A Discussion on Yin-Yang, Zhong-Yong, Ambidexterity, and Paradox

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Abstract
Professor Peter Ping Li has made important contribution to the promotion of indigenous management research in China in general and application of Chinese Yin-Yang philosophy to organizational paradox research in particular. However, his interpretation of Yin-Yang is incomplete and inaccurate. Namely, his notion of Yin-Yang balancing relates to only one of five distinct epistemological expressions of Yin-Yang in the Chinese literature and its derived methodological prescription, i.e., Confucian principle of Zhong-Yong. Yet, his notion of Yin-Yang balancing is an inaccurate representation of Zhong-Yong due to his dogmatic insistence on asymmetry in the structure of combination of opposites that is not a prescription of the Zhong-Yong principle. Due to his incomplete understanding of Yin-Yang, he has not been able to see the value of the ambidexterity approach and its compatibility with the Yin-Yang thinking in particular and the similarity between Chinese and Western approaches to solving paradox in general. This paper alerts Chinese management scholars to the danger of overconfidence and Chinese exceptionalism and calls for a modest and prudent attitude in pursuing Chinese indigenous management research.

Keywords: Yin-Yang, Zhong-Yong, paradox, ambidexterity, indigenous, China
INTRODUCTION

In the discourse of ‘West meets East’ (Barkema et al., 2015; Chen & Miller, 2010, 2011) and indigenous management research in China (Leung, 2012; Lewin, 2014; Li, P., 2012a; Li, X., 2014a; Redding & Witt, 2015; Tsui, 2004), Chinese Yin-Yang philosophy has often been taken to contrast the widely-held linear thinking in the West (e.g., Fang, 2012; Jing & Van de Ven, 2014; Lin et al., 2015; Mathews & Tan, 2015; Zhang et al., 2015).

While we acknowledge the relevance and usefulness of Yin-Yang (阴阳) and other Chinese indigenous notions to management research, we are also concerned about the danger of overstating the advantage of Chinese way of thinking over those of the Westerners. We are especially worried about the negative impacts on the future development of management research in China of the assertion that Yin-Yang is superior to any other cognitive frame in the world for managing organizational paradoxes, one of the most challenging issues in the management literature today. Such an assertion has been repeatedly made by Peter Ping Li, one of the ardent supporters of indigenous management research, in recently years (P. Li, 2012b, 2014, 2015a, 2015b, 2016).

Peter P. Li claims that ‘Yin-Yang is best positioned to manage paradoxes’ (P. Li, 2014: 324, italic added) because he believes that ‘it is the only system available to truly and fully appreciate and accommodate opposites by reframing paradox as duality’ (P. Li, 2016: 54, italic added). Based on such an understanding, he has proposed a so-called ‘Yin-Yang balancing’ approach to paradox management. His Yin-Yang balancing approach can be summarized by four ‘partial’s (4Ps hereafter), namely, on the cognitive side, the two opposites in a paradox should be seen as being partially conflicting and partially complementary, and on the behavioral side, the two opposites should be partially separated and partially integrated. Peter P. Li asserts that his 4Ps model of Yin-Yang balancing is ‘superior in managing paradoxes' compared to the Western ambidexterity approach in particular (P. Li, 2014: 324) and to any other cognitive frame in the world in general (P. Li, 2016).

In this paper, we debunk such a ‘Yin-Yang being superior to all others’ assertion by demonstrating that his peculiar interpretation of Yin-Yang is incomplete and inaccurate.
Namely, his notion of Yin-Yang balancing relates to only one of five distinct epistemological expressions of Yin-Yang in the Chinese literature and its derived methodological prescription, i.e., Confucian principle of Zhong-Yong (中庸). Yet, his notion of Yin-Yang balancing is an inaccurate representation of Zhong-Yong due to his dogmatic insistence on asymmetry in the structure of combination of yin and yang elements (P. Li, 2016; Lin et al., 2015) that is not a prescription of the Zhong-Yong principle. Due to his incomplete understanding of Yin-Yang, he has not been able to see the value of the ambidexterity approach and its compatibility with the Yin-Yang thinking in particular and the similarity between Chinese and Western approaches to solving paradox in general. This paper alerts Chinese management scholars to the danger of ‘overconfidence’ (X. Li, 2014a: 14) and ‘Chinese exceptionalism’ (Peng, 2005: 133) and calls for a modest and prudent attitude in pursuing Chinese indigenous management research.

YIN-YANG AND ZHONG-YONG

Yin-Yang and its Implicit Ontology

The notion of Yin-Yang is at the heart of traditional Chinese philosophy. It was initially a cosmology, i.e., a branch of philosophy explaining the genesis of the cosmos or universe. According to it, the universe is generated by the interaction of the two most abstract forces or energies, so-called yin and yang, that coexist from the very beginning. Some people think that ancient Chinese scholars abstracted the Yin-Yang philosophy from the natural phenomena of daily life since the ordinary meaning of yin is darkness while that of yang brightness. Because darkness and brightness are contrary yet interrelated, the Yin-Yang cosmology treats the two abstract forces, yin and yang, as contradictory as well as complementary.

As such, the Yin-Yang cosmology has an implicit ontology, namely, everything in the universe, no matter being concrete matter or abstract thought, contains in itself its own yin and yang forces or sub-elements that coexist simultaneously and interact paradoxically; and the contradiction or interaction between the two is the inner driving force for the development of everything. It is an implicit ontology because ontology, as a
philosophy of ‘being’, is foreign to Chinese philosophical tradition. Compared to some Western languages, Chinese language does not require changes of the format of verb word, such as the change from ‘be’ to ‘being’, and therefore, ‘being’ has never been a philosophical category in Chinese traditional philosophy (Yu, 1999).

According to this implicit ontology, the yin element, such as darkness, femininity, stability, exploitation, and defense, etc., and the yang element, such as brightness, masculinity, change, exploration and offence, etc., constitute a special pair that has a paradoxical interrelationship, i.e., the two elements being simultaneous contradictory and complementary. The contradictory relationship means there is trade-off, conflict or competition, between the two elements, whereas the complementary relationship means there is synergy, harmony or cooperation, between them.

As the two paradoxical forces coexist, they interact with each other. The structure of interaction between the two counterbalancing forces may take diverse shapes. It can be one outgrowing and therefore dominating the other or the reverse. Some other time, it can be in a rough balanced or equilibrium state. In the process of interaction, the two elements may either morph into one another or be transformed into a new pair of paradoxical elements.

In short, the Yin-Yang philosophy has three essential ideas, i.e., simultaneity of two contrary forces, paradoxicality in their interrelationship, and interactivity between the two. We denote these three ideas as coexistence, coopetition, and coevolution, respectively.

Five Distinct Epistemological Expressions of Yin-Yang

Due to the fact that ancient Chinese intellectuals in general were not interested in epistemological issues (Fung, 1983), while there is an implicit ontology in the Yin-Yang philosophy, there is no commonly held epistemology derived from it. However, there are plenty of texts in the Chinese classical literature that contain a variety of expressions that imply some sorts of epistemology. Out of such varieties, we categorize five distinct epistemological expressions that are in accordance with Yin-Yang’s implicit ontology.
The first is that ‘going too far is as bad as not going far enough’ (过犹不及). This expression appears in the Analects of Confucius. The original text reads: ‘《论语·先进篇》：子贡问，“师与商也孰贤？” 子曰, “师也过，商也不及。” 曰： “然则师愈与？” 子曰： “过犹不及。”’. This text can be translated as follows. Zigong asked, ‘who is better, Shi or Shang?’ Confucius replied, ‘Shi goes too far; Shang does not go far enough.’ Zigong then asked, ‘then, Shi is better?’ Confucius said, ‘too far is the same as not far enough.’

The second one is that ‘being comes from nothing’ (有生于无). This expression appears in the Tao Te Ching of Lao Tzu. The original text reads: ‘《道德经·第 40 章》: 天下万物生于有，有生于无’. Lin Yutang translates the text as follows: The things of this world come from Being, and Being (comes) from Non-being. Closely related to this expression is that ‘the softest thing in the world is the hardest’ (至柔至刚). The original text in the same book reads: ‘《道德经·第 43 章》: 天下之至柔，驰骋天下之至坚。无有入无间，吾是以知无为之有益.’ The translation of Lin Yutang’s is: The softest substance of the world goes through the hardest. That-which-is-without-form penetrates that-which-has-no-crevice; through this I know the benefit of taking no action.

The third is that ‘fortune and misfortune are mutually dependent’ (祸福相倚). This expression appears in the Tao Te Ching of Lao Tzu. The original text reads: ‘《道德经·第 58 章》: 祸兮福之所倚，福兮祸之所伏。孰知其极？其无正也。正复为奇，善复为妖.’ Lin Yutang translates the text as follows: Disaster is the avenue of fortune, (And) fortune is the concealment for disaster. Who would be able to know its ultimate results? (As it is), there would never be the normal. But the normal would (immediately) revert to the deceitful. And the good revert to the sinister.

The fourth is that ‘the orange tree in the South turns into limebushes in the North’ (南橘北枳). This expression appears in The Spring and Autumn Annals of Master Yan (Milburn, 2016). The original text reads: ‘《晏子春秋·杂下篇》: 橘生淮南则为橘，生于淮北则为枳，叶徒相似，其实味不同。所以然者何？水土异也.’ Needham (1986: 212) translates the

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1 Zigong, Shi and Shang were all students of Confucius.
2 Lin Yutang (林语堂) is a well-known scholar of Chinese classics. This translation is taken from the website http://terebess.hu/english/tao/yutang.html.
text as follows: ‘when [orange-trees grow south of the Huai] (River) they become good orange-trees, but when they are planted [north of it they turn into thorny limebushes.] The leaves look alike, but fruitlessly, for the taste of the fruits is quite different. How can this be? It is because the water and the sail are not the same.’

The fifth epistemological expression is that ‘the water that bears the boat is the same that swallows it up’ (载舟覆舟). This expression appears in the Xun Zi. The original text reads: ‘《荀子·哀公篇》：君者，舟也；庶人者，水也；水则载舟，水则覆舟。’ Knoblock (1994: 262) translate the text as follows: the lord is the boat; his subjects the water. It is the water that sustains the boat, and it is the water that capsizes the boat.

Four Derived Methodological Prescriptions

Derived from the five distinct epistemological expressions are four different methodological prescriptions for how to handle opposites, of which the most known is the Confucian principle of Zhong-Yong that is derived from the first epistemological expression. Namely, when facing two opposites, such as competing goals to pursue and contradictory propositions to evaluate, one’s decision should always fall in between the two opposites and never go to either extreme. In other words, one should always hold the two opposites and never exclude any (执两用中) because Confucianists believe going too far is as bad as not going far enough (过犹不及).

The second epistemological expression gives rise to Daoist principle of staying low, non-volitional action and not competing (守柔处弱、无为不争) because Daoists believe ‘The best of men is like water; water benefits all things and does not compete with them. It dwells in (the lowly) places that all disdain; wherein it comes near to the Tao’3 (上善若水。水善利万物而不争, 处众人所恶, 故几於道矣。). To Daoists, ‘The Tao never does, yet through it everything is done’ (道常无为而无不为), and ‘it is only because he does not compete that the world cannot compete with him’ (夫唯不争，故天下莫能与之争).

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3 Translation of Lin Yutang.
The third and fourth epistemological expressions lead to a coordinated separation (分而合之) approach. Namely, the opposites should be separated at the micro level but coordinated or integrated at the macro level. Such a micro-separation-macro-coordination approach is evidenced in many Chinese sayings such as ‘husbands handle external issues while wives deal with domestic tasks’ (男主外女主内), ‘fathers be strict while mothers be benign’ (严父慈母), ‘new policies for newly recruited people and old policies for old ones’ (新人新办法，老人老办法), ‘act according to specific conditions in terms of locality, time, issue and persons involved (因地制宜，因时制宜，因事制宜，因人制宜’.

The fifth epistemological expression suggests a principle of harnessing the benefits while avoiding the danger of the same thing (存利去弊). As the same thing can be both good and bad, it is often because of the presence or absence of a triggering condition. In the subjects as water vs. the ruler as boat case, the triggering condition is how the ruler treats the subjects. Namely, if the ruler treats the subjects benevolently, the subject will support the ruler; in contrast, if the ruler treats the subjects cruelly, the subjects might overthrow the ruler.

**Zhong-Yong as Symmetric and Asymmetric Balance**

From above analysis, we can see that Peter P. Li’s notion of Yin-Yang balancing is similar to Confucian Zhong-Yong principle due to its prescription that one should always combine two opposite elements in choosing a goal and the means to achieve the goal (P. Li, 2016). In explicating his Yin-Yang balancing approach, Peter P. Li specifies three operating mechanisms: asymmetric balancing, curvilinear balancing and transitional balancing.

Peter P. Li (2016: 57, italic added) explains his ‘asymmetrical balancing’ as follows:

‘after the relative (partial) separation of opposite means for opposite ends (e.g. two sub-goals within an overall goal), the interdependence and interpenetration of opposite elements require one of the two opposite elements to play the dominant role in performing one specific function (e.g. **Asia Research Community, CBS, Copenhagen Discussion Papers [2019 - 68]**
a sub-goal)...while the other opposite element will play the subordinate role in performing the same specific function...It is worth noting that the dominant-subordinate mix occurs at two different levels: one at the level of one overall goal with a dominant-subordinate mix of opposite sub-goals, while the other at the level of each sub-goal with a dominant-subordinate mix of opposite means’.

Elsewhere, Peter P. Li asserts that ‘opposite elements…must adopt an asymmetrical pattern’ (Lin et al., 2015: 334, italic added). Consistent with the asymmetric balancing idea, his ‘transitional balancing’ mechanism suggests that ‘a swift switch in the relative status between dominant and subordinate roles is often desirable’ (P. Li, 2016: 58).

However, his asymmetric balancing approach does not fit well with both the practice and the theory of Zhong-Yong.

In practice of economic reform, there are evidences of negative consequences of a swift switch between two opposite models of economy, i.e., a socialist economy with the state sector as the dominant and the private sector the subordinate vs. a capitalist economy with the private sector as the dominant and the state sector the subordinate. One example is the now denounced ‘shock therapy’ approach to economic transition. A fundamental problem of such a swift economic transition is that it may cause disorganization of economic transactions and therefore ‘breakdown of many economic relations’ (Blanchard & Kremer, 1997: 1094), which explains the output collapse in the former Soviet Union economies in the first few years after the ‘shock therapy’ was implemented. In sharp contrast, China’s economic transition was proceeded with high output growth thanks to its gradualist dual-track reform approach (Qian, Roland, & Xu, 1999). The dual-track design allows slow change of the relative weight of the state sector vis-à-vis the private sector in the Chinese economy⁴. Indeed, in the slow change process existed a period of time when the ratio of the two sectors was roughly 50:50.

In the practice of politics, Chinese emperors often purposefully tried to balance the power of two competing political factions. The rationale for such a symmetric balance is that

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⁴ We are fully aware of the downside of the Chinese approach to economic reform. Yet, the point we make here is that the gradualist dual-track design made a stable transition without economic disorganization in the early years of reform possible.
when the power of the competing factions is in an equilibrium state, i.e., no one
dominating the other, each of the two will have to rely on the emperor in order to gain
more power, and therefore, the emperor becomes the most powerful. Of course,
emperors would also support one political faction while suppress another if the specific
circumstances required them to do so.

In classical book *Zhong-Yong*, the word of ‘zhong’ (中) means middle or equilibrium while
the word ‘yong’ (庸) means constant or consistent. The first chapter of the book (translated
by James Legger, 1966) reads:

1:4. While there are no stirrings of pleasure, anger, sorrow, or joy, the mind
may be said to be in the state of Equilibrium. When those feelings have
been stirred, and they act in their due degree, there ensues what may be
called the state of Harmony. This Equilibrium is the great root from which
grow all the human actings in the world, and this Harmony is the universal
path which they all should pursue. (喜、怒、哀、乐之未发，谓之中。发而
皆中节，谓之和。中也者，天下之大本也。和也者，天下之达道也)

1:5. Let the states of equilibrium and harmony exist in perfection, and a
happy order will prevail throughout heaven and earth, and all things will be
nourished and flourish (致中和，天地位焉，万物育焉)

From these original texts, we can see that the state of equilibrium or symmetry is the
ultimate goal of Zhong-Yong balancing; yet, in the process of pursuing this goal,
disequilibrium or asymmetry is allowed if it is managed within due degree. Therefore, the
original theory of Zhong-Yong does allow symmetry as well as asymmetry.

Xin Li (2014b) develops a four-element model of the Zhong-Yong principle of balancing,
i.e., inclusion-selection-promotion-transition (ISPT). In this model, two opposites should
always be included in the goal and the means to achieve the goal; one of the two
opposites should be selected as the priority under certain circumstances; however, when
the situation changes, the other un-prioritized should be promoted to receive more
attention; such a promotion action may lead to the previously un-prioritized element
gaining equal attention to the previously prioritized element (resulting in symmetry) or
even gaining more attention (resulting in a reversed asymmetry); if it is the latter situation, then a transition from asymmetry to symmetry to reversed asymmetry has taken place. Hence, the ISPT model represents Zhong-Yong as symmetric and asymmetric balance.

In summary, Peter P. Li’s notion of ‘Yin-Yang balancing’ is ironically anti-Yin-Yang due to his claim that Yin-Yang is superior to all others and anti-Zhong-Yong due to his emphasis on asymmetry to the exclusion of symmetry.

YIN-YANG AND AMBIDEXTERITY

In the management literature in the West, the ambidexterity approach (Birkinshaw & Gupta, 2013; O’Reilly & Tushman, 2013) has been a prominent way of thinking for managing the exploitation-exploration dilemma (March, 1991; Raisch et al., 2009) in particular and organizational paradox in general (Andriopoulos & Lewis, 2009; Schad et al., 2016).

In reviewing the organizational ambidexterity literature, Peter P. Li (2014: 328-329) groups the various studies into two broad categories, i.e., ‘separated ambidexterity’ and ‘integrated ambidexterity’. He further divides each category into three sub-views. The ‘separated ambidexterity’ category is subdivided into ‘structural ambidexterity’, ‘temporal ambidexterity’ and ‘domain ambidexterity’ (p. 328), while the ‘integrated ambidexterity’ category into ‘resource ambidexterity’, ‘contextual ambidexterity’ and ‘managerial ambidexterity’ (p. 329).

Peter P. Li (2014: 329) argues that ‘the extant views of ambidexterity fail to account for the original insights concerning both trade-off and synergy, thus failing to adequately explain the dual nature of the exploration-exploitation link’. In contrast, he posits that, ‘to fully understand the paradox of the exploitation-exploration link…Yin-Yang balancing is able to reframe paradox (absolute opposites) into duality (relative opposites) without “transcending” the true nature of being opposite or paradoxical, thus distinctive from the other logical systems’ (p. 330). Hence, he asserts that ‘the Yin-Yang frame is superior in managing paradoxes, as illustrated by the example of ambidextrous balance’ (p. 324).

There are three problems in Peter P. Li’s arguments.
Firstly, it is inaccurate to dichotomize the various ambidexterity studies into ‘separated’ vs. ‘integrated’ because all ambidexterity solutions involve, explicitly or implicitly, a combination of mechanisms of separation and integration (or coordination). More specifically, the essence of the ambidexterity thinking is an organizational or behavioral design of separation at the micro level coupled with integration or coordination at the macro level. Simply put, being ambidextrous means both separated and integrated.

For instance, the structural ambidexterity (Tushman & O’Reilly, 1996), which is categorized as ‘separated ambidexterity’ category by Peter P. Li, involves an organizational structure design in which one unit of the organization undertakes exploitative activities while another unit pursues explorative learning. This is the mechanism of separation of responsibilities at the micro (i.e., business unit) level. Yet, this separation mechanism is coupled with a complementary mechanism of integration or coordination (Markides, 2013), for example, by appointing an active and capable integrator between two units (Gilbert & Bower, 2002) or the same general manager in charge of two units (O’Reilly & Tushman, 2004). The more effective mechanism of integration is to put in place a top-level leadership, of CEOs or top management teams, ‘that can make dynamic decisions, build commitment to both overarching visions and agenda specific goals, learn actively at multiple levels, and engage conflict’ (Smith, Binns, & Tushman, 2010: 448; Smith & Tushman, 2005).

Similarly, the contextual ambidexterity (Gibson & Barkinshaw, 2004), which is categorized as ‘integrated ambidexterity’ category by Peter P. Li, relies on building an organizational culture or context that encourages or facilitates the development of behavioral capacities of individual employees to simultaneously pursue opposing goals. The contextual ambidexterity approach is different from the structural ambidexterity in that it is argued that organizational ambidexterity ‘is best achieved not through structural, task, or temporal separation’ (ibid.: 211, italic in original). Yet, the contextual ambidexterity approach still has a separation mechanism built in because it ultimately relies on ‘individuals to make their own judgments as to how best divide their time between the conflicting demands’ (ibid.: 211, italic added).
Clearly, ambidexterity as an integrative separation solution to organizational paradox is compatible with or equal to the methodological prescription derived from aforementioned the third and fourth epistemological expressions of Yin-Yang, i.e., the method of coordinated separation for handling opposites. As a matter of fact, Chinese often say 'act in one way at one time or in one place while change to another way at another time or in another place' (此一时彼一时、此一地彼一地), which can be equated with the temporal and spatial separation approaches in the Western ambidexterity literature.

An example of ambidexterity as a legitimate solution to organizational paradox is the fact that in the Chinese army there is always a political personnel (政委、教导员、指导员) besides the military commander as the co-leader of the military organization at any level above the platoon level\(^5\). It will be ideal if the military commander is ambidextrous himself or herself, namely, he or she can act in different ways adapting to changing situation (Zhang et al., 2015), then he or she does not need to have a co-leader. However, if the military commander is not ambidextrous himself or herself, which is often the case, then the institutional design of dual-leadership is the second best solution to make the military leadership ambidextrous.

Secondly, in some but not all situations, Zhong-Yong is only possible in intention but impossible in action. In such situations, the Zhong-Yong intention is ultimately converted into ambidextrous actions.

Take the work-family conflict for example. We are often advised to have a work and family balance. The Zhong-Yong principle would suggest people to simultaneously take care of both work and family and not to attend one to the exclusion of the other. In principle and intention, simultaneous attention to both work and family is desirable. However, in practice and action, there are often circumstances in which one of the two cannot be taken care of. Two kinds of such circumstance are called work-to-family conflict and family-to-work conflict. One example of work-to-family conflict is that an unexpected problem in work requires one to work overtime in the day, which prevent the person from meeting his or her spouse for celebrating the anniversary of their marriage. In such an

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\(^5\) In the Chinese army, the political co-leader is called political trainer (指导员) at the company (连) level, political instructor (教导员) at the battalion (营) level, and political commissar (政委) at the regiment level and above.
emergency situation, the ambidextrous person might have to forgo the anniversary celebration that day but make another romantic arrangement to delight his or her spouse.

An illuminating case that is more relevant to management studies is the rigor-relevance debate. Many scholars have called for balancing academic rigor and practical relevance in conducting management research (e.g., Bartunek & Rynes, 2014; Kieser, Nicolai, & Seidl, 2015) given the criticism that much of the management literature is not relevant to management practice (e.g., Bennis and O’Toole, 2005; Vermeulen, 2005). However, Daft & Lewin (2008), the founding co-editors of Organization Science (OS), after 18 years of journal editing experience, despite their initial commitment to encourage and publish in OS studies that are both rigorous and relevant (Daft & Lewin, 1990), have come to realization, that ‘Direct Practical Relevance Was a Naïve Aspiration for OS’ (p. 181) and ‘Journals that serve as a source of academic knowledge should have a fundamental mission to publish diverse new ideas of high quality without regard to relevance to the world of practice’.

Daft & Lewin’s argument is ambidextrous in nature because they acknowledge that

‘Academic relevance and practical relevance serve different subcommunities…The larger academic arena is made up of many journal-based subcommunities, each with its own niche, world view, values, and purpose, and some with more direct links to practitioners (e.g., HBR). The process for how knowledge is created in one subcommunity and appropriated by another subcommunity is ill defined and poorly understood, and deserves much deeper study. However, idea migration does happen and the natural migration of knowledge and selection processes at various levels does eventually create practical outcomes’ (p. 181).

In a sense, the ambidexterity approach can be linked to Adam Smith’s (1937/1776) idea of division of labor that calls for specialization and coordination (分工合作). The separation mechanism of ambidexterity can be thought as specialization, i.e., one organizational unit or person doing one thing at one time in one place and switching to another at another time in another place. Due to the fact that there are time costs associated with switch and human brain’s capacity for information processing is limited,
such separation and specialization is both inevitable and necessary to improve efficiency and effectiveness of task handling.

Thirdly, as Yin-Yang tells us that everything has its own merits and limitations, ambidexterity might be the most suitable solution in some situations, e.g., in quantum physics.

According to Heisenberg (1958: 14), ‘The Copenhagen interpretation of quantum theory starts from a paradox’, which should be the wave-particle duality of light. The wave-particle duality is the phenomenon that, while light can be seen as wave because its behaviors present wave properties in some experiments, it can also be seen as particle because its behaviors present particle properties in some other experiments. The wave-particle duality of light is paradoxical because wave and particle are fundamentally different and mutual exclusive in that the former is continuous while the latter is discrete. In technical terms, ‘particles are localized while waves are not’ (Pais, 1991: 57). Einstein once put this paradox as follows:

“But what is light really? Is it a wave or a shower of photons? There seems no likelihood for forming a consistent description of the phenomena of light by a choice of only one of the two languages. It seems as though we must use sometimes the one theory and sometimes the other, while at times we may use either. We are faced with a new kind of difficulty. We have two contradictory pictures of reality; separately neither of them fully explains the phenomena of light, but together they do” (Einstein & Infeld, 1938: 262-263), and ‘There are . . . now two theories of light, both indispensable and…without any logical connection’ (cited in Pais, 1991: 88).

As one of the three core principles of the Copenhagen Interpretation, Bohr's complementarity principle was initially proposed as a philosophical solution to the wave-particle paradox. According to Bohr, light (later extended to any matter) has both wave and particle properties, or in other words, it is both wave and particle, ontologically; when we try to observe or measure its properties by experiments, our observational or measurement instruments disturb or interact with the observed object, and consequently, our observations, or the captured properties, is a result of the disturbance or interaction.
between the observational instruments and the observed object. This is the so-called measurement problem. An experiment designed to observe the wave properties of the observed object will result in wave properties in our observation and an experiment designed to observe the particle properties will result in particle properties. Due to the fundamental difference between wave and particle, the two properties can never be captured simultaneously in one single experiment or observation. In technical terms, it is ‘a simple consequence of the noncommutativity’ of wave and particle (Pais, 1991: 304). However, no matter how contradictory the wave and particle descriptions of the object are, epistemologically, they are complementary and necessary for a complete description of the observed object.

Apparently, Bohr’s complementarity principle is ambidextrous in that it allows separation of wave and particle properties in experiment (at the micro or epistemological level) coupled with integration of wave and particle in nature (at the macro or ontological level). At the epistemological level, there is another paradox to deal with. According to Bohr, as the quantum theory is universal while the classical theories are at best approximations of it, a pure classical description of the world is incomplete; on the other hand, due to this measurement problem, it is also impossible to give a pure quantum description of the world. Bohr’s solution to this paradoxical situation is his principle of classical concepts, namely, ‘to divide the system whose description is sought into two parts: one, the object, is to be described quantum-mechanically, whereas the other, the apparatus, is treated as if it were classical’ (Landsman, 2006: 221). This quantum-classical division or separation is called ‘Heisenberg cut’ as Heisenberg explained this principle in an articulate way. Like the complementarity principle, Bohr’s principle of classical concepts can also be viewed as a structural ambidexterity solution.

In summary, Peter P. Li’s Yin-Yang balancing approach relates to only one of several methodological prescriptions derived from Yin-Yang, i.e., Confucian Zhong-Yong principle. Due to his incomplete understanding of Yin-Yang, Peter P. Li ends up with making a sharp contrast between Western ambidexterity and Chinese Yin-Yang thinking, which disables him to see the value of the ambidexterity approach and its compatibility with the Yin-Yang thinking.
YIN-YANG AND PARADOX

When comparing Yin-Yang and Western approaches to paradox, Peter P. Li (2016) asserts:

‘Even though a growing number of Western scholars have recognized the salience of paradox as well as the flaw of “either/or” logic (e.g. Ashforth and Reingen, 2014; Bobko, 1985; Smets et al., 2015; Poole and Van de Ven, 1989; Smith and Lewis, 2011), they cannot move beyond the separation-integration circle as their attempts to resolve paradox, so Yin-Yang balancing is the only epistemological system that can truly accommodate and appreciate paradox ([P.] Li, 2012a, 2014b; Smith and Lewis, 2011), and, at the same time, possesses the unique potential to embrace all Western systems into a geocentric (East-meeting-West) meta-system’ (p. 69, italics added).

However, as we have shown, there are diverse epistemological expressions and methodological prescriptions derived from Yin-Yang, hence, Peter P. Li’s understanding of Yin-Yang is incomplete, due to which he has not been able to see the similarity between Chinese and Western approaches to paradox. To facilitate the analysis of such a similarity, we can assign a unique label to each of the diverse epistemological expressions and methodological prescriptions of Yin-Yang.

Many scholars tend to contrast Chinese Yin-Yang thinking and Western linear thinking as both/and logic vs. either/or logic (Chen, 2008; Fang, 2012). While we agree that the both/and logic is an indispensable element of Yin-Yang, we also understand, from above analysis, that the unitary label of both/and cannot adequately describe the diversity of epistemological expressions and methodological prescriptions derived from Yin-Yang’s implicit ontology. Hence, we need to create a system of labels that contain the sign of both/and as an integral part. Following Xin Li’s (2014) approach to designing such a label system, we propose a two-dimensional 3x3 matrix of combinative logics with the three basic logics on both y axis as the primary logic and x axis as the secondary logic.
In Figure 1, each cell is given a unique label to name a particular combinative logic. Each label is a term that combines the first word of the corresponding primary choice on the y axis and the second word of the corresponding secondary choice on the x axis. The merit of this way of labeling is that the three cells on the top-left to right-bottom diagonal line corresponding to the three basic choices are still labeled as Either-Or, Both-And, and Neither-Nor. Except the four corner cells, all the other five cells in between the corners contain a both/and element. Now, we can associate all the five labels except Neither-And with the five epistemological expression of Yin-Yang and their four derived methodological prescriptions.

The first epistemological expression, i.e., 过犹不及, and its derived methodological prescription, i.e., 执两用中, corresponds neatly with the combinative choice of Both-Nor. Namely, the Confucian Zhong-Yong principle recognizes the values of both X (being
anything) and its opposite (–X) and prescribes a balance between them by always having a position that falls in between the two opposites, which can be seen as being neither pure X nor pure –X, but a mix of some elements or aspects of X and some elements or aspects of –X.

The second epistemological expression, i.e., 有生于无, and its derived methodological prescription, i.e., 无为不争, corresponds with the combinative choice of Both-And because the Daoists believe ‘non-action is all action’ (无为而无不为) and ‘not competing is the best way of competing’ (不争是争). In essence, Daoist solution is to see (both) X and –X as the same thing.

The third and fourth epistemological expression, i.e., 祸福相倚、南橘北枳, and their derived methodological prescription of coordinated separation, i.e., 分而合之, correspond neatly with the combinative choice of Both-Or because they are all characterized by a combination of macro level integration (both X and –X) coupled with micro level of separation (either X or –X).

The fifth epistemological expression, i.e., 水 可 载 舟 亦 可 覆 舟, and its derived methodological prescription, i.e., 存利去弊, can be associated with the combinative choice of Either-And. As analyzed before, the relationship between the ruler and the subjects is contingent upon the absence or presence of benevolence in the ruler’s treatment of the subject. If benevolence is absent, their relationship is conflicting (either/or), and if it is present, their relationship is harmonious (both/and).

While there seems to be no correspondence between Yin-Yang and the combinative choice of Neither-And, we find the neither-wind-nor-banner-but-mind argument of Hui-Neng, the Sixth Patriarch of Chinese Chan/Zen Buddhism, correspond neatly to the Neither-And logic. The story is recorded in The Platform Sutra of the Sixth Patriarch (六祖坛经).

The story goes, ‘At that time the wind was blowing and the banner was moving. One monk said that the wind was moving, while another monk said the banner was moving. They argued on and on, so I [Hui-Neng] went forward and said, “It is not the wind that is moving,
and it is not the banner that is moving. It is your minds that are moving” (McRae, 2000: 26). In this story, the two monks thought the moving of banner and moving of wind as mutually exclusive because the former indicates that moving of wind was the cause and the moving of banner the effect while the latter indicates exactly the opposite. However, Hui-Neng accepted neither the banner-moving proposition nor the wind-moving proposition and saw both being unreal but illusions caused by the moving of mind. In this way, Hui-Neng negated or rejected both propositions on the one hand and reconciled or unified them on the other. Hence, his logic can be labelled Neither-And.

With this label system, we can now show the similarity between Chinese and Western approaches to paradox.

Firstly, Aristotle’s doctrine of the mean is similar or parallel to Confucian principle of Zhong-Yong because Aristotle’s golden mean is not the arithmetic mean but one ‘relative to us’ (Losin, 1987), which means what is appropriate is contingent upon specific situation. Stroh & Miller’s (1994: 32) “Both/and” thinking’ is essentially a Both-Nor logic because their solution to mass-customization is to have 80% of standardization and 20% of customization in product design.

Secondly, Hegel’s (1969: §134) dialectical idea that ‘Pure Being and Pure Nothing are, therefore, the same’ is similar or parallel to Daoist idea that ‘non-action is all action’ (无为而无不为) and ‘not competing is the best way of competing’ (不争是争).

Thirdly, as analyzed before, Bohr’s complementarity principle and his doctrine of the classical concepts in particular and the Western ambidexterity thinking in general are similar or parallel to the third methodological prescription, i.e., the coordinated separation approach, derived from the third and fourth epistemological expressions of Yin-Yang.

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6 Peter P. Li, as many people do, misunderstands Hegelian dialectics as the trilogy of thesis-antithesis-synthesis; and as synthesis is a sort of reconciliation of the contradiction between thesis and antithesis those people believe that Hegelian dialectics strives for resolving contradiction. However, as Mueller (1958) points out, Hegelian dialectics is not about the trilogy of thesis-antithesis-synthesis, a method originated by Fichte and later explicated by Schelling, of both of which Hegel was a contemporary. Thomas McFarland (2002: lxxvi), in his Prolegomena to Coleridge’s Opus Maximum, identifies Kant’s (1781) Critique of Pure Reason as the genesis of the dyad, i.e., thesis and antithesis, and points out it is Fichte in his 1794 book Grundlage der gesammten Wissenschaftslehre [Foundations of the Science of Knowledge] took up Kant’s repeated use of the concept of synthesis and used it to resolve the thesis-antithesis dichotomy, and therefore invented the trilogy of thesis-antithesis-synthesis, which is further developed by Schelling into a pyramidal form.
Fourthly, Poole & Van de Ven’s (1989) idea of introducing new terms to resolve the paradox can be associated with the fifth epistemological expression of Yin-Yang because the Either-And logic suggests it is the presence or absence of a triggering condition that determines whether the opposites (water vs. boat, the subjects vs. the ruler) are conflicting or complementary. By introducing the triggering condition as the new term the contradictory relationship (either/or) between the opposites can then be turned into a complementary relationship (both/and).

Lastly, Hui-Neng’s Neither-And thinking was primarily an inheritance of Indian Buddhist philosophy in general and the neither/nor thinking of Nagarjuna (龙树菩萨) in particular. Likewise, the neither/nor thinking is also reflected in early Greek philosophy (McEvilley, 1981) and Derrida’s Deconstructionism (Cai, 1993). In The *Euthydemus* of Plato, when Dionysodorus was asked the question ‘are all things silent or do all things speak?’, his answer was ‘Neither and both!’ (Plato, 1965; Sachs, 2012: 112). Stroh & Miller (1994: 32) also identify “‘neither/nor’ thinking’ as a generic approach to solve paradox.

Now, we further illuminate the similarity by a concrete management paradox. In strategy literature, there is the cost leadership vs. differentiation dilemma or paradox caused by Porter’s (1980) assertion that while both cost leadership and differentiation are equally viable generic strategies, any attempt to combine them may result in a bad situation called ‘stuck in the middle’. To solve this paradox, Western scholars have proposed various solutions, most of them can be neatly associated with the five combinative logics containing both/and element.

For instance, Porter (1985) himself has proposed a Both-Or solution. Recognizing that ‘reducing cost does not always involve a sacrifice in differentiation’ (p. 18) and ‘sometimes making an activity unique also simultaneously lowers cost’ (p. 129), Porter has made a compromise that ‘sometimes a firm may be able to create two largely separate business units within the same corporate entity, each with a different generic strategy’ (p. 17). However, Porter (1996: 77) emphasizes that in order to contain the risk of the combination effort, corporations have to create stand alone business units, ‘each with its own brand name and tailored activities’. Christensen’s (1997) ‘innovator’s solution' has been a strong
support to Porter’s ambidextrous integrative separation approach, which is echoed by Markides and Charitou (2004).

Hill (1988: 404) is an example of the Either-And solution. He identifies three major contingencies that influence the impact of product differentiation on market demand, one of which is the competitive nature of the product market environment. He points out that, although efforts to differentiate appear to be greatest in an oligopolistic market, differentiation by established oligopolies will not increase market share enough to enable the firm to realize substantial cost economies; in contrast, in fragmented markets, a substantial impact on quantity demanded will be seen from differentiation. So, Hill introduces a new term, i.e., market demand, to separate two situations, namely, the either/or situation in oligopolistic markets in contrast to the both/and situation in fragmented markets.

Mintzberg (1988) is an example of the Both-And solution. He argues that differentiation can be realized in diverse ways, namely, by marketing image, by product design, by quality and by support. He also calls cost leadership strategy as differentiation by price. In these way, cost leadership is treated as a particular way of differentiating. Simply put, cost leadership is differentiation. This approach to solving paradox seems to resemble Friedman’s (1970) argument that the social responsibility of business is to increase its profits. The implicit Both-And logic in Friedman’s argument is that, social responsibility can be realized in different ways by different people or organizations. The way business people and organizations realize their social responsibilities is to run a profitable business which in turn contribute to the wider society.

Parnell (2006) is an example of the Both-Nor solution. He argues ‘In general, all successful firms over the long term exhibit one or more forms of differentiation. These include not only those forms commonly associated with differentiation such as innovation and quality, but also forms directly associated with cost leadership and even Porter's focus orientation... Hence, an emphasis on cost leadership can be viewed as another form of differentiation’ (p. 1143). Any successful strategy, in the eyes of Parnell, is a mixed on that falls between the two extremes of pure cost leadership and pure differentiation.
Faulkner & Bowman’s (1992) ‘strategy clock’ (Johnson, Scholes & Whittington, 2012: 243) is an example of the Neither-And solution. According to these authors, there are eight different directions a company can move from its current position within the matrix, three of which are destined for ultimate failure while the other five are more or less viable. What matters is neither price nor use value but the combination of (or the ratio between, i.e., both/and) the perceived use value and the perceived price. So, it does not matter which direction one moves in the customer matrix, it is a good strategy as long as the move increase the value/price ratio.

In summary, due to his incomplete understanding of Yin-Yang, Peter P. Li has not been able to see the similarity between Chinese and Western approaches to solving paradox.

CONCLUSION

In this paper, we have demonstrated that while there is an implicit ontology in the Yin-Yang philosophy, there is no commonly held epistemology derived from it. Instead, there are five distinct epistemological expressions of it and four methodological prescriptions derived from them. Such an analysis represents a more nuanced understanding of Yin-Yang, which helps us see that Peter P. Li’s interpretation of Yin-Yang is incomplete. Due to such an incomplete understanding, Peter P. Li has not been able to see the value of the ambidexterity approach and its compatibility with the Yin-Yang thinking in particular and the similarity between Chinese and Western approaches to solving paradox in general. In addition, Peter P. Li’s notion of Yin-Yang balancing is an inaccurate representation of Confucian principle of Zhong-Yong due to his dogmatic insistence on asymmetry to the exclusion of symmetry in the structure of combination of two opposites.

Peter P. Li (2016: 44, italics added) sees ‘the possibility for an East-West integration as an asymmetrical balance with perhaps more emphasis on the Eastern philosophy’. While we cannot rule out such a possibility in the long run (saying something is possible is essentially non-falsifiable), we must acknowledge the huge distance between the West and the East in terms of scientific advancement. A proverb shared by the Chinese and Westerners is facts speak louder than words (事实胜于雄辩). As a matter of fact, the West
is still way ahead of the rest of the world in terms of scientific research capability. There are still long way to go for the rest of the world to catch up with the West.

We conclude the paper by alerting Chinese management scholars to the danger of overconfidence and Chinese exceptionalism and call for a modest and prudent attitude in pursuing Chinese indigenous management research.
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