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**METAPHOR AND EMBODIMENT:
NEW PERSPECTIVES ON COGNITION AND
MEANING**

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Every legal system and every moral code is based on a set of assumptions about what people are, have, or do. And, I might add, significant changes in law or morality are preceded by a reordering of how such metaphors are employed.

Our language habits are at the core of how we imagine the world. Metaphor provides access to a discipline's assumptions about the way the world is structured.

Postman, *The end of education, redefining the value of school*. (Vintage. Random House, 1996, p. 176).

Introduction

The demise of the objectivist paradigm of knowledge, new embodiment theories of metaphor and empirical research concerning metaphor comprehension in a wide variety of disciplines, have brought about changes in the understanding of the nature of knowledge, reference, truth, meaning, reality, and the relationship of language to the world. These theories have also provided new incentives to articulate views of embodiment that can do justice to both the multiplicity of meanings generated and discovered through metaphor and the multi-vocality and multi-facetedness of the possible worlds to which metaphors refer. As the result of these and other developments, so called non-epistemic factors such as socio-cultural, religious, metaphysical, and ideological, formerly regarded as epistemically out of bounds in the realm of science, are now seen as constitutive of conceptual meaning, cognition and conceptual changes in both ordinary experience and theoretical endeavours. The Postman quote at the beginning of this article points to the pivotal role that the analysis of metaphor can play in a transcendental critique.

Discussions of metaphor inevitably lead to a labyrinthine trail of often-unresolved issues in a vast interdisciplinary terrain. The discussions of these issues display similar characteristics to the phenomenon they are trying to grasp: wide-ranging, multivocal, and hard to pin down. The complex discussions fan out over a wide-ranging area from traditional rhetoric and literature studies to cognitive linguistics, cognitive psychology, cognitive science, religion, and

theology. A highly theoretical vocabulary has developed which addresses issues starting from the conventional, ordinary language distinctions between literal and metaphorical language and meaning to detailed empirical analyses of meaning transfer, cross-domain mapping, conceptual blending, knowledge acquisition, and ontological issues. Even though many of these discussions constitute unique discourses with their own technical vocabulary they have common themes which include the relationship between objectivism and relativism, the mind-body polarity, alternative views concerning cognition, reference and language, meaning, interpretation, reality, and truth. Theories about the pivotal role of metaphor in these domains abound, as do diverse accounts of how metaphorical mappings and analogical meaning transfer take place on the level of perception, concept formation, conceptual integration, language, communication, cognitive processes in general and scientific cognition specifically. All of these accounts address first, the mediating, hermeneutical, and semiotic function of metaphor and second the way metaphorical meaning is generated, conditioned, and constrained.

Many have attempted to give an account of the nature of analogical information processing within metaphors and metaphorical meaning transformation across diverse contextual and semantic domains. Hesse (1988a, pp. 317-340), Rothbart (1988, pp. 377-399), Johnson (1987), Lakoff and Johnson (1999), Kittay (1987), MacCormac (1985), Kövecses (2002; 2005) et al. have recently provided us with theories which have supplemented, modified, accommodated, and clarified existing accounts of analogical understanding, and the mechanisms of meaning shift which take place when concepts are “displaced” (Schön, 1963) through changes in theory. Overall, these accounts are related to and dependent upon general metaphor theories of which so many are in circulation that various classifications have already been made. Significant new avenues of exploration are the so-called embodiment-, domain-, and mental space theories. Lakoff, Johnson, and Rohrer et al.’s introduction of embodiment and image schemata as the basis of cognition accommodates factors previously regarded as “subjective” or “non-epistemic” in the act (interaction or enactment) of cognition. Their recognition of diverse but related domains of experience present in the embodied cognitive act also opens up new avenues for the exploration of the constitutive role of religious convictions within scientific cognition.

Argument

The main line of the argument is as follows. First, the double language thesis, with its rigid delineation of literal and metaphorical language, needs to be replaced by the thesis that metaphorical and literal meaning is relative and contextually determined and that all language (both literal and metaphorical) is categorical. Second, contrary to traditional views of metaphor, which ascribe emotional, aesthetic or deviant roles to

metaphors, metaphors actually do refer to and depict reality and therefore do have cognitive import. Third, embodiment theories of metaphor which allow for the recognition of the role of non-epistemic factors in theorizing, open avenues for the serious consideration of the presence and role of fiduciary factors in scientific cognition. Fourth, the implementation of metaphorical hermeneutics will show that metaphor and its underlying analogical structure are significant keys to the understanding of the metaphorical stratification of reality and the analogical nature of scientific cognition. Fifth, in order to show how religious beliefs function constitutively in theories, a revised notion of “religious beliefs” is required. Finally, the analysis of the role of root-metaphors and the presence and function of fiduciary moments interacting between semantic fields of metaphors are indicators of the control beliefs at work in theories.

Metaphor: A dubious legacy?

The classical view of metaphor is that of Aristotle who distinguished between “proper” and “improper” naming derived from the theory of natural kinds and essences. (Hesse, 1983, pp. 29-30) A metaphor is a word borrowed from an alien context; its use is therefore deviant. This view gave rise to what Johnson (1981) calls a “triad of half truths”: that metaphoric transfer is located at the level of words, that metaphor is understood as deviance from literal usage and that it is based on the similarities between things. A definition of metaphor is: understanding, describing, interpreting some unfamiliar situation, event, act or thing in terms of a more familiar situation, event, act or thing. More simply; a metaphor interprets one thing in terms of another. Different theories attempt to provide an account of the nature of the transfer of meaning that takes place in metaphors. Reductionist theories (comparison and substitution theories) ultimately reduce metaphorical meaning to literal meaning. This view of metaphor and literal language became part and parcel of the “objectivist view of meaning” described by Johnson. “Rationality is ‘disembodied’ in the sense that it consists of pure abstract logical relations and operations which are independent of subjective processes and sensorimotor experiences in the bodily organism.” (1989, p. 110)

Scientific language would therefore predominantly be literal and objective.

One of the first challenges to the dominant positivist view of language was I.A. Richards’ (1936) *The Philosophy of Rhetoric*. He challenged the dominant tradition on three counts. First, metaphor is not only a matter of language, but also an omnipresent principle of thought. Second, metaphor is not only deviance from ordinary speech, it actually permeates all discourse. Third, the way metaphors work are that two thoughts of different things are “active together” and supported by a single word or phrase whose meaning is resultant of their interaction. Because scholars have missed the first two points, they

have taken metaphor to be a cosmetic or rhetorical device or stylistic ornament. Max Black's (1962; 1977; 1979) essays on metaphor further developed the basic tenets of Richard's position. Simultaneously with the demise of the objectivist paradigm of knowledge the research of Lakoff, Johnson, Turner et al. (1981; 1988; 1989) proposed the existence of "conceptual metaphors" and anchored metaphorical meaning in embodiment.

New views of metaphor

All these developments gave rise to some new insights into the nature and functioning of metaphors, which are listed briefly:

- Metaphor is ubiquitous, pervasive, polyvalent, and expresses an understanding of one thing in terms of another. Metaphors are incongruous, if taken literally. The distinction between literal and metaphorical is not an absolute distinction, but a relative one and moreover it is contextually determined
- Metaphors come to expression in thought: thinking about something "as if. . ." it is something else. They come to expression in language: concepts, words, sentences, texts. They express our deepest religious insights: Myths, worldviews, religious systems, root-metaphors, (Pepper, 1942; 1970) and world hypotheses. They permeate Biblical language: God is a shepherd, judge, father, redeemer; the church is the body of Christ. Metaphors are experiential, present in all dimensions of life such as art and literature, prose and poetry, religion, myth, and worldviews and in thought, language, and cognition. Metaphors form the bases of many philosophical systems and theories in both the social and the natural sciences and often form basis of models in science (machine, system, organism, circulation). We cannot make meaningful statements without the use of metaphor; metaphorical meaning is unique and cannot be substituted with literal meaning. Metaphors convey meaning and have cognitive weight (is true, actually refers to and depicts reality). Metaphors are not merely a comparison of the characteristics of two things being compared but always creates new, imaginative meaning which cannot be reduced to the semantic fields of the two poles of the metaphor. Not all metaphors have two poles. Creative and imaginative metaphors reveal not-yet-discovered realities.
- Metaphors are based on analogies (similarities and differences) which in turn presuppose the existence of kinds, categories and classifications- the same categorizations that "literal" language is based on.

These new embodiment theories of metaphor and empirical research concerning metaphor comprehension, in a wide variety of disciplines, have brought about changes in the understanding of the nature of knowledge, reference, truth, meaning, reality, and the relationship of

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language to the world. These theories have also provided new incentives to articulate views of embodiment that can do justice to both the multiplicity of meanings generated and discovered through metaphor and the multi-vocality and multi-facetedness of the possible worlds to which metaphors refer. As the result of these and other developments, so called non-epistemic factors such as socio-cultural, religious, metaphysical, and ideological, formerly regarded as epistemically “out of bounds” in the realm of science, are now seen as constitutive of conceptual meaning, cognition, and conceptual changes in both ordinary experience and theoretical endeavours.

The body of our knowledge and the knowledge of our body

Traditional understandings of the double language thesis (the distinction between “literal” and “metaphorical” language) with its moorings in the objectivist paradigm of cognition and the representational-computational view of mind are being challenged and redirected by the introduction of these new notions of embodiment. This has forced scholars to revise theories of metaphor to accommodate the questions raised by embodiment theorists from both empirical and philosophical angles. Weighty evidence in recent empirical research in cognitive semantics and cognitive linguistics demonstrate that metaphors are more than mere lingual phenomena and are based in “experiential gestalts” expressing embodied human understanding and empathetic interaction. This has led to postulating different positions concerning the nature of embodiment, truth, cognition, and reference. Lakoff and Johnson (1980; 1999) and Johnson (1991) and others have proposed the notion of “conceptual metaphor.” Sweetser (1990) and Brandt (2000) in turn have worked in “domain theory” and Fauconnier (1994) has proposed the theory of “mental spaces.”

I build critically on these insights by introducing a new angle on current discussions concerning conceptual metaphor and its basis in human embodiment. Can the multiplicity of possible meanings, which metaphors generate, be grounded in the human mind, the body or in the nature of the world? The most fertile and productive line of argument localizes metaphor in the embodied inter-acting human being, creating, discovering and opening up new meanings in this process. A view of embodiment is presented which grounds conceptual metaphors and the wide spectrum of possible meanings and possible worlds, which they convey in the ineradicably relational nature of human embodiment. This includes at least the following four levels: The relationship of the whole human being to herself, to others, to the environment, culture, and history and to that which is regarded as ultimate, god, spiritual, God, etc.

This project follows an interdisciplinary approach, drawing from recent developments in a diversity of academic fields. It also attempts to reformulate and refocus the traditional discussions of the relationship

of science and religion in light of new understandings of both metaphor and embodiment. The project explores the significance and impact of these embodiment theories of metaphor on some traditional formulations of the relationship between science and religion and introduces a methodology based on the distinction of a number of universal domains of meaning discernable in human embodied experience, cognition, and reality.

Faith constitutive of theorizing

Arguments, which claim that faith intrinsically influences scientific theorizing, often neglect to show how this is true. Proponents of this position often argue that it might be possible to demonstrate this claim in the social sciences and humanities, but that it is impossible in the realm of natural science. It is also often argued that such influence might be demonstrated in historical periods when both culture and science were strongly influenced by religion, such as medieval times and the seventeenth century, but that the demonstration of the claim is impossible in highly secularized periods when the influence of religion is not as apparent. I propose that religious convictions actually do influence both social and natural sciences and that religious factors are at work in scientific theorizing even in apparently secular settings. In order to demonstrate this, a redefinition of the term “religious” is argued for, the classical double language thesis (the traditional distinction between “literal and metaphorical” language) is critically assessed and a methodology of metaphorical hermeneutics is introduced. I work with a reformulation of the notion of religious beliefs as proposed by Clouser. (1991, chapter 2; 2005) The significance of this reformulation is that religious beliefs are not necessarily related to gods/God, worship, liturgy, moral and ethical practices, but to that which is regarded as divine and therefore non-dependent. This notion of “religious” provides a significant basis for distinguishing between the deeply religious function of root-metaphors on the one hand and the subsidiary, tacit, (Polanyi, 1974) fiduciary role of some controlling (analogical) beliefs in science on the other hand. The methodology shows metaphor and its underlying analogical structure to be a significant key to the understanding of the “metaphorical” nature of both reality and cognition. It acknowledges the embodied nature of human understanding, proposes the distinction of a number of universal domains of meaning, and facilitates the understanding of the mediating function of metaphor between deeply held metaphysical beliefs and theorizing. This shows that the restriction of metaphorical meaning to primarily a linguistic notion is inadequate and requires deepening and expansion.

The still controversial claims that “all language is metaphorical” and that metaphors have cognitive content, forms the basis for the argument that metaphorical and analogical language mediates between religiously determined views of reality and the actual theories based on

such metaphors. The groundbreaking work of Kuhn with its recognition of the role of paradigms, metaphors and analogies in science, has been appropriated by some scholars in defense of claims that one's worldview, and more specifically theoretical view of reality, is the vehicle, which conveys religious assumptions into theoretical work. Although I doubt whether Kuhn's views actually substantiate the latter claim, I believe there is merit in pursuing his proposals in order to trace the constitutive role of metaphor and analogy in theorizing. But more is required in order to show that religious convictions are constitutive of theorizing. Both pre-theoretical and theoretical worldviews are often deeply rooted in root-metaphors of a religious nature, which permeate theories in constitutive and decisive ways.

The changes in the understanding of the nature of language and specifically metaphorical language have also had significant consequences for the interpretation of religious language and more specifically religious metaphors and the way one views the influence or presence of religious convictions in scientific theorizing. Moreover, in some of the primary literature on metaphor the issue of "spirituality" surfaces and is appealed to as a basis for embodied metaphorical meaning. These proposals need serious and critical attention and the consequences of the arguments presented for the notions of scientific realism and spirituality require further exploration.

Metaphorical meaning: An infinite regress?

Arguing against the double language thesis and for the thesis that "all language is metaphorical" poses a number of problems, the most significant being the question whether the lack of a literal base does not give rise to the spectre of an infinite regress of meaning. It also implicitly harbours the question concerning the relationships between analogy and metaphor. I show that metaphor needs to be distinguished from proper analogy and that literality is as much a problem as metaphoricity because literality is as much dependent upon classification and categorization of reality as is metaphorical language. (Hesse, 1983, p. 40) Having said this, the classical problems related to metaphoricity and literality are not resolved, but moved to a different level. In this work, I argue for the recognition of the contextual qualification of the distinction between literal and metaphorical language and literal and metaphorical meaning is relative and does not necessarily require a two-tier view of cognition or reality. I maintain that the possibility of stable meaning and communication is guaranteed through a new understanding of proper analogy.

Perhaps the most significant findings with respect to metaphor have been that both literal and metaphorical language ultimately related to that which is regarded as the acceptable, conventional classification or categorization of the pre-conceptual and experiential structures of reality at a specific historical point in time. Metaphor brings about the expansion and changes in such classifications and categorizations of

reality. This holds for conceptual displacements in everyday language, meaning shifts in theoretical language and certainly also in changes of understanding concerning the nature of God and His revelation.

The literal-metaphorical distinction needs to be replaced by a distinction between non-analogical and analogical meaning of domains and concepts. The non-analogical meaning is the original, primary, “home base” or domain meaning that is characterized by a unique meaning nucleus. This is the way in which one of the multiplicities of original, irreducible semantic domains of reality presents itself. The intriguing characteristic of non-analogical domains is the fact that they harbour the full gamut of potential references to the wide spectrum of meaning of our multi-ordinally (Korzybski, 1933) structured world. When concepts are formed the meaning of these non-analogical concepts are expressed in a vast array of analogical moments which relate this original, non-analogical primary, primitive, univocal meaning to other semantic domains. Once a concept from such an original source domain is utilized in any other domain, it acquires a qualification, which indicates its analogical use. The history of the differentiation of scientific disciplines rests on the process of exploring and opening up these analogical elements of original, irreducible domains of reality. (Stafleu, 1978; 1979)

The fiduciary dimension and “control beliefs”

The fiduciary, also called certitudinal or confessional, dimension of reality constitutes one such non-analogical or original semantic domain characterized by the nucleus of “trust.” All entities in reality (facts, things, events, acts, and relationships) passively or actively participate or function in this domain; so do theories and models. In any theory attempting to understand reality, there are always a number of assumptions or presuppositions which are accepted on face value and which act in a fiduciary manner, without being questioned. In the conceptual frameworks of such theories concepts are utilized which acquire a meaning from some original domain, e.g. force as a physical phenomenon. When the meaning of the term is unpacked, it becomes clear that it is imbued with a specific conceptual connotation. A good illustration is Hesse’s (1988a, p. 120) comparison between the difference in meaning of the concept “negative charge” in 19th century atomism and electromagnetic theory. The difference in emphasis on a specific analogical moment in each one of these two theories plays a significant role in the differences of meaning of the concepts utilized in the respective theories. Ultimately, the decisive fiduciary role played by such an analogical moment ought to be taken into account when attempting to understand the basic difference between these two theories.

Amongst these analogical moments that are present in theoretical language, there is often a decisive, regulating, and controlling analogy constitutive of the metaphorically constituted theory terms. The

controlling analogy within a theory or model based on a metaphor often functions as the fiduciary component of a theory. These reflections first highlight our assumption that a fiduciary component is a significant domain of embodied human existence, cognition, and theorizing. Therefore, it is constitutive of all acts of knowing that are obviously always embodied. These distinctions warrant the introduction of a clear demarcation between metaphor and analogy.

Metaphors and analogies

Metaphors are usually used in specific references and refer to entities. Metaphors can be replaced by other metaphors. Yet, there are some metaphors which refer to some deeper ontological coherence of the diversity of reality and are therefore of a different kind. They cannot easily be replaced by other metaphors. Such metaphors are original, primitive, or non-analogical. Hart (1984, p. 156) calls these metaphors, which express analogical relationships between aspects or facets of reality, modal. Modal in this sense should be differentiated from notions of “modality” used elsewhere in philosophy, logic, and metaphor theory. Modal refers to aspects or facets of reality or to diverse ways in which reality functions. These proper analogies, ontological metaphors or unavoidable analogical structures play a significant role in the process of uncovering the unavoidable analogical moments that are pregnant expressions of the coherence and interrelatedness of original and irreducible domains in reality. This becomes apparent in the way metaphorical modeling functions in theorizing. Metaphors mediate access to these ontic analogies through the process of analogical concept formation. These concepts are closely related to the basic metaphor or root-metaphor operating in a discipline or theoretical perspective.

Metaphorical language and cognition reflects the intrinsically “metaphorical” nature of the embodied human experiential and conceptual system and also correlates with the metaphorical stratification of reality. The methodology of metaphorical hermeneutics shows that metaphor and its underlying analogical structure are significant keys to the understanding of the metaphorical nature of reality and cognition. The changes in the understanding of the nature of language and specifically metaphorical language also have significant consequences for the interpretation of religious language.

For the Christian scholar all of this raises a number of questions: How does the metaphorical nature of religious and Biblical language relate to the metaphorical nature of everyday and theoretical language and how do they both in turn relate to growing insights into the metaphorical/analogical structure of the world we live in? In which ways does Biblical metaphorical language and religious language in general distinguish itself from metaphorical language used elsewhere in a diversity of fields? Does Scripture harbour central or root metaphors or a hierarchy of such metaphors that regulate the itineraries of

meaning (Ricoeur, 1980) of the full story line of Scripture and therefore dictate the reading and interpretation of the diverse texts that constitutes it? Which candidates are the most likely and most Biblically responsible root construals of the central reality of Christianity?

Biblical language and religious language is intrinsically certitudinal and confessional in nature and relates to the concrete, experiential relationship of the community of faith. One dimension of the life of the community of faith is scholarly and academic activities. When seeking justice-in-shalom in this dimension of life, the scholar is called to work out the claims of her religious allegiance in the area of theorizing. It requires at least an exploration of the relationship of theoretical and other root-metaphors to the overall itinerary of meaning in the overarching Biblical story.

Embodiment and the grammar of creation (Steiner, 2001): Real certitudinal anchors

Earlier I argued that the methodology of metaphorical hermeneutics assumes an analogical structure to the world, human experience, and cognition. In the final instance, the central question raised in the title of my essay deals with tracing the consequences of this ontology, for the realism debate and the debate concerning the role of religious convictions in science. The recognition of original and irreducible analogical domains of reality approximated by metaphorical language and models holds promise for the resolution of the interminable double-language thesis debate. This approach claims that metaphorical thought, images, language, and models are able to access this structure of the world and that they mediate discovery and the opening up of the complex interrelated spheres of meaning of reality. This structure constitutes the “moorings” of metaphorical meaning and reference. It is a realist position - but a qualified realism. Such a claim will no doubt be disputed by many involved in the realism - anti-realism debates, mainly because in the philosophical discussions realism is defined in diverse ways. (Delaney, 1985) Whether a realist understanding of theoretical knowledge and the cognitive role of metaphor qualifies as a foundationalist approach is open to discussion. This is an important issue, but not one that I shall address here.

Post-modernism questions any essentialist or foundationalist claims of knowledge and suspends the possibility of accessing reality outside of the interplay of texts and writing. The double-language view in which literal and metaphorical language is differentiated and juxtaposed often seeks the grounding or mooring of the meaning of the metaphorical concepts in some bedrock of literal meaning. Pan-metaphoricism on the other hand, argues that which is expressed can only be expressed metaphorically or is only accessible via metaphor. In general, these positions do not necessarily address the grounding or mooring of metaphors, nor do they necessarily have explicit positions on the cognitive status of metaphorical devices. Whether these

metaphors have cognitive import, actually refer to states of affairs in reality, and are constrained by the structure for reality, remains the contentious issue. The critical background issue in this debate is what Bernstein calls the “Cartesian anxiety” (1983, pp. 18-19) which he identifies as the root or basis of the subjectivism-objectivism debate. He says:

The primary reason why the agon between objectivists and relativists has become so intense today is the growing apprehension that there may be nothing—not God, reason, philosophy, science, or poetry—that answers to and satisfies our longing for ultimate constraints, for a stable and reliable rock upon which we can secure our thought and action.

Foundationalism and its critics have developed a wide arsenal of responses to this quest—responses that each have a different answer to the question of the mooring or anchoring of metaphorical meaning. Answers range from reductionist positions that anchor metaphorical meaning in literal language to positions that seek the moorings of metaphorical meaning in social conventions and constructivist positions. Anti-realist positions often anchor meaning in some dimension of the subjective world, whereas realists argue that there is an objective and independent world out there, which can be accessed. The realism espoused in this work argues for the real existence of conditions or structures for human existence, experience, and reality. These structures do not only condition cognition but also condition the empirical existence of all entities and dimensions of reality.

Realism in everyday use of metaphor and scientific realism associated with the implementation of theory constitutive metaphors in scientific theorizing have points of contact but are also vastly different. The difference in the cognitive import of metaphor is related to the widely divergent contexts in which they function. What is common to both everyday usage of metaphors and its use in science is the fact that it rests on human embodiment in the senses discussed earlier. Even more fundamental is the fact that human relational embodiment in turn is anchored in the “deeper grammar” of reality.

Both Bernstein (1983) and Slingerland (2004) grapple with the nature of this stable and reliable foundation or common core of human existence. Slingerland comes to the conclusion that there is a position between Enlightenment realism and post-modern anti-realism (2004, pp. 1-31) and argues for an “. . . embodied realism in which the commonalities of human bodily experience can serve as a basis for cross-cultural commensurability . . .”(2004, p. 1) When demonstrating the commonalities between Confucian and Western theories of morality Slingerland (2004, p. 16) states that “both these theoretical conceptions grow out of and make use of a deeper metaphysical grammar that has its roots in common human embodied experience.” He also calls this a common core. The crux of his argument is that these commonalities “are not reflections of some a priori order existing independently of

humans, but arise out of the interaction of human bodies with a fairly stable physical world over the course of both evolutionary and personal time..." (2004, p. 17) Against the anti-realists, Slingerland argues that there are structures of cognition common to all human beings regardless of their culture, language or a particular theory. (2004, p. 17) Slingerland therefore chooses for embodied realism, a choice that I am willing to share but with a number of caveats.

The first caveat pertains to the requirement of a view of the creation order, which acknowledges the reality of the basis of metaphorical meaning in human embodiment, but also recognizes the structural traits of all of non-human reality. The creation order exists both as condition for human and non-human reality (in that sense it is "independent") but also takes shape in and through human and non-human response to these conditions. In the chapter dealing with the grounding of metaphorical meaning, the role of embodiment and the structures for creation that condition the existence of human embodiment is dealt with. There is one important strand of this argument that still needs to be teased out. I argued that Lakoff and Johnson's suggestion of "embodied realism" is a more acceptable and responsible realistic view than the rationalistic realism, which hales from the Enlightenment. Yet, embodied realism as espoused by Lakoff and Johnson and their school of thought does not fully consider two dimensions. The first is that human embodiment is conditioned and structured by even deeper layers of reality, as grammar would structure a language. Hart (1984, pp. 82-83) articulates a position that considers "the thesis that the existing empirical world has an irreducible correlate in the order [for?] of the world." Further, both individuality or particularity and universality are "real," are mutually irreducible and correlative. This means that "natural kinds, social order, norms for behaviour and laws are all real" (Hart, 1984, p. 82) as are the particular phenomena in reality that we designate as natural kinds, etc. Used in this sense the term "realism" acquires a different meaning to the standard meaning found in most literature on the subject.

With respect to realism in science, theories based on metaphorical models, and tested and corroborated in confrontation with empirical reality, provide a realistic approximation of reality. This choice is made over and against the position of instrumentalism, which argues that metaphors are merely heuristic devices utilized for purposes of discovery. This position remains critical of anti-realism even though Hesse's contributions to the discussions concerning "modified realism" have shaped my own understanding of the matter in many ways. However, Hesse holds to an anti-realist or moderate realist position, mainly because of her rejection of the existence of universals, natural kinds, and essences. I agree with her that the maintenance of a realist stance requires a rejection of the traditional (or absolute) theory of universals. Her network theory of meaning based on her appropriation of Wittgenstein's family resemblance notion is closer to a modified view

of natural kinds and universals that I too find acceptable, but I do believe realism and scientific realism requires some construal or reformulation of a theory of universals and natural kinds in order to escape the potentially relativistic consequences which an anti-realist position entails. Such a theory of universals requires the recognition that the underlying classificatory system on which metaphorical reference is based represents more than conventional, sociologically determined semantic reality. It requires a positive recognition of the presence and knowability of God's presence in and through His creation order.

God's presence . . . ?

George Steiner (1989, p. 3) states that

. . . any coherent understanding of what language is and how language performs . . . any coherent account of the capacity of human speech to communicate meaning and feeling is, in the final analysis, underwritten by the assumption of God's presence.

The wager on the meaning of meaning "is a wager on transcendence." (1989, pp. 4, 214) Steiner's "...conjecture is that 'God' is, not because our grammar is outworn; but that grammar lives and generates worlds because there is a wager on God." (Steiner, 1989, p. 4) And this wager is ". . . on the informing presence in the semantic markers which generates . . ." all kinds of works of art. He says, "They are re-enactments, reincarnations via spiritual and technical means of that which human questioning, solitude, inventiveness, apprehension of time and of death can intuit of the fiat of creation, out of which, inexplicably, have come the self and the world into which we are cast." (Steiner, 1989, p. 215) Elsewhere Steiner (2001) speaks of the "grammar of creation."

One could argue that "knowing God" and "knowing His order for His creation" are two different matters and that even if one were to concede the knowability of God through His presence in His creation, the order for creation still remains way beyond our theoretical grasp and can only be approximated. That being the case, I believe realism defined as the recognition of the existence of a creation order, which we approximate *inter alia* with metaphorical models, is still a position preferable to anti-realism. A realist position constitutes a bulwark against relativism. In the inextricable correlation between the fiat or grammar of creation and our human articulation of this grammar via metaphor and analogy the mooring of metaphorical meaning becomes apparent.

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