Nuclearism: Media Discourse, Image-Schemata, and the Cold War

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Abstract

Nuclear ideology, or nuclearism, was for many years an intrinsic part of American identity. Atomic bombs incited fear, but also awe and admiration. People lived their lives conditioned by these dualities, feeling anxiety about the chances of an all-out nuclear war, but also being proud of the greatest American achievement. This paper presents a multidisciplinary approach to the study of nuclear discourse and its impact on the audience and their behavior. Using theories of CDA along with Cognitive Linguistics and Evolutionary Psychology, the goal of this paper is to analyze news media in order to understand the role it may have played in the framing and categorization of nuclear affairs within the internal mental structure of the American public. I focused this study on top newspapers and a particular linguistic strategy: metaphor-related words that triggered an image schema. The paper looks at production but also at reception to demarcate the possible outcomes of ideological discourse on the public's behavior. In order to look at reception with a complete understanding of the mechanisms that may have elicited different responses, this work employs theories of evolutionary psychology to prove whether certain discursive strategies could have had the power to activate attitudes towards nuclear affairs.

Key words: nuclear discourse, image-schema, critical metaphor theory, Discourse-Historical Approach, Cold War, ideology, media discourse

1. Introduction: Atomic Discourse and the Emergence of Fear

For years, nuclear affairs dominated the American unconscious in what has been known as nuclearism. The power of nuclear discourse, in fact, goes beyond its persuasive purpose, triggering unconscious mechanisms of fear and anxiety, but also of pride and supremacy (Boyer 1985). In fact, while the Atomic Age inaugurated with a boisterous fanfare, 'it would be wrong to conclude that Americans took the bomb casually or that its impact quickly faded. Just below the surface, powerful currents of anxiety and apprehension surged through the culture' (Boyer 1985: 12). What is more, embracing nuclear rhetoric implied 'an immersion in death anxiety followed by rebirth into the new world' (Lifton 1979: 369). The question here is how that renaissance into this new nuclearism was possible at all.

Derrida (1984: 23) claimed that nuclear war 'has existence only through what is said of it, only where it is talked about. Some might call it a fable, then, a

pure invention'. The invention of nuclear fears relies, then, fundamentally on language. From Truman's statement about the dropping of the A-bomb to Reagan's Strategic Defense Initiative discourse, political speeches led nuclear discourse into the right ideological channels, and in very specific moments. Those political discourses set the mood and media discourse, particularly newspapers, followed the lead by echoing the ideological rhythm of the moment. Politicians, but more importantly, newsmakers created the foundations for nuclearism, described by Lifton (1979: 369) as 'a secular religion, a total ideology in which 'grace' and even 'salvation'—the mastery of death and evil—are achieved through the power of a technological deity'. News language was employed to adulate this new god and for a while many stopped worrying and loved the bomb; however, such a powerful gospel also took a toll on the American unconscious. For many social scientists, nuclear anxiety was considered a pervasive and chronic stressor during the years of the Cold War; it was a patently harmful factor for the mental health of the population (Smith 1988: 557).

As we see, the power of nuclear narrative is worthy of examination under the critical light employed to unveil manipulative strategies in the service of those in power. It may not be a discourse of inequality or discrimination, but certainly its effects are problematic. And while the power of political speeches is clear, the impact of media, given its pervasiveness, is more significant in this context. For that reason, this paper analyzes news articles regarding nuclear affairs. The goal is to see to what extent newsmakers contributed, and in which ways, to the establishment of this new nuclear ideology. CDA theories support the idea that if nuclear discourse provides a mental model for interpreting new meaning, then it is susceptible to being produced both with legitimizing purposes and in the service of an ideological perspective. Further, since this study happens in the intersection between language, history and ideology, textual analysis by itself would not be sufficient. In order to get a proper picture of the ideological configuration of nuclearism, historical and ideological context are accounted for. Additionally, looking at text production without verifying its reception would only be part of the story. We need to know whether people embraced the gospel of nuclearism and the reasons why. In order to do so, Evolutionary Psychology will be employed in an attempt to decipher the public's reactions to the nuclear age.

2. Media, Ideology and Critical Discourse Analysis

One of the pressing issues within nuclearism is the challenge of understanding something that we cannot see, such as atomic bombs or radiation. Definitions of new events are provided in comparison to something that exists and is familiar to us; something located within the parameters of our cultural and ideological background (Barsalou 1999, 2003). When we learn new concepts we are doing so within our restricted cultural and ideological framework (van Dijk 1998, 2005, 2006, 2009a, 2009b).

Atomic affairs were filtered through the lenses of what powerful institutions wanted us to know about them. Such a *cosmic force* required a solid framework of legitimizing strategies in order to be accepted and venerated. The message had to be carefully crafted so as to make people believe that the

atomic bomb was good. A buttress against the voices that could have questioned atomic developments, a wall of persuasive and imaginative language emerged to convince the audience of the wonders and dangers of the atomic age.

The primary concern of Critical Discourse Analysis consists in a critical exploration of the relationship between society and language (Hart and Lukes 2007; Hart 2010; Charteris-Black 2005; Musolff 2014; O'Halloran 2003; van Dijk 1993, 1998, 2000, 2009a, 2009b; Wodak 2015); examining the way in which language enacts ideology, identity and inequality through social texts. Nuclear narratives, while not discriminatory, shaped the identity of an entire nation. CDA sees language as a critical element in the reproduction of ideological assessments, becoming central to establishing social identity (Hart 2010: 13), and for that reason it can be employed within this context to attain results regarding a powerful ideological stance: nuclearism. Within CDA we find many approaches, but given the historical nature of this study, I find that it follows ideas that have been proposed within the framework of the Discourse-Historical Approach (Musolff 2004, 2014, 2016; Reisigl 2017; Reisigl and Wodak 2001; Wodak 2015). For Reisigl (2017: [online]) a Discourse-Historical approach:

> Considers discourse analysis not just to be a method of language analysis, but a multidimensional project incorporating theory, methods, methodology and empirically based research practices that yield concrete social applications.

Media discourse always occupies a prominent place within the intersection of language, power and ideology (Fairclough 1989, 1995; Talbot 2007). People tend to consider media as a reliable source of information, detached from authority (van Dijk 1988, 1995). Media possess the ability to persuade but not necessarily control public opinion (van Dijk 1995: 10); yet, media narratives consolidate truth beliefs within a given ideological group (van Dijk 2000, 2012). Hence, this paper's focus on the analysis of news articles rather than any other type of political discourse.

In particular, this paper directs its attention toward the study of basic image-schema metaphors. It can be argued that, while there are many interesting aspects within nuclear rhetoric ripe for deep analysis, basic social frames have a lot of potential to unveil nuclear ideology at its base. Among the most salient social frames we find image-schemata, which are basic structures based on our embodied experience of the world (Grady 1997; Johnson 1987). These basic foundations, something that, a priori, seem not to be strongly ideological, can affect the way we reason and make sense of things (Johnson 1987: 38). As the building blocks of conceptualization, schemata facilitate the existence of primary structures of thought employed to create tension between disparate domains. By looking at the language of newspapers and its use of basic metaphorical representation of image-schema framing we can get an insight into the ideological organization of nuclearism at the most basic level.

The way metaphors associate with schemata follows a regular pattern: a target domain is based on the structure of a source domain that happens to be a schema, so the structure of our embodied experiences will provide meaning to abstract domains such as politics or war (Johnson 1987). However simple, their structure, given their flexibility and malleability, schemata constitute a

powerful vehicle for meaning construction in the service of ideological purposes (Johnson 1987: 31). Schemata, given their abstract and dynamic conditions, can be employed in an infinite number of metaphorical projections, in diverse cultural, and consequently ideological, situations. After all, schemata 'are culturally influenced modes of meaningful interaction' (Johnson 1987: 14). We know that metaphorical systems – though may appear in an infinite number of representations of the world (Lakoff and Johnson 1980, 2003; Kövecses 2002, 2005, 2006, 2014, 2016) – always have a powerful ideological impact in the audience (Maalej 2007; Ritchie 2003, 2006, 2009; Semino 2008). As Charteris-Black (2005: 13) observes:

> Metaphor is an important characteristic of persuasive discourse because it mediates between these conscious and unconscious means of persuasion – between cognition and emotion – to create a moral perspective on life (or ethos). It is therefore a central strategy for legitimization in political speeches. Metaphor influences our beliefs, attitudes and values because it uses language to activate unconscious emotional associations and it influences the value that we place on ideas and beliefs on a scale of goodness and badness.

My approach to text analysis, then, is a discourse-historical critical metaphor analysis. It is one that focuses on the most basic type of metaphorical representations to discern whether they exercise any type of coercive effect on the public.

Coercion is the mechanism by which text-producers attempt to affect text-receivers—their emotions, behaviors and beliefs (Hart 2010: 62-63). If text analysis can help us to draft a potential ideological map of nuclear discourse; to complete that picture, one will also need a framework to explain the effects of manipulative discourse in the receivers' mind (Hart 2010: 20-21). Then a context of evolutionary principles can guide us into a hypothesis of text-reception. In fact, Evolutionary Psychology provides effective explanations for the acceptance of strategic discourse, by looking at the cues that trigger different response mechanisms such as fear or disgust (Hart 2010: 43). The human mind has kept evolutionary social modules that can be sparked by means of language selection. Evolutionary conditions (Cosmides and Tooby 1994, 2000; Gangestad 2010; Hart 2010; Lerner and Keltner 2001; Neuber and Cottrell 2006; Norenzayan et al. 2006; Schaller and Murray 2010; Tooby and Cosmides 1989, 1990, 1992), then, may push the receiver to act according to the text-producers' interests by means of linguistic selection (Schaller and Murray 2010; Hart 2010). Oftentimes, actions carried out by a determined group can be contested or questioned; then they need to be legitimized through coercion; which, proves to be essential for the activation of modules of fear and threat (Chilton 2004: 45). The key for those coercive strategies to succeed relies on their ability to set into motion evolutionary mechanisms that favor a particular attitude. Consequently, if we are to understand how a particular ideology takes root in people's minds to the point of making them sick, we need to have a global picture that includes: language as the system under analysis, the different participants across time and space, roles and goals of the ideological background, and finally public attitudes as a response to ideological stimuli. Once we have all those elements in connection we will be able to draft a complete map of ideological production and its reception. In

the following section we will be analyzing media articles to identify their route through nuclear ideology.

3. Crafting a Cold War Metaphors Corpus

This study is based on data extracted from a large corpus previously created for a dissertation about nuclear discourse during the Cold War (Moreno Palmero 2014). The original corpus consisted of 250 news articles, from four different newspapers (New York Times, Los Angeles Times, Chicago Tribune, and Washington Post). The period included the entire Cold War era. The process of creating this corpus was long and arduous, and set the entire theoretical background – DHA, Critical Metaphor Analysis and Evolutionary Psychology – in place. First, I could not craft a corpus without taking into account the historical context. Thus, before selecting any articles, a great deal of historical research took place; this investigation allowed me to fully understand the ideological mechanisms behind the Atomic Era. Once the historical background had been set, the search for texts began. The tool employed for this purpose was Proquest.

In a first round, keywords were introduced in the software taking into consideration the political situation of the moment and following a very precise timeline. Among the most prominent keywords employed at this stage we can find: atomic bomb, atomic research, Russia, radiation, nuclear winter, space shield, atomic era, missile era, etc. Many articles were selected at this point, in numbers easily nearing the thousands. I then narrowed them down upon the basis of date, relevance, length, and page position – in fact, more than 85% of the articles used were front pages, and all of them related to an important nuclear affair. The final selection consisted of 250 articles: 50 articles for each of the five different periods that I described (1945-1949; 1949-1953; 1953-1963; 1963-1979; 1980-1991).

Since the goal was analyzing all kind of metaphors without any specification in mind, they were selected in a random way. For each article, five metaphors were chosen, two examples from the beginning, one from the middle and two from the end. In order to decide whether a lexical item could be considered a metaphor-related word or not, I followed the methodology proposed by the MIPVU (Steen et al. 2010; Pragglejaz 2007). Once the lexical items were selected, I organized them into different general categories depending on their general thematic purpose. In a second phase, I grouped the textual samples considering their specific topic at the global level; for example, whether these word-related-metaphors were referring to atomic energy, the American research or Russia, among many other topics. After this, I proceeded to match each sample at the local level with the corresponding conceptual metaphor and its basic schema.

For the purpose of this particular research, I selected out of the main corpus those items that were related to image-schemata. The reason for choosing image-schemata is their prominence across topics and ideological orientations throughout the entire Cold War. A total of 191 articles contained some sort of image-schema metaphorical unit, and 544 cases of image-schema metaphors were identified; making up approximately 44% of the total corpus.

But, as previously mentioned, the approach intended in this study was not limited to text production, as it attempted to get an insight into public opinion and atomic affairs. In order to do so, polls were consulted to see in which ways public opinion reacted to nuclear affairs (Boer 1977; Davison 1958; Gallup 1972, 1978, 1981, 1984, 1986, 1989; Gamson and Modigliani 1989, Graham and Kramer 1986; Hogan and Smith 1991; Powell 1951). The Gallup Polls cumulative index (Gallup 1991) was accessed to look for all the polls referring to nuclear affairs between 1945 and 1991; once selected and organized by year/topic, these polls were read and significant data was drawn from them and employed to contrast with the analysis of the texts.

4. Analysis of the Data

In the story of nuclear narratives, there is always a tension between two opposite positions: the elimination of the threatening force or conversion to the religion of nuclearism (Lifton 1979: 371). The employment of movement metaphors such as ATOMIC DEVELOPMENT IS A JOURNEY or ATOMIC DEVELOPMENT OF NEW WEAPONS IS A RACE or even ATOMIC NEGOTIATIONS ARE A JOURNEY TOWARDS PEACE is constant throughout the Cold War. The same basic PATH SCHEMA operates at different levels and with different intentions across the ideological network of nuclearism. As basic embodied schemata, their pervasiveness feels understandable, as it does in other political arenas, and their ideological power undeniable. The key element for that is context (Kövecses 2014), which becomes paramount in the organization of legitimizing strategies.

What follows is an analysis that has been divided into five main stages, following milestones in nuclear political affairs. Considering that context may guide text-producers in their metaphor selection (Kövecses 2014: 11), this paper provides a contextual organization to locate the correct interpretation of nuclearism and its ideological mood swings. It also provides a theory of reception by looking at public opinion reaction and the possible evolutionary explanation.

4.1 1945-1949: The Atomic Journey

In 1945, the US had an atomic monopoly. It is not surprising that media presented atomic research as a quest, since the US had been historically obsessed with the idea of conquering new territories (Kövecses 2005). This notion of exploration is presented as entering a new era, 'a rebirth into a new world', as Lifton noted (1979: 369). The use of the path schema is implied inasmuch as a new era can be conceptualized as an intermediate point between A and B; and since paths can have a temporal dimension, the fact that A NEW POINT ON THE WAY IS A NEW ERA fits the ideological framework (Johnson 1987: 114):

(1)   *We entered a new era*—the Atomic Age (8/12/45, NYT)

The referential strategy 'we' reinforces the sense of in-group pride (Hart 2014), echoing emotive images of the pioneers exploring uncharted territory. Journey metaphors normally present a positive orientation, since the effort necessary to achieve a destination is evaluated as worthwhile (Chatteris-Black 2004: 93). The metaphors ATOMIC RESEARCH IS A ROAD and ATOMIC RESEARCH IS A CONQUEST dominate this stage of atomic achievements:

(2) The admirable *conquest* of the human intellect, which taxes and investigates the laws of nature is carrying humanity with it *along new roads*. (2/9/48, NYT)

Morality becomes a sensible part of this mission, and the metaphor DECISIONS REGARDING ATOMIC AFFAIRS ARE A CROSSROAD IN THE PATH proliferate:

(3) Today we stand at the *crossroad*, the destiny of the world will be decided probably in the next five years, probably in the next six or twelve months (7/1/46 NYT)

In the same vein, ACHIEVEMENT IS MOTION FORWARD ALONG THE PATH, perhaps one of the most representative conceptual metaphors within American society (Kövecses 2006), emerges with force. After all, movement represents freedom (Lakoff 1991), a cornerstone of American ideology. Although rather universal, the metaphor ACHIEVEMENT IS MOVEMENT gained strength:

(4) It is your job and mine to see that we do not *lag behind* any possible enemy either in nuclear physics or any other field of research and engineering of importance to the defense of the nation (7/27/46, LAT)

This ideological organization focuses on exclusiveness. Americans are the only ones in possession of nuclear power: they have a moral mission to explore and conquer new atomic territories. Rivals at this point of boasting supremacy became irrelevant, mere obstacles in their way, 'in our attempts to interact forcefully with objects and persons in our environment, we often encounter obstacles that block or resist our force' (Johnson 1987: 45):

(5) Russia, he said, is *the stumbling block* to progress toward such control (6/25/48, CT)

We should keep in mind the fact that even universal metaphors may show variation in their details and effect on the public, because people do not employ their cognitive capacities equally from culture to culture (Kövecses

2014: 13). Notions of journeys and paths ahead could easily trigger a culture that finds its roots in the Mayflower's pioneers. In fact, this first stage can be considered the golden Atomic Age. Newspapers wanted to create an image of the atomic bomb as awesome and as magical as possible (Lifton 1979: 370).

4.2 How Public Opinion Learned to Love the Bomb

Fundamental to American identity are notions such as self-determination, freedom and the pursuit of happiness, as the American Constitution claims (Pratt 1927). Public opinion was expected to stop worrying and love the bomb (Kubrick 1964) for many reasons: the bombs were Americans and they ended the war, so despite the effect they had on populations, positivism was implicit. Polls show consistency with this tendency. In September 1945, 69% of the population believed that the atomic bomb was a good thing (Gallup 1972: 527). In 1946, 72% of the population thought that the United States should not stop making A-bombs (Gallup 1972: 613). By 1947, 55% of people considered the atomic bomb a respectable object (Gallup Poll 1972: 680). By 1949, 59% still regarded the development of the atomic bomb as advisable. By means of the use of journey metaphors everyday individuals can be transformed into heroic icons (Chateris-Black 2011: 220). Emotionally, the deployment of those images sparked a certain degree of awe that allowed the reader to connect with a superior power (Lifton 1979: 371). Evolutionarily speaking, this contact with an awesome event elicited a visceral experience of amazement that guided the individual to new values (Keltner and Haidt 2003: 299). Moreover, such positive nuclear narratives triggered emotional modules of pride (Shariff et al. 2010). In Evolutionary Psychology terms, 'pride is experienced and displayed by individuals who have accomplished some social value task,' (Keltner et al. 2006: 121). It is undeniable that the accomplishment of the development of atomic bombs should be a source of national pride. Media, when using metaphors that represented the development of atomic energy as an adventurous journey, stimulated a sense of pride that powered the emotional response of the audience. Contextual notions of American achievement, American possession and American morality were represented by universal metaphors such as MOVEMENT ALONG A PATH that provoked the emergence of an institutionalized atomic pride (Kövecses 1986: 44) based on elemental evolutionary principles that led Americans to love atomic bombs.

4.3 1949-1953 The Atomic Race

When on August 29, 1949, the Soviet Union tested its first atomic device, a new phase in nuclear affairs was inaugurated. Russia now occupied a prominent and active role in atomic research. With the end of the monopoly, a stronger need for further development arose as the only alternative. Nuclear rhetoric served two main purposes: legitimizing the expenses of thermonuclear research and deterring the enemy from any further escalation (Craig and Radchenko 2008; Gaddis 2005). In fact, an American deterrence based on the building up of atomic weaponry will be the primary instrument to confront the enemy (Chilton 1985: 92). Symbolically, deterrence served as a new move to reestablish freedom, as it implied the achievement of purposes by performing a desired action (Lakoff 2006: 29). It also served as a coercive mechanism to persuade Americans of the importance of nuclear proliferation.

In terms of ideological organization, we bear witness to the emergence of a counterforce schema in which two rivals 'collide face-to-face' (Johnson 1987: 46). But media reporters applied caution and avoided representing this confrontation as WAR. After all, Americans needed to embrace thermonuclear power and be proud of it. Newspapers started to conceptualize atomic confrontations between the US and the Soviet Union in terms of a race (Chilton 1996: 153):

(6) The United States is "way out front" in the world *atomic race* (7/7/49, LAT)

(7) It appears that in this *macabre world series* we are well ahead on points (though in some doubt about our opponent's true score) and have in fact reached *a stage in the game* where a major decision on tactics must be made (10/7/51, LAT)

(8) Plans are being made for construction of a 100,000.000,000 in volt atom smasher to *speed* research into new ways of releasing nuclear energy. (1/29/53, LAT)

Entertainment can be considered as the motor of American culture (Kövecses 2005: 184). Sport metaphors in particular reduce anxiety by associating conflict with something fun (Chatteris-Black 2004: 114). These metaphors highlight 'strategic thinking, teamwork, preparedness, the spectators in the world arena, the glory of winning and the shame of defeat' (Lakoff and Johnson 1980a: 65). As we see in the examples above, political tensions were defined as a competitive game. Struggle as physical contest links with the ethic of hard work and salvation so pervasive in the protestant ethic (Weber 1905). Besides, inter-group relations are generally based on competition (Hart 2010: 51). Russia, which previously had been depicted as a mere obstacle, is now a competitor that may even surpass the US:

(9) SOVIET *GAIN* ON U.S. IN BOMB RACE SEEN (2/4/50, NYT)

In this new model of two confronting blocs, the binary opposition of good vs. bad, will be paramount (Hart 2014). In fact, once Russia is capable of leading the race, negative imagery emerges:

(10) "If there is no release from *the mad armament race*, war is inevitable," (9/24/49, CT)

(11) It appears that in this *macabre world series* we are well ahead on points (10/7/51, LAT)

Similarly, a move toward a narrative that ponders international control becomes more central to the persuasive intentions of American institutions:

(12) In the light of this latest news, the most urgent of these problems is that of *securing an international control*, which will prevent a nuclear Armageddon being unleashed upon the world

In this new framework, control implies the end of the atomic quest. A prototypical force schema denotes the movement of some object through space (Johnson 1987: 43), such as the atomic race moving at a fast pace outside the limits of the American container. In order to limit the force, one must contain it through *securing* control. In addition, the metaphor THE INTERNATIONAL SYSTEM IS A STATE (Chilton 1996) plays an important role in this context. International control emerges as a metaphorical extension of a combination of schemata that presupposes containment of the force (NUCLEAR EXPANSIONS ARE FORCES) outside the limits of the container (INTERNATIONAL SYSTEM AS A STATE IS A CONTAINER). Referential strategies facilitate the identification of the two binaries 'us' (the free people of the world) versus 'them' (the Communists).

The race schema originally emerged as a powerful coercive strategy. It legitimized the massive expenses of a thermonuclear program and made it possible for Americans to accept the development of the most terrible weapon humankind had ever seen. However, it soon became exhausted and new avenues began to be explored. Certainly during these years a veering in the ideological mood and its linguistic representations was tangible, as would be the reaction of the public. From the initial enthusiasm of a high-speed car race to the fears of an all-out nuclear war, the models are transformed with a coercive intention in mind: make the public equally love and fear nuclear might (Lifton 1979: 374).

4.4 Public Polls and the Atomic Race

With the mad arms race at the head of a battery of coercive tools, the atomic universe turned darker. However, that was actually the Government's purpose. As Gaddis (2005: 61) observes:

> Thermonuclear weapons, they argued, would be psychologically, not militarily, necessary. Not having them would induce panic throughout the West if the Soviet Union got them. Having them would produce reassurance and deterrence: whatever advantages Stalin might have obtained from his atomic bomb would be canceled [sic], and the United States would remain ahead in the nuclear arm race.

Unfortunately, what the government did not anticipate in this equation was the effect of that discourse of deterrence on the public. In 1950, 70% of the American population believed Russia had atomic bombs and 66% of those believed that it would use them against American cities (Gallup Polls 1972: 929). In 1950, respondents listed 'avoiding a general war, handling Russia' as the most important problem to be discussed in America (Gallup Polls 1972: 939); and 68% believed that 'Russia would use a hydrogen bomb on the United States' (Gallup Polls 1972: 895).

It was during this period that some began experiencing 'nuclear anxiety' for the first time (Weart 1988, 2012). Indeed, 'anxious individuals, for example,

perceive more threat and risk in situations, whereas anger prone and cheerful individuals perceive less danger' (Keltner et al. 2006: 126). In 1951, 56% of the population believed that the most important problem facing the country was 'war and foreign policy, Russia, threats to peace, cold war' (Gallup Polls 1972: 1018). By 1951, 50% of respondents considered themselves not safe in the event of an atomic war. In February 1953, 32% of the population believed there was a good chance of their communities being attacked with atom bombs (Gallup Polls 1972: 1120). The mechanisms employed to persuade and manipulate the audience, based on evolutionary principles such as the perception of out-group members as a threat or a danger, became an uncontrollable source of negative emotional cues. The employment of these cues, while effective in making people accept nuclear proliferation, also took a toll on the way text-receivers interpreted and understood atomic questions in general. This mood would only escalate during the next decade.

4.5 1953-1963 The Atomic Threat

Between 1953 and 1963 Russia showed an undeniable supremacy. On August 12, 1953 Russia dropped its first H-Bomb. In August 1957, it launched the first intercontinental ballistic missile; in October of the same year, they placed the first manmade satellite, Sputnik, into orbit; and in 1961 the first man. In 1961 the '*Tsar Bomb*'—the most powerful hydrogen bomb ever created—gave the finishing touch to almost a decade of dominance (Craig and Radchenko 2008; Gaddis 2005). A year later, in October 1962, the Russians deployed intermediate and medium range missiles to Cuba, and, while the crisis was solved without incident and almost zero media attention; Americans were clearly aware of their handicap in this *race* and withdrew to a less belligerent position. What is more, the effects of thermonuclear detonations made both competitors recognize that the path they were following would lead to total annihilation (Gaddis 2005: 78).

The Tsar Bomb served to put an end to the pioneering search for atomic might, and to restructure the positions within the atomic category, both at the political and discursive level. In this new scenario of atomic holocausts, America is no longer on the move, but rather passivized. Radiation plays an essential role in the emergence of American stasis. As one of the most powerful icons of the nuclear age (Jacob 2010: 29), radiation becomes omnipresent in news reports. It is perceived as an external force approaching American soil:

(13) His article is the first published analysis on fall-out, the downward spiral of wind *sprays deathly radioactive dust* sucked up earlier from explosions of the H-bomb (2/11/55, WP)

(14) Most debris would *fall back* to earth promptly but the lighter particles, made radioactive by the explosion, would *drift off in a deadly dust cloud* (2/11/55, LAT)

These external forces are ideologically powered as proximization strategies in which radiation is an uncontrollable, exterior threat (Cap 2013; Hart 2014).

Based on what Lifton (1979: 376) calls 'nuclearistic displacement', people are more prone to discharge moral condemnation in nuclear developments that are not their own. Radiation, which previously has been regarded as almost miraculous (Weart 1988, 2012), is now a metonymic extension of Russia's immoral acts (Chilton 1996: 145). In this context, the idea of limitation of movement and force within the container occupies a central position (Johnson 1987: 22):

(15) We must face the possibility, he said, that repeated atomic explosions will lead to a degree of general radioactivity which no one can tolerate or *escape* (9/2/54, NYT)

As we saw before, freedom relates to movement (Lakoff 1987) but in this new context images of stasis and stagnancy paralyze the dynamic structure of previous models. In the new landscape, *containment* and national security become paramount (Chilton 1996: 132). This new perspective of defense and passivity puts an end to deterrence rhetoric (Ringsat 2012), facilitating the emergence of models of détente that pretend to stop the movement (Johnson 1987: 42) and defend *the free people of the world*:

(16) They are the most cognizant of the need for survival methods in order to *protect* their families (5/13/60, LAT)

(17) It has become mandatory that the government begin construction of an extensive system of *survival shelters* (2/11/55, CT)

Conceptually, this new policy is based on a force schema in which ATOMIC BOMBS ARE A FORCE IN THE MOVE THAT WE (AMERICANS) MUST HALT:

(18) The attempt to *halt* the nuclear race (8/31/61, WP)

(19) I know, he said, that thousands of my fellows American scientists are in agreement that we should take this important step [we have to *stop* the bomb tests] (6/3/57, CT)

Participants and roles are inverted here to emphasize mankind's fragility in the event of an atomic attack. The propaganda of these years is essentially based on the containment schema in which a victimization of American population will lead them to '*duck and cover*'. In fact, as Lifton (1979: 376) observes:

> What seems to occur is a kind of 'nuclear backsliding,' in which the nuclearist reaches a point, usually in relation to someone else's bomb rather than 'his own,' beyond which he feels himself able to go; beyond which the psychological and ethical structure of nuclearism cannot be sustained.

4.6 Public Opinion and Nuclear Anxiety

According to Evolutionary Psychologists Neuber and Cottrell (2006: 175), a solid fear-based prejudice syndrome emerges with force when one's vulnerability is enhanced. The pervasiveness of radioactive tales emphasizing vulnerability and despair could certainly be responsible for the emergence of a fear-based prejudice syndrome among the American population. In 1954, the fourth most listed personal fear was atomic bombs (Gallup Poll 1972: 1266). In 1954, 48% of the population mentioned Russia as the most important problem for the country (Gallup Poll 1972: 1345). In 1956, 63% of the population believed H-bombs would be used in a conflict (Gallup Poll 1972: 1434-35). In 1957, 71% of the population believed that in case of another world war the H-bomb would be used against them (Gallup Polls 1972: 1489).

In fact, negative emotions facilitate a response to threat cues (Cosmides and Tooby 1994, 2000; Schaller et al. 2003a, 2003b). The way radiation was portrayed activated emotion modules of fear and disgust (Hart 2010), amplifying the emergence of a disgust-based prejudice syndrome (Neuber and Cottrell 2006: 175). In 1957, when asked about fall-out, 52% of the population thought that there was real danger (Gallup Polls 1979: 1488). Similarly, in 1958, 46% believed that testing nuclear weapons posited a danger for future generations (Gallup Polls 1979: 1553).

In 1960, people were asked to name the most important problem facing the nation. 'The overwhelming majority of those interviewed regard relations with Russia and the rest of the world as being the primary problem facing the country' (Gallup Polls 1972: 1676). In 1961, people were asked once more about their opinions regarding the chances of survival after a nuclear war. To this question, just 9% of the population said 'very good', 40% considered a '50-50' chances, and a 43% a 'poor' chance. At this point, many individuals acknowledged having experienced 'nuclear anxiety' (Gallup Polls 1972: 1734).

Based on the emergent fear of nuclear weapons, text-receivers became more willing to accept an expensive program of nuclear shelter. In fact, evolutionary principles prove that 'if one feels vulnerable to a particular threat, then the evolved responses specific to that threat will be engaged' (Neuber and Cottrell 2006: 173). Perhaps this is the only positive aspect of the rhetoric of fear, as it triggered a sense of solidarity among the population. After all, as Neuber and Cottrell (2006: 168) observe:

> We might expect to find mechanisms that lead humans to be attuned to threats to the resources that groups provide us – e.g., territory, property, economic standing – as well as to threats to the structures and processes that encourage effective and efficient group operations.

In 1960, 71% of the people asked said they were 'in favor' of a community shelter (Gallup Polls 1979: 1671). Later in the year 62% of people were willing to work to build a shelter for their communities, 19% were willing to give money, and only 19% were not willing to do anything (Gallup Polls 1979: 1745).

Emotional coercion provided a new perspective in the ideological perspective of American nuclear policies. It derived into a new set of beliefs in which a

vulnerable America abandons the atomic quest to give way to another journey: the atomic path towards peace.

4.7 1963-1979 The Atomic Talks

After the Cuban Missile Crisis, an increasing anxiety shrouded every atomic affair (Gaddis 2005: 78). Kissinger's philosophy of détente was institutionally, ideologically, and linguistically embraced. In 1963, the US and Russia signed an agreement known as the *Limited Test Ban Treaty*, which aimed to abolish atmospheric nuclear tests and thus to eliminate environmental dangers posed by radiation. In 1968, the *Nuclear Non-Proliferation Treaty* was ratified, banning nations with nuclear weapons from helping other countries to acquire them.

The task at hand, in this new context, was to follow a new route toward peace and control over the 'collision course' of previous years. In fact, as Chilton (1996: 53) observes, 'policies are often thought of as specific types of PATH schemata—that is, they are metaphorically conceptualized as a single path leading to a visible single end'. The conceptual metaphor ATOMIC NEGOTIATIONS ARE A ROAD soon became essential in nuclear narratives:

> (20) A Long, Long *Road* Ahead: SALT (11/27/72, NYT)

In relation to that JOURNEY metaphor, we find linguistic elements such as steps, which are 'conventional ways of talking about progress toward a goal' (Chateris-Black 2004: 74), to represent atomic talks as a way of initiating a new course on the atomic path:

> (21) The United States, Britain, and the Soviet Union signed a treaty banning most nuclear tests today and hailed it in a statement as an important *first step* toward world peace (8/6/63, CT)

> (22) Each pledged that his government and his nation was intent on taking *further steps* toward easing world tension and creating the conditions for lasting peace (8/6/63, NYT)

The conceptual metaphor ACHIEVING IS MOVING is embedded within the bigger frame of the JOURNEY metaphor that dominates the general view of this period:

> (23) That is why we seek *progress toward* the solution of the dangerous political issues of our day (11/18/69, WP)

In all these examples a path schema is projected into the metaphor the PURPOSES ARE PHYSICAL GOALS and STATES ARE LOCATIONS (Johnson 1987: 114):

(24) The nuclear powers *have reached agreement* among themselves
     (8/6/63, LAT)

At the level of participants and roles, we have moved from the confrontation of the two blocs into an amiable schema of group negotiations in which the United States and Russia perform intra-group collaboration (Hart 2010). Common goals could be interpreted as common purposes and physical goals the same for both Russia and the US:

(25) Further progress *toward peace* would be achieved (8/6/63, NYT)

The end of the nuclear race implies curbing the proliferation of nuclear arms. Movement along the path of nuclear research implies also the exercise of a force that has become literally 'incontrollable'. Verbs such as 'to curb', 'to halt' or 'to restrain', associated with the control of forces (Johnson 1987), will populate news articles and headlines:

(26) The need to *halt* nuclear weapons must be of central priority in the
     American policy (6/24/65, NYT)
(27) Efforts to *Curb* Nuclear Arms Race Must Continue (12/17/68, LAT)

More interesting appears to be the emergent concept 'nuclear freeze'. In this blend, liquid water implies the possibility of movement whereas ice tends to remain static:

(28) The second major agreement reached was to place a temporary *five
     year freeze* on the number of intercontinental missiles, basically
     around the current number then in existence (11/21/72, LAT)

Nuclear freeze, indeed, will become the preferred way to depict the end of nuclear proliferation. Based on the metaphor ANGER IS HOT (Lakoff and Johnson 1980) and within the frame of a CEASE OF MOMENT schema, this freeze will represent the cooling down of the heated tension of former periods. The convivial atmosphere of this new voyage towards world peace set a definite course that, except for a detour during the 80s, led to the end of the Cold War in 1991.

4.8 Public Opinion and the Atomic Big Sleep

During the previous period, Americans had experienced an intense anxiety about nuclear affairs, which produced a sort of physical numbing, 'a diminished capacity or inclination to feel' (Lifton and Mitchell 1995: 337). This numbness led to a certain degree of disdain towards nuclear affairs.

Smith (1988: 559) points out that 'the lack of any appropriate surveys at that time makes this impossible to confirm. Likewise, the dearth of world/nuclear war expectation questions during the late sixties and seventies leaves this period unmapped'. As Boyer (1985: 355) writes, 'in 1959, 64 percent of Americans listed nuclear war as the nation's most exigent problem. By 1964, the figure had dropped to 16 percent. Soon it vanished entirely from the surveys'.

News articles at this time distilled a sense of confidence and peaceful collaboration with Russia, a fact which is supported by the notion proposed by Evolutionary Psychology of intra-group cooperation and relationships (Hart 2010). This discourse of cooperation and peace has a clear impact on public opinion. The few polls that we found for this period are conclusive about American acceptance of nuclear talks. According to a survey carried out by Louis Harris and Associates in 1973, 66% of the population felt that US-Russia relationships were improving. In 1970, 51.8% believed that the US and Russia could reach agreements; in 1971, 53.6%; in 1972, 55%; and in 1973, 69.2% (Smith 1983: 285). Data from polls carried out from 1978 to 1980 by *National Broadcasting Company/Associated Press* show that 65% of the population favored new agreements between the US and Russia to limit nuclear weapons (Smith 1983: 287).

This decade constituted the cornerstone of a policy of collaboration and mutual understanding. Schemata that foster conflict and confrontation were abandoned and nuclear affairs relativized to a secondary place in the political arena. After this, and for a brief but intense period we bear witness to the resuscitation of a landscape of *mutual assured destruction*. Then the Cold War comes to an end.

4.9 1979-1991 From Star Wars to the End of the Cold War

Once the Vietnam War was over and after Russia's invasion of Afghanistan, the Big Sleep Era came to an end (Boyer 1985; Franklin 1988; Gaddis 2005). In the early 80s, America succumbed to the threat of a *Window of Vulnerability* regarding its position as a weakened competitor (Linenthal 1989). In 1983, President Reagan's speech, known as the Star Wars speech, would become a milestone in a new period of nuclear uneasiness. In his dramatic discourse, Reagan presented the Strategic Defense Initiative (SDI); a program that intended to create an anti-missile shield capable of protecting the American people from potential nuclear attacks. With this return to the language of competition and rivalry, the nuclear arms race was primed to start again:

> (29) Kennan said, "I have no illusion that such negotiations could ever be adequate to get us out of this hole. There are no way of escape from *nuclear weapons race* (5/20/81, WP)

Journalists used RACE metaphors again, but with Russia in the lead:

(30) But only after this country has achieved nuclear parity and erased Moscow's definite margin of *superiority* (4/1/82, LAT)

This defeatist mood facilitates the reemergence of a revamped notion of defense and deterrence. While Americans are once more vulnerable (as we see in example 3), a more active role is embraced. There is no longer the need to *duck and cover*, for President Reagan will place a space shield to protect the American people (examples 4, 5):

(31) The *"window of vulnerability"* argument the President often makes rests on the assertion that the increased accuracy and number of Soviet missiles gives them the capacity to take out all Minuteman missiles (9/28/81, LAT)

(32) Reagan acknowledged that such a *defensive umbrella* lies far in future "It will take years, probably decades, of effort on many fronts," he said (3/24/83, LAT)

(33) The proposed *space shield* (NYT, 3/5/85)

After 1983, the policy of containment was almost literal: the idea of a space shield that would protect Americans and destroy Russian missiles became embedded in the new model of DEFENSE. In fact, this new strategy of a space shield was not really viable (Franklin 1988). If anything, this short period involves authentic rhetorical deterrence. In order to project a cogent tone and scare the Russians, reporters had to appeal to the image of American determination to achieve impossible goals (Gaddis 2005). The media exploited emotional strategies, appealing to American ideals of the man on the frontier. By means of a cultural context partly based on science fiction landscapes—namely the movie Star Wars—newspapers crafted a manner of interpreting the ultimate nuclear race as a war in space:

(34) A perilous step toward *star wars* (1/3/84, CT)

However, this path was unsustainable. Conceptually, the race was pictured as having a disastrous end:

(35) The United States and the Soviet Union are on a *'collision course'* toward eventual nuclear war (5/20/81, WP)

(36) Kennan said he had no indication from either the U.S. or Soviet government that such a plan would be accepted but he expressed the belief that in the end governments and people will not allow the world to *drift alone toward disaster* (5/20/81, WP)

(37) Reagan, replying to a question, said he did not think there could be any "*winners*" in a nuclear war, everybody would be a *loser* if there's a nuclear war (4/1/82, LAT)

In 1985, with Gorbachev as the new Russian leader, conversation between the two superpowers again became possible. Finally, the US and Russia were on the same track with a common purpose: to put an end to the arms race and thaw the Cold War. In 1986, the two leaders discussed in a meeting the possibilities of disarmament. The following year, in 1987, both countries signed an agreement to destroy intermediate-range missiles. In the years that followed, the Communist threat dissolved. The Berlin Wall fell in 1989, the U.S.S.R. crumbled in 1991. We witness the resurgence of the path schema employed during the years of the 'atomic talks':

> (38) We are ready to agree to a number of compromises. And if the United States government will *go along in the same direction*, then a solution based on a compromise could be reached and the people would breathe more easily (LAT, 3/8/85)

Hand in hand with a model of path towards peace will be the notion of curbing proliferation and, consequently, stopping atomic movement:

> (39) The Nuclear Priority: To *curb* proliferation, ban testing (NYT, 1/7/91)
>
> (40) *Nuclear Freeze* Would Be a Pep Pill for the World (LAT, 5/12/67)

Soon the Cold War had thawed and relationships between the two blocs eased, the race halted, and the atomic holocaust became just a gloomy memory from the 50s.

4.10 Public Opinion and the Reception of Star Wars

During the 80s, people suffered the emotional fluctuations of a convoluted period of US-Russia tensions. In 1983, 68% of the population favored the proliferation of new armaments; but at the same time, 69% believed they had poor chances of surviving an atomic war (Gallup Polls 1984: 265). In 1983, 42% regarded the Soviet Union as more powerful than the US (Gallup Polls 1984: 72). By 1985, almost 70% of the population was familiar with SDI, and of those, almost 50% believed the United States should move forward with the program, because it would make the world safer (Gallup Polls 1986: 49-51). The powerful images of the war in the stars had momentarily mesmerized public opinion. Yet fears of war, the Russian threat, and the risks of the arms race worried most Americans (Gallup Polls 1986: 52). In 1986, 30% of the population believed that the most important problem facing the United States was war (Gallup Polls 1987: 48). As previously mentioned, it was this fear that made it possible for the public to react and be more prone to nuclear escalation. With the end of the Cold War all those fears dissolved and nuclear affairs were rendered irrelevant. In 2019, preoccupation with nuclear attack

occupies the 25th place on the list of fears (Chapman University survey 2019: [online]).

6. Conclusions

In order to fully understand nuclearism our only resource consists in nuclear tales. The purpose of this paper was to look at some of those institutionalized accounts in search of clues that could lead us to understand people's relationship with nuclear affairs. When it comes to media narratives, reporters exploited basic strategies such as image-schema in the service of complex structural frameworks that would support nuclear ideology and its constant changes. In doing so, newsmakers crafted an elaborate network of interrelated meaning in the context of a solid, yet ever-changing, nuclear ideology.

Conditioned by their evolutionary framework, text-receivers in the process of interpretation and assimilation of nuclear affairs accepted an ideological position in which they loved and hated the bomb equally. Nuclearism, paradoxically, implies precisely that: 'the passionate embrace of nuclear weapons as a solution to death anxiety and a way of restoring a lost sense of immortality' (Lifton 1979: 369). It is in this very intersection of passion and fear that the public got trapped and converted into the faith of nuclearism.

CDA has proven to be the key to unveiling discourses of inequality and discrimination, but as this paper shows it can also be useful when dissecting strategies of legitimation that are, a priori, not discriminatory, but that have a conditioning effect on people and their attitudes. We have seen that most of the metaphors employed by journalists are basic persuasive strategies widely used in political discourse; however, in the context of nuclear affairs they proved to be extremely effective when chosen appropriately.

The paper shows that very conventional metaphors and basic image-schema performed an extraordinary role in shaping and consolidating atomic beliefs. Nonetheless, the power of nuclear conceptualization relies not only on linguistic selection but also on the entire historical and political framework. As we have seen, the same basic model of movement along a path can be used in a myriad of different scenarios. It is, then, paramount for this type of investigation to take into account the mental state and ideological orientation of text-producers in order to fully comprehend the meaning of a particular metaphor (Kövecses 2014: 15). Conversely, without awareness of the context of reception, we cannot really conclude whether a particular linguistic strategy would be effective or not, or the extent of its implications. By looking at public polls this paper sheds light onto what people actually thought about nuclearism. Evolutionary psychology provides a plausible explanation for people's attitudes and beliefs regarding nuclear affairs.

The critical approach to historical discourses appears to be more efficient when a triangulation is put in place, one that includes text-producers and text-receivers within the historical context of production and reception. While theories of CDA can help us understand how texts become powerful tools for ideological purposes, by looking at Evolutionary Psychology we can also find a way to explain the reasons why people tend to accept narratives such as the one present in these nuclear tales.

References

Barsalou, L. (1999). Perceptual symbol systems. *Behavior and Brain Sciences* 22: 577-609.

Barsalou, L. (2003). Abstraction in perceptual symbol systems. *Philosophical Transactions: Biological Sciences* 358(1435): 1177-1187.

Boer, C. de (1977). The polls: Nuclear energy. *The Public Opinion Quarterly* 41(3): 402-411.

Boyer, P. (1985). *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age*. New York: Pantheon Books.

Cap, P. (2013). Proximization theory and critical discourse studies: A promising connection? *International Review of Pragmatics* 5: 293-317.

Charteris-Black, J. (2004). *Corpus Approaches to Critical Metaphor Analysis.* Houndmills and New York: Palgrave MacMillan.

Charteris-Black, J. (2005). *Politicians and Rhetoric: the Persuasive Power of Metaphor*. Houndmills, Basingstoke, Hampshire; New York: Palgrave Macmillan

Chilton, P. (ed.) (1985). *Language and the Nuclear Arms Debate*. London: Frances Printers.

Chilton, P. (1996). *Security Metaphors: Cold War Discourse from Containment to Common House*. New York: Peter Lang Publishing Inc.

Chilton, P. (2004). *Analysing Political Discourse: Theory and Practice*. London: Routledge.

Cosmides, L. and J. Tooby (1994). Origins of domain specificity: the evolution of functional organization. In L. Hirschfeld and S. Gelmans (eds.), *Mapping the Mind: Domain Specificity in Cognition and Culture*. New York: Cambridge University Press. pp. 85-116.

Cosmides, L., and J. Tooby (2000). Evolutionary psychology and the emotions. In M. Lewis and M.J. Haviland-Jones (eds.), *Handbook of Emotions*. New York: Guildford Press. pp. 91-115.

Craig C. and S. Radchenko (2008). *The Atomic Bomb and the Origins of the Cold War*. New Haven: Yale University Press.

Davison, P.W. (1958). The public opinion process. *The Public Opinion Quarterly* 22(2): 91-106.

Derrida, J. (1984). No apocalypse, not now (full speed ahead, seven missiles, seven missives). *Diacritics* 14(2): 20-31.

Fairclough, N. (1989). *Language and Power*. London: Longman.

Fairclough, N. (1995). *Media Discourse*. London, New York: E. Arnold.

Franklin, H.B. (1988). *War Stars: The Superweapon and the American Imagination*. Oxford: Oxford University Press.

Gaddis, J.L. (2005). *The Cold War: a New History*. London: Penguin Books Ltd.

Gallup, A. (1999). *The Gallup Poll Cumulative Index: Public Opinion 1935-1997*. Wilmington: Scholarly resources Inc.

Gallup, G.H. (1972). *The Gallup Poll, 1935-1977*. New York: Random House Inc.

Gallup, G.H. (1978). *The Gallup Poll, 1976-1977*. Wilmington: Scholarly Resources Inc.

Gallup, G.H. (1981). *The Gallup Poll: Public Opinion 1980*. Wilmington: Scholarly Resources Inc.

Gallup, G.H. (1984). *The Gallup Poll: Public Opinion 1983*. Wilmington: Scholarly Resources Inc.

Gallup, G.H. (1986). *The Gallup Poll: Public Opinion 1985*. Wilmington: Scholarly Resources Inc.

Gallup, G.H. (1987). *The Gallup Poll: Public Opinion 1986*. Wilmington: Scholarly Resources Inc.

Gamson, W.A. and A. Modigliani (1989). Media discourse and public opinion on nuclear power: a constructionist approach. *The American Journal of Sociology* 95(1): 1-37.

Gangestad, S.W. (2010). Exploring the evolutionary foundation of culture. In M. Schaller, A. Norenzayan, S.J.Heine, T. Yamagishi, and T. Kameda (eds.), *Evolution, Culture, and the Human Mind*. New York: Psychology Press. pp. 93-108.

Grady, J. (1997). *Foundation of Meaning: Primary Metaphors and Primary Scenes*. Ann Arbor: UMI.

Graham, T., and B. Kramer (1986). The Polls: ABM and Star Wars: attitudes toward nuclear defense, 1945-1985. *The Public Opinion Quarterly* 50(1):125-134.

Hart, C. (2010). *Critical Discourse Analysis and Cognitive Science: New Perspectives on Immigration Discourse*. London: Palgrave Macmillan

Hart, C.(2014). *Discourse, Grammar and Ideology: Functional and Cognitive Perspectives*. London; New York: Bloomsbury Academic.

Hart, C. and D. Lukes (2007) *Cognitive Linguistics in Critical Discourse Analysis*. Newcastle: Cambridge Scholar Publishing.

Hogan J., and T.J. Smith III (1991). Polling on the issues: public opinion and the nuclear freeze. *The Public Opinion Quarterly* 5(4): 534-569.

Johnson, J. (1987). *The Body in the Mind: the Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.

Keltner, D. and J. Haidt (2003). Approaching awe, a moral, spiritual, and aesthetic emotion. *Cognition & Emotion* 17(2): 297-314.

Keltner, D., Haidt, J., and M.N. Shiota (2006). Social functionalism and the evolution of emotions. In M. Schaller, J.A. Simpson, and D.T. Kenrick (eds.), *Evolution and Social Psychology*. New York: Psychology Press. pp. 115-142.

Kövecses, Z. (1986). *Metaphors of Anger, Pride, and Love: a Lexical Approach to the Structure of Concepts*. Amsterdam/Philadelphia: John Benjamins.

Kövecses, Z. (2002). *Metaphor: A Practical Introduction*. Oxford: Oxford University Press.

Kövecses, Z. (2005). *Metaphor in Culture*. Cambridge: Cambridge University Press.

Kövecses, Z. (2006). *Language, Mind, and Culture: a Practical Introduction*. Oxford: Oxford University Press.

Kövecses, Z. (2014). *Where Metaphors Come From*. Oxford: Oxford University Press.

Moreno Palmero, C. (2014). *Under the Cloud of Doom: A Cognitive-Critical Analysis of the US Media Representation of the Atomic Age*. Unpublished PhD dissertation. Universidad Complutense de Madrid, Madrid.

Musolff, A. (2004). *Metaphor and Political Discourse: Analogical Reasoning in Debates about Europe*. New York: Palgrave Macmillan.

Musolff, A. (2014). Metaphor in the discourse-historical approach. In C. Hart and P. Cap (eds.), *Contemporary Critical Discourse Studies*. London: Bloomsbury. pp. 45-66.

Musolff, A. (2016). *Political Metaphor Analysis: Discourse and Scenarios*. London: Bloomsbury Publishin.

Lakoff, G. (1979). The contemporary theory of metaphors. In A. Ortony (ed.), *Metaphor and Thought*. Cambridge: Cambridge University Press.

Lakoff, G. (1987). *Women, Fire, and Dangerous Things*. Chicago: The University of Chicago Press.

Lakoff, G. (1991). The metaphor system used to justify war in the Gulf. *Peace Research* 23: 25-32.

Lakoff, G. (2006). *Whose Freedom?* New York: Picador.

Lakoff, G., and G. Johnson (1980a). *Metaphors We Live By*. Chicago: The University of Chicago Press.

Lakoff, G., and G. Johnson (1980b). Conceptual metaphor in everyday language. *The Journal of Philosophy* 77(8): 453-486.

Lakoff, G., and G. Johnson (2003). *Metaphors We Live By*. Chicago: University of Chicago Press.

Lerner S., and D. Keltner (2001). Fear, anger, and risk. *Journal of Personality and Social Psychology* 81(1): 146-159.

Lifton, R. (1979). *The Broken Connection*. Washington: American Psychiatric Press.

Lifton R. and G. Mitchell (1995). *Hiroshima in America: Fifty Years of Denial*. New York: Putnam's Sons.

Linenthal, E.D. (1989). *Symbolic Defense: the Cultural Significance of the Strategic Defense Initiative*. Chicago: University of Illinois Press.

Maalej, Z. (2007). Doing critical discourse analysis with the contemporary theory of metaphor: Towards a discourse model of metaphor. In C. Hart and D. Lukes (eds.), *Cognitive Linguistics in Critical Discourse Analysis*. Newcastle: Cambridge Scholars Publishing. pp. 132-158

Neuberg, S.L., and C.A. Cottrell (2006). Evolutionary bases of prejudices. In M. Schaller, J.A. Simpson, and D.T. Kenrick (eds.), *Evolution and Social Psychology*. New York: Psychology Press. pp. 163-188.

Norenzayan, A., Schaller, M., and S.J. Heine (2006). Evolution and culture. In M. Schaller, J.A. Simpson, and D.T. Kenrick (eds.), *Evolution and Social Psychology*. New York: Psychology Press. pp. 343-366.

O'Halloran, K. (2003). *Critical Discourse Analysis and Language Cognition*. Edinburgh: Edinburgh University Press.

Powell, N.J. (1951). *Anatomy of Public Opinion*. New York: Prentice-Hall.

Pragglejaz Group (2007). MIP: a method for identifying metaphorically used words in discourse. *Metaphor and Symbol* 22(1):1-39.

Pratt, J.W. (1927). The origin of "Manifest Destiny". *The American Historical Review* 32(4): 795-798.

Reisigl, M. (2017). The discourse-historical approach. In J. Flowerdew, and J.E. Richardson (eds.), *The Routledge Handbook of Critical Discourse Studies*. Abingdon: Routledge. pp. 44-59.

Reisigl, M., and R. Wodak (2001). *Discourse and Discrimination: Rhetorics of Racism and Anti-Semitism*. London: Routledge.

Ritchie, D.L. (2003). *"ARGUMENT IS WAR"*—Or is it a game of chess? Multiple meanings in the analysis of implicit metaphors. *Metaphor and Symbol* 18(2): 125-146.

Ritchie, D.L. (2006). *Context and Connection in Metaphor*. New York: Palgrave Macmillan.

Ritchie, D.L. (2009). Relevance and Simulation in Metaphor. *Metaphor and Symbol* 24(4): 246-262.

Semino, E. (2008). *Metaphor in Discourse*. Cambridge: Cambridge University Press.

Schaller, M., Norenzayan, A., Heine, S.J., Yamagishi, T., and T. Kameda (eds.) (2010). *Evolution, Culture, and the Human Mind*. New York: Psychology Press.

Schaller, M., and D.R. Murray (2010). Infectious diseases and the evolution of cross-cultural differences. In M. Schaller, A. Norenzayan, S.J. Heine, T. Yamagishi, and T. Kameda (eds.), *Evolution, Culture, and the Human Mind*. New York: Psychology Press. pp. 243-256.

Schaller, M., Park, J.H., and J. Faulkner (2003a). Prehistoric dangers and contemporary prejudices. *European Review Of Social Psychology* 14: 105-137.

Schaller, M., Park, J.H., and J. Faulkner (2003b). Fear of the dark: interactive effects of beliefs about danger and ambient darkness on ethnic stereotypes. *Personality and Social Psychology Bulletin* 29: 637-649.

Shariff, A.F., Norenzayan, A., and J. Henrich (2010). The birth of High Gods: How cultural evolution of supernatural policing influenced the emergent of complex, cooperative human societies, paving the way for civilization. In M. Schaller, A. Norenzayan, S.J. Heine, T. Yamagishi, and T. Kameda (eds.), *Evolution, Culture, and the Human Mind*. New York: Psychology Press. pp. 119-136.

Smith, T.W. (1983). American attitudes toward the Soviet Union and communism. *The Public Opinion Quarterly* 47(2): 277-292.

Smith, T.W. (1988). A report: nuclear anxiety. *The Public Opinion Quarterly* 52(4): 557-575.

Steen, J.G., Dorst, A.G, Herrmann, J.B., Kaal, A.A., Krennmayr, T., and T. Pasma (2010). *A Method for Linguistic Metaphor Identification: from MIP to MIPVU*. Amsterdam: John Benjamins Publishing Co.

Talbot, M. (2007). *Media Discourse*. Edinburgh: Edinburgh University Press Ltd.

Tooby, J. and L. Cosmides (1989). Evolutionary psychology and the generation of culture, part ii. case study: a computational theory of social exchange. *Ethology & Sociobiology* 10: 51-97.

Tooby, J. and L. Cosmides (1990). The past explains the present: emotional adaptations and the structure of ancestral environments. *Ethology and Sociobiology* 11: 375-424.

Tooby, J. and L. Cosmides (1992). The psychological foundations of culture. In J. Barkow, L. Cosmides, and J. Tooby (eds.), *The Adapted Mind: Evolutionary Psychology and the Generation of Culture*. New York: Oxford University Press.

van Dijk, T.A. (1988). *News as Discourse*. Hillsdale, NJ: Erlbaum.

van Dijk, T.A. (1993). Principles of critical discourse analysis. *Discourse & Society* 4(2): 249-283.

van Dijk, T.A. (1995). Ideological discourse analysis. In E. Ventola and A. Solin (eds.), *Interdisciplinary Approaches to Discourse Analysis*. Helsinki: University of Helsinki. pp. 135-161.

van Dijk, T.A. (1998). *Ideology: A Multidisciplinary Approach*. London: SAGE

van Dijk, T.A. (2000). *Ideology and Discourse: A Multidisciplinary Approach*. Barcelona: Open University.

van Dijk, T.A. (2005). Contextual knowledge management in discourse production. In R. Wodak, and P. Chilton (eds.), *A New Agenda in (Critical) Discourse Analysis*. Amsterdam/ Philadelphia: John Benjamins Publishing Company. pp. 71-100.

van Dijk, T.A. (2006). Discourse context and cognition. *Discourse Studies* 8: 159-177.

van Dijk, T.A. (2009a). *Society and Discourse*. Cambridge: Cambridge University Press.

van Dijk, T.A. (2009b). Critical discourse studies; A sociocognitive approach. In R. Wodak, and M. Meyer (eds.), *Methods of Critical Discourse Analysis*. London: Sage. pp. 62-85.

van Dijk, T.A. (2012). Discourse and knowledge. In J.P. Gee, and M. Handford (eds.), *Handbook of Discourse Analysis*. London: Routledge (2012). pp. 587-603.

van Kleef, G., E. Van Doorn, M. Heerdink, and L. Koning (2011). Emotion is for influence. *European Review of Social Psychology* 22(1): 114-163

Weart, S.R. (1988). *Nuclear Fear: A History of Images*. Cambridge: Harvard University Press.

Weart, S.R. (2012). *The Rise of Nuclear Fear*. Cambridge: Harvard University Press.

Weber, M. (1905). *The Protestant Ethic and the Spirit of Capitalism*. New York: Scribner.

Wodak, R (2015). Critical discourse analysis, discourse-historical approach. In K. Tracy, C. Ilie, and T. Sandel (eds.), *The International Encyclopedia of Language and Social*

Interaction (1st ed.). London: John Wiley & Sons, Inc. Available: http://www.research.lancs.ac.uk/portal/en/publications/critical-discourse-analysis-discoursehistorical-approach(422ef7d8-af98-404e-8ca5-d3da61c81bac)/export.html. Last accessed 20 Jan 2020.