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"YANKEE GO HOME!" THE COGNITIVE SCIENCES AND IMPLICATIONS FOR WESTERN-INFLUENCED THINKING AND THE BRAIN-MIND-SOUL PROBLEM

Gary A. Long

Introduction[1]

I grew up in the Philippines. I was there in the 60s. I was there in the 70s. I was an American, and a lot of us were around. Vietnam was not far away, and the American bases of Clark Air Field and Subic Bay were strategic. My parents had little to do with that war. Their "war" was spiritual. They were missionaries.

A lot of us were around, enough to encounter protests rallied around a then-common theme: "Yankee Go Home!," "Imperialists Go Home!" As a young boy I remember our school bus cautiously driving through one freshly-ended rally. Through my window, I was looking at people not much older than I as they carried their expressive placards and banners. Some, noticing our busload primarily of white faces, yelled the slogans of those banners directly at us. I didn't understand. Imperialists? The Bataan Death March, Corregidor Island…those were the stories of Imperialism. General MacArthur, good on his promise, returned, crushing Imperialism. What was so bad about me, about America? We were the *heroes*. We now were the *helpers*. Why should they want *us* to leave?

The child on the bus didn't fully understand the complexities. A metaphor of distance was at play. Very little space separated my face

[1] I have several to thank for their critical reads of this article and constructive conversations: Adam Johnson (Dept. of Psychology—Neuroscience, Bethel University), Joey Horstman and Marion Larson (Dept. of English, Bethel University), and David C. Williams (Dept. of Theology and Philosophy and High Sierra Campus, Azusa Pacific University).

from those shouting at me—a lot unifies us humans in our encounter with the world. Yet a great divide stood between me and them—a great deal separates us, culture from culture, language from language.

Just why do I start with a story involving an American in a journal focused on Asia?[2] Like the Americans in the Philippines of my youth, we are a presence beyond our numbers. Like the moon in front of the sun, we cast a long shadow across the world. America is part of a North Atlantic Corridor (Europe, Canada, USA), an inheritor of over two millennia of deep philosophical and theological speculation involving Plato, Origen, and Descartes. And my critique extends to this inheritance and subsequent influence on so much of the world. *My real goal, though, is that you see that I'm actually speaking to all dispositions that uncritically privilege their cultures and understandings.*

Like Dorothy in *The Wizard of Oz*, we may all find ourselves exclaiming, "Toto, I've a feeling we're not in Kansas any more." We're not.

Several decades of increasing data and convergences within the many branches of the cognitive sciences appear to argue for us no longer being at the same-as-it-ever-was Kansas home. My own modest placement within the cognitive sciences is Cognitive Linguistics. What's at stake are some of the very foundations of the ways the Corridor, and all those influenced by it, have approached how we understand existence and how and what we can know. Longstanding foundations appear to be weakened, or at least up for serious reconsideration, in the light of certain data within the cognitive sciences.

Any question we ask and any answer we give is framed by *human* language and the *human* conceptual system. The journey in the years ahead must seek to understand, with as much *empirical* evidence as possible, how these operate. Such a journey's a quirky one. The running joke—though not everyone laughs—is that work in the cognitive sciences, especially within the cognitive science of

[2] Ma Wonsuk, Robert Menzies, and I, in the mid-80s sharing a single office in Manila, dreamed of starting this journal. Regrettably, we all shortly scattered to our respective doctoral educations. In the 90s Ma and others fulfilled the dream.

philosophy, is work proven by someone else to be absolutely wrong.[3] Such passionate disparity is understandable. We're talking about the *mind*. Something we perceive as special—this thing that makes us *human*—is largely unknown.

Methodologically, I defer to observable data. Though not unproblematic by any means, empiricism, in general, trumps, for me, a self-cohering philosophical system detached from scientific empiricism. We should not enter into investigations by advancing a priori claims about what science can and cannot tell us about human experience and understanding (Feldman 2008; Haack 1993; Kornblith 1999). Only by pursuing the science can we ever really know its limitations. Doing the science, though, can never or should ever be free of philosophical suppositions, but philosophical and theological explorations should not involve sweeping insular appeals to intuition or commonsense, devoid of a tethering to scientific data (Thompson 1995, 286). Admittedly, we're on perilous ground here. The thinking and talking needed to understand the mind is carried out by the very mind doing the thinking and talking. Can any such system transcend itself completely to critique itself sufficiently (Rolston III 2005, 21)? No inquiry is without a philosophical foundation. All science is situated, absolutely. Everyone knows the real challenge of investigation is not necessarily the data but their *interpretation*. But we should all be interested, as investigators, in arriving at "scientifically stable" notions. The sun, all will affirm, does not orbit around the earth. Humanity once thought differently, following their intuitions, perceptions, and theology. Such concepts, now banal, are "scientifically stable," a bit too late for Galileo's trial by the Church in 1633. What is stable in cognitive science? Very little. But this is where ever-increasing convergences from several disciplines shed light. We should strive to navigate our journey in the daylight of stable, responsible empiricism and self-critical cognitive science.

This is but the start of a voyage, and I think the distance to be traveled is far. But make no mistake, the anchor is lifted. The ship of our past likely cannot remain tethered to its safe and comfortable mooring. Whether we bought a ticket or feel thrown onboard against our will, we're all on a relatively new exploration with much to engage.

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[3] Anthony Chemero humorously makes this point in a recent monograph, "Jerry Fodor is my favorite philosopher. I think that Jerry Fodor is wrong about nearly everything" (2009, ix).

The pages ahead are but a short excursion[4] and the sailing will not be smooth. Selectivity and my own flaw of not being able to do justice to a wide range of extremely complex fields within the constraints of this article, my own failure to say things simply while avoiding the shame of being simplistic, and, who knows, maybe your own unwillingness to critique your own views, all call out for choppy water and gales. If nothing else, I hope my words will start you on your own journey to consider the insights and implications from the cognitive sciences. They have my attention, but they need yours as well. Whether we know these related fields and contemplate implications, as Plato thought of his Forms, they nonetheless exist, and the insights and challenges they represent need plenty of attention.

I hope the vistas are engaging and worthwhile as we travel through the following ports-of-call:

- WHAT COGNITIVE SCIENCE IS SHOWING US: UNIVERSALS AND NON-UNIVERSALS
- COGNITIVE SCIENCES' CHALLENGE TO MILLENNIA OF CORRIDOR-INFLUENCED THOUGHT AND THEOLOGY
- IMPLICATIONS FOR THE BRAIN-MIND-SOUL PROBLEM

What Cognitive Science is Showing Us: Universals and Non-Universals

- THE MIND IS EMBODIED IN AN EMBEDDED BODY
- THOUGHT IS MOSTLY NON-CONSCIOUS
- HUMANS UNDERSTAND THE WORLD CONCEPTUALLY AND THE ABSTRACT THROUGH CONCEPTUAL INTEGRATION AND LARGELY THROUGH METAPHOR

These three statements—a triumvirate—increasingly appear to be fundamental universals across humanity, thanks to the cognitive sciences. We look at them in turn.[5]

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[4] The full journey is being detailed in a monograph I'm presently writing, *"Yankee Go Home": Implications of the Cognitive Sciences for Western-Influenced Thought and Theology.*

[5] I am influenced here by Chemero 2009; Clark 2008; Edelman 2006; Fauconnier and Turner 2002; Hanna and Maiese 2009; Lakoff and Johnson 1999; and Verela et al. 1991.

The Embedded Body's Embodied Mind

The *mind* is embodied. The *brain*, of course, is embodied—no one denies that—but I'm not here talking about the *brain*. I'm talking about the *mind*. The *brain* produces the mind, and the "wiring" of the former is fused to human sensorimotor phenomena—what we sense and how we move.

The *body* is embedded. Our bodies are situated in a specific environment, influencing it and being influenced by it. This mutual contact defines our respective econiche. Our human bodies, along with our brains, have evolved within a long sequence of such niches (Boyd and Richerson 2005). Humans are humans because of their embodied minds in econiche-embedded bodies.

But all this, especially the *mind* as embodied, flies in the face of over two millennia of commonsensical thinking in the Corridor.

Consider what you may see as commonsense about your mind. I see mine as something separate from me, something I access to think and understand. I'm not quite sure whether I see it having a location. I sometimes envision it working within my head, but my mind also somehow transcends such localization. The mind is *just there*, and I think of it as something I *just have* that's not quite physically linked to me. My mind has a certain autonomy about it, or so it seems to me.

But growing evidence suggests that every human mind resides embodied within an embedded body, inescapably so. One means of conveying this idea is that our *per*ceptions play a central role in our *con*ceptions. We seem to understand correctly that *per*ception is embodied, fused to senses and body movement and brains. But concepts have been seen as independent of embodiment. To be sure, mind-independent phenomena occur all around us, but to comprehend them, we use an *embodied* mind in an *embedded* body.

Our vista here looks selectively at but one of many concepts that demonstrate embodiment: basic-level categorization.

Basic-Level Categorization

Functional neural beings categorize. They cannot not categorize.

My son, a few years back, carried out some research at the University of Wisconsin-Madison. The lab was looking at the mechanism for how the Hawaiian bobtail squid screens for, categorizes particular symbiotic bacteria. And even amoeba distinguish between food and non-food.

Take the human brain. They say we have 10^{12} neurons. Information passes from one neural circuit to another often through a numerically-meager set of connections. The pattern of neural activation of one bundle often cannot map in a one-to-one correspondence to another. The meager set of connections thus groups certain input patterns to map them over to an output. Whenever a pattern of neural activity produces the same output from different inputs, neural categorization has occurred. For example, let's say you are in a room as you read this. Look up at one wall. What you experience is registering or "firing" in your brain as a pattern of neural activity. Now turn to another wall. Is the input identical? No, you're looking at another wall and you're experiencing the room differently. But the output can be the same. You can process two different inputs and output them as a single conceptual category, 'room.' This is human categorization happening where it actually happens—at the level of neural activity.

It just seems natural, doesn't it, that the categories we have in our minds fit the categories out there in the world? The conceptual category of 'cat' simply fits the pet I have. 'Russian Blue' is a type of 'cat,' and 'cat' is a type of 'animal.' I see it there in the world. What could be clearer?

One reason we feel our categories fit the world is that humans have seemingly developed one important class of categories to understand, categorize the world's physical objects: basic-level categories (Rosch and others 1976; Rosch 1978; Mervis and Rosch 1981). Again, we are here, and for the next several paragraphs, talking about physical objects in the world.

Take the following vertical category bundles:

SUPERORDINATE	*animal*	*fruit*
BASIC LEVEL	***cat***	***apple***
SUBORDINATE	*Russian Blue*	*Fuji*

Cat and *apple* are examples of the *basic-level* horizontal category (stratum) among their respective vertical category members. Empirical evidence suggests that this level of categorization is *cognitively basic* and is rooted to aspects of our mind-embodied embeddedness.

This basic level, generated by humans themselves, seemingly is distinguished from others, in part, by such aspects as motor programming, holistic perception, mental images, and knowledge structure (Lakoff and Johnson 1999, 27; Rosch and others 1976; Mervis and Rosch 1981, 92; Lakoff 1987, 47). (1) Humans apparently

consider similar motor programming a hallmark for identifying basic-level categorization of physical objects. Such motor movement is not available at the superordinate level. We all have specific motor programs for interacting with apples (polishing, holding in one hand, very open mouth, forceful teeth closure) and bananas (holding in one hand, peeling with a second, rounded mouth, soft teeth closure). *Apples* and *bananas* function as basic-level items. We do not have a motor program for interacting with *fruit*, a superordinate. (2) Holistic perception characterizes a basic level—a shape or material composition of the object—but not a superordinate. This trait and the next one (single image) seem to demonstrate that basic-level categories are *maximally contrastive* and *informative*. I say "apple," and you can envision an overall apple shape. I say "banana," and your mind likely has generated its profile. Apples and bananas have a high contrast between them. Each one's overall shape is maximally informative of each. I say "fruit," though, and you have no overall shape you can assign to this generality. For some cultures material composition of the object seems to play a more important role than shape (Lucy 2004). (3) An object where one single *image* is able to reflect an *entire* category is a basic-level member. We cannot produce a single *image* for all fruit, but we can for apples, bananas, and mangoes. (4) Most of our knowledge of physical objects seems to be organized around the basic level. This level appears to be established first in language development (Mervis and Rosch 1981, 93). When asked to spontaneously name objects, adults and young children commonly call out what we're here identifying as the basic level. The words themselves tend to be linguistically unmarked, commonly used in normal, everyday conversations (Cruse 1977). In American Sign Language, single signs generally denote this basic level, while super- and subordinate categories routinely have multiple sign sequences (Newport and Bellugi 1978).

What is universal and non-universal in such categorization? The particular *content* of a category is not universal. Arriving at categories is (1) an interaction of a human with real world objects and (2) the knowledge a human has of an object in relation to other objects. The relations and structures involved in such understanding differ among people groups.

So, *content* is not universal, but the *principle* of category formation appears to be so, and with it, the formation of a basic level. Though specific content differs, humans seem to have arrived upon a basic-level category for physical objects (Rosch and others 1976).

The phenomenon of the basic level appears also to apply to things *non-physical*, though not likely for the exact same reasons. Here, more work is needed, but we can point to such phenomena as the linguistic phoneme and linguistic unmarkedness vs. markedness as examples. Additionally, we seem to think in terms of basic-level motor programming for which we have holistic perception and images such as running, walking, swimming; basic-level socialization like clubs, teams, families; even basic-level emotion: anger, happiness, sadness (Lakoff and Johnson 1999, 29).

So what? What are the implications of basic-level categorization? Lakoff and Johnson take us through some:

> First, the division between basic-level and nonbasic-level categories is body-based…. Because of this, classical metaphysical realism [categories match the world as is] cannot be right, since the properties of categories are mediated by the body rather than determined directly by the mind-independent reality…. Second, the basic level is that level at which people interact optimally with their environments, given the kinds of bodies and brains they have and the kinds of environments they inhabit…. Third, basic-level categorization tells us why metaphysical realism makes sense for so many people…[it] seems to work primarily at the basic level. (1999, 28-29)

If our excursion did not have to be so brief, we would also take the time to consider vision and bodily motion and orientation. Suffice it to say that there are *mind-independent* realia—reflectance, light waves, things located in relation to other things, and much more—but to comprehend them, all humans use an *embodied* mind in an *embedded* body. In short, the old adage "Seeing is believing" is more correctly "Seeing is (what the brain is) believing (it is seeing)." We would also consider the linguistic phenomenon of aspect (Narayanan 1997) and a neurophysical one that further suggest the mind's embodiment: mirror neurons (Rizzolatti and Craighero 2004; Pelphrey, Morris, and Mccarthy 2004; Iacobonhl and others 2005; Ramachandran 2008; Rizzolatti and Sinigaglia 2008).[6]

[6] First discovered in monkeys and then in humans, mirror neurons fire when a subject (1) performs object-oriented movement or (2) observes another doing so. Mirror neurons are part of the neurophysiology seemingly involved in understanding another's actions, for grasping intentions, predicting what others will do. They are involved not only in the motion of an object but with the motivation behind it.

Thought is Mostly Nonconscious

Thought is mostly nonconscious. This is the second of the triumvirate. Cognitive nonconsciousness refers to those cognitive processes that operate without our general awareness, often inaccessible to consciousness or happening far too quickly to comprehend.

A cup of tea strikes us as a singular item, but neurophysiology has forced us to recognize our error: the shape of the cup, its rim, its base; the cup's thickness, quality, and opacity; its situatedness; the tea's color; its aroma; its taste; the cup's initial and ever-lessening weight; the hand's reach; the fingers' positions, and so on. Consciously the cup of tea is singular while nonconsciously it's many things. Look at a picture of that special someone in your life. The two-dimensional arrangement of colors has little in common with the real person, but through a brain and its development, you construct an identity between the picture and the person. Because the brain accounts for this instantly and nonconsciously—in that you're not aware of the processes—we tend to think that the *picture* is giving off meaning, when actually meaning is being constructed by astoundingly complex cognitive processes in our brain (Fauconnier and Turner 2002, 5). Consider all the stuff that's behind what you think about something, what you "instinctively" do. You're conscious of many things, but there's a driving force beneath it all. How we account for things as singular or identifiable or coherent, when they are in reality so many different processes at the nonconscious level, is one of the central challenges of cognitive neuroscience. It's the *binding problem*. The nonconscious processes occur in different locations, and no single site in the brain seems to bring them all together. Yet, consciously, there is singularity, identity, and coherence.

That's cognitive nonconsciousness, and it's ballparked to make up roughly 90-95% of human thought. Think of a nicely packaged trinket at a retail store. The nonconscious is the very complex processes involved in producing and delivering that trinket there. All you really notice is the beautiful item—the conscious. An extremely involved nonconscious, though, has delivered it to you.

Humans Understand the World Conceptually and the Abstract through Conceptual Integration and Largely through Metaphor

Out of the 70s came an important and influential study, popularizing the growing discipline of Cognitive Linguistics, *Metaphors We Live By* (Lakoff and Johnson 1980). Lakoff and Johnson claimed, firstly, that metaphor permeates ordinary, everyday language (hence, metaphors *we live by*). Metaphor is not simply rhetorical flare. Secondly, metaphor in everyday language is not just a way of speaking, but a mode of *thought*. Metaphoric expressions trigger concepts that are themselves structured in terms of metaphor. Thirdly, metaphors of daily life display a highly coherent system of thinking about the concept the metaphor prompts.

Much Lakoff-influenced work talks of basic or primary *conceptual metaphors*, those at the heart of how a language group thinks and understands, and it argues that metaphor is essential to abstract thought. In short, metaphor reigns supreme.

Metaphor is extremely important, but it likely doesn't reign *supreme* in cognition, at least judging from the recent landscape of Cognitive Linguistics.[7] Metaphor now seems to be but an instance (albeit extremely common!) of *conceptual integration/blending*, the highly imaginative integration of concepts crucial to even the simplest of thought processes (Fauconnier and Turner 2002; Grady, Oakley, and Coulson 1999; Taylor 2002).

We often say that words carry meaning, words convey what we mean, we put meaning into our words. Ever-more-known human cognitive processes, however, suggest that "[l]anguage does not carry meaning, it *guides* it" (Fauconnier 1994, xxii). Language is code that accesses the riches of our mind's layers of conceptual processes, prompting us to construct meaning. The meaning we attain draws on our (physical, social, linguistic, cultural, etc.) embeddedness. The *minimal* code that is language prompts vast networks of mind-resident conceptions, and those mind-resident conceptions are largely the product of our embodied minds in our embedded bodies interacting with(in) our embeddedness.

Vast and deep mechanisms of nonconscious thought and conceptual blends universally drive human consciousness (Fauconnier

[7] Taylor offers a brief review (2002, 519-535). Quite telling also is how little attention Langacker, a father-figure in Cognitive Linguistics, gives to metaphor in his recent summative work (2008).

and Turner 2002, v). Equally universal is the human biology and embeddedness to produce conceptual blends, but many of the particular blends are not universal. The particularities of our embeddedness produce scores of non-universal conceptualizations, which, again, are driven primarily by *non*conscious yet learned blends or integrations.

Understanding the world through this type of conceptualization, though, is not held by all. A *platonic* disposition views meaning as independent of the mind and the human, disembodied. *Objectivist* inclinations, in part, identify meaning closely with a sentence and with a set of conditions that show the sentence to be true. Such *truth conditions* reflect the world as it objectively is, irrespective of how a human may conceptualize it. This essay, and much of the work in the cognitive sciences and especially Cognitive Linguistics, stands in sharp contrast. Though we push the horizons continually, a firm understanding of how conceptions are neurologically implemented remains a horizon yet to be reached. But the path now seems to suggest, in the words of Langacker, that "conceptions evoked as linguistic meanings are *nontransparent*: they do not simply reflect or correspond to the world in a wholly straightforward manner, nor are they derivable in any direct or automatic way from objective circumstances" (2008, 35). As we continue to ponder how humans understand, we must finally recognize not only conceptualization but the sheer pervasiveness of the imaginative mechanism of *conceptual blending* for meaning.

Cognitive Sciences' Challenge to Millennia of Corridor-Influenced Thought and Theology

It's now time to consider what the first part of this journey means for Corridor-influenced thought and how philosophical and theological streams within have approached what and how we can know. Our port-of-call is brief, so brief, in fact, we will not leave the ship, but from its deck only point out a general lie of the land and a few prominent features.

Plato

I think we can identify a couple vertebrae of the backbone of Plato's views on knowledge (Taylor 2008).

- FORM TAKES CENTER STAGE

  Humans experience the world, which is material and ever-changing, as a shadow of something higher, unchanging, and

immaterial. Casting this shadow, for Plato, is a special category of entity, *Form* (*eidos* and *idea*). The information we have about things in the world comes from our senses, and such information changes. It is not stable and cannot be real knowledge. One must discover the unchanging. These are Plato's Forms, and they are the basic things of All-That-Is, mind-independent, existing whether known or not, and knowable only by the mind. A Form, in part, is "divine, immortal, intelligible, uniform, indissoluble, unvarying, and constant in relation to itself" (*Phaedo* 80b). They do not become, they simply are and are shared by the world's objects (*Timaeus* 27d3-28a3), defining the nature of objects. His Allegory of the Cave in *Republic* VII is, of course, his most famous conceptualization of these things.

- KNOWLEDGE IS ACHIEVABLE A PRIORI, BY CRITICAL REFLECTION

  While arguing for the preexistence of soul in *Phaedo*, Socrates, the voice of Ideal Philosopher, says the following, "And so we must have got pieces of knowledge of all those things ["what it is" = All-That-Is] before birth" (*Phaedo* 74d-75d).

  The mind already possesses understanding of the sense-perceived objects of the world. Knowledge is attained *a priori*. Empirical data appear to play second violin.

For Plato, there is an intelligible world and a visible one. The latter provides no perfect or unchanging object for a correct understanding, though it has some share with the intelligible world. The world of the senses, though, is not properly intelligible. Forms in the intelligible world, as stable and unchanging, are knowable. The goal of query, in part, is to achieve a systematic understanding, principally a priori, of those objects, reality's intelligible principles (Taylor 2008, 188).

Origen

In the Greek-speaking Christian world, Origen's influence likely stands alone. God was a "first principle" revealed through lower levels of reality. God, or the divine "One," produced the Word (*logos*), the collective world of intelligibles and archetype for the lower levels of reality (Kenney 1999). Origen was driven to describe a coherent, harmonious universe, provided by a loving God who, after first inviting the Word to join in contemplation, invited all rational beings to do the same.

Origen eloquently discusses the mind's disembodiment, though he acknowledges "material intermixture" (*First Principles* I.1.6), since only the One is free of the material world:

> Now mind does not need physical space in which to move and operate…nor anything else…which are suitable to bodies and matter. Accordingly that simple and wholly mental existence can admit no delay or hesitation in any of its movements or operations;… That mind needs no space in which to move according to its own nature is certain even from the evidence of our own mind…. [T]here is a certain affinity between the mind and God, of whom the mind is an intellectual image, and that by reason of this fact the mind, especially if it is purified and separated from bodily matter, is able to have some perception of the divine nature. (*First Principles* I.1.6-7)

Descartes

Confident of their views and heralding them as Truth, European religious thinkers during most of Descartes' life threw Europe into a maelstrom of persecution against each other—the Thirty Years' War (1618-1648). With each claiming knowledge and killing to uphold it, how could one not become skeptical of the processes for knowing? There had to be a better way to know, and Descartes wished to find it. In the wake of de Montaigne, who argued that humans could not know with certainty, Descartes, starting with that very skepticism, argued that one could confidently know. Doubt, for Descartes, led to knowledge. And self, the *thinking* I, stood at the center of being able to know.

The senses could be unreliable, argued Descartes, thus trustworthy knowledge could not be gained solely through them. Even hard-to-doubt experiences, such as, in his own example, sitting near a fire in a winter dressing gown holding on to a sheet of paper were questionable. Such an experience could, after all, be imagination, as in a dream. In the face of possible uncertainty all around, one thing remained certain, argued Descartes. He himself *existed*, "I am, I exist" (*Meditation* 2), and even more, he himself was *thinking*, "I think, therefore I am" or "Insofar as I am a thinking person, I exist" ("*cogito ergo sum*," *Meditation* 4). Descartes affirmed that he possessed one certain piece of knowledge: he *existed* and his existence was defined by *thinking*.

For Descartes, the body was merely physical, but the *cogito* was a process beyond the physical body. The physical body could be doubted,

but not the *cogito*. "I readily discover that there is nothing more easily or clearly apprehended than my own mind" (*Meditation* 2). The well-known Cartesian mind-body dualism was thus set in place, and by the *cogito*—the "I" thinking about all it is and all that is—in isolation from an unreliable world, Descartes believed he could excavate to the bedrock of what could be reliably known.

A thread of irony weaves itself through this. All this "certainty," so Lakoff and Johnson argue, is built on and unified through multiple figurative conceptual blends (1999, 391-414). Figurative ideas lie at the heart, primary among them: OBJECTS ARE IDEAS and KNOWING IS SEEING. Figuration in no way, by *itself*, invalidates Descartes' thinking. One of the triumvirs of this article, after all, affirms that most abstract thinking is achieved through figurative conceptual blending, that is, metaphor. The irony is that so much positivist and objectivist thinking argues that the realm of the figurative is a stain on the cloth of knowledge.

Implications for the Brain-Mind-Soul Problem

It began in earnest among the Presocratics and has remained a foundation within the Corridor ever since: the mind trying to understand existence. The whole of Descartes' views has, for some time now, functioned as a straw man for most everyone. Hardly anyone says they adhere fully to a Cartesian view of reality. But aspects of his legacy remain alive and vibrant.

- THE MIND CAN KNOW ITS OWN IDEAS WITH CERTAINTY
- ALL THOUGHT IS CONSCIOUS
- THE MIND'S STRUCTURE IS DIRECTLY ACCESSIBLE TO ITSELF
- EMPIRICAL RESEARCH IS UNNECESSARY TO ESTABLISH CERTAIN KNOWLEDGE OF THE MIND

Indeed, these Descartes-inspired foundational pillars (Lakoff and Johnson 1999, 396-397) still support some Anglo-American analytic and formalist philosophical traditions and modernist inclinations within Evangelical theology. Reason and rational thought remain for these traditions an unencumbered route to knowing what is true. The pillars help support a number of well-entrenched North Atlantic Corridor ideas, articulated by Lakoff (1987, 9):

- MEANING IS BASED ON TRUTH AND REFERENCE; IT CONCERNS THE RELATIONSHIP BETWEEN SYMBOLS AND THINGS IN THE WORLD
- THE MIND IS SEPARATE FROM, AND INDEPENDENT OF, THE BODY

- REASON IS TRANSCENDENTAL, IN THAT IT TRANSCENDS—GOES BEYOND—THE WAY HUMAN BEINGS, OR ANY OTHER KINDS OF BEINGS, HAPPEN TO THINK
- THERE IS A CORRECT, GOD'S EYE VIEW OF THE WORLD—A SINGLE CORRECT WAY OF UNDERSTANDING WHAT IS AND IS NOT TRUE
- ALL PEOPLE THINK USING THE SAME CONCEPTUAL SYSTEM

The connection of these ideas with the Corridor is not lost on critical thinkers not from there. To many within the Corridor, these ideas are how and what humans everywhere know or *should know*. To many outside the Corridor, these ideas are not simply the *apparition* of colonialist thinking, but a tangible, almost physical expression of it. The insights of my colleague at Bethel, Victor Ezigbo, a Nigerian-born, Corridor-educated theologian are noteworthy:

> Twenty–first century Christianity is desperately in need of a new theological landscape. The existing (old) landscape—Western theological communities—can no longer withstand the theological pressure coming from the non–Western communities… African theological communities and other theological communities emerging from Asia and Latin America represent the new landscape. In the old theological terrain, white supremacy enjoys an elevated status. In the new, the supremacy of Jesus Christ will overthrow white supremacy. In the old, rationality functions as the most important theological test. When a theology fails it or ignores it, such a theology is construed as invalid and must be discarded. In the new, particularly in the African context, rationality is simply a cognitive vehicle for expressing a theological content and not a test for theology. *In the old, Western theologians see themselves as custodians of theological truths and relegate all non–Western theologians suspicious of their theological presumptions to the periphery of the Christian theological map. In the new, all theological communities enjoy the same status as truth seekers* [emphasis mine]. All communities have the same freedom to contribute to and critique the already existing theologies. As Kevin Vanhoozer has argued: "The recovery of Christian humility in the West—not least among systematic theologians!—may be just the beginning of a new phase of theological wisdom informed by the attempt of Christian disciples in a variety of cultures and settings to follow the way of Jesus Christ." (Ezigbo 2010)

A major point of this article is suggesting that empirical evidence from the cognitive sciences seems to be undermining some longstanding, prominent streams within Western understandings of human thinking, especially various analytic and modernist points of view, indeed, postmodern ones as well. To rehearse:

- THE MIND WITH ITS THINKING PROCESSES AND CONCEPTS IS EMBODIED IN AN EMBEDDED BODY

  There seems to be no realm of disembodied senses and direct or disembodied relationships between human senses and the objects, the phenomena, and the categories in the world. The brain, sitting in the body, interacting with its environment, gives rise to how and what we know. Meanings that are universal, the universal capacity for figurative conceptual blending, universal basic-level concepts, and other universals seem to arise, in part, from the universality of human sensorimotor systems. The commonalities of human bodies and brains and experiences make much meaning public (Lakoff and Johnson 1999, 463). Yet, the particularities of human embeddedness produce scores of non-universal meanings and conceptualizations.

  This tenet within cognitive science goes a long way to drying out some postmodern streams that advocate the extreme relativity of concepts and meaning. Their point is that meaning has no universals, and any one meaning has no privilege. They're right, in part, but those views have overreached. Cognitive science, especially linguistics, appears to be showing that many meanings and concepts can and do change over time and differ across languages and cultures. There is relativism. But there are universals, widespread throughout humanity and linked with common sensorimotor systems.

- THOUGHT IS MOSTLY NONCONSCIOUS

  Thought is not all or even mostly conscious. It is mostly nonconscious. *A priori* knowledge is thus not a reliable gauge of what we know. It doesn't see and therefore doesn't take into account the iceberg's underwater world, not perceived by the onlooker.

- HUMANS UNDERSTAND THE WORLD CONCEPTUALLY AND THE ABSTRACT THROUGH CONCEPTUAL INTEGRATION AND LARGELY THROUGH METAPHOR

  That humans try to understand the abstract largely through figurative conceptual blends or metaphors is the damning irony for many analytic and formalist streams of thought. Concepts are

> supposed to be nonfigurative, understood by an objective, mind-independent reality. Such philosophical and theological positions are, in general, blind to the large-scale imaginative processes involved in their positions of knowledge, operating at unobservable speeds and largely in the nonconscious.

Where to now? More in line with some emphases within naturalized epistemology, perhaps we should pursue more empirically responsible philosophy and theology, as I said at the start. No inquiry is without a philosophical foundation, and theological conceptualizations affect the theologian. All science is situated, absolutely. But we should all be interested, as investigators, in arriving at "scientifically stable" notions.

That's easier said than done for a person of faith. *Embodiment*, whether embodied cognitive science or embodied philosophy and the like, affirms that the embodied mind is responsible for our conceptions, and empirical evidence is how we best continue to understand ourselves. A natural trajectory, not unlike one associated with evolutionary theory, has little room for notions of 'transcendence,' 'soul,' a 'divine Being,' and other as-yet non-empirically observable concepts. Lakoff and Johnson's "enfleshed," embodied philosophy and cognitive science clearly articulates what seems to be a natural conclusion of embodiment, and it's sobering news:

> Your body is not, and could not be, a mere vessel for a disembodied mind. The concept of a mind separate from the body is a metaphorical concept….
>
> All this matters vitally in the realm of spiritual and religious life. What we have called variously the Subject or the disembodied mind is called in various religious traditions the Soul or Spirit. In spiritual traditions around the world, the Soul is conceptualized as the locus of consciousness, subjective experience, moral judgment, reason, will, and, most important, one's essence, that which makes a person who he or she is….
>
> Whether you call it mind or Soul, anything that both thinks and is free-floating is a myth. It cannot exist. (1999, 561-563)

The challenges associated with the growing (confirming and conflicting) empirical evidence within the cognitive sciences are immense. We can be neither the proverbial ostrich with head in ground nor Tomás de Torquemada, the grand Spanish inquisitor, about these significant developments.

So here's where a lot of thought is needed among us scholars with faith. Does dualism remain a viable disposition for understanding humanity and God? Is reductive physicalism a viable disposition for understanding humanity and God? Is "physicalism" to be understood as "eliminativism"—only physically existing entities are real? Or is "physicalism" to be understood as ultimately physical or material explanations lying behind how and what humans know? A great deal needs rethinking and rewriting. Indeed, we're in the middle of it, with a remarkable array of positions between the two extremes: substance dualism (Swinburne 2007), emergent dualism (Hasker 1999; 2004), constitutional materialism (Rudder Baker 2011), nonreductive physicalism (Murphy 2006), etc. As I pen these words, my own hunch is that we should recognize the brain as a central mechanism for the whole body interacting within its econiche embeddedness and that such a position can and does lie within a reductive physicalism (= physical/material explanations), which I find more embracing of the role of econiche embeddedness than acknowledged by its detractors. Those closest to this reductionism who nonetheless create the striation of a nonreductive physicalism—the brain is necessary for the mind but not sufficient because, they argue, social and environmental contexts are not accounted for in reductionism (Murphy and Brown 2007)—are perhaps, if I may draw on imagery from my archaeological background, interpreting in the balk wall a stratum that need not be there, judging from the chorus of *neuroscientist* voices (Lakoff and Johnson 1999, 109-115, especially 112).[8] Whatever the case, how such questions are answered will or should inform practical concerns of missiology,[9] counseling, and the like.

Separating material from immaterial within a human has for millennia underpinned how influential thought has understood humanity. This, in the end, may be (remain) the best response. But in the meantime, might it not be best to consider what dualism has always been—a theory—one that has described a variety of religious experiences and one that, perhaps for now in the minds of many people of faith, accounts for them more adequately than physicalist alternatives? Might it also not be best, for the moment, not to assert that physicalism will never adequately explain humanity vis-à-vis God? I'm

[8] I will in time discover whether I will agree with myself as I continue to work on these issues.

[9] "Saving (nonfigurative) souls" has guided many a mission away from humanitarian/physical emphases.

not sure we theologians, philosophers, even cognitive scientists so well understand the sciences' developmental trajectory to declare physicalism insufficient. Indeed, as never before we need to be working hand in hand. We have much to learn, and no one yet is likely in a position to know definitively the best response.

Bon Voyage

The spirit of "Yankee Go Home" in those demonstrators of my youth was the feeling of being overwhelmed, swallowed up by, and beholden to outsiders, others. In the heat of the riot, yes, they wanted the Yankee to leave, to go home. In calmer reflection, demonstrators wanted the Yankee to treat them as equals, as genuine global partners. The Corridor has indeed cast and continues to cast a long shadow on much of the world. But the cognitive sciences seem to be common ground for helping us all understand our universality, our cultural peculiarities, for confronting dispositions that uncritically privilege cultures and understandings, and sorting through our humanity and connection with God. The cognitive sciences are giving a world without borders much to contemplate. Ahead lie those journeys. *Bon voyage.*

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