Metaphors and Emotions as Framing Strategies in Argumentation

Francesca Ervas (ervas@unica.it)
Department of Pedagogy, Psychology, Philosophy 1 Is Mirrionis
Cagliari, 09123 Italy

Elisabetta Gola (egola@unica.it)
Department of Pedagogy, Psychology, Philosophy 1 Is Mirrionis
Cagliari, 09123 Italy

Maria Grazia Rossi (mariagrazia.rossi@unicatt.it)
Department of Linguistics and Foreign Literatures 9 Via Necchi
Milano, 20123 Italy

Abstract

The paper focuses on the role of both emotional and metaphorical processes in reasoning. The aim of the paper is to present an extension of the argumentative theory of reasoning proposed by Mercier and Sperber (2011). In order to advance an integrated model of the roles of metaphors and emotions in argumentation, the paper argues that it is possible to ascribe not only a negative role to emotions and metaphors, but also a positive one. Far from being just a source of fallacies in reasoning, indeed, both emotions and metaphors – considered as framing and reframing strategies – can play a constructive role in argumentation, by enhancing their creative power.

Keywords: argumentation; reasoning; deliberation; framing strategies; metaphors; emotions

Introduction

In recent decades, the ideas developed within the framework of embodied cognition have strongly influenced the understanding of the nature of reasoning and communication. The idea of language and reasoning as logic-formal systems processing abstract symbols has undergone strong criticism coming from cognitive linguistics and psychology of reasoning, which seems to be a real point of no return (Evans & Frankish, 2009; Gola, 2005; Kahnemann, 2003; Lakoff & Johnson, 1980).

In this framework, we analyse the role of both emotional and metaphorical processes in reasoning. Indeed both of them have unexpectedly and unjustly played an entirely negligible role in contemporary models of reasoning, because of a methodological problem, as well as a more interesting conceptual problem. From a methodological point of view, the elusive (but omnipresent) nature of metaphors and emotions makes it difficult to build rigorous experimental paradigms. From a conceptual point of view, the missed acknowledgement of the creative role of metaphors and emotions can be ascribed to some erroneous presuppositions on the way of understanding the nature of reasoning and rationality, which are still lasting even within the embodied paradigm.

In the first part of the paper, we consider the theory of dual systems as the contemporary reference paradigm for the study of reasoning (Evans & Frankish, 2009) and we present an alternative model, by adopting the argumentative theory of reasoning proposed by Mercier and Sperber (2011) as a starting point. In the second part of the paper, we propose an extension of their theory by considering emotions and metaphors as framing and reframing strategies (Walton & Macagno, 2015). We advance the hypothesis that metaphors and emotions could contribute to reasoning in an effective way.

The argumentative theory of reasoning

In this section, we use the framework of dual-processing models as a magnifying glass to understand how the notion of rationality is affected by the distinction between intuitions and reasoning processes. Stanovich and West (2000) named these two inferential processes System 1 and System 2. The crux of this distinction lies on automatic vs. controlled processes: System 1 includes rapid, associative and emotional processes that work in a parallel, effortless and unconscious way; System 2 includes slow, rule-governed and neutral processes that work in a serial, effortful and often conscious way (see for example Kahnemann, 2003; Evans, 2008; Evans & Frankish, 2009). The relationship between intuitive and rational processes presupposed within this theory, is still largely understood in terms of opposition or conflict between unconscious and automatic processes, and conscious and controlled processes. In this view, (1) the role of embodiment is acknowledged only in intuitive processes, while (2) rational processes still deserve a superior function of control and revision. Even though reduced and limited to the activity of intuitive processes, such a function still implies some autonomy and independence of rationality from body (for an interesting alternative, cf. Carruthers, 2011; Fletcher & Carruthers, 2012).

By stressing the conflict between the System 1 and the System 2, this family of dual-processing models can be described as competitive models. As also noted by Marraffa

(2014), in some cases these kinds of models seem to propose an anachronistic view of mind, in which the two systems seem to work in an antagonist way. Within the more recent dual-processing models – that here we will name integrated models – a number of cognitive scientists have proposed a different notion of rationality. In spite of the differences among models, the common effort is to offer an authentic redefinition of the notion of rationality based on the integration between distinct inferential processes. In this view, rationality is a product of coordination or integration more than a product of competition or conflict in which a more rational system (the System 2) needs to win over another one (the System 1) (see Baumard & Boyer, 2013; Carruthers, 2011; Fletcher & Carruthers, 2012; Moshman, 2004, Mercier & Sperber, 2011).

Mercier and Sperber (2011) propose one of the most interesting integrated model of reasoning, the argumentative theory of reasoning. Within the wider context of the evolution of human communication, they identify the function of reasoning in the production and evaluation of arguments in communication. The authors describe an impressive array of evidence to show that many biases or error of reasoning are less puzzling when analysed by considering reasoning as an argumentation instrument in social dynamics. For example, the confirmation bias (people's tendency to rationalize their prior decisions) is seen as a natural and incisive strategy within a perspective that considers persuasion as the final outcome of reasoning: if people are trying to convince others they must look for arguments and evidence to support their prior beliefs and decisions. When people are in equalitarian groups and they are aptly stimulated, the performance in the production of arguments and (above all) in the evaluation of arguments is quite good. To explain the cognitive nature of human argumentative ability, Mercier and Sperber (2011) start from the distinction between intuitive and reflective beliefs (Sperber, 1997) and explain the nature of reflective beliefs by speculating about the evolution of a specific intuitive inferential mechanism:

What characterizes reasoning proper [the ability to reflecting on reasons to accept own beliefs] is indeed the awareness not just of a conclusion but of an argument that justifies accepting that conclusion. We suggest, however, that arguments exploited in reasoning are the output of an intuitive inferential mechanism. Like all other inferential mechanisms, its processes are unconscious and its conclusions are intuitive. However, these intuitive conclusions are about arguments; that is, about representations of relationships between premises and conclusions (*ivi*, p. 58).

What this quote clarifies is that processing of the argument is not an outcome of a cognitive mechanism of a radical different kind; that is, reasoning is not a question of prevailing over one's own intuitions, but of arguments that – also if they have an intuitive nature – need to be produced and evaluated. The shift proposed by Mercier and Sperber (2011) from an epistemic function to an argumentative function of reasoning has other important implications, many of which go beyond our scope in this proposal. What we would like to underline now is how and why the argumentative theory of reasoning might be extended to include metaphors and emotions.

While Mercier and Sperber emphasize the importance of argumentation to modify beliefs and decisions, they are not interested in identifying the underlying specific cognitive factors. There is a wide literature on the fundamental role of metaphors and emotions in persuasion and argumentation (e.g. Ervas & Ledda, 2014; Macagno & Walton, 2014), therefore we should expect a major consideration of these mental processes also within the framework of the argumentative theory of reasoning. This actual shortcoming can be due to a number of reasons, among which a sort of "cognitive prejudice" surviving even in models embracing the embodied cognition framework. In other words, it seems that even though (intuitive, unawareness, automatic) cognitive, embodied processes have a role in human rationality, they have no positive role in the *sensu stricto* reasoning (especially within normative domains, such as moral and political reasoning). Against this long-lasting prejudice, we propose a preliminary attempt to outline a positive role for emotions and metaphors in reasoning.

Emotions and Metaphors as Framing Strategies

We aim at understanding reasoning as an argumentation process in a model where emotions and metaphors are included. From a theoretical point of view, this goal can be obtained by integrating the argumentative theory of reasoning proposed by Mercier & Sperber (2011) with some suggestions on emotions and metaphors coming from the theory of logical argumentation (Walton, 2013; Walton, Reed & Macagno, 2008). Both emotions and metaphors are indeed cognitive processes of framing and reframing, or, in other words, processes which can redirect and intensify attitudes.

As to what concerns emotions, they are cognitive processes used to represent the positive and negative valence of things and actions in the world. What is important here is that the attribution of the positive or negative valence depends on the perspective of the subject who has the emotion and not from the object of the world – that is effectively marked as positive or negative. Emotions can play such a role because of their strong evaluative dimension: they assign a positive or negative marking to some features (of objects or events) which might be important for organisms from a biological-evolutionary perspective (Damasio, 1994). Because of their automatic, unconscious and obliged character, emotional processes are not backwards but necessary to define the rationality of actions (Rossi, 2013). From an evolutionary point of view, the automatic, unconscious and obliged character of emotional processes are extremely important: they allow for quick action without extensive thinking. In this sense, an escape reaction in case of fright, or an attack reaction in case of anger, are relevant examples for evolutionary rationality (Damasio, 1994; Frijda, 1986; Evans, 2002; Le Doux, 1996; Plutchik, 1994).

In the same vein, metaphors are powerful devices of framing and reframing. Frames are cognitive shortcuts that we use to interpret the world around us, to represent the world to others, to reason about it and to make decisions having an impact on it. When we categorize a phenomenon in a frame, we give meaning to some aspects of what is observed, and at the same time we discount other aspects that are (or become) less relevant. Thus, frames provide meaning through a selective process, which filters people's perceptions and concepts, providing a specific perspective on a problem.

Communication plays an important role in this process: language use sets a frame in which word and concepts cluster together defining meanings, associations, appropriateness, binding etc. In this process metaphors play a central role. For instance, the conceptual metaphor of war dictates the use of words like victory, defeat, commitment, sacrifice, heroes, casualties, objectives, troops, commitments, allies, enemy in the target domain (for example in the scientific debate: "to defend a theory"; "to attack an approach"). George Lakoff (2002) analysed the reframing effect of conceptual metaphors in US politics, in particular in identifying the different metaphors and frames selected by conservatives and liberals. Just to give an example, in the Unites States while conservatives tend to think US in Strict Father terms (e.g. "Washington knows best" identifying Washington - metonymy of the nation - as the father), liberals tend to think them in terms of the Nurturant Parent model, which represents a different morally-based family metaphor (e.g. "We need to use our influence to have countries in Africa come together"). From a theoretical point of view: "Because metaphors in language are reflections of metaphorical thought that structures reasoning, and thus our actions, both in everyday life and in politics, they are rarely isolated. They usually come as part of a coherent system of concepts — usually a moral system" (Lakoff 2013; Kahneman & Renshon, 2007). This system is not necessarily conscious. Nevertheless they are real forms of thought, they occur naturally, and they are inescapable: no matter how slow or conscious or logically we think about something, we will use metaphors and scenarios that are part of the frame we accepted in some way.

The negative role of emotions and metaphors in reasoning and argumentation

By referring to the notions of framing and reframing, we do not mean that emotions and metaphors always have a positive role in reasoning and argumentation. As framing is a rhetorical strategy, it could be interpreted as a sort of manipulation. especially within the Western philosophical tradition on the notions of reasoning, argumentation and deliberation..

In this perspective, the notion of deliberation has been defined as a critical use of reason in judgment, reasoning and argumentation, in contrast with respect to emotions. Indeed, the dominant model of deliberation is a rationalist model. In this framework, emotions indisputably have a

negative role – if they play a role at all – which is alternative with respect to the rational option guaranteed by justification (Rossi, 2014). First, as to the universality requirement, emotions have – by definition – a partial value; they safeguard prospective, subjective and temporary interests. Second, as to the critical use of reason or, in other terms, to the controlled and conscious use of justification, the functioning of emotional processes is widely automatic, unconscious and obliged (Rossi, 2013).

The point here is that the unique relevant knowledge at the normative level seems to be knowledge that can be properly justified. For example, if voter choices are based on habits or routine decisions – if people prefer a partisan choice as opposed to an accurate evaluation of the effective candidate's merits or of their ideological convictions – then it is easy to argue that those emotional choices do not count as relevant instances of deliberation choice. In this sense, especially in moral and political domains, emotions seem to operate besides the domain of rational deliberation anyway.

Similarly, metaphors might play a negative role in argumentation: by exacerbating problems of ambiguity, metaphors can indeed contribute to fallacies of reasoning. An example is the way US foreign policy has used the NATION AS PERSON metaphor to justify wars. Lakoff (2003) especially shows how it has been used in the Iraq conflict, among other wars. This central metaphor in US foreign policy triggered the conceptualization of Iraq as a single person: Saddam Hussein. As a consequence, American citizens tend to think that Iraq war is against only him: therefore the metaphor hides that the 3000 bombs in two days have killed many thousands of people and not just an individual. A preliminary study on the role of metaphors in *quaternio terminorum* comprehension shows that the majority of sentences with *dead metaphors* (83%) are perceived as true, even though they are literally false (Ervas, Gola, Ledda & Sergioli, 2012).

a) "George Clooney is a star"
a.1 famous actor
a.2 celestial body

Metaphors are, at a linguistic level, words with multiple meanings, as in the case of "grasp", which can mean: hold on, but also apprehend, understand and grip. All these meanings are lexicalized, so we do not perceive them as "pregnant metaphorical uses" (Black, 1993, p. 25). They rather are conventionalized uses, that scholars call "lexicalized metaphors" or "dead metaphors". They are part of our conceptual maps and we find them in dictionaries. Participants assign them the *intuitive truth-conditions*, respecting speakers' semantic intuitions: understanding a statement means knowing the concrete circumstances of its truth (Carston, 2002). The "falsehood" of dead metaphors is then seen as a "myth" (Scheffler, 1988) and as a tendency to judge metaphor with some kind of truth conditions, the literal ones, which cannot explain the very nature of metaphor itself (Clark, 1994).

However, in argumentation, the evaluation of the premises' truth conditions influences the overall

comprehension of the correctness of the whole argument (Ervas & Ledda, 2014). Therefore, dead metaphors easily elicit fallacies of reasoning and engender a highly persuasive argumentation, as long as we consider the classical theory of argumentation.

A chance for (some) emotions and the creativity of (some) metaphors

However we cannot refer to emotions and metaphors without specifying the kind of emotions and metaphors we are dealing with: emotions and metaphors are not all of the same kind. To better discuss this point, let us briefly return to the argumentative theory of reasoning. This theory has recently been applied in moral and political domains (Landemore & Mercier, 2012; Mercier, 2011). In particular, Mercier (2011) has stressed the close connection between this theory and Haidt's intuitionist theory of moral judgment stating that «this view can be seen as a refinement of Haidt's social intuitionist model that puts more stress on persuasion and claims that moral arguments – and not only narratives or appeal to emotions – can play an important role in changing our moral judgments and decisions» (ivi, p. 132). At first sight, it seems somewhat complex to include emotions in the characterization of moral arguments: the persuasion that Mercier (2011) refers to is thought be on the opposite side with respect to emotions thus implying that argumentation and emotional processing are in fact distinct modes of thinking of human mind. In opposition with this conclusion, our aim is to try to understand reasoning as an argumentation process and emotions within an integrative model.

The theoretical load – as the above quotation by Mercier (2011) makes clear – rests on the notion of moral argument or, in very general terms, on the notion of argument. More specifically, the capacity to evaluate arguments with different persuasive strength is a key capacity within an argumentative theory of reasoning. From our perspective, the interesting question is what kind of arguments – relevant from a cognitive point of view – have an effect in moral and political human activities. We suppose that different kinds of arguments might have a positive role in reasoning and thus emotive arguments might be located between them.

While within a classical argumentation theory Macagno & Walton (2014) attempt to reconsider the role of emotive language in ordinary and political discourse, our main aim is to emphasise the cognitive relevance of emotions in reasoning. What is relevant here is the evaluative nature of emotional processes (Rossi, 2013). Each emotional reaction, even though it is automatic and unconscious, signals to the organism that there is some change in the physical or social environment that is demanding attention. Within this theoretical context, the theory of Affective Intelligence proposed by Marcus (2000, 2002; MacKuen et al., 2010) can be considered as an initial attempt to positively consider the evaluation nature of (some) emotions within an integrated model of political deliberation. Marcus et al. (2000) propose a dual-processing model by distinguishing

two different systems: the disposition system (or habit execution system) and the surveillance system. When people devote attention to an issue guided by the disposition system, they usually generate arguments by adopting a defensive search for information to support their prior beliefs but when people devote attention to an issue guided by the surveillance system, they are more than likely to generate arguments by adopting an exploratory search for information – to bear in mind other alternative viewpoints and (in some cases) to try to achieve a compromise (MacKuen et al., 2010). In this distinction between a defensive search and an exploratory search for information, we perceive a first important conceptual distinction made more explicit with respect to the model depicted by Mercier and Sperber (2011). Might it be a difference between a persuasive argumentation (also recognized by Mercier and Sperber), and a more reflective argumentation with which people try to call into question their own prior beliefs and decisions[1]. While Mercier and Sperber (2011) also emphasise the importance of argumentation to modify beliefs and decisions, they are not interested in distinguishing which cognitive factors are necessary for the two kinds of argumentation. What makes Marcus' model very interesting is the hypothesis that different emotions might be a different role in reasoning, stimulating persuasive argumentation or reflective argumentation. Emotions such as anger, disgust, enthusiasm and aversion seem to be correlated with people's preference for a selective exposure to information. These emotions prepare people for a defensive reaction that seems to block them to bear in mind different point of views. On the contrary, other negative emotions, such as anxious reactions, seem to involve a more explorative search for information thus recognising to the emotion of anxiety a role relating to the management of changes in the political or economic environments. This hypothesis is consistent with analogous results within the literature on the role of affects and emotions in cognition in which there is an attempt to show that discrete emotions have a different influence on judgment and decision-making (for a review of the literature see Angie et al.; 2011). Finally, Marcus' model represents an initial attempt to integrate emotion and rationality by identifying a different role (generally deliberative) for distinct emotions.

Something similar can be said about metaphors: the evidence for the negative role of *dead metaphors* we discussed in the previous section is different from the evidence for the role of *live metaphors*. While the majority of sentences with *dead metaphors* (83%) are perceived as true, the majority of sentences with *live metaphors* (79%) are instead perceived as literally false, even though they are non-literally true.
b) "Africa is a tapestry"
b. 1 the continent

---

1 Marcus and colleagues refer to partisan citizenship and deliberative citizenship to distinguish these two different modes used by people to search for information.

b. 2 artistic composition of pieces

However, an alternative, "imaginative" route is hypothesized (Carston, 2010; Carston & Wearing, 2011): the literal meaning would be maintained in a global pragmatic process resulting in a range of communicated affective and imagistic effects: "images are not communicated but are activated or evoked when certain lexical concepts are accessed and may be further imaginatively developed (by, for instance, shifting mental focus or perspective, zooming in on detail, or forming a connected dynamic sequence) as the conceptual content of the utterance is recovered" (Carston, 2010, p. 319). Live metaphors thus engender a more reflective argumentation, as long as they force to find alternative interpretations to make sense of speakers' utterances.

Therefore, live metaphors are highly creative and could have a positive role in reasoning, as the history of science testifies. As several studies have shown (Lakoff & Johnson, 1980; Black, 1962), metaphors are essential not only because of their communicative and pedagogical functions, but also (and more interestingly) because of their epistemic role. Metaphor is indeed a powerful device to increase our knowledge, because it enhances the connections between human thought and reality (Gola, 2005).

In everyday reasoning, which makes use of natural language, metaphors are not only frequent, but also useful: they allow people to understand each other and negotiating meanings in concrete contexts. Indeed, in metaphors, we contemporarily activate two different domains: the source and the target domains. The source domain, usually more concrete and/or better known, works as ground to understand the target domain, through a number of implicit inferences that keep the same structure between the two domains. Black (1954), in its interactive view of metaphor, highlighted that metaphors are irreducible to a literal paraphrase, because it would inevitably say «too much and with the wrong emphasis» (*ivi*, p. 293). Furthermore he underlined that «the relevant weakness of the literal paraphrase is not that it may be tiresomely prolix or boringly explicit or deficient in qualities of style; it fails to be a translation because it fails to give the insight that the metaphor did» (*ivi*, p. 293).

"Live metaphors" are new and creative uses of language, not referable to a frequent use of language (and already classified in dictionaries). Metaphors have been considered in connection with polysemy in cognitive semantics («the conceptual metaphor explains the systematicity of the polysemy» Lakoff & Johnson, 1980, p. 248), but also in other perspectives, in which metaphors have been considered the most important ways to create new meanings (Bartsch, 2002). In Lakoff and Johnson's view, live metaphors are a creative way of realising a conceptual metaphor. They are also supposed to be as much alive as the conventional and vital conceptual metaphors in which they are considered grounded. For example, the structure of the LIFE IS A JOURNEY conceptual metaphor gives rise to many conventionalized meanings, as "I do not know which path to take," but also unconventional, poetic utterances like the verses of Robert Frost's poetry "The Road Not Taken" (1920). Lakoff and Turner (1989) showed many similar examples, maintaining that «great poets can speak to us because they use the modes of thought we all possess» and that «to understand the nature and value of poetic creativity requires us to understand the ordinary ways we think» (*ivi*, pp. xi-xii).

Conclusion

By integrating the argumentative theory of reasoning proposed by Mercier and Sperber (2011) within the broader context of argumentation theory – in an interdisciplinary field at the crossroad of argumentative, logic, linguistic and psychological disciplines – we proposed a preliminary tentative extension of the argumentative theory of reasoning in order to acknowledge a positive role for (some) emotions and (some) metaphors. Claiming that both these mental processes involve framing strategies is a significant step to reach this goal. Further theoretical and empirical research is required to clarify, within a unified approach, the hows and whys emotions and metaphors have a role in argumentation.

Acknowledgments

References

Angie, A., Connelly, S., Waples E., & Kligyte, V. (2011). The influence of discrete emotions on judgement and decision-making: A meta-analytic review. *Cognition and Emotion*, , 25, pp. 1393-1422.

Baumard, N., & Boyer, P. (2013). Religious Beliefs as Reflective Elaborations on Intuitions: A Modified Dual-Process Model. *Current Directions in Psychological Science*, 22, pp. 295-300.

Bartsch, R. (2002). Generating polysemy: metaphor and metonymy. In R. Dirven & R. Porings (Eds.). *Metaphor and metonymy in comparison and contrast* (pp. 49-74). Berlin-New York: Mouton de Gruyter.

Black, M. (1954). Metaphor. *Proceedings of the Aristotelian Society*, 55, pp. 273-294.

Black, M. (1962). *Models and Metaphors: Studies in Language and Philosophy*. Ithaca: Cornell University Press.

Black, M. (1993). More about Metaphors. In A. Ortony (Ed.). *Metaphor and Thought* (pp. 19-41). Cambridge: Cambridge University Press.

Carruthers, P. (2011). *The Opacity of Mind: An Integrative Theory of Self-Knowledge*. Oxford: Oxford University Press.

Carston, R. (2010). Metaphor: Ad Hoc Concepts, Literal Meaning and Mental Images. *Proceedings of the Aristotelian Society*, 110:3 (pp. 295-321).

Carston, R. (2002). *Thoughts and Utterances: The Pragmatics of Explicit Communication*. Oxford, Blackwell.

Carston, R., & Wearing, C. (2011). Metaphor, Hyperbole and Simile: A Pragmatic Approach. *Language and Cognition*, 2, pp. 283-312.

Clark, H.H. (1994). Discourse in production. In M.A. Gernsbacher (Ed.), *Handbook of psycholinguistics*. San Diego: Academic Press.

Damasio, A.R. (1994). *Descartes' Error: Emotion, Reason, and the Human Brain*. London: Penguin.

Ervas, F., Gola, E., Ledda, A., & Sergioli, G. (2012). How Do Metaphors Influence Quaternio Terminorum Comprehension?. *Paper presented at the Conference of the Italian Society of Logic and Philosophy of Science (SILFS)*, Milan, November 20-21, 2012.

Ervas, F., & Ledda, A. (2014), Metaphors in Quaternio Terminorum Comprehension?. In F. Ervas & M. Sangoi (Eds.), *Metaphor and Argumentation*, Isonomia, 5, pp. 179-202.

Evans, D. (2002). The Search Hypothesis of Emotion. *British Society for the Philosophy of Science*, 53, 2002, pp. 497-509.

Evans, J. (2008). Dual-processing accounts of reasoning, judgment and social cognition. *Annual Review of Psychology*, 2008, 59, pp. 255 – 78.

Evans, J., & Frankish, K. (2009). *In Two Minds. Dual Processes and Beyond*. Oxford: Oxford University Press.

Fletcher, L., & Carruthers, P. (2012). Metacognition and reasoning, *Philos Trans R Soc Lond B Biol Sci*, 367, pp. 1366-1378.

Frijda, N.H. (1986). *The Emotions*. Paris: Editions de la Maison des Sciences de l'Homme, Cambridge University Press.

Gola, E. (2005). *Metafora e mente meccanica. Creatività linguistica e processi cognitivi*. Cagliari: CUEC Editrice.

Kahneman, D. (2003). *A perspective on judgment and choice: Mapping bounded rationality*. American Psychologist, 58, pp. 697-720.

Kahneman, D. & Renshon, J. (2007). *Why Hawks Win*. *Foreign Policy,* January/February.

Lakoff, G. (2013). Obama Reframes Syria: Metaphor and War Revisited, Huffington Post, September, 6 (http://georgelakoff.com/2013/09/06/obama-reframes-syria-metaphor-and-war-revisited).

Lakoff, G. (2003). Metaphor and War, Again. AlterNet, March, 17 (http://www.alternet.org/story/15414/metaphor_and_war,_again).

Lakoff, G. (2002). *Moral Politics: How Liberals and Conservatives Think.* University of Chicago Press, Second edition.

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

Lakoff, G. & Turner, M. (1989). *More than a cool reason. A field guide to poetic metaphor*. Chicago-London: The University of Chicago Press.

Landemore, E., & Mercier, H. (2012) Reasoning Is for Arguing: Understanding the Successes and Failures of Deliberation. *Political Psychology*, 33, pp. 243 - 258.

LeDoux, J.E. (1996) *The Emotional Brain. The Mysterious Underpinnings of emotional Life*. New York: Simon and Schuster.

Macagno, F., & Walton, D. (2014). *Emotive language in argumentation*. Cambridge: Cambridge University Press.

MacKuen M., Wolak, J., Keele, L., & Marcus, G.E. (2010), Civic Engagements: Resolute Partisanship or Reflective Deliberation. *American Journal of Political Science*, 54, pp. 440-458.

Marcus, G.E. (2002). *The sentimental citizen. Emotion in Democratic Politics*. University Park (Pennsylvania): The Pennsylvania State University Press.

Marcus, G.E., Neuman W.R., & Mackuen, M. (2000). *Affective Intelligence and Political Judgment*. Chicago and London: The University of Chicago Press.

Marraffa, M. (2014). Emozioni e razionalità: oltre il modello «antagonistico». *Sistemi Intelligenti*, 1, pp. 149-160.

Mercier, H. (2011). What good is moral reasoning?. *Mind & Society*, 10, pp. 131-148.

Mercier, H., & Sperber, D. (2011). Why do humans reason? Arguments for an argumentative theory. *Behavioral and Brian Sciences*, 34, pp. 57-111.

Moshman, D. (2004). From inference to reasoning: The construction of rationality. *Educational Psychology Papers and Publications*, Paper 44, http://digitalcommons.unl.edu/edpsychpapers/44.

Plutchik, R. (1994). *The Psychology and Biology of Emotion*. New York: HarperCollins.

Rossi, M.G. (2013). *Il giudizio del sentimento. Emozioni, giudizi morali, natura umana*. Roma: Editori Riuniti University Press.

Rossi, M.G. (2014). Emozioni e deliberazione razionale. *Sistemi Intelligenti*, 1, pp. 161-170.

Scheffler, I. (1988). Ten Myths of Metaphor. *Journal of Aesthetic Education*, 22 (1), pp. 45–50.

Sperber, D. (1997). Intuitive and reflective beliefs. *Mind and Language*, 12, pp. 67-83.

Stanovich K., & West, R. (2000). Individual differences in reasoning: Implications for the rationality debate?. *Behavioral and Brain Sciences*, 23, pp. 645-726.

Walton, D. (2013). *Methods of argumentation*. Cambridge: Cambridge University Press.

Walton, D., & Macagno, F. (2015). The Importance and Trickiness of Definition Strategies in Legal and Political Argumentation. *Journal of Politics and Law*, 8, pp. 137-148.

Walton, D., Reed, C., & Macagno, F. (2008). Argumentation Schemes. Cambridge: Cambridge University Press.