Prefatory note to Comparative Philosophy Group readers:

The document below is a first run at an argument which originally was envisioned as a short paper bringing together the work of a 16 century Neo-Confucian named Wang Yangming and works by four contemporary philosophers of mind whose work draws directly upon cognitive science: Lakoff and Johnson, Andy Clark, Derek Mesler, and Alva Nöe.

What you will see is a *partial* realization of that goal extending only to the point of comparing Wang's views with those of Lakoff and Johnson and Andy Clark. I left in the mentions of Mesler and Nöe to keep readers aware of the general trajectory of the paper's argument. I am not including any argumentation related to those two both because the paper's long already too long for our format, and because I haven't really settled those sections of the argument.

I won't read the whole paper to the group when we meet. Instead, I'll develop an outline of what I take to be the key points in each section and do my best to leave more time than usual for discussion (or an early dinner!)

Thanks in advance for those who take the time to read this draft. I look forward to any thoughts, clarifications and corrections that might arise during our conversation.

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Forming One Body with All Things:

Organicism and the Pursuit of an Embodied Theory of Mind

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I. Introduction

This paper uses the Neo-Confucian slogan that we should strive to "form one body with all things" as a starting point for asking whether the organismic metaphors so central to Neo-Confucian thought might be compatible with and of service to contemporary thinkers in cognitive science and philosophy of mind who believe that an embodied theory of mind is the appropriate goal for our time. My hypothesis is that the recent pursuit of embodied descriptions of minds and mental activity sometimes appear paradoxical unless set within a broader organismic framework. Contemporary cognitive scientists and philosophers of mind who are working fervently toward establishing a fully embodied understanding of the human mind would do well, I claim, to look to the role organismic metaphors play in shaping the Chinese understanding of a *hsin* (heart/mind) that has always been understood as fully embodied.

In making the case for organismic metaphors, I am challenging the tendency to assume that mechanism is the best metaphor for describing the ultimate features of our natural world, including the human mind. When this tendency is active we extend our experiences with real machines (e.g. things built by humans for specific purposes)

metaphorically to the minute and large-scale workings of nature.[1] Even biology, which one would assume ought to be the science least dominated by mechanism, typically positions organic activity as an outcome of mechanistic causation. For example, consider the long-standard practice of training undergraduate biology majors to see simple organisms as ultimately constituted by mostly mechanical causal interactions within a broader ecosystem. I say "mostly" because it is normal for biologists to stumble over the limitations of their mechanistic metaphors and be forced to mix in quasi-animistic phrases when describing the activities of simple and proto-organic entities. We say, for example, "a molecule *seeks* stability," knowing full well that molecules don't "seek" anything in the way we normally use the word seek[2].

It is an understatement to say that the mechanism metaphor has been astonishingly powerful. Without it there'd be nothing like what we think of as the natural sciences. Nevertheless, that very success tends to blind us to the fact that it *is* a metaphorical extension of our experience in one area onto our experience in another. Its limits are easy to see because they are reflected in the entire history of modern philosophy. As Dewey spells out in *The Quest for Certainty,* and as any course in the history of philosophy makes clear, modern philosophy can be viewed as one long attempt to reconcile this mechanistic metaphor (and all the advantages it bestows) with an adequate understanding of what it means to be human. Cartesian dualism, Kantian

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[1] For a fuller description of conceptual metaphor theory I am drawing upon in this paper readers should look to Lakoff and Johnson, 1999 or Slingerland, 2003.

[2] An almost randomly selected example of the extent to which mechanistic metaphors dominate biology can be seen in the abstract of this article that opens with the sentence: "Multi-component biological machines, comprising individual proteins with specialized functions, perform a variety of essential processes in cells." (Aberg et al, 4846)

apriorism, idealism, epiphenomenalism, emergentism are just a few of the strategies designed to explain how we can be fully human *and* fully embedded in a "machinelike world."

The recent explosion of interest in the pursuit of an embodied understanding of mind, mentality and knowledge has changed the conversation about minds in important ways because it renders clearer than ever before the continuity between the physical transactions that make up bodily activity (including the brain) and the feelings, ideas, and rational processes that we attribute to our minds. In this paper, I am particularly interested in lines of inquiry exemplified in the work of George Lakoff and Mark Johnson (*Philosophy in the Flesh: The Embodied Mind and its Challenge to Western Thought,* 1999), Andy Clark, (*Being There,* 1997), Derek Melser (*The Act of Thinking,* 2004) and Alva Noe (*Action in Perception,* 2nd edition, 2006). As I read them, these thinkers all take different routes to an important conclusion that that I have argued is compatible with insights gleaned from Neo-Confucianism, especially Wang Yang-ming. (Frisina, 2003) For all of these thinkers knowledge is best understood as some kind of active engagement with the world rather than a purely cognitive (i.e. non-physical) state. This paper focuses on the largely unnoticed fact that a fully embodied understanding of mind that treats knowledge as a kind of action challenges directly the assumption that traditional mechanistic metaphors are adequate to our situation. While it may have been ok to think of the world as a mechanism when we preserved a parallel non-mechanistic metaphor for describing our own mentality (think Cartesian dualism), once the hard line between "us" and the "world" is erased, mechanistic metaphors may not be up to the task of adequately representing us and our place in the world. I say this because even the staunchest

determinists I know still act as if their choices and decisions are their own and are capable of being evaluated for their moral probity.

It is important to say that I am not arguing for a return to old fashioned organicisms of either the Western or Chinese types. Instead, I am making the stronger claim that while contemporary results in cognitive psychology and neuro-science are pressing us to rethink and reimagine the most basic assumptions governing our understanding of the human mind and its place in the world, traditional Chinese organismic metaphors can be a fertile starting point for reflecting on what else we must change to achieve a fully embodied philosophy of mind.

My strategy in constructing this argument is quite simple. I look to the 16th century Neo-Confucian thinker Wang Yangming, whose theory of mind stems from and is dependent on an organismic metaphoric system that permeates the ontological, cosmological and epistemological assumptions of his day. I then examine the work George Lakoff and Mark Johnson, Andy Clark, Derek Mesler, and Alva Nöe with an eye toward the ways in which their research is consistent with conclusions drawn by Wang. On these grounds I argue that positions taken by each of these thinkers could be strengthened were they to adopt a more explicitly organismic metaphoric system.

What I find particularly interesting about organismic metaphors is the way their plausibility and usefulness increases when informed by empirically based evidence from the cognitive sciences. Thus, my argument runs in both directions. One the one hand, I am convinced that a more explicit willingness to openly adopt an organismic metaphor is called for and will ultimately prove helpful in the cognitive sciences. On the other hand, it is also true that empirical data stemming from the cognitive sciences will be an

important resource for those who have been arguing for the advantages of organismic metaphors.

Cognitive science is currently mapping lines of connection between what used to be understood as the *mechanisms of pre-cognitive perception* on the one hand and fully cognitive *conception* on the other. All of the thinkers cited in this paper tend to see elements of cognition seeping all the way down into our most basic physical interactions. This erasure of the line dividing perception and conception is undoing a truce, struck centuries ago, that allowed us to treat the natural world as a mechanical system so long as we preserved some other metaphoric space for describing human beings who see themselves as free, moral and responsible beings. Thus, in a reversal of what happened when science first began, we are now being forced by scientific insights into the sources of cognitive activity to loosen the grip of mechanical metaphors and take seriously the notion that we'd understand ourselves and our world better if we were also willing to see everything in organismic terms.

II Organicism vs. Mechanism – A new truce?

Before turning to the substantive elements of my argument I think it wise to spend a moment exploring the possibility of a new truce among those who are committed to mechanistic metaphors and those who find organismic metaphors more helpful. I suggest this because as Michael Ruse says: "I confess that I am struck with the bitterness that is often expressed across the divide between hard-line mechanists and those with organismic inclinations." (Ruse, 422) His statement appears in a largely historical article that traces succinctly and even handedly how the argument between these two camps has

unfolded in the Western intellectual tradition. Given what I'd like to accomplish it is worth outlining the steps as he describes them.

As most everyone knows, organismic assumptions played a significant role in ancient and medieval philosophy as well as in what was then called the natural sciences, especially medicine. Newton changed all of that when his "billiard ball" model of the universe supplanted older models built around organismic metaphors. Newton's mechanistic physics introduced precise mathematical equations into then proto-scientific conclusions about the world's workings and effectively dropped from said equations anything that could not be measured mathematically. After Newton, appeals to ill-defined entities or life-forces were no longer seen by scientists as legitimate explanations of anything.

Once *experimental* science got fully off the ground, the very idea of scientific explanation came to be understood as the reduction of complicated phenomena to a set of simpler entities whose mechanically causal relationships account for that which is more complex. If you want to understand (i.e. get some control over) a disease, it is important to uncover how unseen molecules (germs) disrupt the functioning of specific biological systems. The complexity of the disease phenomenon is thus reduced to its causal elements and understood largely in mechanistic terms. Darwin's theory of evolution extended this strategy to entire ecosystems by positioning speciation itself as the outcome of a blind mechanical process he called natural selection. The final plank in the construction of the modern mechanistic metaphor came when Mendel introduced genetic theories which explained in mechanistic terms how traits are passed on and variations

introduced. This new mechanistic position was ultimately dubbed "neo-Darwinism' or the 'synthetic theory of evolution.'" (Ruse, 414)

Ruse points out, however, that throughout this period some resisted the pull of the mechanistic metaphor. There have always been those who due to religious and theological pre-commitments felt obligated to assert some sort of guiding hand directing the universe and everything in it. Today we know these voices as "intelligent design" advocates. By the middle of the 19th century, and for different reasons, there were also the vitalists who argued that a separate life force is necessary to animate an otherwise purely mechanical system. As both these efforts functioned outside the realm of science and did not produce any new predictions, insights or unifications of theories, they were justly ignored by most scientists who thought the mechanistic metaphor worked just fine. (Ruse, 413)

The more interesting organicist proponents, according to Ruse, stem from Romanticism and holism. Both observed that unlike machines, organic entities preserve their integrity as ongoing processes by *responding to* an ever changing environment. This capacity for adaptive change was characterized by such thinkers as an "emergent" property, that couldn't be understood as a direct causal outcome of an organism's mechanically functioning sub-parts. For example, while the moving parts within a clock or car fulfill pre-determined functions in service to some larger goal intended by their maker, no one would say that the clock itself is telling us the time, or that the car is bringing us to the grocery store, except in a metaphorical way. (Ruse 417-20) Contrast that with our willingness to say things like: "That running antelope is trying to escape from that lion," or "that lion wants to catch and eat that antelope" and it is easy to see

what is meant by emergent properties. Emergent properties are unique to the organism as a whole, and can't be discovered via the normal scientific process of decomposition into a system's sub-parts. On this view, emergent properties occur when organic entities acquire levels of complexity that permit a kind of "downward causation" effectively reversing the assumption since Newton that *all* causal explanations begin with the simple and build to the more complex. While not suggesting the existence of some new life force, the holists are saying that some organisms of sufficient complexity have a different relationship with their broader environment. They are capable of responding to and sometimes reshaping their environment to better suit their needs. The emergence of this kind of "purposefulness" is not the same as consciousness or self-consciousness, but it is the foundation on which those things are built. Ultimately, holists point to the human capacity for self-consciousness and morals as properties that emerged in tandem with the development of ever more complicated organismic systems.

None of this violates the Darwinian principles of natural selection, as holists assume that these new features are subject to the same kind of evolutionary pressures driving the entire ecosystem's development. Those that provide an organism with adaptive advantages are retained while those that don't disappear.

On the holists' view then organismic metaphors are needed if we are to gain a full understanding of biological systems and especially the biological systems that encompass human moral life. Reductions to mechanical causation are just not up to the task of building a bridge from simple causal relationships to moral ones. Since to some such claims smack of the very occultism scientists fought so hard to overcome, it is easy to see why contemporary battles over this topic have been vitriolic and bitter. Ruse points out,

however, that the new holists include genuine scientists such as E.O. Wilson and others who rely on empirical data to draw their conclusions and thus can't be easily lumped with their anti-scientific and religious predecessors. Holists' arguments are designed to complement not supplant the mechanistic metaphoric system. Essentially they are saying: When we view things from within the context of the mechanistic metaphor we acquire great explanatory power. If, however, we view those same phenomena from within an organismic metaphor, there are other things about the world and ourselves that become visible and capable of explanation. (Ruse 420ff)

What to do then? Ruse concludes his paper by appealing to Kuhn's paradigm theory suggesting that behind both options are a set of irreconcilable conflicting values.

> After many years of fighting in the trenches on these issues, my suspicion is that ultimately the mechanist-organicist debate is not going to be solved by facts or even by reasoning. It is much more a matter of commitments, almost in the way that Thomas Kuhn speaks of commitments that come through paradigms. . . . Some of us are happy with mechanism. Some of us are not. I stress again that it is not a matter of being in science or not. . . nor is it really a matter of being tough-minded or tender-minded. . . It is a matter of different metaphors and, as we philosophers know only too well, that is as deep and profound a difference as one can get. (Ruse, 425)

And in the last line of that quotation, Ruse is making the very point I'm trying to explore in this paper. I'm asking whether Ruse's proposal that we all agree to disagree is the best we can do? Admittedly, getting to a place where the anger between these camps is tuned down would be progress. But I'd like to think we are capable of more than just learning how to "get along."

To help us move beyond the mechanist-organismic camps, I suggest we attend to arguments developed in Lakoff's and Johnson's work on conceptual metaphor theory. In *Philosophy in the Flesh* they make two important points that shape my attempt to bring

Confucianism and cognitive science into a fruitful conversation. The first has to do with the generally accepted notion that consciousness is just the tiny tip of a very large cognitive iceberg.

> It is the rule of thumb among cognitive scientists that unconscious thought is 95 percent of all thought – and that may be a serious underestimate. Moreover, the 95 percent below the surface of conscious awareness shapes and structures all conscious thought. (Lakoff and Johnson, 13)

Secondly, they claim that almost all self-conscious cognitive activity is shaped by conceptual metaphors, by which they mean the extension of specific sensorimotor experiences onto broader conceptual structures.

> Conceptual metaphor is pervasive in both thought and language. It is hard not to think of a common subjective experience that is not conventionally conceptualized in terms of metaphor. (Lakoff and Johnson, 45)

In short, Lakoff and Johnson are convinced that the vast majority of our cognitive activity happens below the surface of consciousness which is itself shaped largely by metaphorical associations that have been evolved by humans over centuries. While this is not the place to outline in detail the rationale for these assertions, it should be possible to see how they point to the possibility that we might get beyond the mere tolerance that Ruse suggests may be all we can expect.

Throughout this section, I've been assuming readers committed to either the mechanistic or organismic models will be chafing under my undefended assertion that their positions are metaphors at all. When a mechanist says X causes effect Y by process Z, it doesn't feel like metaphorical assumptions are in play. And yet, if Lakoff and Johnson are right, the whole structure of our understanding of causality is a metaphorical extension of our physical interactions with the world. In the same way, holists' defenses

of organismic models don't suggest that we are metaphorically related to our conviction that we are free, moral beings, capable of playing a role in determining future outcomes. Their point is that we can't think of ourselves without assuming the validity of those assertions. And yet, when viewed through the lenses of Lakoff's and Johnson's understanding of conceptual metaphors it becomes clear that our understanding of human freedom and responsibility stems from and is shaped directly by feelings of being physically bounded or free to move about according to our will. In short, what we mean by freedom is an extension of the ways our body moves in and through its world.

The advantage of turning toward Lakoff and Johnson instead of Kuhn has everything to do with the thing that cognitive scientists are most invested in these days – the body. Kuhn's paradigm theory functions at the level of abstract conceptual modeling and ultimately suggests that conflicting premises operating in competing theories prevent anything like a collaborative understanding from developing across different paradigms. In the space marked out by Lakoff and Johnson, however, it is possible to examine and analyze the physical sources of competing metaphorical claims. While it may be true that mechanists and organicists have followed different paths, those paths all lead back to a common bodily experience which can serve as a basis for a convergent position yet to be created. Already it's fair to say, for example, that recent proponents of what is called "new mechanism" are moving empirically closer to organicism by cultivating descriptions of non-linear and recursive causal systems that mirror much more closely the subtleties of actual organic processes. (NEED SOME NEW MECHANIST REFERENCES HERE) At the same time, as Lakoff and Johnson demonstrate, organismic thinkers are building far more sophisticated understandings of the physical

basis for so much of our cognitive activity, effectively erasing the boundaries between perception and conception.

And so, it is with this trajectory in mind that I proceed in the rest of this paper with an argument that is largely designed to defend the usefulness of organismic metaphors. Though my ultimate goal is not to displace mechanism, given the history of this struggle and the kind of dominance that mechanism has achieved, it feels appropriate to spend the bulk of my time pointing out the many ways our world makes more sense when viewed within the context of organismic metaphoric structures.

III. Wang Yangming's "Forming one body with all things."

Having set the table for a discussion of the relative value of organismic metaphors over mechanistic ones, let's turn now to Wang Yangming's famous slogan: "forming one body with all things." *In The Unity of Knowledge and Action: Toward a Nonrepresentational Theory of Knowledge,* I argued that Wang Yangming's theory of knowledge was dependent on his commitment to an underlying organismic cosmology. At one point Wang says:

> The *liang-chih* of man is the same as that of plants and trees, tiles and stones. Without the *liang-chih* inherent in man, there cannot be plants and trees, tiles and stones. This is not true of them only. Even Heaven and earth cannot exist without the *liang-chih* that is inherent in man. *For at bottom Heaven, Earth, the myriad of things and man form one body.* The point at which this unity is manifested in its most refined and excellent form is the clear intelligence of the human *hsin.* Wind, rain, dew, thunder, sun and moon, stars, animals and plants, mountains and rivers, earth and stones are essentially of one body with man. It is for this reason that such things as the grains and animals can nourish man and that such things as medicine and minerals can heal diseases. Since they share the same *qi* they enter into one another. (Wang Yangming, 221-22, italics added;

> *liang-chih* = innate knowledge, *hsin* = mind, *qi* = material force in Wing-tsit Chan's original translation.)[3]

In this statement a great deal turns on the way the phrase *liang-chih* is translated. Wing-tsit Chan originally translated it as "innate knowledge." This led many early Western scholars (especially those who like myself did not have Chinese language) to believe that Wang was pointing to a form of philosophic idealism that reduces all things to expressions of mental activity. I suspect this conclusion stemmed from a tendency to read back into the Chinese texts anachronistic divisions between a human subjective realm that is open and free on the one hand and a merely physical realm on the other. As I read Wang, however, the notion that we form one body with all things is best understood as a natural extension of organismic cosmological assumptions present in pre-Confucian Chinese texts like the *Nei-yeh* and *I-Ching,* classical Confucian texts like the *Chung-Yung, The Analects, Mengzi and Xunzi* as well as later Neo-Confucian texts by Ch'eng Hao, Ch'eng I, Chang Tsai, Chu Hsi and Lu Hsiang-shan. In short, on my reading Wang has every reason to believe we will take him quite literally when he claims that we already are connected to all things (e.g. one body) and that it is our task to extend and enrich those connections in new and creative ways. In short, he is not saying we begin as individuals who ought to form one body. He's saying the opposite, that in some minimal sense everyone is already "one body" with all things and we need to cultivate an

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[3] In this citation I've turned back to the original Chinese for terms like *liang-chih, hsin* and *qi* because as good as Chan's translations are, I find his use of "innate knowledge" *(liang-chih)*, "mind" *(hsin),* and "material force" *(qi)* bring unintended and distracting overtones into the conversation. Not having the expertise to offer alternative translations, I find it easier to simply stick with the original and allow the context and use to help readers understand what these Chinese terms mean.

awareness of the extent and depths of those interconnections while acting in ways that extend and enrich them even further. My larger point here is that Wang can assume his followers take him literally because this organismic view is consistent with what he believes his tradition has been saying from the beginning.

It is easy to see the organismic metaphoric system that is the basis for Wang's understanding of "one body" in pre-Confucian and pre-Daoist texts like the *Nei-yeh* which claims that through specific exercises, postures and meditations, we can learn to cultivate in ourselves the same vital organic energies that are essential to and shared by all forms of existence.

1. The vital essence of all things:
2. It is this that brings them to life.
3. It generates the five grains below
4. And becomes the constellated stars above.
5. When flowing amid the heavens and the earth
6. We call it ghostly and numinous.
7. When stored within the chests of human beings,
8. We call them sages. (Roth, tr., p. 101)[4]

Two things are worth noting immediately. First, there is the parallelism between this text's references to the "five grains" and the "constellated stars" and Wang's statement that "Wind, rain, dew, thunder, sun and moon, stars, animals and plants, mountains and rivers, earth and stones are essentially of one body with man." Secondly, there is the way both texts share the claim that this underlying vital essence or *liang-chih* explains why external things can nourish and heal us.

[4] Though I find Roth's conclusion that this is a pre-Confucian, pre-Daoist text convincing, it is still somewhat controversial and not yet accepted by all scholars.

In describing what the *Nei-yeh* means by "vital essence" and "vital energies" Harold Roth the translator and commentator says:

> "Our conceptually distinct line between energy and matter is blurred in the traditional Chinese notion of *ch'i*, translated here as "vital energy" or as "vital breath . . . . One can see here a cosmic continuum in which the heaviest and most turbid *ch'i* is found in the most solid and dense matter such as mountains and rocks and in which the ethereal *ch'i* is found in what we would call psychological and spiritual phenomena such as the most profound inner experiences of tranquility and in the ghostly entities that survive death. (Roth, p. 41)

Some see in these Chinese claims moves akin to Einstein's revolutionary assertion that all physical matter is best understood as a form of energy. There is some truth to this association. The differences, however, are also easy to spot. The mechanistic metaphors that play such a prominent role in structuring our understanding of what Einstein meant by energy are simply absent in the Chinese understanding of *qi*. In the ancient Chinese context *qi* is almost always "associated with biological life and vitality" (Roth, p. 41). Moreover, where Western philosophic reflection on Einstein's discovery is rarely taken as a starting point for resolving the seemingly intractable mind-body problem, in the Chinese context the very idea of pitting a mechanistic body against a free immaterial spirit simply does not come up.

That these ancient Chinese see all things as aspects of a single organic continuum doesn't mean that they couldn't tell the difference between a rock and a sage, nor does it mean that they assume that all things are part of a single giant organism (e.g. the gaia theory). It does mean, however, that for them, the differences separating the organic from the inorganic are best understood as differences of scale, scope and complexity rather than anything that might justify an ontological break separating the cognitive, the organic and the merely physical.

Now some readers might object that to this point I've been reporting only pre-Confucian/pre-Daoist religious impulses. Perhaps these positions don't apply to classical Confucians and the much later Neo-Confucians like Wang Yang-ming? In response, I'd suggest that we now have a comprehensive body of secondary literature pressing precisely the opposite conclusion. The notion that *all* ancient Chinese thought is rooted in something like this organismic cosmological continuum was first suggested by Joseph Needham in *Science and Civilization in China* in 1956. It was developed specifically with respect to Confucius by David Hall and Roger Ames in their book *Thinking Through Confucius* (1987) as well as in their later more comprehensive examinations of Chinese thought *Anticipating China* (1995) and *Thinking from the Han* (1997). In addition, Ted Slingerland's fascinating book *Effortless Action* (2003) argues that the term *wu-wei* (effortless action) is active throughout Confucian literature, including the Analects, and that it is dependent on a conceptual extension of this same organismic metaphor.

Similar claims are made by James Behuniak, who opens his book on Mengzi by saying "The notion that *qi* or 'configurative energy' animates the world is among the most common assumptions of the Warring States literature. The language of *qi* serves as a sort of metaphysical vernacular. . . ." (Behuniak, 1) Thus, on Behuniak's reading, Mengzi's theories regarding human nature make best sense when they are seen from within the context of this broader organismic metaphor. For example, Mengzi's claim that human nature tends toward the good sounds sappy, contrary to experience, and overly deterministic if you abstract it from its natural setting within the Chinese organismic metaphoric system. Properly situated, it is easy to see Mengzi struggling to strike a proper balance between acknowledging the extent to which all humans are

embedded in and dependent on organic systems and yet also capable of being nurtured within those systems to become responsible, spontaneous, moral creatures. It is the *openness* and *indeterminacy* of the standard Chinese reading of its own organic metaphors which enables Mengzi to provide his extraordinarily nuanced picture of human social and moral potential. I'd argue that this more profound reading of Mengzi's position only becomes possible when we allow their organismic metaphors to stand on their own and resist our natural tendency to subordinate organic to mechanistic metaphors.

Tu Wei-ming effectively sums up what I've been trying to communicate in this quick survey of the ancient Chinese organismic cosmology when he says "The organismic process [is] a spontaneously self-generating life process [that] exhibits three basic motifs: continuity, wholeness, and dynamism." (Tu, 38) I would add to Tu's comment a fourth motif of "openness." Within the context of ancient Chinese thought organic systems retain a degree of openness and spontaneity that purely mechanical metaphors struggle to acknowledge.

This development of the organismic metaphor in a way that enables it to weave together both an organically-based embeddedness *and* an indeterminate openness runs like a continuous thread from the early Confucian texts through to Wang's Neo-Confucian predecessors: Chang Tsai, Ch'eng Hao, Ch'eng I, Chu Hsi, and Lu Hsang-shan. When they talk about "forming one body with all things" it is clear they are urging us to adopt a point of view which makes manifest the ways we are all *outcomes and extensions of* ongoing, dynamic, creative, *organic* processes. On this topic, an extended quotation from Wing-tsit Chan is especially helpful.

> The idea of forming one body with all things is a continuation of a long Chinese tradition. Many ancient philosophers taught it and it became especially strong among the Sung, Neo-Confucians. Chang Tsai (Hang Heng-ch'ü, 1020-77) in his *Hsi-ming* (Western inscription) calls Heaven and Earth father and mother and all men brothers. Ch'eng Hao (Ch'eng Ming-tao, 1032-85) said "The man of humanity forms one body with all things without any differentiation." His brother Ch'eng I also said, "The Man of humanity regards heaven and Earth and all things as one body." From the time of Chang Tsai on, all Neo-Confucians have elaborated on or at least repeated the idea. (Chan, xxxix)

It would be wrong to read into this organismic vision anything like the notion that we are all aspects of a single organism. Rather, consistent with the Chinese tendency to see organic systems as a blending of embeddedness and openness, each organism is continuous with and distinct from its environment. The very idea of "an organism" entails *both* a set of localized processes (i.e. the organism itself) *and* the environment to which those processes are adapted. No organism stands apart from its broader organic environment. It is always in a sense one body with the environment on which it depends. Put this way, it is easy to see we all already "form one body with all things" in the sense that we are *embedded in* and *responsive to* the broader organic environment that brought us into being and sustains us. We maintain ourselves via continual transactions within this larger organic system. At the same time, since this organismic metaphor is not subordinated to a mechanistic metaphor, there remain degrees of openness and indeterminacy within the system. All organic systems are projections into a somewhat indeterminate and therefore open future. All organic systems contain sub-systems which develop in parallel with one another and sometimes compete with one another. The Neo-Confucian moral charge to "*become* one body with all things" demands that we act in a way that maximizes the potential for both local (i.e. self directed) and global good. We *are* one body in the sense that who we have been and who we will become is dependent

on and embedded in a broader organic system. But we can act to *form* one body because our cognitive powers sensitize us to virtually all aspects of the organic system as a whole.

Turning back then to the statement of Wang's that I cited at the beginning of this paper we can see what he means when he says our *liang-chih* is "the same as that of plants and trees, tiles and stones." He is not making the idealistic suggestion that the physical is reducible to the mental. Instead, he is drawing on an organismic metaphor that extends all the way back to the earliest days in Chinese thought and thereby pointing out how the dynamic organic processes that constitute ourselves (our *qi),* including everything from our most basic physicality to our most highly refined cognitive reflections, are embedded in, dependent on, and continuous with a dynamic, open, organic system. So, when Wang says elsewhere that knowledge and action are really one thing, he is trying to get his followers (and us) to realize the extent to which our minds are best understood as a particular kind of dynamic movement within this dynamic organic system. And, because of the way this organismic metaphor has been elaborated in China from time immemorial, this cognitive activity is both dependent on an organic system and yet open, since the organismic metaphor itself has always been seen to include a degree of spontaneity and indeterminacy.

III. Fleshly Thinking: Organicism and Contemporary Cognitive Theory

Having outlined what I take Wang to mean when he calls on us to form one body with all things, we are ready to look directly at what might happen if contemporary philosophers who have an interest in cognitive sciences allow their thinking to be illuminated by similar organismic rather than mechanistic metaphors. In this section I

look at George Lakoff and Mark Johnson, Andy Clark, Alva Nöe, and Derek Mesler. I've chosen these thinkers because their works share two important claims. All tend to talk about cognition as if it were a form of activity, a way of engaging with the world, rather than as a static state or purely mental condition that uses immaterial ideas to represent the world to itself. Secondly, all claim to be aiming for an embodied understanding of the human mind, one that does not see an ontological break between our mental and physical selves. Despite these affinities, however, there are broad differences when it comes to the metaphoric systems that govern their discussions. Lakoff and Johnson, for example, already seem to be actively drawing upon organismic metaphorical strategies. The others, by contrast have not made that leap. My goal in this stage of the argument is to point past the impasse Ruse cited when he said we all ought to retreat to our Kuhnian camps and agree to disagree as to whether mechanistic or organismic metaphors are most productive. While it is true that this paper's aim is to promote the advantages of an organismic metaphorical approach, that has mostly to do with my perception that the power of the mechanistic metaphor has rendered consideration of organismic strategies almost invisible. Ultimately, I do not expect organismic thinking to supplant mechanism. Rather, my hope is that we find our way toward a position akin to the ways physics currently accommodates both wave and particle theory. Scientists readily admit that both theories yield valid information about the world, despite their apparent contradictions.

a) Lakoff and Johnson – Philosophy in the Flesh

I begin with Lakoff and Johnson because among the thinkers I am examining they seem to have gone the furthest toward assimilating the kind of organismic metaphoric assumptions I have identified as the context for Wang Yang-ming's slogan. While their work does not draw directly on Wang in any way that I've been able to discern, I find their pointed efforts to move the philosophic conversation "beyond objectivism" to be naturally compatible with organismic thinking. Moreover, as we will see, a close examination of their writings shows them making many of the moves that I recommend to thinkers like Clark, Nöe, and and Mesler.

Lakoff and Johnson open *Philosophy in the Flesh* with three declarations they believe to be straightforward conclusions brought to us by contemporary cognitive science:

> The mind is inherently embodied
> Thought is mostly unconscious
> Abstract concepts are largely metaphorical (Lakoff and Johnson, 3)

They argue that these three discoveries are the basis for a complete revolution in our understanding of reason. As they see it, cognitive science tells us that reason is "*not* disembodied," it *is* "evolutionary," it is *not* "universal," it is *not* completely "conscious," it is *not* "purely literal," and it is "*not* dispassionate." (Lakoff and Johnson, 4-5) Given the current state of the literature, I think we all have to agree that whatever reason is, there is no doubt that cognitive scientists are showing us in a variety of ways how at the rudimentary level reason stems from and is dependent on the workings of neural systems which lay the groundwork for and usher in more complex conceptuality. (e.g. Shulkin, 2000, 2004) At least in this sense reason is definitely embodied. Moreover, there is no doubt that these embodied systems are the product of a long evolutionary history. Our

neural and cognitive systems are adapted to support the kind of creatures we've become and to be in synch with the environmental situations that nurtured us into existence. Finally, while it may be true that symbolic logicians can construct wonderfully abstract systems with literal-looking truth tables, the latest empirical evidence shows us that our reasoning powers are drawn not so much from the law of the excluded middle, but rather from our capacity to "feel" our way into and out of the various problems that occupy our lives (Damasio, 1994). Thus, contrary to the long-standard story, lived-reason, the reason that enables us to navigate a lived-world, has an important emotional component.

The upshot of these discoveries extends beyond the way they are reshaping our understanding of reason. Toward the beginning of this paper I suggested that modern philosophy might be viewed as one long attempt to reconcile very powerful mechanistic metaphors with an adequate understanding of what it means to be human. According to Lakoff and Johnson this longstanding project is now no longer legitimate. They argue that cognitive science has removed the rationale for the Cartesian, Kantian, utilitarian, phenomenological, postructuralist, analytic, computational, and Chomskian attempts to string together a reasonable description of what it means to be human in a mechanistic world. (Lakoff and Johnson, 5-7) Instead, they are proposing that we start anew. They counsel us to base our philosophic reflections on what the empirical data tells us about our embodied, evolutionarily derived, emotionally coded, minds. They call their approach "embodied realism" and anticipate that eventually the data of cognitive science will dissolve most of the problems that produced philosophic strategies like subjectivism, objectivism, idealism, and mechanistic materialism.

While Lakoff's and Johnson's theory of conceptual metaphor represents something of a new beginning for philosophic reflection in the late modern period, in the context of this paper we can also see how some aspects of their work are not completely unprecedented. Without suggesting that Wang anticipated the discoveries of cognitive science or the way Lakoff and Johnson put those discoveries to use, I do want to point out some important commonalities. For example, *Philosophy in the Flesh* draws at least part of its plausibility from an insistence that we shift our basic metaphoric starting point for philosophic reflection away from mechanistic materialism toward something closer to the organicism we've seen in both Wang Yangming and the broader Confucian intellectual tradition I outlined above. Without stating it directly, Lakoff and Johnson insist that we give up our fear that embodied rationality is equivalent to a deterministic mechanism that eliminates any hope for a meaningful understanding of human experience. In the story they tell, we begin our philosophic analysis by acknowledging the extent to which we are organisms embedded in and interacting with broader organic networks that retain a degree of openness and spontaneity that is hard to locate in mechanistic models.

Even more importantly for comparisons with Wang, Lakoff and Johnson tell us that our cognitive activities extend deep into our physical transactions with the world.

> The embodied-mind hypothesis therefore radically undercuts the *per*ception/*con*ception distinction. In an embodied mind, it is conceivable that the same neural system engaged in *per*ception (or in bodily movement) plays a central role in *con*ception. That is the very mechanisms responsible for *per*ception, movements and object manipulation could be responsible for *con*ceptualization and reasoning. (Lakoff and Johnson, 37-38)

Lakoff and Johnson tell us that cognitive science has erased the line between our physicality and our mentality, between perception and conception. Instead, they argue

that our higher order cognitive lives are dependent on and made possible by metaphoric extensions of our most basic physical transactions with our environment. As I read them, this sounds very close to Wang's statement (cited earlier) that "The *liang-chih* of man is the same as that of plants and trees, tiles and stones. . . . For at bottom Heaven, Earth, the myriad of things and man form one body." (Wang, Yangming, 221)

As Lakoff and Johnson see it, cognitive science bridges the gap between minds and bodies by showing us how transactions we once described as "precognitive" because they were too "mechanical" to be associated with anything so lofty as thought are now considered to be a very important part of thought itself. This transition effects just about every area of human inquiry. Toward the end of their book, Lakoff and Johnson initiate some reflection on the implications of their position for our religious and spiritual sensibilities. Though admittedly exploratory in nature, I find fascinating the way their language in this area echoes so closely many of the things we saw in Wang's initial call for us to form one body with all things.

> An embodied spirituality requires an aesthetic attitude to the world that is central to self-nurturance, to the nurturance of others, and to the nurturance of the world itself. Embodied spirituality requires an understanding that nature is not inanimate and less than human, but animated and more than human. It requires pleasure, joy in the bodily connection with earth and air, sea and sky, plants and animals – and the recognition that they are all more than human, more than any human beings could ever achieve. Embodied spirituality is more than spiritual experience. It is an ethical relationship to the physical world. (Lakoff and Johnson, 566)

It was after reading these passages, that I concluded Lakoff and Johnson were operating within a metaphoric system akin to Confucian organismic assumptions. The resonance with Wang's statement cited earlier is so close as to require little in the way of additional comment. Wang said:

> For at bottom Heaven, Earth, the myriad of things and man form one body. The point at which this unity is manifested in its most refined and excellent form is the clear intelligence of the human *hsin.* Wind, rain, dew, thunder, sun and moon, stars, animals and plants, mountains and rivers, earth and stones are essentially of one body with man. (Wang, 221)

The ultimate rationale for Wang's injunction was his conviction that our *liang-chih* is the human expression of a shared organic energy that is responsible for bringing forth all things. A *hsin* (heart/mind) animated by liang-chih is already one body with all things and capable of extending that body in new and creative ways. The responsibility to do so comes from the fact that in its human form the *qi* that makes up all things has attained new levels of responsiveness within our world. Our imaginations enable us to recognize and appreciate the extent and complexity of the creative process as a whole. In short, properly cultivated, our *liang-chih* opens us to the whole of things, which for Confucians is a uniquely human trait. With the cultivation of this capacity there emerges an obligation to act so as to maximize the value realized in the whole of things. This, it seems to me, is what Wang is getting at when he says we already form one body with all things, but we are at the same time expected to "form one body with the whole of things." And it is this same impulse that we can see active in Lakoff and Johnson's early musing on embodied spirituality and their call for us to adopt an "ethical relationship to the physical world."

b) Andy Clark*, Being There: Putting Brain, Body, and World Together Again: MIT Press, 1997*

At just about the mid-point in his book *Being There: Putting Brain, Body, and World Together Again,* Andy Clark pauses to insert an epigram consisting of a quotation

from Maurice Merleau-Ponty, It reads: "Our own body is in the world as the heart is in the organism. . . it forms with it a system." (Clark, 85) Heart, body, and world are *all* part of a single dynamic system. As we've seen, Wang Yangming's position extends Merleau-Ponty's point by arguing that *hsin* (heart/mind), bodies, and the world are *best* understood as elements of a single *organismic* system. "Wind, rain, dew, thunder, sun and moon, stars, animals and plants, mountains and rivers, earth and stones are essentially of one body with man." (Wang, 211) This urge to put back together brain, body and the world is a shared assumption of all of the works I am discussing in this paper.

According to Clark, cognitive science and cognitive neuroscience are pushing us away from theories that treat minds as "disembodied logical reasoning devices" and toward those that describe mentality as embodied. For Clark, this means that the reasoning process extends beyond the brain itself. He claims that mind is a "leaky organ" not confined to what happens within the skin or skull. (Clark, 1, 53)

Given the startling nature of Clark's assertion, it's fair to ask what compelled him to adopt a view that the mind and reason operate outside the skull? The pressure comes from two directions. On the one hand, Clark looks downward at the ways brains, bodies and the world interact at the micro or neural level. On the other hand, he looks upward at macro level social and institutional artifacts that humans create and rely upon to extend their cognitive powers.

Turning first to the micro-level, Clark argues cognitive neuroscience has demonstrated that much of what we think of as cognitive activity is a result of what are normally considered purely physical interactions occurring well below the surface of consciousness. In this way his views are consistent with Lakoff and Johnson who as we

saw argued that at least 95% of cognitive activity happens below consciousness (Lakoff and Johnson, 13) Clark argues that theories suggesting the brain relies on serial planning and centralized control are giving way to decentralized neuronal systems that are "soft-assembled" to produce "robust, contextual adaptation" and smooth, pre-reflective non-linear responsiveness to multiple simultaneous forms of stimuli from an ever changing world. (Clark, 43) He argues that locally organized neural sub-systems are capable of more finely grained responsiveness than could ever be produced by a system beholden to a centralized processing unit.

> The major lesson of neural network research, I believe, has been to thus expand our vision of the ways a physical system like the brain might encode and exploit information and knowledge. (Clark, 58)

This view rejects the traditional division of perception (the receptor), cognition (the intelligent processor) and intelligent action (output of cognition) into three separable and sequential elements in the reasoning process. Instead, for Clark perception is ". . . tangled up with specific possibilities of action – so tangled up, in fact, that the job of central cognition often ceases to exist." (Clark, 51) Perception is as much about probing as it is about receiving information. It involves an already engaged, embodied brain simultaneously pursuing multiple pattern completion projects that extend beyond its own borders and that involve complicated non-linear feedback systems (some operating independently, others intersecting and supporting one another). In short, minds awake to find themselves already enmeshed in a network of cognitive relationships. Our tendency to treat self consciousness as a product of only high level cognitive activity is something Clark hopes to overcome in *Being There.* His point is that the self is dependent on and emerges from a combination of resources and transactions both within the brain and

between the brain and the world that some would describe as purely physical. Yet Clark sees them as an essential element of all cognitive activity, including that which we normally call "higher level cognitive activity." Take these transactions away and the structure supporting higher level cognitive activity collapses.

Clark's analysis, however, involves more than just a concern with what happens on the micro-level. Indeed, his rationale for claiming that minds are not limited to skin and skull also stems from what he sees when he looks upward at the many ways humans extend their rational capacities by creating "tools" that offload memory needs, or provide enhanced processing power. On this view, physical objects in the world (e.g. pens, paper, computers, or even simple objects like counting stones) which are traditionally considered external tools to be used *by* the mind, are better seen as aspects *of* a mind that extends beyond the so-called user. While this might seem an unlikely conclusion, Clark means us to take him quite literally. He argues throughout *Being There* that "there is no need to posit such a great divide" between the fast pattern completion processes that animals engage in and the reasoning processes of humans. Instead, he says,

> ". . . where we human beings really score is in our amazing capacities to create and maintain a variety of special external structures (symbolic and social-institutional). These external structures function so as to complement our individual cognitive profiles and to diffuse human reason across wider and wider social and physical networks whose collective computations exhibit their own special dynamics and properties. (Clark, 179)

The thing that seems to be uniquely human then is not merely our tool making abilities (which we share with several other animals) but this capacity to use tools to ramp up the complexity of our transactions with one another and the world at large. Relying on insights drawn from Vygotsky's work, Clark argues we advance beyond rudimentary

cognitive processes by building scaffolding structures outside of the brain to lighten its processing load.

> Human brains . . . are not so different from the fragmented, special-purpose, action-oriented organs of other animals and autonomous robots. But we excel in one crucial respect: we are masters at structuring our physical and social worlds so as to press complex coherent behaviors from these unruly resources. . . . Our brains make the world smart so that we can be dumb in peace! Or, to look at it another way, it is the human brain plus these chunks of external scaffolding that finally constitute the smart, rational inference engine we call mind. (Clark, 180)

Clark helpfully summarizes 3 key points that are essential to understanding his description of the emergence of higher order cognitive activity. First, recognize the extent to which all brains engage in "fast, pattern-completing style of computation" at the neuronal level. Second, acknowledge that "substantial problem-solving work is offloaded onto external structures and processes- but these structures and processes now tend to be social and institutional rather than brute physical." And finally, recognize the exponential increase in power that comes with that uniquely human artifact called public language. (Clark 180)

For Clark, language is the quintessential example of a humanly created scaffold that exists both outside and within the mind. It extends and empowers mind to the point where selfhood becomes possible. The mind doesn't just use language, it is a product of language insofar as it is dependent upon language for the very idea of selfhood. Without public language humans lack a capacity to see things from perspectives other than their own or recognize their point of view as just that, a point of view. Ultimately, Clark suggests, true selfhood doesn't really emerge until an individual takes public language private by learning to talk to itself as a self.

But the payoff of public language is not merely the capacity to engage in long soliloquies with oneself. Clark's point is that public language frees ideas from their home in individual minds and opens a way for them to

> . . . criss-cross individual learning histories so that one agent's local minimum becomes another's potent building block. Moreover, the sheer number of intellectual niches available within a linguistically linked community provides a stunning matrix of possible inter-agent trajectories. (Clark 206)

> The moral is clear, Public speech, inner rehearsal, and the use of written and on-line texts are all potent tools that reconfigure the shape of computational space. Again and again we trade culturally achieved representation against individual computation. Again and again we use works to focus, clarify, transform, offload, and control our own thinkings. Thus understood, language is not the mere imperfect mirror of our intuitive knowledge. Rather, it is part and parcel of the mechanism of reason itself. (Clark 207)

I've quoted these two passages at length because they bring into focus what Clark hopes to gain via his extended view of the mind. By demonstrating that mind is not limited to skin and skull at both the micro and macro levels and by showing his readers how his view of the mind can explain how brains emerge from and are continuous with their larger environments, Clark believes he is honoring insights garnered from recent work in cognitive science, virtually all of which challenge traditional divisions between minds and bodies. At the same time he is providing a path forward for future reflections on all of the implications of a truly embodied theory of mind.

With Clark's position clearly before us, I want to turn to exploring some of the ways his description of the "leaky mind" resonates with Wang Yangming's organismic vision. The first thing to note is the parallel between Clark's understanding of social, cultural and linguistic artifacts, and the Confucian understanding of *li* (ritual).

As we've seen, the Confucian organismic metaphorical system is built upon a relational ontology. Things are what they are by virtue of the relationships that they have. Strip away a thing's relationships and, onion-like, the "thing" you are discussing disappears. More specifically, everything is *what* it is by virtue of the *kinds* of relationships that it has. Humans, for example, literally become human by engaging in or cultivating human-like relationships. On this view then, all human selves awake to discover they are already enmeshed in a distinctively human set of ritually structured relationships which Confucians call *li.*

Everything about human life is structured by *li.* The specific habits of mind and body that guide and structure how we relate to one another and the rest of the world are what makes us human. *Li* governs how we sit, stand, talk, and feel. *Li* makes it possible for us to be someone's child, parent, sibling, or lover. Ritually guided relationships can make us villagers and in some cases citizens. Moreover, they shape the way we relate to the physical world, enabling feelings about our geography, animals, and nature itself. Most importantly, language itself is best understood as a subset of *li*. It is, as Clark has suggested, the principle tool we have for establishing and extending the relationships that make us human selves.

Viewed this way, the Confucian preoccupation with ritual is not an expression of conservative priggishness, as Daoists tend to suggest. Rather, it is akin to what Clark means when he says that we create social and cultural institutions to offload computational effort from the brain so as to open new pathways for sharing, extending and developing ideas. Confucians and Clark agree that humans emerge into this world

with a capacity to add value by creating artifacts that extend, enrich, and thicken the relationships with one another and the world as a whole.

It's worth noting that this faith in the advantages of ritual is not a universal Chinese view. Daoists are innately suspicious of the Confucian claim that humanly created artifacts add value to the cosmos. More often, they suggest, human egotism leads to rituals that interfere with the intrinsic value of more natural orders that have emerged without our "creative" influences. Neo-Confucians like Wang Yangming, however, differ from early Confucians in having assimilated insights from Daoism and Buddhism. Wang's Confucian optimism is tempered by a deep awareness of the role selfish desires play in derailing rituals into forms that make them unhelpful rather than life affirming.

Laying aside for the moment this argument over when rituals go bad, both Wang and Clark share a deep appreciation for the ways in which human artifacts (Clark) or rituals (Wang), add complexity, nuance and gracefulness to the relationships we have with one another and the broader world. At least in this way, Wang's recommendation that we work to form one body with all things applies easily to Clark's position.

It's also important to note that the dual dimension of Wang's slogan fits Clark's position well. All of us awake to discover ourselves already enmeshed in a network of relationships, and in that sense *are already* "one body with all things." At the same time, however, Clark makes clear how the scaffolding process central to his vision of the "leaky mind" opens us to seeing how mental processes extend, enrich and thicken our relationships with others and the world around us. Thus, I think it fair to say that Wang's assertion that we are *already* one body with all things and his call to *form* one body with all things fits Clark's view of mind quite nicely.

Another advantage of bringing these two thinkers together is the way doing so shines a light on unrecognized implications in each thinker's position. For example, while Wang certainly wrestled with the Confucian understanding of "self-cultivation" and its relationship to ritual, those issues appear differently when illuminated by Clark's claim that the mind extends beyond the border of skin and skull. Consider the ways this dispersal of the self across a field of transactions that reach beyond a singular brain and/or body, transforms how we think about Wang's preoccupation with the process of self-cultivation. Viewed with the help of Clark, Wang's self-cultivation is not just about making a better self. Rather, it is equally about contributing to the betterment of all things to which one is related because as Clark points out, many of those things literally *are* us. With Clark's leaky mind metaphor as an aid, those who know Wang's discussion of *The Great Learning* can better see the reasoning behind Wang's argument with Chu Hsi regarding the order and process of "self cultivation." Investigation of things *(ko wu),* can't come before sincerity *(ch'eng)* because things can't be properly "investigated" when treated as apart from or disconnected from who we are as knowing, embodied, engaged selves.

At the same time, Clark's arguments, which point only gently in the direction of moral responsibility, take on a much more explicitly normative dimension when we see the way his theories map onto Wang's understanding of what it means to be called to *form one body with all things.* Wang reminds us there are always moral implications in any attempt to bring mind, body and world back together again. With Wang in mind, Clark's project is not just about reconnecting us to embodied dimensions of the reasoning process, but is rather an opportunity to see what Lakoff and Johnson were claiming when

they said in a passage cited earlier: “An embodied spirituality requires an aesthetic attitude to the world that is central to self-nurturance, to the nurturance of others, and to the nurturance of the world itself.” (Lakoff and Johsnon, 566) While Clark’s work does not point directly toward anything Lakoff’s and Johnson’s “embodied spirituality,” I’m convinced that it is easier to see how such a spirituality is possible once we’ve followed Clark’s lead in rethinking the borders of selfhood.

But what about this paper’s core argument that those who are pursuing an embodied understanding of the mind would do well to adopt organismic metaphoric structures over the more standard mechanistic ones? Having demonstrated some of the things Clark and Wang have in common, and having provided at least a few reasons why it can be fruitful to read them together, I’d like to turn to what I think Wang brings to the table that Clark is lacking. To do that we have to turn back to the topic of emergentism.

Earlier in this paper I cited Ruse, who described the ways romanticists and holists defended the assertion that some explanation is required of the transition from physical causal relationships, which are almost uniformly framed by mechanistic metaphors, to the more complicated, recursive and non-linear causal relationships we see in organic systems. They designated these new organic relationships as “emergent properties” that are acquired incidentally rather than directly caused by simpler mechanical transactions. Emergent properties are unique to an organism as a whole and cannot be explained via the normal scientific process of decomposition into the system’s sub-parts. They are accidental offshoots of mechanical causation and most importantly, they introduce a kind of “downward causation” that reverses the normal causal pathways. Entities that have emergent properties influence their environment by acting in and through the world,

rather than functioning solely as its product. The purposefulness of an antelope's efforts to escape a lion was cited earlier as an example of an emergent property not locatable in any of the physical sub-processes that contributed to the antelope's existence.

The paradox, of course, is in the "how" of this transition from purely mechanical transactions which seem to operate within a closed system, to purposeful ones that are capable of a degree of openness and spontaneity. Emergentism certainly seems like sensible response to the fact that clocks and cars are different from antelopes and lions. And yet, the question remains: How do mechanically causal relationships give rise, even incidentally, to emergent properties which introduce a kind of openness and spontaneity that mechanism seems otherwise unable to accommodate?

Clark very clearly identifies himself as an emergentist. In fact, the heart of the argument in *Being There* is a defense of the position that emergentism is an important step in putting brain, body and world back together again. To see this, it is useful to note his claim that the cognitive sciences have advanced through three distinct stages. The first was "classical cognitivism" and it "… depicted the mind in terms of a central logic engine, symbolic databases, and some peripheral 'sensory modules." Classical cognitivism eventually gave way to the second "connectionist stage" which replaces the description of the mind's central logic processor with distributed neural networks capable of engaging in pattern completion processes. While connectivism is a genuine advance over classical cognitivism, Clark claims it retains ". . . a tacit acceptance of the classical marginalization of body and world." In other words, connectivism opens us to see the micro-level transactions that link mind, body and world, but leaves unexplained how those transactions build to a full conscious mind capable of self-direction. The whole

point of Clark's book is to chronicle and defend the emergence of a third new stage of cognitive science that takes ". . . the environment as an active resource whose intrinsic dynamics can play important problem-solving roles and the body as part of the computational loop." (Clark, 83-4)

> To thus take body and world seriously is to invite an emergentist perspective on many key phenomena – to see adaptive success as inhering as much in the complex interactions among body, world and brain as in the inner processes bounded by skin and skull. (Clark 84)

In these ways, then, it is easy to see why Clark is convinced that emergentism is one of the keys making it possible for us to bring back together brain, body and world.

The plus side of emergentism is its ability to *describe* what happens in the shift from mechanical to organic interactions. The downside, however, can be seen when mechanists ask whether emergetism ever gets past description to an *explanation* of anything at all. Traditional mechanists suggest there is something paradoxical in the idea of new properties suddenly appearing within an otherwise closed system. Given the explanatory power at the heart of our reliance upon the mechanistic metaphor, it is for many far simpler to assume that the spontaneity and openness that seem to be associated with higher level cognitive activity are ultimately illusions. With enough time and resources, they suggest, those things can be explained as products of prior causal mechanisms.

The organismic metaphorical strategy attributed to Confucianism and Wang Yang-ming offers a third way between the emergentist and mechanist positions. It suggests that by substituting an organismic metaphor for the mechanical one we reduce the paradoxes and gain explanatory power when it comes to the goal of putting brain,

body and world back together again. Organismic thinkers begin by assuming the potentiality for openness and spontaneity is a component of everything, all the way down. This isn't to say that there is anything like mind or spirit in the world's smallest elements. It is rather to claim with Wang that "Wind, rain, dew, thunder, sun and moon, stars, animals and plants, mountains and rivers, earth and stones are essentially of one body with man." (Wang, 221) On Wang's view we do well to jettison barriers we've erected between the physical, organic and cognitive realms and instead assume a line of continuity from the smallest to the most complicated forms of existence.

There is a subtle distinction being drawn here. Emergentists tend to talk as if organic and cognitive properties are accidental additions to mechanistic systems. Organismic thinkers like Wang suggest that it is more consistent to see the potentiality for spontaneity and openness as an element of all things because all things are to some degree expressions of the same organismic energy. Viewed through the lens of organismic metaphors, higher order cognitive activities do emerge from simpler causal relationships. However, that emergence is not an accidental addition to an otherwise determinate system, but rather the realization of a potentiality present in a world made up of organisms all the way down.

Now to some this will sound a bit like magical thinking. After all, given the ways we've been trained to think about mechanical causation, extending notions of organic activity down into the physical realm feels like an odd form of primitive animism. Of course, that is true only for those who take the mechanistic metaphor to be not metaphorical at all but rather as a description of the way things are. From the beginning, this paper has been defending a view, rooted in the conceptual metaphor theories of

Lakoff and Johnson, that much of our thinking on these cosmological and ontological issues is framed by metaphorical extensions of experiences in one area of our lives onto other areas. We learned early on that we gained great power over our world when we assumed its functioning was akin to the functioning of machines built by humans. Only a fool would deny the power of this metaphorical move. At the same time, however, even the most ardent mechanist must acknowledge that this metaphorical extension has contributed to feelings of alienation and disconnection when it comes to locating ourselves in this world. In other words, it's hard to see how brains, bodies and the world are together at all in a world understood only through mechanistic metaphors. Organismic metaphors offer a way of eliminating both the paradox of talking as if there are two kinds of things in the world – those that are free and those that are not – while simultaneously providing genuine explanatory power when it comes to seeing how and why brain, body and world are all together.

What I hope to have shown then is not just that Clark and Wang Yangming share certain important assumptions and conclusions. Rather, I'm hoping to have convinced readers that Clark's goal of putting brain, body and world together can be effected much more easily if he were to draw upon organismic metaphorical assumptions, rather than relying upon emergentist claims which are grafted onto an otherwise mechanistic metaphorical model. Ultimately, my goal is not to eliminate or supplant the mechanistic metaphor. Instead, I am arguing that by being able to accept organismic metaphors alongside mechanistic ones we bring ourselves closer to the position of contemporary physicists who see advantages to both particle and wave theory. Both are considered "true" because both are instrumental in giving us more control in our world. It's in this

way that I'd like to go beyond Ruse's suggestion that we adopt a Kuhnian-like truce and agree to disagree and aim for the stronger view that both metaphorical systems have something to teach us. By viewing Clark's work in tandem with the organismic assumptions found in Wang Yangming's call to form one body with all things, some of the things that have puzzled us for generations may seem less strange, and isn't that what metaphors are meant to do for us?

c) Alva Noe, *Action in Perception,* MIT Press, 2004

Perception as doing. Dropping the notion of perception as something that happens to us and recognizing the extent to which it occurs via active engagement with the world. Thinking is acting because perceiving is acting. This work effectively dismantles much of what was left of the old model of passive mentality, by making the process whereby it gets its raw material out to be itself a value driven action, rather than passive inflow. What happens when our physical-ness, our mere being the world, is transformed from some sort of mechanical structure into purposeful activity? Actions always occur within the context of some set of values – better/worse, avoidance/attraction. Why do organisms act? – to achieve goals and avoid problems.

"The main idea of this book is that perceiving is a way of acting. Perception is not something that happens to us, or in us. It is something we do." (Noe, 1)

"The idea of perception as a species of skillful bodily activity is deeply counterintuitive. It goes against many of our preconceptions about the nature of perception . We tend, when thinking about perception, to make vision, not touch, our paradigm, and we tend to think of vision on a photographic model . . . . On this view, the relation between moving and perceiving is only instrumental." (Noe, 3)

"Why is there any experience at all? I close with the thought that a natural philosophy of consciousness should seek answers to this question in the neighborhood of problems in biology about the nature and origins of life. It is likely that not all living things have minds; certainly there is no a priori reason to believe that only living beings could have minds. Nevertheless, for reasons I have hinted at, it may be that the problem of mind and that of life are in an important sense one. The common heart of both problems is that of understanding how 'mere matter' can acquire the intrinsic unity characteristic of both the living being and the conscious point of view." (Noe, 231)

d) Derek Melser, *The Act of Thinking,* MIT Press, 2004

Thinking is an action. Actions are bottom line realities – not calling for explanation.

Thinking is *not* natural. It is a learned trait. Thinking is token concerting, a trick we learn by observing others doing it. Note his anxiety about establishing the line between "natural processes and personal actions." Melsner is an example of someone who feels pressed to treat thinking as an action, but is actively resisting the shift in metaphor away from mechanism toward some sort of organicism.

"We generally know, and can say, both that we are thinking and what we are thinking. This cannot be said of the natural processes going on in our bodies. Such inner goings-on as digestion, circulation and oxidation of the blood, insulin secretion by the pancreas, and conception are not usually – and certainly not characteristically or by definition – subject to awareness by the host person." (Melser, 6)

e) Don't be scared – this is not craziness – the link between organicism and panpsychism; mechanism, new mechanism, emergentism, and the way forward.

1. David Skrbina, *Panpsychism in the West,* MIT Press, 2005

History of panpsychism – only intermittently gone from the scene.

2. Gaylen Strawson, "Realistic Monism: Why Physicalism Entails Panpsychism,"

Books Cited

Behuniak, Jr., James *Mencius on Becoming Human.* Albany: State University of New York Press, 2003.

Chan, Wing-tsit "Introduction," *Instructions for Practical Living.* by Wang Yangming. New York: Columbia University Press, 1963.

Clark, Andy *Being There: Putting Brain, Body and World Together Again. Cambridge: MIT Press, 1997.*

Aberg, Christoffer, Duderstadt, Karl E., and van Oijen, Antoine M. "Stability vs. exchange: a paradox in DNA replication." *Nucleic Acids Research.* June 2, 2016. 44(10); 4846-4854.

Damasio, Anton *Descartes' Error: Emotion, Reason and the Human Brain.* New York: Putnam Publishing, 1994.

Grange, Joseph *John Dewey, Confucius, and Global Philosophy.* Albany: State University of New York Press, 2004.

Jullien, François *The Propensity of Things: Toward a History of Efficacy in China.* New York: Zone Books, 1995.

Frisina, Warren *The Unity of Knowledge and Action: Toward a Nonrepresentational Theory of Knowledge.* Albany: State University of New York Press, 2003.

Lakoff, George and Johnson, Mark *Philosophy in the Flesh.* New York, Basic Books, 1999.

Neville, Robert *The High Road Around Modernism.* Albany: State University of New York Press, 1993.

Odin, Steve *The Social Self in Zen and American Pragmatism.* Albany: State University of New York, 1996.

Roth, Harold. *Original Tao.* New York: Columbia University Press, 1999.

Slingerland, Edward *Effortless Action: Wu-Wei as a Conceptual Metaphor and Spiritual Ideal in Early China.* New York: Oxford University Press, 2003.

Ruse, Michael "From Organicism to Mechanism – And Halfway Back?" *Beyond Mechanism: Putting Life Back into Biology.* Ed. Brian G. Henning and Adam C. Scarfe, Lanham: Lexington Books, 2013.

Shulkin, Jay *Roots of Social Sensibility and Neural Function.* Cambridge, MA: Massachusetts Institute of Technology Press, 2000.

Bodily Sensibility New York: Oxford University Press, 2004

Tu, Wei-ming *Confucian Thought: Selfhood as Transformation.* Albany: State University of New York Press, 1985.

Wang Yang-ming. *Instructions for Practical Living.* (transl. Wing Tsit Chan) New York: Columbia University Press, 1963.