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SPECIAL FORUM ESSAY

Exploring the unique roles of trust and play in private creativity: From the complexity-ambiguity-metaphor link to the trust-play-creativity link

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I explore the Eastern philosophy of wisdom to balance with the orthodox Western philosophy of science toward a geocentric integration of both the West and the East at the most fundamental level. In particular, the unique Eastern epistemological frame of Yin-Yang Balancing has the unique potential to reframe ambiguity from a problem (inconsistency) to a solution (completeness). Built upon the Eastern philosophy of wisdom, I propose a process model for the link between trust and creativity, especially in a private context rather than the typical public context. This model highlights the essence of trust as a leap of faith to bridge the unknown with the known, uncertainty with certainty, and ambiguity with clarity via the mechanisms of psychological relaxation and cognitive improvisation to mediate between trust, play and creativity. The tentative sketch of the Eastern philosophy of wisdom and its application to the trust-play-creativity link are the two contributions of this study. The central theme is that the Eastern philosophy of wisdom is primarily concerned with the creation of novel knowledge as open-ended and open-minded exploration via trust and play, while the Western philosophy of science is primarily concerned with the evaluation of the extant knowledge as close-ended and close-minded exploitation via control and routine.

Keywords: trust; play; complexity; ambiguity; metaphor; creativity; relaxation; improvisation

There is a consensus that innovation depends on a person or a team having creative ideas and developing those ideas into something tangible (Amabile, Conti, Coon, Lazenby, & Herron, 1996). Among the diverse factors with potential contributions to creativity and innovation, trust could be a critical one because trust is inherently tied to exploring the unknown, the uncertain and the ambiguous. Trust can serve as a leap of faith to bridge those gaps (Luhmann, 1979). Once we know something for certain and with clarity, trust is no longer critical or necessary. In this sense, Tim Brown, the CEO of Ideo, argues that creativity calls for trust because trust facilitates play as well as creativity (Brown, 2009). In general, when we trust, we tend to feel safe so as to relax; when we relax, we tend to conquer our inertia and follow our inner curiosity so as to play; when we play, we tend to leverage our intrinsic motivation and ability to freely imagine so as to improvise; when we improvise, we tend to explore diverse and even crazy options so as to create. In other words, when trust is present, creativity can emerge from play because ‘all creative acts are forms of

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play, the starting place of creativity in the human growth cycle’ (Nachmanovitch, 1990, p. 42).

Despite the potential role of trust, the overall research on the effect of trust on creativity remains limited (Clegg, Unsworth, Epitropaki, & Parker, 2002; see Hennessey & Amabile, 2010; Runco, 2004 for reviews). We are not sure about whether trust (or distrust) tends to foster (or hinder) creativity, and less sure about why and how trust or distrust affects creativity (Mayer & Mussweiler, 2011). While the bulk of the limited research on the trust-creativity link lies in the domain of interfirm alliance (see Li, 2010 for a review), there is less work on the role of trust in the intrafirm creativity (see Hulsheger, Anderson, & Salgado, 2009 for a meta-analysis; also see Shelley, Zhou, & Oldham, 2004; Woodman, Sawyer, & Griffin, 1993, for reviews). In particular, we know little about why and how trust (distrust) both fosters and hinders creativity, especially to which degree (e.g., more fostering or more hindering), in which aspect (e.g., public or private contexts; social or cognitive mechanisms), and/or at which time (e.g., the stage of idea generation or idea implementation), which can result in a curvilinear link between trust (distrust) and creativity (e.g., Bidault & Castello, 2009).

Further, the limited research on the trust-creativity link focuses primarily on the role of trust at the interpersonal or interfirm level. It is generally assumed that trust could be associated with a special context that is open, safe, tolerant, autonomous, embedded, supportive and cooperative, and the special context is often conducive to creativity at the interpersonal level (Anderson & West, 1998; Carnevale & Probst, 1998; Chua, Morris, & Ingram, 2010; Liu, Chen, & Xin, 2011). While low trust is expected to result in low commitment for fear of being abused due to opportunism and free-riding tendencies, high trust is often related to a higher level of commitment. In particular, it is argued that trust will facilitate creativity at the interpersonal or interfirm level as co-exploration via the mechanisms of voluntary information disclosure and relationship commitment behaviour (Li, 1998, 2008). However, we know little about how trust facilitates creativity at the intrapersonal level when an individual engages in the process of creativity in private without interaction with others, even though there is evidence that trust and distrust can affect individual creativity differently depending on the private or public context of creativity (e.g., Mayer & Mussweiler, 2011). In particular, it is possible that the public context of interpersonal social interaction evokes different components of multi-dimensional trust (distrust) than those required by the private context of an intrapersonal solitary process. It is also possible that trust and distrust at the intrapersonal level may converge in certain aspects, such as their shared underlying cognitive processes of trust in intuitive imagination as well as distrust in logical analysis in the contexts of complexity and ambiguity. We need to add this missing piece of the puzzle of creativity at all levels. In this exploratory article, I argue for the need to adopt the Eastern epistemological frame of Yin-Yang Balancing to explain the curvilinear link between trust and creativity as well as such a link in a private context.

The purpose of this study is twofold. First, I provide a philosophical foundation for a new process model about the major mechanisms for trust to foster creativity. The philosophical foundation is deeply rooted in the Eastern philosophical traditions of Taoism, Confucianism, and Buddhism as a philosophy of wisdom toward a geocentric meta-paradigm of creative cognition, which incorporates the Western research on creativity and the Western philosophy of science. Second, I focus on the major rationales and key mechanisms for trust to foster creativity. In particular,
I explore the complex effect of trust on creativity at the intrapersonal level by evoking the inherent link between trust and play. Specifically, I posit that trust can foster play and creativity in a private context via two mechanisms: *psychological relaxation* to mediate between trust and play, and *cognitive improvisation* to mediate between play and creativity. Further, I focus on the *private versions* of trust, play and creativity in contrast to their public versions. By ‘private’ I mean the solitary state at the intrapersonal level without social interaction.

In the rest of the article, I explore the inherent links between these two mechanisms and their underlying contexts of complexity, ambiguity and metaphor. In particular, I highlight the need for the reframed construct of ambiguity as a multi-frame blend by evoking the metaphor of a 3-D picture as an application of the Eastern frame of Yin-Yang Balancing. Also, I explore the unique role of metaphor in creative cognition. In essence, I explore the critical process from the complexity-ambiguity-metaphor link at the philosophical level to the trust-play-creativity link at the operating level. The central theme is that the Eastern philosophy of wisdom is primarily concerned with the *creation* of novel knowledge as open-ended and open-minded exploration via trust and play, but the Western philosophy of science is primarily concerned with the *evaluation* of the extant knowledge as close-ended and close-minded exploitation via control and work. Finally, because both creation and evaluation are needed to balance art with science, the West must meet the East in an effort toward a geocentric integration of their philosophies. For my purposes here, the *East* refers to the regions traditionally influenced by the ancient Chinese civilisation, while the *West* refers to regions traditionally influenced by the ancient Greek civilisation (Li, in press; Liang, 1921/1997). In this sense, ‘Chinese’ and ‘Eastern’ will be used interchangeably. I recognise that neither the East nor the West is a homogenous entity given their rich internal diversity (Chen & Miller, 2011), but they can be contrasted as two distinctive groups.

**Ambiguity as open-ended multi-frame integration**

There is an emerging consensus that management research should adopt an interdisciplinary and multi-perspective approach in general (see Suddaby, Hardy, & Huy, 2011 for a review). However, there is little evidence that scholars are actually responding to the ideal consensus despite repeated calls for integrative research (see Hennessey & Amabile, 2010 for a review on creativity literature; see Li, 2007 for a review on trust literature). The lack of evidence is arguably not because of the lack of motive or effort, but largely due to the *lack of ability* given the methodology of logical analysis rooted in the epistemology of rational reductionism and the ontology of realism-idealism separation, all of which are dominant in the West. In particular, the either/or logic (i.e., the epistemology of dualism or dichotomy) in the West has generated the hyper-specialised knowledge that has resulted in increasingly impermeable boundaries between all disciplines (Morin, 2008). The right place to look is where the East and the West meet using a geocentric (West-East balance) meta-paradigm. The biggest challenge is to have a geocentric integration between the West and the East at the fundamental level of philosophy. The hope is that the Eastern philosophy of wisdom has the potential to achieve a geocentric integration. In particular, the Eastern philosophy has the capacity to reframe ambiguity from a negative problem (inconsistency) to a positive solution (completeness) as well as to balance logical analysis with intuitive imagination. The geocentric meta-paradigm of creative
cognition can start from complexity (rooted in the Eastern ontology of Tao as ‘Heaven-Earth-Human Harmony’) and move to ambiguity (rooted in the Eastern epistemology of Yin-Yang Balancing) and then to metaphor (rooted in the Eastern methodology of wu as intuitive imagination with intuition as process and insight as outcome). The reframed notion of ambiguity as a multi-frame blend mediates between complexity and metaphor with a shared duality of diversity-in-unity. The philosophies I examine are the orthodoxies in the West and the East (cf. Polanyi, 1958; Liang, 1921/1997; Stacey, Griffin, & Shaw, 2000; Weick & Sutcliffe, 2006). Creative cognition is my focus because it remains the biggest puzzle, and also because a geocentric meta-paradigm of creative cognition takes the Western philosophy of science (the metaphor of computer) into the Eastern philosophy of wisdom (the metaphor of organism) for an ultimate geocentric meta-paradigm of general cognition.

As I have argued elsewhere (Li, 1998, 2008, 2011a), Yin-Yang Balancing consists of three core tenets (holistic, dynamic and duality) with the unique capacity to appreciate the inevitability and desirability of opposites as partly conflicting and partly complementary, so each pair of opposites can be reframed into a duality as opposites-in-unity, rather than separating those opposites spatially in content or temporally in process. As the ‘either/and’ frame, Yin-Yang Balancing is distinctive from Aristotle’s either/or frame and Hegel’s ‘both/or’ frame (which initially tolerates the inconsistency or contradiction, but ultimately solves it) (Li, in press). In the Western tradition, ambiguity refers to a status of concept or statement with multiple, apparently unrelated meanings or interpretations, thus a problem of inconsistency (Atherton, 1993). Referring to ambiguity as ‘a lack of clarity or consistency in reality, causality, or intentionality’ (1994, p. 178), March pointed out that ‘neither rational theories of choice nor rule-following theories of identity fulfilment deal particularly well with ambiguity. The contradictions, inconsistencies, and fuzziness of reality, preferences, and identities are largely ignored’ (p. 192). In sharp contrast, in the Chinese tradition, ambiguity has been embraced as both inevitable and desirable (Gao, 1994; Liang, 1921/1997; Yu, 2009). Further, ambiguity can be central to explaining complex issues if it is reframed as the multi-frame blend with a focus on completeness, rather than as the fuzziness within a single frame with a focus on inconsistency (generally assumed in the West). The positive view of ambiguity is consistent with March’s insight that ‘ambiguity may be used to augment understanding through imagination’ (1994, p. 179). The tie between complexity and ambiguity can be vividly illustrated by the story about the elephant and the blind men. The elephant is complex in the sense that it has multiple dimensions in need of multiple frames as well as their final blend for a holistic picture of the elephant. Ambiguity can also be illustrated by the vase/face illusion for the reversibility of background and figure as well as by the 3-D picture for the integration of multiple inconsistent frames (Li, 2011a). Hence, the inherent link between complexity and ambiguity can be best captured by their shared duality of diversity-in-unity concerning the completeness-consistency balance (Byers, 2007; cf. Klinek & Renn, 2002; Weick, 1995). In general, I conceptualise complexity as ontological and ambiguity as epistemological, thus linked to two types of uncertainty or risk (cf. Walker et al., 2003). Based on the above discussion, I will explore the unique roles of contradiction and ambiguity in the process of creativity (cf. Arieti, 1976; Rothenberg, 1979).

The above reframing of ambiguity is consistent with the widely accepted notion of the ill-structured or ill-defined problem, which, in turn, is directly tied to creativity. A problem is termed well-structured when the various components of the problem are
well specified and are known to the solver. In contrast, *ill-structured* problems are those in which the givens, the goal, and the constraints are not specified or known (Simon, 1973). Newell, Shaw and Simon (1962) proposed that a creative act is one of solving an ill-defined problem, where the solvers have to define the problem for themselves and ‘fill in the gaps’ of the problem with unique knowledge. Each solver’s solution will be unique because it reflects the solver’s own unique knowledge and values (Hayes, 1981). *Creativity* here refers to ‘a special class of problem solving activity characterised by novelty, unconventionality, persistence and difficulty in problem formulation’ (Newell et al., 1962, p. 66). What is critical to my argument about ambiguity is its unique role in the process of solving ill-structured problems. The literature on creativity has many references to the role of ambiguity in the creative process (e.g., Perkins, 1985; Finke, Ward, & Smith, 1992), and two points are emphasised (Voss & Means, 1989). First, creative individuals tend to have high tolerance for ambiguity (Amabile, 1983; Rothenberg, 1979). Second, creative solutions can occur as the results of resolving ambiguities (Bruner, 1962). The two points suggest that creativity will benefit from ambiguity as a triggering mechanism in the process of creativity, consistent with the perspective that creative cognition is dialectical in nature (Basseches, 1984). To a large extent, the real challenge of *insight problems* (i.e., problems that require insight) lies in the nature of the multi-source difficulty inherent in insight rather than an often assumed single cause of difficulty (Kershaw & Ohlsson, 2004).

A critical aspect of ambiguity is that there are multiple sets of constraints that must be dealt with, and the solver must reframe the problem in a way that may reject some of the existing constraints while, at the same time, maintaining other constraints. Not all individuals are capable of engaging in such mental gymnastics. Further, the violated constraints in the creative process are often basic assumptions; that is, ‘breakthroughs’ occur when the solver rejects a widely-held theory by attacking its key assumptions and formulating a new idea based upon different assumptions. The constraint violation thus reflects a process by which the solver is forced to reframe the problem, and this often happens as a resolution to an ambiguous situation. In this sense, the frame of Yin-Yang Balancing can facilitate creative thinking by encouraging the flexible boundaries between opposite constructs and also their maximum contrast. For example, one of the techniques to help think outside of the box is *assumption reversal*, challenging the taken-for-granted conventional assumptions by referring to their opposite assumptions (Michalko, 1991). This illustrates the value of the frame of Yin-Yang Balancing for creative cognition in general. Consistent with the Yin-Yang Balancing, March (1994) argued that ‘in many ways, human stories about the world can be characterised as strong beliefs in contradictory things,’ so ‘this feature of interpretation underlies the emphasis on the simultaneity of opposites in much literature’ (pp. 184–185). Highlighting the prefix ‘ambi’, Byers (2007, p. 28) even defined ambiguity as involving ‘a single situation or idea that is perceived in two self-consistent but mutually incompatible frames of reference’, similar to the notion of paradox (but stronger than duality) and related to the completeness-consistency balance as well as the science-art balance.

Further, an effective management of ambiguity in ill-structured problems often involves the *incubation effect* (Wallas, 1926), which is perhaps the most widely cited phenomenon in the creative literature (see Sio & Ormerod, 2009 for a review): a solver may work on a complex problem that defies immediate solutions and, upon
‘setting aside’ the problem, a solution suddenly occurs, often upon an apparently extraneous stimulus or subconscious insight. The problem is thought to be ‘incubating’ during the period of detachment, but somehow the solution is triggered at the end of this period. The incubation effect occurs at the second stage in Wallas’s four-stage model (1926), and it often occurs below the threshold of consciousness (cf. Simon, 1966). It is possible that the detachment from a problem at the incubation stage will enable a multi-framing integration (i.e., the notion of ambiguity defined in this study), where the solver considers alternative frames about the same complex problem, often subconsciously, so as to be free from the possible constraints present at the conscious level (cf. Voss & Means, 1989). Gordon (1961, p. 37) pointed out that ‘a new viewpoint depends on the capacity to risk and to understand the mechanisms by which the mind can make tolerable and temporal ambiguity implicit in risking’. Hence, the tolerance for ambiguity is typically considered one of the rare qualities of creative individuals and an inevitable part of the creative process (e.g., Dowd, 1989; Lubart & Guignard, 2004; Plucker & Renzulli, 1999; Singer, 2004; Voss & Means, 1989), as is the tolerance for contradiction (e.g., Arieti, 1976; Benack, Basseches, & Swan, 1989; Koestler, 1964; Rothenberg, 1979; Vaughan, 1985; Voss & Means, 1989). Besides its holistic and duality features, the creative solution of an ill-structured problem also derives from a dynamic process (Simon, 1973), thus consistent with the three tenets of Yin-Yang Balancing. Despite the attempts to explain the incubation effect, the debate continues regarding the nature of the process and the implication of such an effect (cf. Koestler, 1964; Perkins, 1981, 2000).

**Toward a geocentric meta-paradigm of creative cognition**

This paradigm consists of three elements at two stages: (1) from complexity to ambiguity, and (2) from ambiguity to metaphor. First, complex issues or phenomena will inevitably lead to multi-frame ambiguity without the single-frame fuzziness. While complexity can be addressed by the ontology of Tao, multi-frame ambiguity must be addressed by the unique epistemology of Yin-Yang Balancing. Second, multi-frame ambiguity requires metaphor as a unique method of *wu* (intuitive imagination), which refers to inference via the similarity and difference in certain aspects between entities not causally linked (Gentner & Bowdle, 2008; Lakoff & Johnson, 1980). Here the complexity-ambiguity-metaphor link is proposed as the core of the Eastern paradigm of creative cognition, which can serve as the philosophical foundation for incorporating the Western literature on creativity toward a geocentric meta-paradigm of creative cognition. This meta-paradigm can help explore how to apply the complexity-ambiguity-metaphor link at the philosophical level to the trust-play-creativity link at the operating level (see Table 1 for details).

In essence, the Chinese notion of *wu* serves as the anchor in the Eastern paradigm of creative cognition for knowledge exploration in terms of path-breaking discovery; in contrast to the Western paradigm of critical cognition (i.e., both logical analysis and expertise-based intuition) for knowledge exploitation in terms of path-dependent proof or extension (March, 1991). In this sense, the Eastern paradigm is largely for creative problem solving and decision making, while the Western paradigm is largely for critical verification and extension. Further, it is imperative that *wu*, especially its sudden version (for sudden insight) in contrast to its gradual version (for gradual insight), is inherently rooted in the Eastern epistemological frame of Yin-Yang
Balancing and the Eastern ontology of Tao (Liang, 1921/1997). Thus, I distinguish between the Eastern notion of intuition as exploratory in nature as the core of the Eastern paradigm of creative cognition, and the Western notion of intuition as exploitative in nature as the peripheral of the Western paradigm of critical cognition (the core in the Western paradigm is logical analysis). Consequently, although most scientific insights have been intuitively achieved first, but only verified later via logical analysis (Langer, 1989; Laughlin, 1997; von Franz, 1992), the process of exploration is often recounted as a rational process rather than wu (cf. Langley, Simon, Bradshaw, & Zytkow, 1987). This misconception has been effectively

<table>
<thead>
<tr>
<th>Philosophies of Science/Wisdom &amp; Paradigms of Cognition</th>
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<th>← The East</th>
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‘falsified’ by some great minds in the West. In particular, Popper eloquently pointed out the limitations of logical analysis as well as the unique power of exploratory intuition (1959, pp. 31–32):

The initial stage, the act of conceiving or inventing a theory, seems to me neither to call for logical analysis nor to be susceptible of it. The question how it happens that a new idea occurs to man… is irrelevant to the logical analysis of scientific knowledge… I shall distinguish sharply between the process of conceiving a new idea, and the methods and results of examining it logically… there is no such thing as a logical method of having new ideas, or a logical reconstruction of this process. My view may be expressed by saying that every discovery contains ‘an irrational element,’ or ‘a creative intuition,’ in Bergson’s sense. In a similar way Einstein speaks of ‘… the search for those highly universal… laws from which a picture of the world can be obtained by pure deduction. There is no logical path’, he says, ‘leading to these… laws. They can be reached by intuition, based upon something like an intellectual love (‘Einfühlung’) of the objects of experience.

This criticism is echoed by Poincaré, one of the greatest mathematicians and the last universalist:

pure logic could never lead us to anything but tautologies; it could create nothing new, not from it alone can any science issue… to make any science, something else than pure logic is necessary. To designate this something else we have no word other than intuition. (1913/1946, pp. 214–215)

that the science of demonstration is not all science and that intuition must retain its role as complement, I was about to say as counterpoise or as antidote of logic. (p. 217)

logic and intuition have each their necessary roles… Logic… is the instrument of demonstration; intuition is the instrument of invention. (p. 219)

so

it is by logic one demonstrates, by intuition one invents. To know how to criticize is good, to know how to create is better;

hence, without intuition

would be like a writer who should be versed in grammar but had no ideas. (p. 438)

Planck, the father of quantum physics, also argued that the path-breaking scientist ‘must have a vivid intuitive imagination, for new ideas are not generated by deduction, but by an artistically creative imagination’ (1950, p. 109). The solid evidence is available in the writings of great scientists, especially conspicuous in mathematics as the most rational among all sciences, that reflect their trust in intuition and the sense of beauty, together with their distrust in deductive logic, a one-track consistent mind, and all-conscious thinking (Hadamard, 1945; Koestler, 1964). Research on geniuses and Nobel laureates has revealed their intuitive qualities (e.g., Marton, Fensham, & Chaiklin, 1994; Miller, 1996; Shavinina, 2004). In other words, exploring insights is wu, while exploiting rational proof to verify or falsify the insights is logical analysis. Hence, great scientists have implicitly adopted the Eastern philosophy of wisdom without explicitly knowing it. In other words, they have had
the right intuition without the philosophical rationale behind their best practice. In sum, the Western philosophy of science is primarily concerned with how scientific knowledge is evaluated and verified (or falsified) as exploitation, while the Eastern philosophy of wisdom is primarily concerned with how such knowledge is discovered and created as exploration. However, in line with the frame of Yin-Yang Balancing, these philosophies can be reframed as a duality of exploration and exploitation for a geocentric integration. In particular, the elements of wu and logical analysis can be reframed into various dualities.

Specifically, I distinguish the Chinese notion of wu (intuitive imagination) from the Western notion of intuition as experience- or expertise-based automatic judgment with no need for imagination (see Dane & Pratt, 2009; Salas, Rosen, & DiazGranados, 2010, for recent reviews; e.g., Duggan, 2007; Hodgkinson, Langan-Fox, & Sadler-Smith, 2008; Klein, 1998; Prietula & Simon, 1989). The notion of wu is distinct from the Western notion of intuition in many aspects (cf. Begley, 2008; Gregory, 1987; Guenther, 1958; Hideki, 1973). First, wu is concerned primarily with cognitive creation in terms of insight beyond the Western notion of intuition that is confined to the past experience and/or learned expertise for instinctive judgment. Second, wu not only distinguishes between, but also integrates, both the process and outcome of creation, rather than confounding or splitting the two variables in the Western notion of intuition. Third, wu not only distinguishes between, but also integrates, both the stages of gradual and sudden creation, rather than confounding or splitting the stages in the Western notion of insight. Fourth, wu embraces both complexity and ambiguity as the given antecedents as well as non-logical components (e.g., metaphor, intuition, imagination, image, inspiration and emotion) as the inherent contents of intuitive imagination with metaphor being the primary mechanism to create novel and tacit knowledge, all via the balance between subconscious and conscious sub-processes (Gao, 1994; Hideki, 1973; Liang, 1921/1997). Fifth, wu is tacit and implicit in nature so that it defies the explicit constructs and logic system (Hall, 1978).

The mechanism of metaphor is also tacit and implicit in nature because it relies primarily on imagination and imagery to manage multi-frame ambiguity across a spectrum of diverse options. ‘In the Taoist vision the fundamental characteristics of creativity are freedom and reflexivity…The Taoist notion of creativity must be approached through the intuition of Tao’ (Hall, 1978, p. 274). We need to point out that, even in the two most advanced scientific fields of mathematics and physics, metaphor still plays a critical role to the extent that all abstract concepts are ambiguous metaphors (Byers, 2007; Miller, 1996), as in other fields of science and beyond (Lakoff & Johnson, 1999). Rather than posing a problem for cognition, metaphor is central to cognition at all levels across all stages, especially as the most effective mechanism for creative cognition, so science should not and cannot transcend metaphor (Fernandez-Duque & Johnson, 1999). We should embrace and appreciate the links between intuition, imagination, metaphor, and insight in the holistic, dynamic and duality process of creative cognition, not only for art but also for science.

It is critical to note that metaphor is central to the Chinese mode of thinking, which is often called correlative thinking (Graham, 1986; Hall & Ames, 1995). Hall and Ames specifically pointed out (1995, p. 124).
the relative indifference of correlative thinking to logical analysis means that the ambiguity, vagueness, and incoherence associable with images and metaphors are carried over into the more formal elements of thoughts. In contradiction to the rational mode of thinking which privileges univocity, correlative thinking involves the association of elements into image clusters which guarantee to its constituents richly vague significance.

While Hall and Ames saw correlative thinking as cultural in nature, Graham (1986) regarded this mode of thinking as the proto-scientific one in contrast to the modern scientific mode in the West. Consistent with the geocentric meta-paradigm, I adopt a third perspective by taking it as both culture-specific and culture-free, and both proto- and meta-scientific to complement the modern scientific mode of logical analysis. This view echoes those who recognise the inherent link between metaphor and science (e.g., Black, 1962; Hesse, 1966; Lakoff & Johnson, 1999). However, the most striking distinction between the Eastern and Western notions of metaphor is parallel to the similar distinction between the Eastern and Western notions of intuition. Hence, I can distinguish between the Eastern notion of exploratory metaphor and the Western notion of exploitative metaphor.

Specifically, while the West focuses on the ‘structural mapping’ between existing and known entities (analogous to the computer model) (Gentner & Bowdle, 2008), the East stresses the open and free imagination from one existing and known entity to a non-existent and unknown entity (analogous to the organism model). This can be illustrated by the story about how Bang Lu, the legendary carpenter in ancient China, invented the saw. One day, his hand was cut by the blade of grass. He looked at the grass blade and suddenly imagined the saw. This case of exploratory metaphor is common among the great scientists in the West, including Bohr, Einstein, and Poincaré (Miller, 1996), and possible for others (Lakoff & Johnson, 1999). It is interesting to note that, related to the distinctive functions of the right-brain (more holistic, intuitive and synthesis-oriented) and left-brain (more sequential, logical and analysis-oriented) hemispheres (Katz, 1997), exploratory (remote) metaphor is processed primarily by the right-brain hemisphere, while exploitative (local) metaphor is processed primarily by the left-brain hemisphere (Schmidt, DeBuse, & Seger, 2007). In this sense, the Chinese ‘correlative thinking’ may be associated with the unique nature of Chinese written language as a non-alphabet language, which tends to evoke both left-brain and right-brain hemispheres, in contrast to the typical reliance on the left-brain hemisphere to process the alphabet languages in the West (see Tan, Laird, Li, & Fox, 2005 for a meta-analysis). Also, I venture to speculate that the Chinese philosophy of wisdom may be associated with the Chinese written language, which is largely image-based and rich in metaphors and dualities (e.g., some Chinese words are made of two characters with opposite meanings, and many Chinese proverbs are also made of two words with opposite meanings) (Chen, 2008; Peng & Nisbett, 1999).

Although metaphor can occur in both subconscious and conscious processes, it is more effective in generating insight in the subconscious process for the freest and richest associations that are unlikely in the conscious process (Hideki, 1973; cf. Perkins, 2000). This is because creativity presupposes a relaxing of the controls and a regression to modes of ideation which are indifferent to the rules of verbal logic, unperturbed by contradiction, untouched by the dogmas and taboos of so-called common sense. At the decisive stage of discovery
the codes of disciplined reasoning are suspended – as they are in the dream, the reverie, the manic flight of thought, when the stream of ideation is free to drift, by its own emotional gravity, as it were, in the an apparently ‘lawless’ fashion. (Koestler, 1964, p. 178)

Further,


generative metaphors seem to take their inception in essentially subliminal process – a process of which we are not thoroughly conscious at the moment of its occurrence... as it postulates similarities between apparently unlike things, and as it illuminates and excites in the ‘confusion’ of our impressions by simultaneously suggesting an identity (a similarity) and a separateness (a dissimilarity). (Gordon, 1961, p. 114)

This is directly tied to the Eureka effect and incubation stage. Empirically supported later (e.g., Bowers, Regehr, Balthazard, & Parker, 1990; Zhong, Dijksterhuis, & Galinsky, 2008), Poincaré specifically pointed out (1913/1946, pp. 389–391):

Most striking at first is this appearance of sudden illumination, a manifest sign of long, unconscious prior work. The role of this unconscious work in mathematical invention appears to me incontestable... It might be said that the conscious work has been more fruitful because it has been interrupted and the rest has given back to the mind its force and freshness. But it is more probable that this rest has been filled out with unconscious work... It is certain that the combinations which present themselves to the mind in a sort of sudden illumination, after an unconscious working somewhat prolonged, are generally useful and fertile combinations... only the interesting ones would break into the domain of consciousness... More generally the privileged unconscious phenomena, those susceptible of becoming conscious, are those which, directly or indirectly, affect most profoundly our emotional sensibility.

This subconscious process can be facilitated by the practice of Zen meditation (Suzuki, 1964), which is related to the interaction between mindfulness and mindlessness, both of which can occur in both conscious and subconscious processes, especially during the interplay between the two contrary yet complementary elements as a duality (cf. Bishop et al., 2004; Langer, 1989). Upon the premise of conscious-subconscious balance, it can be argued that the subconscious process may be more central to creative cognition than to critical cognition, while the conscious process may be more central to critical cognition than to creative cognition. ‘To grasp the Taoist sense of the equivalence of Tao, Cosmos, Chaos, and Becoming, or Process, it is necessary to employ, not reason, but intuition’ (Hall, 1978, p. 279). Hence, ‘the rational, for Zen, is just another point of view. Paradox, in Zen, is used constructively as a way to direct the mind to subverbal levels out of which acts of creativity arise’ (Byers, 2007, p. 19).

Based upon the above discussion, it is critical to explore the role of imagination in the process of creation. First, imagination can be defined as a mental process to generate novel images or other ideas beyond what is already known (Finke et al., 1992; Murray, 1986). In other words, the images or entities recalled from memory are not imagination. Second, imagination should be treated as a balance between conscious and subconscious processes since the subject is never perfectly aware of his/her imagination (cf. Finke et al., 1992; Thomas, 1999). Third, though related to Romanticism, imagination can link art with science (Daston, 1998). I take issue with the prevailing perspective that takes imagination as a mirror for the external reality because this view is incompatible with creative cognition. Consistent with the
Chinese philosophy of wisdom as well as the metaphor of organism for mind, we should shift from the metaphor of mirror to that of lamp so as to project something novel from the mind’s eye into the external reality to be compatible with creative cognition (Thomas, 1999). In this sense, I endorse the metaphor of lamp for the role of wu (intuitive imagination). In sum, metaphor, by balancing the subconscious with the conscious, is the specific mechanism for wu to connect (more precisely, to reconnect) art with science.

In the broad context of West-East integration, I can integrate the Eastern paradigm with the Western literature on creativity, including the Synectics approach (using metaphor/analogy) (Gordon, 1961); Gestalt psychology (emphasising the holistic nature) (Koehler, 1947); the Eureka effect (sudden insight) (Koestler, 1964); the stage model of creativity (preparation, incubation, illumination and verification) (Wallas, 1926); tacit personal knowledge (tacitly knowing as richer than explicitly knowing) (Polanyi, 1958); and the dual-processing model (subconscious-automatic and conscious-controlled) (Epstein, 1999; Evans, 2008), and its applications to other areas such as the unconscious thought theory (Dijksterhuis & Nordgren, 2006), explicit-implicit interaction theory (Helie & Sun, 2010) and the mindful-mindless debate (cf. Langer, 1989; Weick & Sutcliffe, 2006). The shared concern of the above Western theories lies in the legitimate and unique role of intuition and metaphor in contrast to logical analysis, thus consistent with the Chinese methodology of wu. Further, given that the above Western theories challenge the Western philosophy of science (cf. Popper, 1959) and the research on creativity has always been at the periphery in the West (Miller, 1989; Sternberg, 2006), it is necessity to regard the Eastern philosophy of wisdom as the foundation for creativity research to integrate the Western theories about creativity. It is true that we must integrate the Eastern philosophy of wisdom with the Western philosophy of science, and it is also true that creativity must be taken as the holistic, dynamic and duality balance between intuitive imagination for open-minded exploration and logic analysis for close-minded exploitation. However, this integration or balance is never a simple mix of two symmetrical sides. In this sense, I take the integration between the Chinese and Western medical practices as the metaphor for a geocentric meta-paradigm of creative cognition. Arguably the most striking showcase for differentiating the Eastern and Western philosophies is in the field of medicine (Porkert, 1978; Sivin, 2000). However, the emerging trend of medical practice in the West is adopting Eastern integrative medicine as a basic framework, and absorbing Western specialised medicine as the concrete components for the general framework (Bells & Koithan, 2006). This metaphor suggests that the Eastern philosophy of wisdom should serve as the base to absorb the Western philosophy of science toward a geocentric meta-paradigm.

Finally, I want to explain why a geocentric meta-paradigm is not symmetrical. For this purpose, I need to extend from the three core tenets of holistic, dynamic and duality at the philosophical level to the three basic operating rules at the application level. First, after the relative (partial) separation of opposite elements at the macro-system level, the interdependence and interaction require one opposite element to play the dominant role at each and every spatial aspect or temporal stage as the micro-unit, while the other opposite element must play the subordinate role in the same micro-unit. Related to the holistic tenet, the first operating rule can be called ‘asymmetrical balancing’. Second, the interdependence and interaction trigger a dynamic shift in the relative positions of opposite elements from the original
asymmetrical balance toward a threshold as tipping-off point, which is unstable and requires a swift transition for the opposite elements to switch their roles from the old asymmetrical balance to a new asymmetrical balance. Related to the dynamic tenet, the second operating rule can be called ‘transitional balancing’. Third, every subordinate element will complement the other dominant element in an inverted U-shaped pattern: it is the least complementary when it is at a low level, but it is the most conflicting when it is at a high level; it is the most complementary (synergy) and least conflicting (trade-off) whenever it is at a moderate level, thus consistent with the Golden Rule of Balanced Harmony (Chen & Miller, 2011; Li, 1998, in press). Related to the duality tenet, the third operating rule can be called ‘curvilinear balancing’. In other words, whenever the opposite elements are both at a high level in the same spatial aspect and at the same temporal stage, they will be highly conflicting in their interaction in an unhealthy tension, but they will be in a proper balance in a healthy tension when only one is high while the other is moderate. This is because the opposite elements are partially complementary and partially conflicting.

Applying the three operating rules to creativity, we can reframe the automatic processing as intuition with two sub-types: exploitative intuition and exploratory intuition, with the latter being wu (intuitive imagination) to serve as the anchor in the asymmetrical balances between the two sub-types of intuition as well as between automatic and controlled (logical analysis) processing. Hence, wu has the potential to reframe mindful as open-minded (primarily subconscious as intuitive imagination), and mindlessness as close-minded (primarily conscious as logical analysis) so that those Western theories about creativities can be integrated into the Eastern philosophy of wisdom. In other words, wu highlights the greater value of subconscious process for creativity as compared to the value of conscious process, thus their asymmetrical balance (cf. Finke et al., 1992; Perkins, 1981). This perspective suggests the inevitability and desirability of an asymmetrical integration for a geocentric meta-paradigm.

The open-minded trust-play-creativity link
I have sketched the Eastern philosophy of wisdom as the foundation for the development of a geocentric meta-paradigm of creative cognition. Now I turn to the issue of applying the complexity-ambiguity-metaphor link to the trust-play-creativity link. In particular, I evoke the notion of play and focus on the parallel between play and trust. Among the diverse factors with potential contributions to creativity and innovation, trust could be a critical one because trust is inherently tied to exploring the unknown, the uncertain and the ambiguous; it is a leap of faith to bridge those gaps (Luhmann, 1979). Once we know something for certain and with clarity, trust is no longer critical or necessary. Further, the notion of play, especially the idea of pretend play, can be critical to creativity and innovation (see Russ, 2004 for a review). There seems to be a natural parallel between the activities we all participated in as children and the typical characteristics of creativity and innovation. However, by the time we have entered adulthood, we have lost most of the precious talents associated with play as the pattern of exploring the unknown world. The first place this starts to occur is at school. The focus on logical analysis at the expense of intuitive imagination at school is ‘so dominant that most students leave school with the belief either that creativity is unimportant or that it is the privilege of a few talented oddballs’ (Brown, 2009, pp. 222–223). I argue that trust, play and creativity are
inherently interconnected in a unique process. Hence, I propose a process model of trust → relaxation → play → improvisation → creativity. When we trust, we tend to feel safe so as to relax; when we relax, we tend to conquer our inertia and follow our inner curiosity so as to play; when we play, we tend to leverage our intrinsic motivation and ability to freely imagine so as to improvise; when we improvise, we tend to explore diverse and crazy options so as to create. In other words, when trust is present, people tend to be more playful, which in turn leads to higher creativity, with relaxation as the mediating mechanism for trust to foster play and improvisation as the mediating mechanism for both trust and play to foster creativity, thus completing the trust-play-creativity link.

A unique feature of the trust-play-creativity link lies in the public-private dimension, so we need to differentiate the private versions of trust, play and creativity at the intrapersonal level from their public counterparts at the interpersonal or interfirm level. Referring to the willingness to tolerate (as attitude) and appreciate (as choice) the uncertainty of depending (thus being vulnerable) on others (either people or non-human entity), trust can have both public and private versions (cf. Li, 2007; Mayer & Mussweiler, 2011). In this study, I focus on the private version of trust at the intrapersonal level in a private context, in contrast to the prevailing public version of trust at the interpersonal or interfirm level in a public context. Further, referring to a self-initiated and free-formatted process of make-believe (pretend and imagined) activities with tacit goals, play can have both public and private versions (cf. Fein, 1981; Lieberman, 1977; Russ, 2004). While the public versions of trust and play (also creativity) focus on the process of social interaction, the private versions highlight the process of solitary cognition.

Finally, the Eastern philosophy of wisdom, especially its epistemology of Yin-Yang Balancing and its methodology of wu can shed new light on the holistic, dynamic and duality understanding on the trust-play-creativity link, including the non-routine research on creativity (e.g., Anderson, De Dreu, & Nijstad, 2004), the appreciation for the paradoxes of creativity beyond the either/or frame (e.g., DeFillippi, Grabher, & Jones, 2007), and the inherent duality of science and art (e.g., Boden, 1994). It is also imperative to reframe the opposites of trust and distrust, play and work, and creativity and routine as dualities (opposites-in-unity). The links between trust, play and creativity are squarely rooted in the increasingly imperative contexts of complexity and ambiguity, thus the imperative need for the Eastern philosophy of wisdom as well as for a geocentric meta-paradigm with East-West integration.

The potential links between trust, play and creativity

Despite the potential role of trust, the overall research on the effect of trust on creativity remains limited (Clegg et al., 2002; see Hennessey & Amabile, 2010; Runco, 2004 for reviews). We are not sure about whether trust or distrust tends to foster or hinder creativity, and even less sure about why and how trust or distrust affects creativity (Mayer & Mussweiler, 2011). In particular, we know little about why and how trust (distrust) both fosters and hinders creativity, especially to which degree (e.g., more fostering or more hindering), in which aspect (e.g., social or cognitive mechanisms; public or private contexts), and/or at which time (e.g., the stage of idea generation or idea implementation), which can result in a curvilinear link between
trust (distrust) and creativity (e.g., Bidault & Castello, 2009). All the above opposites can be reframed as dualities in line with the Yin-Yang Balancing.

Further, the limited research on the trust-creativity link focuses primarily on the role of trust at the interpersonal or interfirm level. It is generally assumed that trust could be associated with a special context that is open, safe, tolerant, autonomous, embedded, supportive and cooperative, and that such a context is often conducive to creativity at the interpersonal level (Anderson & West, 1998; Carnevale & Probst, 1998; Chua et al., 2010; Liu et al., 2011). However, we know little about how trust fosters creativity at the intrapersonal level when an individual engages in the process of creativity in private, even though it is evident that trust and distrust can affect individual creativity differently, contingent upon a private or public context of creativity (e.g., Mayer & Mussweiler, 2011). In particular, it seems that a public context of interpersonal social interaction induces some components of multidimensional trust (distrust) that are distinctive from those involved in a private context of an intrapersonal solitary process. It is also possible that trust and distrust at the intrapersonal level would converge in certain aspects, including their shared underlying cognitive processes of intrapersonal trust in \textit{wu} (intuitive imagination with the method of metaphor/analogy) and intrapersonal distrust in logical analysis (with the methods of deduction and induction), both occurring in the increasingly relevant contexts of growing complexity and ambiguity that will result in higher uncertainty.

Although relatively few scholars have linked trust with creativity, some have connected play with creativity, either explicitly or implicitly (see Russ, 2004 for a review). In particular, play can shed light on the conscious-subconscious balance for creativity via \textit{wu} (intuitive imagination). In particular, I focus on the private version of play as a solitary process in a private context. March identified several unique features of play (1982, pp. 77–78), all of which challenge the Western philosophy of science:

\begin{quote}
Playfulness is the deliberate, temporary relaxation of rules in order to explore the possibilities of alternative rules. When we are playful, we challenge the necessity of consistency... A strict insistence on purpose, consistency, and rationality limits our ability to find new purposes. Play relaxes that insistence to allow us to act ‘unintentionally’ or ‘irrationally,’ or ‘foolishly’ to explore alternative ideas of possible purposes and alternative concepts of behavioral consistency. And it does this while maintaining our basic commitment to the necessity of intelligence. Although play and reason are in this way functional complements, they are often behavioral competitors... we can treat intuition as real. I do not know what intuition is, or even it is any one thing. Perhaps it is simply an excuse for doing something we cannot justify in terms of present values or for refusing to follow the logic of our own beliefs. Perhaps it is an inexplicable way of consulting that part of our intelligence that is not organized in a way anticipated by standard theories of choice. In either case, intuition permits us to see some possible actions that are outside our present scheme for justifying behavior.
\end{quote}

The above view is shared by other scholars (e.g., Finke et al., 1992; Schooler, Fallshore, & Fiore, 1995; Stacey, 1996). In particular, Schooler and colleagues (1995) posited that insight is multifaceted in nature, so it derives primarily from an effective application of metaphor (analogy) associated with risk-taking (related to trust) and play. More importantly, metaphor (analogy) is uniquely valuable due to its ability to help solve ill-defined problems that are complex and ambiguous. We should recognise that the notions of uncertainty, trust, play, intuition, insight, creativity
and innovation are all complex and ambiguous (holistic, dynamic and duality), so they defy fully explicit definitions. To put it differently, such concepts are tacit in nature. This is the philosophical position of Taoism, similar to the perspective of personal knowledge (Polanyi, 1958). Hence, consistent with the frame of Yin-Yang Balancing, an integrative approach to creativity requires a proper balance between intuitive imagination and logical analysis, so any overemphasis on one element at the expense of the other is dangerous (Brown, 2009).

In order to theorise about the potential links between play and creativity, we should specify the concrete processes as the mechanisms that connect play with creativity. Theoretically, play fosters the development of both cognitive and affective processes that are central to creativity (Lieberman, 1977; Fein, 1987; Singer & Singer, 1990; Russ, 1993, 2004). For example, Russ (1993, 2004) postulated that play is critical in developing creativity because the same cognitive and affective processes involved in creativity occur in play, such as the use of symbolism and imagination. Fein (1987) stated that play is a symbolic behaviour in which ‘one thing is playfully treated as if it were something else’ (p. 282). The use of imagination in the form of make-believe or pretend play is also imperative for play (Lieberman, 1977; Dansky, 1980; Singer & Singer, 1990). Most importantly, play induces divergent thinking, which is a process central to creativity (Lieberman, 1977; Russ, 2004). As defined by Guilford (1968), divergent thinking generates diverse ideas and associations related to a problem. It involves free metaphor (analogy) association, broad scanning ability and fluidity of thinking; it has also been found to be relatively independent of typical intelligence (Runco, 1991). The limited evidence of longitudinal research shows that the cognitive processes in play at the early years, such as the quality of imagination, are related to divergent thinking ability many years later (see Russ, 2004 for a review). In particular, Krasnor and Pepler (1980) developed a more integrative model of play involving four key components, i.e., non-literality, positive affect, intrinsic motivation, and flexibility. They argued that play typically involved all four components to varying degrees. Further, Elkind (2007) argued for the need to balance between freedom and routine in various processes of play. In this sense, I argue that play is inherently related to the Chinese wu (intuitive imagination) with the method of metaphor (analogy) in contrast to the orthodox Western methodology of logical analysis with the methods of deduction and induction. Applying the frame of Yin-Yang Balancing, play and work can be reframed as a duality (opposites-in-unity), thus partially complementary and partially conflicting, rather than two unrelated polars. In this sense, the play-work duality is similar to the exploration-exploitation duality.

The potential mechanisms for the trust-play-creativity link

Although no scholar has ever linked trust with play, it is possible to do that by developing a new construct by reframing the notion of psychological safety at the interpersonal level (Edmondson, 1999) into a novel construct of psychological relaxation at the intrapersonal level. Psychological safety refers to a shared belief that a team is safe for interpersonal risk taking (Edmondson, 1999), thus a notion for a public context. In the research on the team process for creativity, idea exchange and psychological safety are often identified as two core mechanisms for creativity in a public context, but there is some evidence that the latter is more important than the former, and the effect of idea exchange on creativity can be mediated by trust (e.g.,
Gong, Cheung, Wang, & Huang, in press). In particular, psychological safety can foster trust and creativity when employees are motivated to innovate when the interpersonal context is perceived as safe and risk-free, which is induced by trust (Edmondson, 1999). At the team level, some researchers have used the term ‘participative safety’, which encompasses sharing and trust (e.g., Anderson & West, 1998). At the organisational level, Amabile and Conti (1999) developed a model that combines trust and sharing to predict creativity. However, the likely effect of psychological safety on creativity at the intrapersonal level in a private context has not been explored, nor has the link between private trust and private play.

To construct the missing link between trust, play and creativity in a private context, I reframe the notion of psychological safety at the interpersonal level into a novel notion of psychological relaxation, which refers to a private sense that the context in which an individual resides is safe for relaxation in private, thus a construct at the intrapersonal level. However, I keep the original tacit or taken-for-granted feature of psychological safety in the new notion of psychological relaxation. Further, similar to the inherent link between team psychological safety and team trust (Edmondson, 1999), I take psychological relaxation as derived from private trust. In other words, while most scholars take psychological safety and trust as virtually synonyms (e.g., Anderson & West, 1998; Edmondson, 1999; Gong et al., in press), I maintain that psychological relaxation and private trust are distinctive with private trust as one of the antecedents to psychological relaxation. In this sense, psychological relaxation can serve as a mechanism to connect trust with play at the intrapersonal level in a private context.

Specifically, when an individual trusts his or her surrounding context as safe and non-threatening (e.g., the safety of home as a location or the non-threatening nature of a problem as a task), the individual will relax. When the individual is relaxed, he or she tends to engage in play. According to the broaden-and-build theory of positive emotions, a non-threatening context will engender positive emotions, such as joy, interest, contentment, pride and love, which, in turn, will lead to the urge to play (Fredrickson, 2001). In this sense, psychological relaxation can serve as the primary mechanism for an individual to engage in play. Further, in addition to its role as the mechanism to link trust with play, psychological relaxation can also help link play with creativity (Anderson & West, 1998; Edmondson, 1999; Gong et al., in press), including the enhancement of cognitive capacity and positive affect due to psychological relaxation, both of which will foster creativity via intuitive imagination (Elsbach & Hargadon, 2006; Russ, 1993). In particular, trust and relaxation not only help tolerate possible mistakes in the context of uncertainty derived from complexity and ambiguity (Edmondson, 1999), but also help appreciate the context of uncertainty as an opportunity so as to enjoy playing with complex and ambiguous options. Relaxation can engender ‘the urge to play, push the limits, and be creative’ (Fredrickson, 2001, p. 220).

Further, to provide an encompassing mechanism to account for the overall link between play and creativity, I propose a novel construct of cognitive improvisation as the mechanism to mediate between play and creativity in general. Cognitive improvisation refers to a spontaneous practice of creating the real-time responses to the stimuli from outside contexts and/or inner feelings (Nachmanovitch, 1990; Sawyer, 1997). The skills of cognitive improvisation can apply to many different abilities across many domains of arts and sciences. Further, cognitive improvisation is most effective when it embraces intuitive imagination as the inner source of
spontaneous creation (Nachmanovitch, 1990). According to Berliner (1994), p. 241), ‘improvisation involves reworking precomposed material and designs in relation to unanticipated ideas conceived, shaped, and transformed under the special conditions of performance, thereby adding unique features to every creation.’ Hence, ‘improvisation deals with the unforeseen, it works without a prior stipulation, it works with the unexpected’ (Weick, 1998, p. 544). However, while cognitive improvisation relies primarily on spontaneity and intuition as two core features, it also needs the opposite features of routine and analysis to balance each other as dualities (Berliner, 1994; Weick, 1998). In other words, ‘improvisation does not materialize out of thin air’ (Weick, 1998, p. 546). This is highly consistent with the frame of Yin-Yang Balancing in particular and the geocentric meta-paradigm of cognition in general. In particular, improvisation is related to the Eastern mindfulness (subconscious) as the wisdom-based awareness deeper and freer than the superficial consciousness (Thera, 1996).

Specifically, improvised play can be effective in taking advantage of an open and rich imagination, which in turn, fosters creativity (Lieberman, 1977). As some studies show, imagination in symbolic play is an imperative source of cognitive flexibility, thus creativity (e.g., Dansky & Silverman, 1973). Dansky’s (1980) theoretical rationale that play would facilitate divergent thinking was that the process of free combination of objects and ideas involved in play is similar to the elements involved in creative thinking. He speculated that the free symbolic transformations inherent in pretend play helped create a temporary cognitive set toward the loosening of old associations. Hence, trust and play can collectively foster an effective incubation with open-ended perspectives, free imaginations and flexible discretions for remote associations of metaphors or analogies (Mednick, 1962; Runco, 1991, 2007). To summarise the above discussion, I can apply the feature of open-ended to the issues of complexity and ambiguity, and apply the feature of open-minded to the issues of metaphor, trust, play, and creativity (cf. Rokeach, 1960). In this sense, I can directly connect the debates over subconscious and conscious processes, exploratory and exploitative intuitions, exploratory and exploitative metaphors, and mindful and mindless approaches together with the shared thread of separating open-minded exploration from close-minded exploitation. This shared thread is rooted in the central theme of this article in terms of the Eastern philosophy of wisdom for the creation of novel knowledge, and the Western philosophy of science for the evaluation of extant knowledge with close-ended issues and close-minded approaches.

Despite the debate over whether we need to evoke the Eureka effect in creativity research (cf. Langley et al., 1987; Perkins, 2000; Poincaré, 1913/1946), we cannot underestimate the unique value of the subconscious, especially for intuitive imagination. The common ground shared by Western and Eastern notions of intuition is the subconscious process, which remains poorly understood in the West (see Bastick, 1982; Dane & Pratt, 2009; Salas et al., 2010 for reviews), but has been well embraced in the East (Begley, 2008; Gao, 1994; Hideki, 1973; Liang, 1921/1997; Suzuki, 1964; Yu, 2009). In particular, while the West considers intuition as fully subconscious, the East treats intuition as a complex balance between subconscious and conscious, with the former as the primary core (especially for major insights) and the latter as the secondary supplement (especially for minor insights). In this sense, the East is able to shed light on the debate over mindful and mindless in general (cf. Bishop et al., 2004; Langer, 1989) and the two opposites in the domain of...
management in particular (cf. Elsbach & Hargadon, 2006; Levinthal & Rerup, 2006; Weick & Sutcliffe, 2006). According to the frame of Yin-Yang Balancing, I can reframe mindful and mindless as a duality and then link this duality to the conscious-subconscious duality. If mindful is defined as the presence of attention, while mindless as the absence of attention, I can divide attention into two types: conscious attention, and subconscious attention. This approach is similar to the perspective that emphasises the quality rather than the quantity of attention (Weick & Sutcliffe, 2006). Reframed this way, it seems that the East and West share the view that mindful attention is desirable because it involves an open-minded approach to an open-ended issue, but the East and the West differ concerning the quality of mindful attention. While the West treats mindful attention as fully conscious (i.e., controlled logical process as one opposite in the dual-processing model) (Evans, 2008; Levinthal & Rerup, 2006), the East regards it as primarily subconscious and secondarily conscious in balance (e.g., Begley, 2008; Gao, 1994; Hideki, 1973; Liang, 1921/1997; Suzuki, 1964; Yu, 2009). Even though some Western scholars realise the need for a general balance between mindful and mindless, they fail to embrace the need for a highly specific balance between mindful and mindless to different degrees in different aspects and at different times (e.g., Elsbach & Hargadon, 2006; Levinthal & Rerup, 2006; Weick & Sutcliffe, 2006).

According to wu, the subconscious process (with play as an effective facilitator in addition to meditation and incubation) is not concerned with either mindful or mindless in general (as the typical either/or approach); further, it is not even concerned with both mindful and mindless in general (as the typical both/and approach); instead, it is concerned with the specific types of mindful and mindless in balance: the relative absence of conscious attention as conscious mindlessness facilitates the relative presence of subconscious attention as subconscious mindfulness (Jung, 1964; Suzuki, 1964). In other words, mindful and mindless are both present and absent to different degrees in different aspects and at different times because they are partially complementary and partially conflicting; if the two are in the proper degrees, aspects and times, they will be primarily complementary; if they extend beyond those degrees, aspects and times, they will be primarily in conflict (as the either/and approach). This duality view of mindful and mindless is supported by the accumulated evidence concerning creativity from neuroscience and other areas of creativity research (see Aldous, 2007; Katz, 1997; Sawyer, 2011, for reviews; e.g., Kasof, 1997; Kaufman, 2009; Schmidt et al., 2007).

To summarise, I posit that trust can foster play via the mechanism of psychological relaxation in terms of trust in an external context with two sub-mechanisms: tolerance for contextual complexity and ambiguity as non-threatening, and appreciation of contextual complexity and ambiguity as conducive to creativity. I also posit that play can foster creativity via the mechanism of cognitive improvisation in terms of trust in, and also play with, internal capability with two sub-mechanisms: tolerance for wu (metaphor) as legitimate as logical analysis (deduction and induction), and appreciation of wu as the most effective for insight. While tolerance is related to the notion of trust-as-attitude because tolerance is concerned with the expected trustworthiness of trustee as the target of trust, appreciation is related to the notion of trust-as-choice because appreciation is concerned with the chosen trustfulness as the risk-taking decision by trustor as the initiator of trust (Li, 2007). Further, tolerance is related to motivation (motive), and appreciation is related to capability (ability). These mechanisms serve as the mediators in the process model of
trust → relaxation → play → improvisation → creativity. It is worth noting that this process model is not necessarily one-way; rather, it should be regarded as open-ended.

**Conclusion**

To conclude, despite the fundamental distinction between the West and East, there emerges a paradigm shift from the Western philosophy of science toward the Eastern philosophy of wisdom, and further toward their geocentric integration, especially in the domain of creative cognition (Miller, 1989; Mintzberg, 1976; Morin, 2008; Stacey, 1996). This paradigm shift will help balance the healthy tension inherent in dualities in general and management dualities in particular (Li, 1998, 2011a; cf. Smith & Lewis, 2011), such as in strategic management (Dodd & Favaro, 2006) and knowledge management (Chae & Bloodgood, 2006). This paradigm shift is consistent with the central theme that the Eastern philosophy of wisdom is primarily concerned with knowledge exploration that is imperative in complex, ambiguous and uncertain contexts, while the Western philosophy of science is primarily concerned with knowledge exploitation more applicable to simple, precise and certain contexts. We should realise that creative cognition is less about a discovery or a novel remix of existing elements out there than about inventing something that can never exist without imagination. This paradigm shift also reflects the emerging trend for the West to meet and integrate with the East on an equal footing toward a balanced geocentric meta-paradigm (Chen & Miller, 2011; Li, 2011a, 2011b, 2012). We should fully embrace this inevitable and desirable paradigm shift (Miller, 1989; Morin, 2008; Stacey et al., 2000).

For the paradigm shift in the research on trust, I have proposed a process model by applying the complexity-ambiguity-metaphor link to the trust-play-creativity link with the mediating mechanisms of psychological relaxation and cognitive improvisation. Future research can expand the process model, and also apply the geocentric meta-paradigm to other domains. For instance, we can study how trust at different levels of organisational leadership (e.g., top management team and direct supervisor) affects employee creativity in distinctive ways (Bai, Li, & Xi, in press). Further, we need to explore the duality of mindful and mindless (cf. Elsbach & Hargadon, 2006; Levinthal & Rerup, 2006; Weick & Sutcliffe, 2006) as well as the duality of free play and routine work for improvisation (cf. Berliner, 1994; Elkind, 2007; Weick, 1998), all in terms of specific balances to different degrees in different aspects and at different times. It is also critical to explore the temporal duality of metaphor as divergent initially, but convergent later (Mednick, 1962), thus a balance between local and remote metaphors (Dunbar, 1995).

To honour Steve Jobs as the legendary figure that effectively integrated science with art, I want to end this article with his recollections about how he was influenced by Zen Buddhism, especially by its unique emphasis on intuition. As quoted in his biography, Jobs stated that ‘I began to realize that an intuitive understanding and consciousness was more significant than abstract thinking and intellectual logical analysis’ (Isaacson, 2011, p. 35). It is important to note that ‘throughout his life he would seek to follow many of the basic precepts of Eastern religions, such as the emphasis on experiential prajna wisdom or cognitive understanding that is intuitively experienced through concentration of the mind’ (Isaacson, 2011, p. 48). As Jobs reflected (quoted in Isaacson, 2011, p. 48):
Intuition is a very powerful thing, more powerful than intellect, in my opinion. That’s had a big impact on my work. Western rational thought is not an innate human characteristic; it is learned and is the great achievement of Western civilization. In the villages of India, they never learned it. They learned something else, which is in some ways just as valuable but in other ways is not. That is the power of intuition and experiential wisdom.

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Notes on contributor
Peter Ping Li received his Ph.D. from George Washington University and is Professor of Chinese Business Studies at Copenhagen Business School, Denmark. Adopting the unique Chinese frame of Yin-Yang Balancing with the holistic, dynamic and duality dimensions, his research focuses on integrating the Western theories with the indigenous perspectives of the East. He is the editor-in-chief of Journal of Trust Research and also serves on the editorial boards of Journal of Management Studies, Global Strategy Journal, Management and Organization Review, and Asia Pacific Journal of Management.

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