used by populist candidates	Johnson (2005); Steinert (2003)
Politics: Climate Change	War (& greenhouse & game)	War metaphors used to describe negative impacts of climate change	Asplund (2011)
Politics: Drugs	War	Fear, leading to panic and overreaction, and over-incarceration	Alexandrescu (2014); Elwood (1995)
Politics: Inflation	War	Failed to resonate with the public because of an insufficiently threatening enemy (inflation) and incongruent plan of attack (volunteerism)	Stelzner (1977)
Politics: Poverty	War	Motivated policy initiatives but also unintended consequences	Almond et al. (2011); Cahn and Cahn (1964); Jorgenson (1998)
Politics: Terror	War	Fear; limited freedom	Andréani (2004); Bartolucci (2012); Bartolucci and Gallo (2015)

contexts. Here we first discuss evidence that war metaphors evoke emotion—particularly fear. Then we discuss the relational structure that war metaphors bring to bear on the issues they are used to describe—particularly an oppositional framework for conceptualizing a struggle between two sides. Finally, we consider the more nuanced, dynamic, and context dependent meanings that can be expressed by war metaphors.

Emotion

War metaphors evoke a sense of fear. Several linguistic analyses suggest that this is one of the primary functions of war metaphors in political rhetoric (Alexandrescu, 2014; Coleman, 2013; George, Whitehouse, & Whitehouse, 2016; Mirghani, 2011; see Table 3); and several scholars have noted that war metaphors are often hyperbolic, paired with superlatives, to highlight the threat that issues like poverty, drugs, and terror pose to society (Bartolucci, 2012; Larson, Nerlich, & Wallis, 2005). For example, in a speech about the War on Terror at the U.S. War College in 2004, terrorists were characterized as a group whose “only influence is violence, and [whose] only agenda is death” (Bartolucci, 2012, p. 568). As this example illustrates, the war frame is an effective way of grabbing people’s attention and focusing it on the target problem; the fear evoked by war metaphors also makes them memorable and enduring (Cahn & Cahn, 1964; Elwood, 1995; Mirghani, 2011).

This fear can motivate people to pay attention, change their beliefs, and take action about important social issues. For instance, the language of war can help people recognize the threat that diseases pose to public health, and, as a result, lead to increased funding for research on basic scientific questions about the underlying causes of diseases as well as the development of more effective treatments (Hodgkin, 1985; Petsko, 2001). President Nixon’s 1971 declaration of war on cancer resulted in a “staggering rise in hope and energy” and increases in funding for cancer research (e.g., \$1.5 billion in 1972 through the National Cancer Act; Mukherjee, 2010, p. 188). President

Johnson's War on Poverty had a similar effect (e.g., Almond, Hoynes, & Schanzenbach, 2011; Jorgenson, 1998). Declaring a War on Poverty directed the public's attention to the issue and paved the way for important anti-poverty policies and legislation, for instance, food stamp and social security programs (Zarefsky, 2005).

Behavioral work has also demonstrated how war metaphors can motivate human thought and behavior. For instance, one study found that people believe climate change is a more urgent issue when it is described as an enemy in a war, rather than an opponent in a race (Flusberg, Matlock, & Thibodeau, 2017). In the study, participants who read a brief paragraph that used war metaphors to talk about U.S. efforts to battle climate change also expressed more willingness to increase their conservation behavior compared to those exposed to race metaphors or a non-metaphorical control condition. Other work has found that violent metaphors can influence views toward political violence, especially in individuals with aggressive traits (Kalmoe, 2014).

Alternatively, the fear evoked by war metaphors can magnify people's perception of the threat posed by an issue. Several scholars have called for an end to the drug war because it overstates the danger of drug use—creating panic, reinforcing negative stereotypes, and justifying counterproductive policy responses (Alexandrescu, 2014; Elwood, 1995). Similar arguments are made about the use of war metaphors to describe diseases: The language of war seems to emphasize political dimensions of diseases like cancer, Severe acute respiratory syndrome (SARS), Alzheimer's, and human immunodeficiency virus (HIV), thereby downplaying medical and human dimensions of the health conditions (Chiang & Duann, 2007; George et al., 2016; Nie et al., 2016). When diseases are enemies in a war, people with diseases are reduced to battlefields on which war is fought. In this way, the fear evoked by war metaphors can also be de-motivating. One study found that people who conceptualized their struggle with cancer as a battle, rather than a journey, experienced more depression and anxiety during treatment (Degner, Hack, O'Neil, & Kristjanson, 2003).

Structure

In terms of the relational structure highlighted by war metaphors, behavioral work and linguistic analyses have focused on how the frame calls to mind an adversarial relationship between two sides. Experimental studies have compared, for example, describing relationships and trade with a *war* versus a *two-way street* metaphor—with predictable results; people were more likely to support open trade policies and freer communication when the target domain was described as a *two-way street* than a *war* (Robins & Mayer, 2000).

Linguistic analyses suggest that war metaphors serve a similar conceptual function in the context of business. The language of war is common in descriptions corporate competition in general (e.g., “price wars”) and in descriptions of specific business practices like mergers and acquisitions (e.g., “hostile takeovers”; Koller, 2002; Whysall, 2001). Indeed, principles of corporate management are often grounded in principles of military strategy like those described in Sun Tzu's *The Art of War* (Lee, Roberts, Lau, & Bhattacharyya, 1998). An insistence on a “war-room mentality in your team” is a common mantra of Silicon Valley companies like Google and Uber (Fatemi, 2016). In turn, corporations seem to use the language of war to justify some of the risky and aggressive—even borderline immoral—strategies that they have adopted to order to profit in recent years (Audebrand, 2010; Eubanks, 2000).

A second structural component of war metaphors has been highlighted by several linguistic analyses: the idea that wars end, typically in victory or defeat. That is, declaring a war on a social issue like poverty or a health issue like cancer establishes an expectation that the period of fighting will not go on forever, since literal wars eventually end. As we discuss in more detail in the following section on the limitations of war metaphors, the expectation that social issues like poverty and health issues like cancer can be defeated or conquered outright may be unrealistic (Cahn & Cahn, 1964; Fuks, 2009; Petsko, 2001).

Finally, although studies of war metaphors often focus on a restricted structural component (or emotion) of war metaphors, the broader entailments of the metaphor have also been recognized in a

number of domains. Consider, for instance, the following mapping between the structure of war and the structure of medicine:

Medicine is a battle against death. Diseases attack the body, and physicians intervene. We are almost constantly engaged in wars on various diseases, such as cancer and AIDS. Physicians, who are mostly specialists backed by allied health professionals and trained to be aggressive, fight these invading diseases with weapons designed to knock them out. Physicians give orders in the trenches and on the front lines, using their armamentaria in search of breakthroughs. Treatments are conventional or heroic, and the brave patients soldier on. We engage in triage in the emergency department, invasive procedures in the operating theater, and even defensive medicine when a legal enemy is suspected.(Annas, 1995, p. 745)

As seen here, war metaphors can, and are, used to talk and think about the domains they describe in a variety of ways. That is, war metaphors are particularly notable for their ability to evoke fear, frame an adversarial relationship, and define a time course for a conflict; however, using the language of war to describe a target domain can establish a broad and dynamic structure for talking and thinking about that domain.

The dynamic role of context in creating meaning

The specific meaning of a war metaphor and its entailments depend on the context in which it is used. Contrast, for example, the War on Drugs with the War on Poverty. Both metaphors would seem to highlight a threat to society posed by the target problem, and, as a result, cause people to fear drug use and poverty. However, the two declarations of war seem to have affected people differently in important ways.

President Johnson's War on Poverty was widely viewed as successful: it elicited a motivating fear that led to the passage of social welfare programs that reduced poverty without stigmatizing or dehumanizing the poor (Almond et al., 2011; Jorgenson, 1998; Zarefsky, 2005; but see Stricker, 2011; Woodhill, 2014). President Nixon's War on Drugs (which was dramatically escalated during the Reagan administration) on the other hand, has been widely criticized as unsuccessful: it elicited a fear not only of drugs but also of drug users (stigmatizing and dehumanizing them) and motivated policies that have had, in the minds of many criminal justice scholars, negative effects on society—without addressing the root cause of the problem (Alexandrescu, 2014; Elwood, 1995; Gray, 2011; Mallea, 2014; but see Tobias, 2016). This contrast shows that declarations of metaphorical war serve to attract attention and resources; it is then up to policy makers how to define the enemy in the war and the tactics that will be used to defeat that enemy. The impact of a war metaphor on society in turn depends on what tactics the rhetoric is used to support.

This nuance can also be seen in how war metaphors are used to talk about efforts to *combat* disease. As with other sociopolitical issues, using war metaphors seems to be an effective way of attracting attention and resources to study a disease (Hodgkin, 1985; Mukherjee, 2010; Petsko, 2001). Further, the language of war may be helpful in explaining treatment programs to patients. That is, it may be possible to describe the medical team, the patient's immune system, and the treatment regimen as a dynamic military force that is carefully coordinated, like battalions in an army, to provide the highest standard of care.

War metaphors are also known to make arguments more persuasive when it comes to initiating and engaging in behaviors to prevent cancer (Hauser & Schwarz, 2015). When a war metaphor is used to describe cancer, people are less willing to engage in behaviors that would prevent the disease (e.g., eat less red meat, quit smoking). However, when a war metaphor is used to describe cancer *and* preventative behaviors are framed as a way to *fight* the disease, people are more likely to engage in them. In other words, a simple instantiation of a metaphorical war on cancer does not make prevention salient; instead, the metaphor seems to call aggressive treatment approaches to mind as the way to fight the enemy. But preventative behavior is not inherently incompatible with the war metaphor; prevention just needs to be mapped more explicitly to the war structure. This study, therefore, illustrates that war metaphors can both encourage and discourage certain behaviors, depending on how they are used. Further, the study illustrates the limitation of simple arguments

in favor of or opposition toward war metaphors, since the structure and meaning of war metaphors is at least somewhat flexible (but see our discussion of limitations below).

Of course, it should also be noted that politicians, medical professionals, and patients are not constrained to use war metaphors as a structure for talking and think about everything. Patients diagnosed with cancer naturally seem to adopt different metaphors for conceptualizing different aspects of their experience with the disease (Gibbs & Franks, 2002; Williams Camus, 2009). Through empirical research and additional discourse analyses, we can gain an even better understanding of when and how to use war metaphors to achieve desirable outcomes.

Limitations of war metaphors

There are clearly good reasons to use war metaphors. They capture people's attention, trigger emotional responses, tap into a rich source of schematic knowledge, and lead people to take a stand and form particular opinions on a wide range of issues. And yet, as we noted in the introduction and touched on in the previous section, there are those who suggest that the war frame should be abandoned. This sentiment has been decisively expressed by speculative fiction author Ursula K. Le Guin (2012), who writes, "War as a moral metaphor is limited, limiting, and dangerous. By reducing the choices of action to 'a war against' whatever-it-is, you divide the world into Me or Us (good) and Them or It (bad) and reduce the ethical complexity and moral richness of our life to Yes/No, On/Off." We agree; as we have alluded to already, there are some good reasons to be cautious about using metaphors with war as the source domain (as Table 3 shows, the majority of linguistic analyses of war metaphors highlight their limitations and unintended consequences).

First, as mentioned, battle metaphors have become ubiquitous; perhaps too ubiquitous. They emerge in important areas of life, such as drug abuse and diseases such as cancer, but they also emerge in the context of griping about seemingly insignificant or even silly concerns or situations, such as *the war on salad*, *the war on gluten*, *the war on soap operas*, *the war on leg warmers*, and *the war on traffic congestion*. In some cases, war metaphors are hyperbolic. For instance, leading up to the 2016 presidential election, stories appeared in the popular media about how Alicia Machado, former Miss Universe, "*surrender[ed] in war of words with Donald Trump*" and gave up "*battling the outspoken billionaire*" (Lockett, 2016, p. 280). This was after he had referred to her as *Miss Piggy*. Using such language again and again, especially in this melodramatic fashion, may cause people to tune out and pay little attention to an issue (e.g., Stelzner, 1977).

One reason this might be the case is that the war metaphor is not always apt, despite the ease with which it is deployed. Consider President Ford's declaration of war against inflation (Stelzner, 1977). Unlike the wars against poverty, drugs, and crime, the metaphorical war against inflation never resonated strongly with the public, nor did it effectively motivate policy initiatives. One reason, according to Stelzner (1977), is that the metaphor was not apt: people did not perceive inflation as a sufficiently threatening enemy; and the proposed strategy of attack--volunteerism--was inconsistent with a war schema.

Even when war metaphors are useful for communicating about certain aspects of a societal problem, they can still be counterproductive. In communicating about cancer, for instance, metaphor is helpful for framing the deleterious aspects of the disease. Using military language to talk about cancer gives a way to communicate and conceptualize cancer as an enemy; doctors and medical experts as commanders; healthcare teams as allies; and medical treatments, such as chemotherapy, as weapons (Hodgkin, 1985; Stibbe, 1997). It can also give a sense of power to some patients (see Reisfield & Wilson, 2004). However, there are some downsides to using metaphor in cancer communication. It can make some cancer patients feel guilty for not fighting a stronger battle if their condition does not improve (Semino, 2008; Semino, Demjén, & Demmen, 2016; see also Sontag, 1978, for a broader take on the issue). War metaphors can also dampen people's interests in cancer screening and preventive treatments unless these behaviors are explicitly identified as a means of fighting the enemy (Hauser & Schwarz, 2015). Some argue that war metaphors distort how society

views cancer, that is, as something to conquer (even in instances when it clearly cannot), and that this lazy, sloppy way of framing cancer can have a negative impact on policy and global medical care initiatives (Coleman, 2013).

This speaks to Le Guin's suggestion that using war metaphors can bring on an overly simplistic, combative way of viewing the world, which may constrain how people reason about an issue, preventing or delaying effective solutions from being considered (Cahn & Cahn, 1964; Coleman, 2013; Elwood, 1995; Hartmann-Mahmud, 2002; Larson, 2005). In the case of invasive species in biology, for example, Larson (2005) suggests the war metaphor may contribute to a "literal" war against those species, which can cause friction among different activist groups (e.g., conservationists and animal rights advocates), leading to real interpersonal conflicts and inhibiting conservation efforts.

What's more, we are regularly inundated with dramatic, daunting messages about death and destruction in *literal* wars, including the Vietnam War, the Gulf War, and the Afghanistan War. For real wars, headlines in the popular media may give people a sense of hopelessness when they read about losses, as in *Billions of dollars lost, thousands of lives lost in Afghanistan War* (Bingham, 2012) or wars that cannot be won, for instance, *The U.S. will never win the war in Afghanistan* (vanden Huevel, 2017). In addition, viewing images or videos of dead bodies or people in distress can lead people to disengage from an issue (Fanti, Vanman, Henrich, & Avraamides, 2009). Highly negative information can also impair memory and cause people to pay less attentive to certain details of the material at hand, and this can vary across age groups (for discussion of memory tradeoffs, see Kensinger, Garoff-Eaton, & Schacter, 2006). Thus, it is possible that frequently hearing or reading about actual war can cause people to divert their attention from or pay minimal attention to messages about metaphorical battles.

Another notorious feature of real wars that may extend to metaphorical ones is the fact public enthusiasm for such conflicts typically wanes over time. For example, the percentage of Americans supporting a war in Afghanistan dropped dramatically in the period between the September 11, 2001 attacks and 2014, and comparable trends have been observed for the wars in Iraq, Vietnam, and Korea (Newport, 2014). Similarly, while the initial call for a War on Drugs may have captured the public's attention and drummed up support for stricter law enforcement and criminal prosecutions, in recent years these efforts are widely viewed as failed and misguided (Gray, 2011; Mallea, 2014). In fact, by 2014, two thirds of Americans favored treatment over jail time for users of hard drugs like cocaine and heroin (Pew Research Center, 2014), and by 2016, 60% of the public supported legalizing marijuana (Swift, 2016).

The fatigue associated with drawn out metaphorical wars may be exacerbated by the fact that many figurative conflicts do not have a clear path to victory or means of assessing winners and losers. While this is sometimes the case in real armed conflicts (e.g., the war in Afghanistan), we believe the war schema is more closely aligned with events like the American Civil War and World War II, where the victors are easily discerned (not to mention given an air of moral superiority). When it comes to the wars on Drugs, Poverty, and Terror, on the other hand, what it would mean to "win" is more obscure. This has led to disagreement about the relative success of these initiatives (Cassidy, 2014; Coyne & Hall, 2017; Gray, 2011; Jorgenson, 1998; London, 2005; Mallea, 2014; Noah, 2014; Tobias, 2016; Woodhill, 2014), which may result in waning public approval and interest. So, while calling for a War on Climate Change may be initially motivating (Flusberg et al., 2017), it is possible that over time this way of framing the issue will become counterproductive because there is no way to determine whether or not the war has been won. Similar points have been made about the use of war metaphors in discussions of "invasive" species in biology; an initially motivating militaristic call to action gradually becomes disheartening when it is clear invasive species have become a permanent feature of local ecologies (Larson, 2005).

General discussion

Love is like war: easy to begin but very hard to stop.

—(Mencken & Nathan, 1920, p. 132)

We have argued that war metaphors are commonplace in public discourse in part because they tap into basic and widely shared schematic knowledge that efficiently structures our ability to reason about any situation involving opposing sides (at any level of abstraction). What's more, the vivid emotional valence associated with war can quickly activate a sense of urgency and anxiety, which may motivate further action under some circumstances (at least in the short term). Together, this can lead to a positive feedback loop, as the omnipresence of the arousing metaphor ensures that the war frame is a reliable and readily available source of common ground in communications. To paraphrase H. L. Mencken, we might say that war metaphors are like love: easy to begin (using) but very hard to stop.

However, we have also suggested that while the entailments of the war frame are largely conventional, the *meaning* of the metaphor, its effect on the audience, is intimately tied to the context in which it is used (Gibbs & Colston, 2012; Thibodeau, Crow, et al., 2017). Calling for a war on climate change does not necessarily have the same impact as calling for a war on cancer. And even within the disease domain, describing a battle or war or fighter may have different connotations, and different cognitive and affective consequences, depending on the speaker, listener, and context. Therefore, we argue that blanket statements about the utility of the war frame are misguided, and suggest that a more careful consideration of the empirical literature is required in decisions about whether or not to use the metaphor in communications.

Guidelines for using the war frame

With these points in mind, however, we believe it is possible to sketch out some empirically grounded guidelines for effectively employing war metaphors in public discourse. First, the target domain should pose a real and imminent threat, and there should be a relatively clear way of inferring whether or not that threat has been *defeated*. In other words, we suggest avoiding hyperbolic uses of the war frame (e.g., *The War on Salad*) and making every attempt to ensure that war is an apt vehicle for metaphoric comparison; specifically, that it shares key structural relations with the target domain (e.g., *The War on Illiteracy* or *The War on Poverty*, where the target domain has a negative valence and where there are potential losses and gains). Second, the war frame is probably most effective as an initial call to arms in that it is intended to elicit an emotional reaction, draw attention to an issue, and motivate behavior change or a shift in support for a certain policy or intervention. However, as we have seen in our discussion of the drug war and the war on cancer, there are potential dangers with the war framing. It may be ineffective or even harmful in some situations, for instance, for cancer patients with no hope of survival, or if framed in an overly negative way or emphasized over a long period of time. The war framing may also work well in some cultures but not in others. Therefore, our final suggestion is that communicators should be prepared to articulate the specific ways in which the target domain is like a war, and the ways in which it is not. If needed, they should be ready to replace the war frame with a different metaphoric message.

Implications for theories of metaphor

What do the results of the present case study mean for popular theories of metaphoric representation and processing? While our findings are compatible with claims made by many different theorists, we do think that the literature on war metaphors serves to highlight the strengths and weaknesses of different approaches to thinking about metaphorical reasoning. For example, the importance of attending to shared structural relations in determining whether or not WAR would be an apt vehicle underscores a key feature of Gentner and colleagues' Structure-Mapping Theory (SMT) of analogy and metaphor (Gentner et al., 2001; see also Bowdle & Gentner, 2005; Flusberg, Thibodeau,

Sternberg, & Glick, 2010; Gentner, 1983). However, because SMT only attempts to simulate the cognitive mechanisms that support cross-domain mappings (and the resulting set of inferences or generalizations), it cannot fully account for the effects of the war frame, which derives much of its power from the emotional response it can elicit.

Conceptual Metaphor Theory (CMT) may be better equipped to accommodate the affective component of war metaphors since this approach emphasizes the embodied nature of metaphorical thinking (Gibbs, 1994; Lakoff & Johnson, 1980, 1999). While CMT, like SMT, aims to illuminate how structural relations are mapped from source to target domain, CMT also tries to account for the experiential origins of metaphorical thought, especially through mentally simulating bodily states and actions (Gallese & Lakoff, 2005; Gibbs, 2006; Gibbs & Matlock, 2008). Because our affective experience plays such an important role in our embodied experience of the world, CMT is naturally suited to explain how the emotional impact of armed conflict becomes a key part of our conceptual representations of metaphorical wars. And yet, as critics of the CMT account of war metaphors in particular have pointed out, most people are adept at understanding, using, and extending war metaphors without any direct experience in a real war (e.g., Howe, 2007; Ritchie, 2003). This suggests that CMT may need to broaden the scope of what “counts” as embodied experience to include varieties of cultural, emotive, and linguistic experience (see Flusberg et al., 2010).

Neither SMT nor CMT adequately captures the importance of social pragmatics in metaphorical communications. Steen’s Deliberate Metaphor Theory (DMT) aims to address this apparent gap by emphasizing the differences between intentional and unintentional uses of metaphor, and the possible cognitive consequences of this distinction for the listener (Steen, 2015, 2017). When it comes to war metaphors, it is clear that sometimes the metaphor is used and extended in a deliberate way to frame a particular issue (see Table 1), but that at other times it is used more unconsciously as part of the structure of natural English (e.g., when discussing *ARGUMENT* as *WAR*, or *battling* cancer). To the extent that DMT draws attention to this distinction, and to the critical role social pragmatics plays in communications, this appears to be a strength of this approach. However, critics of DMT have identified some of the specific entailments of the theory (e.g., that deliberate uses of metaphor should capture more attention and therefore be more memorable) that are not well supported by the empirical literature (see Gibbs, 2015; Thibodeau, 2017).

Taken together, this discussion suggests that no single theory of metaphoric representation or processing can fully capture the dynamic and nuanced functions of metaphor in both cognition in general, and in public discourse in particular (Gibbs & Colston, 2012). In closing, we would like to advocate a more pluralistic approach to characterizing the role of metaphor in public discourse.

Future directions

There is still a great deal we do not know about the nature and power of the war frame that needs to be addressed in future research. For example, just how widespread and universal is the use (and understanding) of war metaphors? Lakoff and Johnson (1980) suggested that because Americans “live by” the metaphor *ARGUMENT IS WAR*, they would have trouble recognizing, not to mention comprehending, the arguments of another culture whose disputes are structured in terms of a different source domain (e.g., *DANCE*). Yet some scholars have pushed back on these claims, arguing *WAR* is not even the dominant organizing principle for thinking about arguments among American English speakers (Howe, 2007; Ritchie, 2003). As we have seen, many important social and political issues are frequently discussed in terms of war in American public discourse, so it is vital to address these issues with empirical rigor, and to examine whether the same thing holds true in other cultural and linguistic contexts. Are elections, diseases, crime, and economic issues understood in terms of war metaphors in other countries, and, if not, what are the alternatives? Even if war metaphors are commonplace, do people in different cultures think about wars in the same way, or does the war schema itself depend on context?

Some new corpus analysis work on metaphor use among Spanish cancer patients suggests that a war framing is common in cancer discourse, but it is important to note that certain aspects are more or less prominent or common than they are in English or possibly other languages (Magana, Quintana, & Matlock, [under review](#)). For instance, in Spanish, vulnerable parts of the body can be personified as if they were soldiers helping the cancer victim fight the battle, as in *Debido a toda la medicación que tuvieron que ponerme, mis riñones fueron vencidos en la lucha y fallaron* (translated as “Due to all the medication, my kidneys were defeated in the battle and failed to function”).

We also believe that more experimental studies are necessary to determine the efficacy of the war frame in different contexts. To date, there have only been a handful of controlled experiments that contrast the war frame to other metaphors (or more neutral language), and yet these studies are vital to help determine the practical significance and possible applications of this sort of discourse. Some commentators, for example, have suggested that more specific instantiations of the broader war frame, like *coups* versus *battles* versus *revolutions*, may have differential impacts on public opinion and behavior (e.g., Godoy & Jaffe, 2016), but we know of no data to support these claims.

More detailed corpus analyses would also be useful to help inform which types of wars, and which aspects of the war schema, are invoked by different people to talk about different subjects. Does this language depend on an individual’s own personal experiences with war? For example, are people more or less likely to use the war frame when they have experienced armed conflicts first-hand? Will this vary across age groups, which may have participated in very different types of wars (e.g., ones with positive connotations, like World War II, versus ones with more negative connotations, like the Iraq War). And how do war metaphors interact with these individual differences in combat experience in terms of motivating positive or negative reactions?

Finally, because war metaphors are so ubiquitous—and in some ways are a reasonable target of criticism—we believe more research is needed to pursue and evaluate possible alternative frames across a variety of domains (e.g., politics, business, crime, disease). As we have seen, some scholars have already made suggestions along these lines, but more work is required to investigate the aptness and appropriateness of substitute metaphors. War metaphors may not be inevitable in public discourse, but it remains to be seen how much effort would be required to shift the conversation to a different and potentially more beneficial way of communicating.

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