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It is not uncommon to draw a distinction between diplomatic and inflammatory language, but there is much more that can be said about the role of language in modulating aggression. Can one promote peace by designing a suitable language? We shall explore the idea from the perspectives of three noted thinkers: Gottfried Leibniz, Ludwik Zamenhof, and George Lakoff. Leibniz invested years in attempting to invent a language that would assist its users to discover the facts bearing on the topic of discussion, hoping thereby to end otherwise interminable ideological debate. Zamenhof pursued an orthogonal approach, inventing Esperanto in the hope that it would be everyone's second language and would allow members of different nationalities to see one another as united by a shared human 'brotherhood.'¹ Lakoff is a distinguished cognitive scientist who has applied his research in linguistics to provide insightful commentary on political discourse.

We shall conclude that Leibniz's ideas, while influential in the development of logic and philosophy, are inherently incapable of achieving their intended goals. Esperanto, we shall aver, is a success by some standards but seems unlikely ever to play a major role in global politics. On the other hand, Lakoff's research casts new light on the nature of the influence that language exercises upon thought and action. Our discussion of his ideas will illuminate the difference between the controversial Sapir-Whorf hypothesis and its subtle antithesis, the Boas-Jakobson principle, allowing us to distill some sense of the potential for promoting peace by choosing to adopt appropriate language fragments.

LANGUAGE, TRUTH AND LOGIC

Leibniz (1646-1716) was a contemporary of Newton and is remembered for contributions to philosophy, logic, and mathematics (he was the co-founder of differential calculus). By profession, however, he was a diplomat, and as a person he was deeply troubled by the division of the church, which had led to enormous destruction during the Thirty Years War (1618-1648).² The papacy and the Protestants held beliefs that were in many cases mutually contradictory: both sides could not be in possession of the truth at the same time. It seemed obvious to Leibniz that if truth could be established then the basis for dissension would be eliminated, giving hope for the eventual reunification of the church. Throughout his life Leibniz searched for a new language in which the structure of the universe would be reflected (an idea we would now recognise as a precursor to the logical atomism of Wittgenstein and the early Russell). Such a language would, he hoped, facilitate the peaceful resolution of disputes:

Once this has been done, if ever further controversies should arise, there should be no more reason for disputes between two philosophers than between two calculators. All that will be necessary is that, pen in hand, they sit down together at a table and say to each other (having called, if they so please, a friend) 'let us calculate.'³

He began in 1678 by proposing to develop a *lingua universalis* based on

'an alphabet of human thoughts' such that 'from the combination of the letters of this alphabet, and from the analysis of the vocables formed by these letters, things might be discovered and judged'.⁴

Such an alphabet of human thoughts required no less than an exhaustive classification of all objects and relations; a taxonomic challenge attempted by various philosophers from Aristotle onward, and perhaps most successfully pursued by John Wilkins in his 1661 *Essay Towards a Real Character and a Philosophical Language*. But all comprehensive classifications have an arbitrary element. What is man, for example? The featherless biped of Plato? The rational animal of Leibniz? The animal who makes dogmas, as G. K. Chesterton thought? There could be only one true classification of the objects and relations constituting our reality, yet no principled way to choose between contending taxonomies was apparent.

Leibniz eventually rejected the *lingua universalis* plan because of a deep insight: the granularity of our conceptual model in any given situation depends on what is relevant for our purposes. If we are engaged with a chair in order to decide whether its design suits our decor, our conceptual model is not concerned with the chair's atomic structure, as it would have been if we had been contemplating the chair's ability to conduct electricity. As circumstances and purposes alter, the granularity of the conceptual model may need to change, which is to say that the grain-size of a conceptual model is not absolute. Or, as Leibniz put it, an alphabet of the definitive primitives of human thought cannot exist because "there could be no way to guarantee that a putatively primitive term, obtained through the process of decomposition, could not be subjected to further decomposition."⁵

His new focus became the idea of a *calculus ratiocinator*. Let us assume that agents choose the grain-size of their conceptual model according to the purposes of the moment. The conceptual model consists of a set of primitive concepts that, when represented by symbols, lead to the adoption of a specific calculus. Here a calculus may be defined loosely as a pair consisting of a language and a set of algorithms. The language is built recursively from a set of primitive terms by the rules of some grammar. The algorithms act upon expressions of the language in a syntactic way (that is, by using inference rules that depend on the shapes of symbols). The hope was now that useful truths could be discovered by "blind thought," in other words by the operation of the algorithms upon linguistic expressions which were to be manipulated purely according to their grammatical structure.⁶ The meaning of the terms would be ignored because, in the absence of a comprehensive classification, their precise meaning could not be ascertained, and anything less than their precise meaning might be misleading.

Leibniz's insights into syntax have informed our understanding of formal grammars ever since but, alas, his notion of blind thought led logicians to an obsession with tautologies that lasted more than two centuries. Tautologies are sentences that are true because of their form, not because of their meaning. Any sentence of the form 'X' or not 'X', for example, is a tautology. According to semantic information theory, a message conveys information in proportion to the possible situations it rules out. By this standard, tautologies have no information content. In other words, a process of thought that delivers a tautology delivers not a useful but a useless truth.⁷

By way of illustration, imagine that you are trying to find a friend's home in the country. Owing to the conspicuous absence of relevant signage you are feeling hopelessly lost, and the road which,

according to your best guess, should take you to your friend's welcoming hearth has gradually dwindled to little more than a muddy farm track. To your relief, you spy an old codger sitting by the roadside, smoking his pipe. "I say, old fellow," you probe, "Is this the road to Pear Tree Cottage?" He cautiously tamps down the dottle in his pipe with a horny thumb while he thinks about it, then replies: "This is the road to Pear Tree Cottage or this is not the road to Pear Tree Cottage." (Actually, he replies in the vernacular, saying "Could be, could be not." But his elliptical paraphrase is equivalent to the original tautology.) Either version of his utterance is resolutely unhelpful; and that is the sad fact about tautologies.

Since blind thought leads only to tautologies, and tautologies ultimately prove impotent to resolve disputes, is there any remaining reason to hope that language may be used as a tool serving pacific purposes? Perhaps a radical change of perspective would be helpful.

WHY DO THE NATIONS RAGE?

Leibniz began by seeking to invent a universal language, which required addressing the lack of a universal, standardized "alphabet of human thoughts" and which in turn fell victim to the incommensurable degrees of granularity of analysis in different contexts. He then sought to define the process of generating purpose-built languages which would be accompanied by syntactical engines, inferential and permutational, for deriving uninterpreted tautologous expressions; these have turned out to have zero information content. Zamenhof too wished to build a universal language, but his motives were not related to the discovery of truth; he confronted the problem of Babel: the problem of the diversity of natural languages among national, ethnic, and cultural groups. Among Western scholars and scientists in Leibniz's time Latin was the major language of publication. A hundred and fifty years later, Latin was no longer the appointed language of scholarly discourse, and political discussions were predominantly conducted in the languages of different regions.

Ludwik Zamenhof (1859-1917) grew up in Bialystok, Poland, during the period when new ideas of nationalism were encouraging many to organise according to a sense of community based on a shared language and shared culture. This brought conflict and in several cases revolution against the vested interests of landholders and aristocrats.⁸ Zamenhof attributed the invention of Esperanto to the tensions in his hometown:

In Bialystok, the population consisted of four different elements: Russians, Poles, Germans and Jews. Each of these elements spoke a separate language and had hostile relations with the other elements. In that city, more than anywhere, a sensitive person might feel the heavy sadness of the diversity of languages and become convinced at every step that it is the only, or at least the primary, force which divides the human family into enemy parts.⁹

In 1786 it had for the first time been suggested by Sir William Jones that Latin, Greek, Sanskrit, and a variety of other languages shared features which made it likely they had all developed from a common ancestral language.¹⁰ As a Russian Jew living in Poland, Zamenhof was familiar with Russian, Yiddish, Hebrew, and Polish. In addition he picked up Latin, Greek, French and German at school. It seemed quite natural to build a language based on common Indo-European roots, with a grammar made easy by regular systems of suffixes: a modern approximation of the conjectured ancestral language. Zamenhof was unfamiliar with English and so the first translation of his book on Esperanto into English was performed by "a well-meaning German volunteer, who produced choice manglings such as 'The reader will doubtless take with mistrust this opusculum in hand, deeming that he has it here to do with some unrealizable utopy'".¹¹ The language survived nevertheless and became quite popular in Germany, where the first Esperanto magazine was published in 1889. Its

survival was not without controversy: Esperanto aroused, and survived, the enmity of totalitarian dictators such as Hitler, Stalin, and Franco. In a way, this establishes the credentials of Esperanto as a language of peace, and today there is a small but determined core of support for Esperanto as the language of a united Europe.

Converts to Esperanto remain devotees not only because they feel positive about the linguistic aspects such as the regular grammar but also because they become imbued with the ideals of peace and the transcendence of national boundaries that had inspired Zamenhof. Those who do not share this idealism soon depart to take up one of the many 'improvements' that have been suggested by those whose interest is primarily linguistic.¹² True Esperantists, whose number has been estimated at anywhere between 40,000 and one million, value the '*bona etoso*' of their congresses, referring to a positive ethos or atmosphere of peace and cooperation.¹³

The ideal that Esperanto might become everyone's second language is not in itself utopian or impractical. There is clear evidence that learning Esperanto is easier than learning a real Indo-European language as a second language, presumably because of the familiarity of the word-stems and the regularity of the grammar.¹⁴ It has in fact been shown that students who learn Esperanto first subsequently learn a 'real' Indo-European language more quickly, thoroughly, and easily than students who do not first acquire Esperanto.¹⁵ Given these advantages, together with a philosophical underpinning that may sound sentimental but at least prefers peace to war, one has to wonder why Esperanto has not swept the world and remains the hobby-horse of perhaps no more than one million people. Why is it, in fact, that some people, linguists among them, are vehemently opposed to the adoption of Esperanto as a universal second language? For example, Okrent quotes a professional linguist who, responding to a question about whether Esperanto can be a native language, wrote: "I will not try to conceal my contempt for the basket cases who teach their unfortunate children Esperanto."¹⁶

It is not easy to establish what underlies this opposition to Esperanto. Generally, opponents of Esperanto claim that language is not merely a tool but is very intimately bound up with culture and a sense of community. Esperantists counter by arguing that its connection is with the "brotherhood of humanity" rather than with a more localised community. Opponents view this as an insipid alternative to their own cultural identification, and so each thrust elicits a counter-thrust. The fact is that Esperanto has a faithful body of support which is stable but not increasing in size. As a language for peace, therefore, Esperanto must be considered a partial but very limited success, adopted primarily by those who do not feel that their sense of identity binds them to their native tongue.

This invites an important question: What is the relationship between a language and a culture? Is it more than the fact that the members of that culture happen to share an effortless understanding of that language? Perhaps mastery of a language has the consequence that the language subtly influences thought, in which case it is plausible that a shared language might promote similar ways of thinking about the world. To explore these ideas we borrow insights from cognitive linguistics, developed by Feldman, Langacker, and above all George Lakoff.¹⁷ Central to our analysis will be the notion of *metaphor*; its relevance to the relationship between language and culture is that research has found cross-cultural variation in the metaphors associated with, for example, emotion concepts.¹⁸

IN A MANNER OF SPEAKING

George Lakoff (1941-) is a cognitive scientist at Berkeley who studied linguistics under Chomsky and then extended Chomsky's work by bringing logical semantics (model theory) into the study of syntactic structures. Lakoff's generative semantic gave rise to cognitive linguistics, which is now well

established as the principle alternative to Chomskyan linguistics. His perspective is orthogonal to those of Leibniz and Zamenhof, being concerned not with the invention of new languages but with the way in which existing language structures influence discourse, emotions, and the emergence of cultural norms.

A deeper look at the semantic underpinnings of language reveals that metaphor plays a crucial role.¹⁹ Many abstract concepts (for example, similarity, importance, difficulty) are understood using imagery from sensorimotor experience.²⁰ In childhood, the process of language acquisition is punctuated by episodes of conflation during which a subjective (non-sensorimotor) experience or judgment occurs together with, and undifferentiated from, a sensorimotor experience. The subjective experience of affection is, for an infant, typically conflated with the sensory experience of the warmth of being held, building associations between the two domains. Although children do learn to differentiate the two domains, the conflation leads to the acquisition of a set of primary metaphors which depend to some extent on the culture in which the child grows up. Examples of such primary metaphors based on the particular conflation mentioned above are 'affection-is-warmth' and 'intimacy-is-closeness'. From primary metaphors like these, more complex metaphors are formed by a process called conceptual blending.²¹

To illustrate, the complex metaphor 'love-is-a-journey' is formed from constituents that include the primary metaphors 'goals-are-destinations,' 'actions-are-motions,' 'intimacy-is-closeness,' and 'difficulties-are-impediments-to-motion'. The importance of a metaphor such as 'love-is-a-journey' is that it provides a frame for our thinking that invites us to reason in certain ways. Inferences about travel become legitimate inferences about love. Ancillary metaphors are suggested, involving notions familiar from our experience of travel: the relationship may be in a dead-end street, or a lover may be spinning his wheels (and getting nowhere). Much of our everyday reasoning is guided by metaphorical frames in this way rather than proceeding according to the rules of inference studied in classical logic. As an aside, this process of frame-guided inference explains a long-standing puzzle in artificial intelligence – why humans do not generate numerous irrelevant inferences whereas even the most sophisticated automated reasoning programs do.

To understand the way in which metaphorical frames guide our thinking, it is helpful first to consider a contrasting model, the Sapir-Whorf hypothesis. Whorf was a student of Edward Sapir in the 1930s, and absorbed from his mentor both an interest in Native American languages and the conviction that Einstein's principle of relativity had a parallel in the linguistic realm, a sort of relativity of concepts. Amidst the furor that surrounds this approach to language and culture, it is worth first stating the hypothesis itself:

The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face. On the contrary the world is presented in a kaleidoscopic flux of impressions which have to be organized in our minds. This means, largely, by the linguistic system in our minds.²²

As a definition this is not precise; indeed, the Sapir-Whorf hypothesis has been interpreted in various ways, in strong forms and in weak forms. In the absence of a precise formulation, we shall take into account how Whorf himself originally wielded the hypothesis. If a language lacked a word for a certain concept, then Whorf felt justified in asserting that the speakers of that language lacked the concept itself. He applied this argument, for example, to the speakers of the Native American language Hopi. Whorf claimed (wrongly) that the Hopi language contained no words that referred to time, and inferred from this that a Hopi "has no general notion or intuition of time."²³ A little thought shows the absurdity of this kind of inference. A language grows *inter alia* by assimilating words to

express concepts that the speakers have formed but are unable to express conveniently using the linguistic resources available to that point. One has only to consider the many words English has adopted from other languages. And in the case of Hopi, Whorf's premise was shown to be false by the linguist Ekkehart Malotki, who after doing extensive fieldwork wrote a book called *Hopi Time* in which evidence was provided that the Hopi routinely made quite detailed references to time, and that the language possessed verbs with both tense and aspect.²⁴

To judge by Whorf's own practice, the Sapir-Whorf hypothesis thus considered each language to be effectively a prison-house confining the society speaking that language to a particular world-view. As evidence accrued to show that this was too extreme, a subtly antithetical hypothesis began to gain credence, and the carrot in effect was substituted for the stick. The Boas-Jakobson principle replaces the idea that an human agent is incapable of thinking outside the limits imposed by language by the notion that language facilitates or encourages some thoughts by making certain concepts accessible.²⁵ Thus a language offers affordances in much the way that a door designed to open toward you will offer a handle to grasp for pulling, while a door designed to open away from you might offer a flat pushing surface. The human agent is capable of both pulling and pushing, but the face of the door may lend itself to one of these actions more readily than the other.

To get a clear sense of the Boas-Jakobson principle, consider how a language's anaphoric rules sometimes call attention to particular aspects of the referent. For example, in English we usually choose between the pronouns 'he' or 'she' on the basis of real-world knowledge about the sex of the referents. In the case of an animal, English speakers would usually say 'it' unless there was some reason to stress the biological sex of a particular animal. However, speakers of languages like Italian, Spanish, and German must choose the appropriate pronoun based not on real-world knowledge of the biological sex of the referents but on syntactic considerations. An Italian speaking of a 'seal' (*la foca*, feminine gender) would be obliged to use *essa* ('she') as pronoun. Such forced references to gender have a subtle influence on our thinking about the objects. Experiments have shown that while perception is relatively immune to language, memory is not. For example, a comparison of German and Spanish speakers revealed that the different genders associated with the word for 'bridge' (*die Brücke* is feminine whereas *el puente* is masculine) affected the ability of speakers to commit information to memory: Spanish speakers found it easier to remember a masculine name such as Claudio when associated with 'bridge' than to remember a feminine name such as Claudia.²⁶

We may summarise the Boas-Jakobson principle as follows: each language affords the user with a supply of schemata by which the user may order nonlinguistic experiences. A schema (or, in Lakoff's terms, a frame) can be thought of as a set of directions that tell us "where and when to look for information, what to expect to find, what to assume when a specific piece of information is missing (default values), and how and why to make inferences from the information one receives."²⁷

What mechanism underlies the Boas-Jakobson principle? The contribution of Lakoff and other cognitive scientists has been to identify the important role played by metaphor in linking language elements to schemata (frames). By 'metaphor' we do not mean mere flowery language. Metaphor is about the way we use the concrete to get a grasp of the abstract. Primary metaphors are embodied, in other words they are based on everyday experiences: the concept of achieving a purpose (such as getting a beer, to use one of Lakoff's favourite examples) is correlated with the experience of reaching a destination (such as going to the fridge). The result is a cross-domain mapping that allows expectations and processes honed for one domain to be applied in the other (our concrete experiences of journeys applied to the abstract notion of achieving purposes, for example). The metaphors characteristic of a culture offer affordances making it easier to think in certain ways and thus allow for the emergence of a cultural worldview linked to the shared language.

Let us now relate the metaphoric structure to the role of language in promoting peace. Generally, there are several metaphors available by which to describe a situation. The choice of metaphor channels ('frames') subsequent thinking along directions compatible with the metaphor, not coercively but seductively, by drawing attention to features of the primary experience or to ancillary metaphors. We trace the manner in which this occurs by turning to a talk at Berkeley that Lakoff gave in January 1991, immediately prior to the First Gulf War.²⁸

THE RHETORIC OF WAR

In his analysis of contemporary political rhetoric, Lakoff found that the following metaphors were being used.²⁹ General Schwarzkopf had called the occupation of Kuwait by Iraq an "ongoing rape." President George H. W. Bush had said that the USA needed to be in the Gulf to protect the innocent, and that: "We have to get Saddam out of Kuwait." Lakoff explains that the complex metaphor being exploited by both was that of the 'heroic-rescue' scenario. The 'heroic-rescue' metaphor invites us to think of Iraq as a villain, and is aided by the 'state-as-person' metaphor which allows us to refer to Iraq by referring to the single person Saddam Hussein. It is natural to punish a villain, and the illusion is created that by bombing Iraq we would be punishing the truly guilty Saddam, not the thousands of innocent men, women and children who in fact suffered when triggers were pulled. The 'heroic-rescue' metaphor invites us to see the USA as a hero, and consequently every US soldier as a hero. In terms of recruitment, this metaphor is effective because it resonates with every decent citizen's willingness to leap heroically to the rescue of innocents. Furthermore the metaphor characterises Kuwait as an innocent victim, subject to brutal rape.

The repeated employment of the 'heroic-rescue' metaphor made it difficult for listeners to resist the conclusion that the morally correct thing to do was for the USA to go to war with Iraq. But none of us are obliged to accept the metaphorical framing put forward by others. Indeed, critical thinking should involve a careful examination of the matching between roles and players that each metaphor requires. For example, was Kuwait an innocent victim? From the perspective of an Iraqi, the metaphorical framing would likely involve the metaphor 'Arabs-are-brothers.' In the frame supported by this metaphor, Iraq had previously waged a long and costly war against Iran partly on behalf of Saudi Arabia and Kuwait. Kuwait had in fact agreed to help finance that war, but after the war insisted on repayment of what they described as a loan. To add salt to the wound of this unbrotherly betrayal, the Kuwaitis had drilled laterally into Iraq's share of the Rumailah oil field. To an Iraqi eye, Kuwait did not at all resemble the innocent victim of Bush's metaphor but rather a rambunctious younger brother in need of a lesson.³⁰

In addition to the 'heroic-rescue' scenario, there were other metaphors systematically put forward by supporters of the war. Lakoff explains that the so-called Clausewitz metaphor combines two metaphorical frames: 'war-is-politics' with 'politics-is-business.'³¹ The acceptance of this conflation makes war a matter of cost-benefit analysis, and indeed *The New York Times* on its front page of 12 November 1990 put the question: "What then is the nation's political object in the gulf and what level of sacrifice is it worth?" The debate that was reported was limited to how various analysts computed gains and losses; no voice was raised against the employment of the Clausewitz metaphor in the first place. Notice that the Clausewitz metaphor invites us to translate all aspects of the war into dollar terms, even lives, and distances us from moral considerations such as the deaths of non-combatants. We can extend Lakoff's analysis to show that the Clausewitz metaphor also fits seamlessly alongside the prevailing economic metaphor of Western society, namely that 'rationality-is-acting-in-one's-own-self-interest.' Combining these with the 'state-as-person' metaphor invites us to

infer that nations naturally seek their own self-interest and may legitimately use military force in the service of their self-interest. One assumes that Attila the Hun and Genghis Khan would have agreed.

TOWARDS A RHETORIC OF PEACE

In this context, what are the prospects of making language a tool for peace instead of war? At first glance; not good. Leibniz's quest for languages that reveal the truth foundered because it is contingent truths that are relevant, not tautologies, and contingent truths call for real-world knowledge which is typically limited and disputed. Also, Zamenhof's goal of providing a language of shared human 'brotherhood' remains largely unrealised, perhaps because identification with an amorphous global collective is for most people less compelling than identifying with a more localised and structured community. Still, a more subtle understanding and utilisation of the metaphoric structure of our ordinary languages may prove a potent tool for pacifists (as it has for militarists).³²

How should democratic debate effectively seek to oppose an impending war such as that contemplated by the USA at the time Lakoff gave his analysis? The key would seem to be that each metaphorical frame used by proponents of the war should be shown to be inaccurate in its apportioning of roles and that an alternative metaphor should be promoted by opponents of the war. For example, instead of accepting the 'heroic-rescue' metaphor, opponents of war could use the 'war-is-crime' metaphor to focus attention on the moral dimension and the suffering of the victims of soldiers' actions. In this frame, soldiers play the role of murderers, which neither entices recruits nor invites support in terms of votes. Provided the media give sufficient time to all parties, there is fair opportunity for opposition parties to articulate their own metaphors and swing debate in their direction, as long as those concerned know how metaphors lure thought in particular directions.

Dare one hope that metaphorical analysis can provide a counterweight to the rhetoric of war? Perhaps the most important reason for believing it can is that the Clausewitz metaphor is commonly taken by political commentators to be *literally* true. Raising awareness that we are dealing with metaphors instead of literal truths appears to be one ingredient of the solution, while proffering alternative metaphors of a suitably pacific tenor would seem to be another. One anticipates that a list of standard rhetorical tricks used by 'hawks' can be drawn up and a contrasting list of metaphors to be used by 'doves' could be developed. And in fact, a recent publication by Lakoff makes a start, analysing the metaphorical basis of concepts such as tax relief and offering countervailing frames of protection and empowerment, paid for by taxes.³³

LANGUAGE AS TOOL

Our discussion has looked at language and ultimately at the metaphoric structure of language. It is natural to wonder about the fundamental nature of language. The philosophical fashion during the past century has been to consider language all-encompassing and all-important. An extreme expression of this belief is Derrida's famous claim '*Il n'y a pas de hors-texte*' (There is nothing outside of the text), although it must be mentioned that Derrida subsequently qualified his use of "text" to such a degree that it loses some of its customary meaning.³⁴

Cognitive linguistics casts doubt on this notion of language as all-encompassing. After all, the metaphors which structure language are embodied, grounded in imagery and representations – often sub- and pre-linguistic – deriving from sensorimotor experience. There is indeed a horse outside the text, if we may be permitted the amiable pun. The moment we lift our gaze from the narrow issue of language use in political contexts to consider more generally what it is that frames

our thinking, we see that the linguistic turn in philosophy offers us a barren field in which to dig for answers. A philosophy that takes full account of embodiment is needed. The development of such an *embodied realism* has commenced. As one might expect, Lakoff has produced a seminal work as a foundation for such development.³⁵ Buttrressing this approach is the suggestion by Paul Churchland in his article “Into the brain: where philosophy should go from here.”³⁶ So far, says Churchland, our philosophical theorizing has been steered by many factors:

But they have not included even the feeblest conception of how the biological brain embodies information about the world, or of how it processes that information so as to steer its biological body through a complex physical and social environment.³⁷

The crucial effect of emphasising embodiment is that it allows us to see language as a tool and not a master. In the specific context of war and peace, political doves are not helpless victims of cruel rhetoric but can fit language to their own intentions and purposes. All it takes is an understanding of the role played by metaphor and a willingness to devise suitable alternative metaphors with which to counter the rhetoric of hawks.

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- 5 Eco, *The Search for the Perfect Language*, 277.
- 6 Eco, *The Search for the Perfect Language*, 276.
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- 8 See Encyclopaedia Britannica, “Nationalism,” available at <http://www.britannica.com/EBchecked/topic/405644/nationalism>; wikipedia “Rise of nationalism in Europe”, available at http://en.wikipedia.org/wiki/Rise_of_nationalism_in_Europe. Accessed 27 July 2011.
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- 21 Gilles Fauconnier and Mark Turner, *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*, (New York: Basic Books, 2002).
- 22 Benjamin Whorf, “Science and linguistics,” *Technology Review* 42:229-231 (1940). Reprinted in *Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf* John Carroll ed, (Cambridge MA: MIT Press, 1956), 247-248.
- 23 Carroll, *Language, Thought, and Reality*, 57.
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- 25 Deutscher, *Through The Language Glass*, 151.
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- 29 George Lakoff, "Metaphor and War."
- 30 George Lakoff, "Metaphor and War: The Metaphor System Used to Justify War in the Gulf" (part two of two), http://www2.iath.virginia.edu/sixties/HTML_docs/Texts/Scholarly/Lakoff_Gulf_Metaphor_2.html. Accessed 12 January 2011.
- 31 Lakoff writes: "Karl von Clausewitz was a Prussian general whose views on war became dominant in American foreign policy circles during the Vietnam War, when they were seen as a way to rationally limit the use of war as an instrument of foreign policy. Clausewitz is most commonly presented as seeing war in terms of political cost-benefit analysis: Each nation-state has political objectives, and war may best serve those objectives. The political "gains" are to be weighed against acceptable "costs." When the costs of war exceed the political gains, the war should cease." George Lakoff, "Metaphor and War." Lakoff explains that during the First Gulf War, General Colin Powell gave testimony before Congress in which he explained the views of the Prussian general: war is politics carried out by other means.
- 32 We are obliged to an anonymous reviewer for this felicitous formulation.
- 33 George Lakoff, *The Political Mind*, (NY: Penguin, 2009).
- 34 Jacques Derrida (trans. GC Spivak), *Of Grammatology* (Baltimore: Johns Hopkins University Press, 1976). Jacques Derrida and Maurizio Ferraris, *A Taste for the Secret*, (Cambridge: Polity Press/Blackwell, 2001), 76: "The notion of trace or text is introduced to mark the linguistic turn. This is one more reason why I prefer to speak of 'mark' rather than of language. In the first place the mark is not anthropological; it is prelinguistic; it is the possibility of language, and it is everywhere there is a relation to another thing or relation to an other. For such relations, the mark has no need of language." For more on this discussion please see our article: Willem Labuschagne and Johannes Heidema "Hintikka's Alternatives" *Junctures* 6, (June 2006: 35-43).
- 35 Lakoff and Johnson, *Philosophy in the Flesh*.
- 36 Paul M Churchland, "Into the brain: where philosophy should go from here", *Topoi* (25, 2006): 29-32.
- 37 Churchland, "Into the brain," 29.