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Neither-And Thinking: Understanding James March's Unique Solution to Paradox

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ABSTRACT In this article, I propose a typology of thinking pattern that helps us understand the variants of the so-called 'both/and thinking' shared by many organizational paradox scholars in the West and China. The variants are distinguished by the 'primary thinking-secondary thinking' structure between the combined elementary thinking. One of the variants, i.e., Neither-And thinking, is associated with James March's discussion of logic of consequences and logic of appropriateness. An examination of March's writings reveals an additional 'principle-practice' structure underlining March's unique solution to paradox. Incorporating the 'principle-practice' structure into the proposed typology in turn helps us better understand the other variants of 'both/and thinking' such as ambidexterity, contingency, and Zhong-Yong. The typology shows March's Neither-And solution is unique because it embraces a primary neither/nor thinking while all the other variants do not. To demonstrate the value of March's unique solution, I apply Neither-And thinking characterized by the 'principle-practice' relationship to paradoxes outside organization studies, e.g., in Deconstruction, Buddhism, and quantum physics. The wide application of Neither-And thinking implies that James March's unique solution to organizational paradox may have provided a key to understanding paradox in general.

KEYWORDS both/and, either/or, neither/nor, paradox, thinking, typology

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INTRODUCTION

James March's (1991) analysis of the contradiction between exploration and exploitation in organizational learning has motivated much research on organizational ambidexterity (Birkinshaw & Gupta, 2013; O'Reilly & Tushman, 2013). However, the citation of March's (1991) article is often used merely as a motivation for further addressing the issue of organizational paradox (Schad, Lewis, Raisch, & Smith, 2016), which generates an impression that March has only identified the problem of organizational paradox but not provided a solution to it. An indication of this impression is that the name of James March disappears altogether except in

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one chapter that interprets March's overall scholarship from a paradox perspective in the nearly 600-page *Oxford Handbook of Organizational Paradox* (Smith, Lewis, Jarzabkowski, & Langley, 2017).

However, as Badham (2017: 277) points out, March's scholarship exhibits 'elegant appreciation of three key paradoxes of modernity – paradoxes of rationality, performance, and meaning'. While Badham (2017: 277) has done an excellent job by 'highlighting and elaborating on the significance of the work of James March', his analysis falls short of explicating March's unique solution to organizational paradox that is distinctly different from the rest of the organizational paradox literature.

Both Western mainstream thinking (Smith & Lewis, 2011) and the Chinese 'yin-yang balancing' perspective (P. P. Li, 2016) on paradox stress the importance of 'both/and thinking', i.e., embracing and engaging *both* oppositional demands instead of choosing *either* of them (Miron-Spektor, Ingram, Keller, Smith, & Lewis, 2018). In contrast, March's thinking on organizational paradox is neither 'either/or' nor 'both/and', but something similar to yet not the same as 'neither/nor'. This implies that the mainstream might have not yet understood the uniqueness and significance of March's insight on organizational paradox. The purpose of this article is to demonstrate that, on the one hand, implicit in March's writings are different types of solutions to organizational paradox, and on the other, March has implicitly offered a unique solution to organizational paradox that is of significant value to the research not only on organizational paradox but also on paradox in general.

To accurately understand March's unique thinking on organizational paradox, I argue that a rigorous typological scheme is needed to categorize diverse patterns of thinking that often cannot be neatly characterized by the three simple terms: 'either/or', 'both/and', and 'neither/nor'. In this article, I first propose such a typology that identifies nine different thinking patterns by combining the three simple terms on a two-dimensional matrix. Such a typology enables us to see the variants of 'both/and thinking'. One of the variants, i.e., Neither-And thinking that is a combination of 'neither/nor' as the primary thinking and 'both/and' as the secondary thinking, in my view, best matches James March's unique solution to organizational paradox. Examining March's discussion of logic of consequences and logic of appropriateness helps me further develop the typology, resulting in the refinement of the 'primary thinking-secondary thinking' structure into the 'primary thinking (in principle)-secondary thinking (in practice)' structure. The typology shows March's Neither-And solution is unique because it embraces a primary 'neither/nor' thinking while all the other variants do not. To demonstrate the value of March's unique solution to organizational paradox, I then apply Neither-And thinking characterized by the 'principle-practice' relationship to paradoxes outside organization studies, e.g., the construction-destruction paradox of Deconstruction, the illusion-realism paradox of Buddhism, and the wave-particle paradox of quantum physics. The wide application of Neither-

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And thinking implies that James March's unique solution to organizational paradox may have provided a key to understanding paradox in general.

A TYPOLOGY OF THINKING PATTERN

In a widely cited article, Smith and Lewis (2011) point out that organizational research has gone through three phases of development with regard to responses to tensions between opposing demands. In the first phase, early researchers often adopted 'either/or' thinking, namely, they often responded to tensions by seeking a one-size-fits-all answer. In the second phase, many organizational researchers switched to a contingency approach, namely, they often considered the conditions under which each of the opposites was suitable. Instead of 'either A or B' thinking, contingency theory-minded researchers analyze 'under what conditions A or B'. In the third phase, organizational researchers are increasingly adopting a paradox lens that focuses on 'how to engage A and B simultaneously'. Smith and Lewis (2011: 382) associate a paradox lens with a 'both/and focus'.

The notion of 'both/and thinking' is shared by many organizational paradox researchers in the West and China. Yet, scholars have operationalized it in very different ways. For example, to organizational ambidexterity scholars, 'to be ambidextrous' means 'to be able to do both at the same time' (Tushman & O'Reilly, 1996: 11); yet, the ambidexterity approaches to 'both/and' are typically sequential or structural separation solutions, i.e., engaging either of the opposing demands in a particular time or space. Such separation-based ambidexterity thinking does not correspond to the common understanding of 'both/and'. Consequently, P. P. Li (2014: 329) argues, 'the extant views of ambidexterity fail to account for the original insights' of James March's analysis of the exploration-exploitation paradox. Alternatively, P. P. Li (2016) proposes a 'yin-yang balancing' approach to organizational paradox. X. Li (2018) argues that the 'yin-yang balancing' approach is a ratio-based combination interpretation of the Chinese notion of Zhong-Yong (中庸) that is often associated with 'both/and thinking'. X. Li (2019) further points out, Zhong-Yong seeks a position in between two opposite poles, as such both the 'yin-yang balancing' and Zhong-Yong approaches are not 'both/and' in its pure form, and therefore they are not necessarily superior to ambidexterity as an approach to paradox management.

Another example concerns the contingency approach. While Smith and Lewis (2011) and Lewis and Smith (2014) initially downplayed the value of the contingency theory in addressing tension, recently they have acknowledged the necessity of the contingency approach. In their own words, '[organizational paradox research] may require both paradox theory and contingency theory approaches. While the paradox lens clarifies tensions and their ongoing management, contingency theory may contribute insights into shifts between the poles or between different strategies, clarifying conditions that might drive such moves' (Schad et al., 2016: 47). Even though the contingency theory seems to be accepted as a legitimate

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approach to organizational paradox, it is obvious that its 'if-then' (Lewis & Smith, 2014: 128) or 'if/then' (Schad et al., 2016: 48) thinking is very different from the so-called 'both/and' thinking.

In addition to ambidexterity, contingency, and Zhong-Yong approaches, the organizational paradox literature has identified several other solutions to organizational paradox. Several taxonomies were proposed to categorize generic solutions to contradiction, tension, or paradox, e.g., Baxter (1988/1990), Poole and Van de Ven (1989), Stroh and Miller (1994), and Seo, Putnam, and Bartunek (2004). Comparing and contrasting these taxonomies reveals important overlaps and differences among them, as shown in Table 1. For example, Poole and Van de Ven's (1989) taxonomy is similar to Stroh and Miller's (1994) by excluding the 'selection' solution included in the other two taxonomies, yet Poole and Van de Ven's taxonomy differs from Stroh and Miller's by not having the 'best-of-both thinking' included in Stroh and Miller's taxonomy (both of the other two taxonomies have similar items to the 'best-of-both thinking'). The problem of lack of agreement among taxonomies seems to be unavoidable because taxonomies are usually empirically induced rather than theoretically deduced. Therefore, there is a need for a *rigorous* typological scheme to categorize various approaches to organizational paradox.

In my view, a rigorous typology can be built by theoretical inference or logical deduction. Here, I adopt a logical deduction approach. As the ambidexterity and contingency approaches are neither pure 'both/and' nor pure 'either/or' but some mixture of the two, I argue a suitable typology can be developed by combining the three basic or pure forms of thinking, i.e., 'either/or', 'both/and', and 'neither/nor'. In Figure 1, the three basic forms of thinking are placed on both vertical and horizontal axes to form a 3×3 matrix, resulting in nine combinative patterns of thinking.[1]

To distinguish seemingly identical combinations, e.g., the combination of (either/or, both/and) from that of (both/and, either/or), I label the combinative thinking patterns in a particular way. Namely, I choose to combine the first word (underlined) of the corresponding basic term listed on the vertical axis and the second word (underlined) of the corresponding basic term listed on the horizontal axis. The two chosen (underlined) words are connected by a hyphen (-). In addition, I label the vertical axis as 'the primary thinking' and the horizontal 'the secondary thinking'. The use of these terminologies indicates that people may have complex or flexible thinking so that they can think something on the one hand while wanting to do another thing on the other. In such complex or flexible thinking, the primary thinking is more important than the secondary thinking as the former acts as a guiding principle. In so doing, I force the two combined elementary thinking into a hierarchical relationship in the combinative thinking. In this way, the six cells on the two sides of the main diagonal line (running from the top-left corner to the bottom-right corner) of the matrix are labelled distinctly while the three cells on the diagonal still correspond (but not equate given the hierarchical

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Table 1. Comparison and contrast between existing taxonomies and the proposed typology

The proposed typology	*Baxter (1988, 1990)*	*Poole & Van de Ven (1989)*	*Stroh & Miller (1994)*	*Seo, Putnam, & Bartunek (2004)*
Either-Or	Selection (exclusion, extinguishing)			Selection
Both-Or (ambidexterity)	Separation (temporally or topically)	Spatial separation; Temporal separation	'Expanding the context in space, time or both space and time'	Separation (through levels of analysis, topical domains, or temporal processes)
Both-And (yin-yang)		Opposition (accept and use constructively the paradox)	'Both/and thinking (both sides of the paradox can be true)	Connection (legitimates dualities, embrace differences); Forced merger
Both-Nor (zhong-yong)	Neutralization (compromise, not in full intensity, dilution)		'Best-of-both thinking' (analyze pros and cons of both opposites to seek a synergistic solution)	Integration (neutralization or compromise)
Neither-And (appropriateness)	Reframing (perceptual transformation)	Synthesis (introduce new terms to resolve the paradox)	'Neither/nor thinking' (choose a third option)	Transcendence (transform dichotomies into a reformulated whole)

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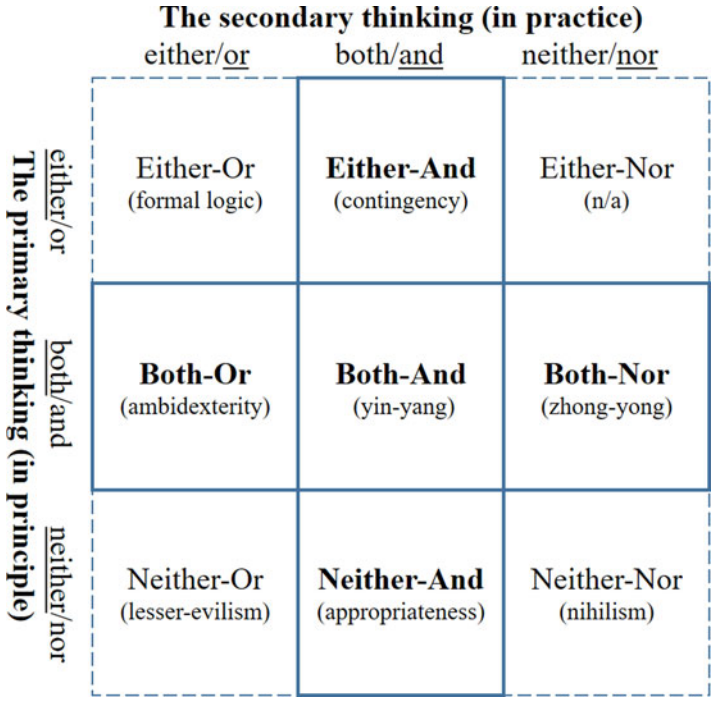

Figure 1. A typology of thinking pattern

relationship) to the three basic forms of thinking (e.g., the combinative Either-Or thinking corresponds to the basic either/or thinking).

As this article is concerned about the solutions to paradox (i.e., paradoxical integration or balance), I am mainly interested in the five solid-line cells in Figure 1 because each of them contains an element of both/and. My discussion will then be minimal on the four dash-lined corner cells, none of which contains a both/and element. Except Either-Nor thinking of the right top cell, I have associated a known idea with each of the other three corner cells.

Aristotle's formal logic is associated with Either-Or thinking because of its law of identity (i.e., A = A), law of non-contradiction (i.e., A ≠ non-A), and law of excluded middle (i.e., any concept X must be either A or non-A, not anything between the two). The lesser-evilism is associated with Neither-Or thinking. The lesser-evilism suggests 'of two evils choose the less'. Its primary thinking is that if one has the freedom to choose then he or she should choose neither of two evils, while its secondary thinking is that if one has to choose then he or she should choose whichever is the lesser of the two evils. Nihilism is associated with the Neither-Nor thinking because 'The structure of the nihilistic logic is "neither… nor": neither this nor that' (Gutauskas, 2014: 245).

The central cell is labelled Both-And thinking and I associate it with the so-called 'paradox lens' and Chinese Yin-Yang thinking. The authors of the 'paradox lens' define paradox as 'persistent contradiction between interdependent elements' (Schad, 2016: 10). Such a definition characterizes paradox

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as both contradictory and interdependent. When talking about the contradiction between exploitation and exploration, these authors argue that 'Even as these strategies compete for resources in the short term, they are mutually reinforcing to enable long- term success' (Smith & Lewis, 2011: 388). So, the term 'interdependent' can be interpreted as 'mutually reinforcing' or simply 'complementary'. Then, the 'paradox lens' views paradoxical opposites as both contradictory and complementary, which is aligned with Chinese Yin-Yang thinking that is commonly perceived as 'both/and' thinking.

The ambidexterity approach is associated with Both-Or thinking. 'Both/and' thinking can be detected from the statement of Tushman and O'Reilly (1996: 11), who have popularized the term ambidexterity: 'Managers need to be able to do both at the same time, that is, they need to be ambidextrous'. However, realizing the tension or conflict between opposing demands, ambidexterity scholars have a secondary 'either/or' thinking in their prescriptions of sequential and structural separation solutions, namely, either of the opposing demands should be engaged in a particular time or space.

The contingency approach is associated with Either-And thinking, because the primary thinking of the contingency theory is 'either/or', namely, only one of the opposites is suitable under a specific condition, and its secondary thinking is 'both/and', namely, as both opposites can be proven suitable under different conditions one can engage both opposites by shifting between the opposites in reaction to the change of the conditions or by actively changing the conditions.

The notion of Zhong-Yong is associated with Both-Nor thinking because its primary thinking is 'both/and' – X. Li (2018) sees Zhong-Yong as dynamic balancing between Yin-Yang opposites – while its secondary thinking is 'neither/nor', namely, the resulted balance is neither of the Yin-Yang opposites in their pure forms. X. Li distinguishes two distinct approaches to Zhong-Yong. One is P. P. Li's (2016) ratio-based 'yin-yang balancing'. Another is what X. Li (2018) calls 'analysis plus synthesis' that is discovered from the original text of Zhong-Yong, one of the four classics of Confucianism. Ratio-based 'yin-yang balancing' prescribes a combinative solution n percent of which is consisted of the yin and the rest (100-n) percent the yang (the value of n varies depending on the contextual condition), for example a combination of 30% investment on exploration and 70% investment on exploitation. While the 'yin-yang balancing' approach aims to be 'both yin and yang', its prescribed solution is actually a compromise between the two opposites, resulting in neither a purely yin nor a purely yang. Likewise, the 'analysis plus synthesis' approaches to Zhong-Yong also results in a combinative solution that is a mix of parts of the yin and parts of the yang (and therefore neither a purely yin nor a purely yang). What distinguishes 'analysis plus synthesis' from the ratio-based 'yin-yang balancing' is that while the latter treats the yin and yang opposites as unitary entities, the former approach prescribes dissecting the yin and yang opposites into smaller parts first (i.e., analysis) and then selecting only the good or suitable parts for combination (i.e., synthesis).

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I associate James March's discussion of logic of consequences and logic of appropriateness with Neither-And thinking because March's discussion clearly displays a distinction between a primary 'neither/nor' thinking and a secondary 'both/and' thinking. A detailed analysis is offered in the next section.

JAMES MARCH'S LOGIC OF APPROPRIATENESS

What makes March's insight unique is that he has a primary neither/nor thinking while mainstream scholars focus on both/and. For instance, in dealing with the rigor vs. relevance paradox, while many scholars call for striving for both (Bartunek & Rynes, 2014), March always said, 'I am not now, nor have I ever been, relevant', as for him, 'a feature of scholarship that is generally more significant than relevance is the beauty of the ideas' (March & Coutu, 2006: 84). The notion of beauty in science does not necessarily equate with rigor in terms of being either empirically validated or mathematically sophisticated. For the former (i.e., empirical validity), Paul Dirac, a Nobel Prize laureate in physics, once stated 'It is more important to have beauty in one's equations than to have them fit experiment' (cited in Carr, 2007: 9). For the latter (mathematical sophistication), March made explicit, 'The articles I write are accessible to any manager who chooses to read them. I don't write obscurely – at least not deliberately – and the ideas are not exceptionally arcane. Dull, maybe, but not arcane' (March & Coutu, 2006: 84).

To understand why March has primarily neither/nor thinking, we need to examine his distinction between logic of consequences and logic of appropriateness (March & Olsen, 2009). In his article 'A scholar's quest', March (2011) compares and contrasts two traditions for understanding, motivating, and justifying action. The first is a consequentialist tradition that sees action as being 'driven by anticipations, incentives, and desires' (March, 2011: 355). The second tradition is a non-consequential one that sees action as being based on 'attempts to fulfill the obligations of personal and social identities and senses of self' and 'a willingness to embrace the arbitrary and unconditional claims of a proper life' (March, 2011: 356). March attributes a logic of consequences to the first tradition and a logic of appropriateness to the second tradition. In praise of Don Quixote as a role model who 'seeks consistency with imperatives of the self more than with imperatives of the environment' and 'exhibits a sanity of identity more than a sanity of reality' (March, 2011: 356), March encouraged us to 'follow a logic of appropriateness more than a logic of consequences' and to 'pursue self-respect more than self-interest' (March, 2011: 356).

March's distinction is indeed a distinction between extrinsic (consequentialism) and intrinsic (a proper life) motivations for action. Motivated intrinsically, March endeavors to 'do research not in order to secure their reputations or improve the world but in order to honor scholarship' (March, 2011: 356). To March, 'Higher education is a vision, not a calculation. It is a commitment, not

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a choice' and a university is not a 'market' ('only incidentally a market') but 'more essentially a temple […] dedicated to knowledge and a human spirit of inquiry' (March, 2011: 356). In this sense, rigor and relevance can be seen as only two calculative and consequentialist choices, between which many people choose in order to win in the 'markets' for academic and practical influences. In contrast, March chose to 'pursue and venerate knowledge and learning as a manifestation of faith in what it means to be a human being' and be 'committed to sustaining an institution of learning as an object of beauty and an affirmation of humanity' (March, 2011: 356).

It sounds like a puzzle that while March stresses neither rigor nor relevance, he has nevertheless achieved both. On the rigor side, as Diane Coutu, a senior editor at *Harvard Business Review* commented, March has 'an almost unprecedented reputation as a rigorous scholar' (March & Coutu, 2006: 84). On the relevance side, March thought, 'If there is relevance to my ideas, then it is for the people who contemplate the ideas to see, not for the person who produces them' (March & Coutu, 2006: 84). Indeed, as Coutu reported, March is deemed by many prominent management writers as a top management guru only next to Peter Drucker (cited in March & Coutu, 2006).

A possible answer to this puzzle is: neither/nor thinking or the logic of appropriateness enables March to fully utilize the technologies of foolishness and playfulness (March, 1982) that are conducive to exploration and creativity. This answer is plausible given the fact that March has contributed enormously to multiple disciplines and been regarded as 'a scholar's scholar' (Lewin, 2018: 649).

A more plausible answer to this puzzle lies in March's own words. March (2011: 356) once confessed, 'I would not pretend that it is possible or desirable to ignore consequences altogether' when 'confronting the ordinary realities of day-to-day life'. March knew that, 'our metaphors of business schools have become indistinguishable from metaphors of markets', and he acknowledged that, 'It is a conception that yields useful insights and is not to be dismissed thoughtlessly' (March, 2011: 356).

What is embedded but not articulated in March's words is a solution to the rigor vs. relevance paradox based on a sort of pragmatism, i.e., a willingness to distinguish between principle and practice for doing research. March believed that 'scholars are obliged to advance beauty as well as truth and justice' (March & Coutu, 2006: 84). The embedded but unarticulated solution is that scholars should in principle be motivated by the aspiration of searching for the beauty of the ideas while taking rigor (truth) and relevance (justice) pragmatically. While the principle is underpinned by the primary neither/nor thinking, such as pragmatism – adopting a secondary both/and thinking in practice – is also justifiable, namely, the metaphor of a market that is run on the logic of consequences 'yields useful insights and is not to be dismissed thoughtlessly' (March, 2011: 356). Indeed, today's academia is a highly competitive 'market' characterized by the culture of 'publish or perish'. To survive and thrive, no one can completely

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ignore the dual demands for rigor and relevance. Upholding principles is a virtue, and being pragmatic is a necessity. March is no exception.

Identifying the principle-practice structure of March's unique thinking on organizational paradox in turn helps me refine the typology. In Figure 1, the refinement is made by changing the label of the vertical dimension from its original 'primary thinking' into 'primary thinking (in principle)' and the label of the horizontal dimension from its original 'secondary thinking' into 'secondary thinking (in practice)'.

Defining the primary thinking as one in principle and the secondary thinking in practice helps us better understand the variants of 'both/and thinking'. For example, for people who adopt ambidexterity approaches, they may uphold the principle of engaging both opposite demands simultaneously, but they realize that there are serious conflicts between the opposite demands; to reduce or avoid the conflicts, they act pragmatically by separating the opposites and engaging each of them in different times and spaces. Likewise, for people who adopt Zhong-Yong approaches, they may also uphold the principle of engaging simultaneously both opposite demands, but their pragmatism is not to separately engage both opposites but to partially combine the Yin-Yang opposites. For contingency-minded people, although their principle is to endorse either of the opposites in a specific condition, they can pragmatically engage or switch between two opposites by actively changing the contextual conditions. For Both-And thinkers who adopt the 'paradox lens', while they associate their primary thinking with a 'both/and' focus (Smith & Lewis, 2011: 382), they can still pragmatically operationalize their secondary 'both/and' thinking into an act of 'both differentiation and integration' (Andriopoulos & Lewis, 2009; Smith, 2014).

MARCH'S INSIGHTS ON PARADOX IN LIGHT OF THE TYPOLOGY

Now, I am in a position to show that, unlike many people who might have thought that March has only identified the problem of organizational paradox but not provided a solution to it, there are ample examples in James March's writings that correspond or reflect all of the five variants of both/and thinking identified in the proposed typology. As James March is a very prolific scholar, it is beyond the scope of this article to make a detailed analysis. Here, in addition to a few other examples, I focus my analysis on his 1994 book *A Primer on Decision Making* because solving paradoxical issues involves a kind of decision making. Another reason for focusing on this book is that it covers several seminal works of March's on organizational behaviors that are more or less related to organizational paradox, such as the behavioral theory of the firm, problem of exploration and exploitation, garbage can decision process, and ambiguities of experience.

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Either-And (Contingency)

March's discussion of the construction of beliefs about leaders can be seen as an Either-And (contingency) solution to paradoxical claims to truth. March (1994: 180) presents two opposite views about leaders, namely, Thomas Carlyle believed that leaders determined the course of history while Leo Tolstoy believed that leaders had nothing to do with the course of history.

March's solution to the contradiction between these two opposite views is that, on the one hand, he argues that 'the argument between Carlyle and Tolstoy cannot be settled by recourse to the data of history' because 'Each side can cite "evidence" that can be interpreted to justify its beliefs'; on the other hand, he argues that 'leaders are more inclined to believe Carlyle in good times and Tolstoy in bad times. They tend to take credit for their successes and attribute their failures to bad luck. Their critics, on the other hand, are inclined to reverse the attributions'. Clearly, it is a contingency approach to shift between Carlyle's and Tolstoy's views depending on whether it is in good or bad times.

Both-Nor (Zhong-Yong)

An example of Both-Nor (Zhong-Yong) solution to paradox can be found in March's (1994) discussion on the problem of multiple identities of a decision maker. A decision maker may simultaneously have two or more roles such as an executive of a firm, a husband of his wife, a farther of his kids, and a son of his parents. March (1994: 68) points out: 'The apparent inconsistency between the variety of roles accepted by any one individual and the concept of a coherent self is mitigated by having the multiple identifies of any one individual fit together in a mutually supportive way'. Here, we can see the primary both/and thinking, i.e., 'fitting together' or integration. However, March (1994: 69) argues that, 'Such integration is accomplished partly by clustering consistent identities and partly by interpreting any one identity with a consciousness of the other'. Here, 'clustering consistent identities' can be interpreted as selectively combining elements of different identifies that are consistent or not inconsistent. This solution is similar to X. Li's (2018) 'analysis plus synthesis' approach to Zhong-Yong balancing.

Here is another example that corresponds to P. P. Li's (2016) ratio-based approach to Zhong-Yong. When talking about the creative tension between processes of imagination (or the foolishness of exploration) and processes of execution (or the discipline of exploitation), March (2010: 81) points out that 'Either alone is not enough […] the relation has to evolve in such a way that the ratio of imagination to the discipline of conventional knowledge is high relatively early in any particular project and declines over time'.

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Both-And (Yin-Yang)

March's writings often exhibit a kind of Yin-Yang thinking. One example is March's (1994) view on identity formation. March identifies two existing visions of identity formation, i.e., individualization and socialization. According to the individualization view, actions arise from self-imposed standards or self-selected roles and rules. In contrast, in the socialization view, actions are motivated by learned obligations, responsibilities, or commitments to others. March's (1994: 63) own view is that there is in general 'an interaction between processes of individualization and processes of belonging' and 'the process of adolescent identity formation and revolt is a complicated mixture of individualistic differentiation and socialization into group conformity'. The notions of 'interaction' and 'complicated mixture' seem to be aligned with Yin-Yang thinking.

Another example is March's discussion of the question whether success sows the seeds of failure – what Miller (1992) calls the Icarus paradox – March (1994: 34) argues that there is no simple answer to such a question because 'Both success and failure stimulate mechanisms that encourage subsequent success, and both success and failure stimulate other mechanisms that encourage subsequent failure'. However, March (1994: 22) also points out that 'If aspirations adapt to experience, then success contains the seeds of failure, and failure contains the seeds of success'. The notion of built-in seeds is highly aligned with Yin-Yang thinking.

Both-Or (Ambidexterity)

With regard to the success-failure paradox, March also seems to have Both-Or (ambidexterity) thinking. Namely, while March (1994: 34) in principle believes that there is no simple answer to the success-failure relationship as both success and failure can stimulate different mechanisms that encourage both subsequent success and subsequent failure, he nevertheless argues that 'In technologically mature worlds, success will tend to breed failure. Slack will produce inefficiencies and unproductive success-induced search. In technologically young worlds, on the other hand, success will tend to breed success'. In this case, March adopts a spatial separation type of ambidexterity approach to the success-failure paradox, namely, the world is segmented into technologically mature and technologically young worlds, in each of which a different mechanism determines whether success will tend to breed success or failure.

One reason for success leading to failure is concerned with the self-confidence of the decision maker. March (1994: 46) contends that 'Success makes executives confident in their ability to handle future events; it leads them to believe strongly in their wisdom and insight. They have difficulty recognizing the role of luck in their achievement. They have confidence in the ability to beat the apparent odds'. What March (1994: 47) wants to warn us is that overconfidence 'often leads to disaster'; yet March's Yin-Yang thinking enables him to recognize that

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'in some situations organizations profit from the individual foolishness that unwarranted self-confidence provides'.

Neither-And

March's (1994) book *A Primer on Decision Making* compares and contrasts two major theoretical perspectives on decision making, one being a theory of rational choice (limited or bounded rationality about preferences and consequences) and the other a theory of rule-following (about identities and appropriateness). While supporters of each theory see the other theory as a special case of the one supported by themselves, March (1994) points out that, on the one hand, 'neither (at least in its present incarnation) explains enough of the phenomena to claim exclusive rights to truth' (102); and on the other, 'many forms of decision making, including both rationality and rule following, are useful procedures for decision making, but no form guarantees intelligence' (222). March (1994) posits that both rational choice and rule-following perspectives 'see decision making process as orderly exercises of human coherence' (175); however, decision making in reality is often characterized by situations of 'organized anarchies' where there are 'unclear preferences' and 'no clear rules for producing success' (199). The decision making process under such situations is best described by the 'garbage can' model.

The phrase of 'organized anarchy' well captures Neither-And thinking, namely, the term 'anarchy' indicates it is neither rational choice nor rule-following, and the term 'organized' indicates that both rationality and rule-following are useful procedures in the 'garbage can' decision process. In the next section, I show March's unique Neither-And thinking characterized by the 'principle-practice' relationship can also be used to understand paradoxes outside organization studies, e.g., Deconstruction, Buddhism, and quantum physics. The wide application of Neither-And thinking implies that James March's unique solution to organizational paradox may have provided a key to understanding paradox in general.

THE NEITHER-AND SOLUTION TO OTHER PARADOXES

Deconstruction

Deconstruction, as a form of philosophical and literary analysis, is derived mainly from the French philosopher Jacques Derrida's work begun in the 1960s. Deconstruction challenges the characteristically binary 'either/or' thinking, i.e., the conceptual distinctions or oppositions in Western philosophy. According to Johnson (1989: 12, italics in original),

> Instead of a simple 'either/or' structure, deconstruction attempts to elaborate a discourse that says *neither* 'either/or', *nor* both/and nor even 'neither/nor', while at the same time not totally abandoning these logics either. The very word *deconstruction* is meant to undermine the either/or logic of the opposition

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> 'construction/destruction'. Deconstruction is both, it is neither, and it reveals the way in which both construction and destruction are themselves not what they appear to be. Deconstruction both opposes and redefines; it both reverses an opposition and reworks the terms of that opposition so that what was formerly understood by them is no longer tenable.

Take the speech-writing opposition that was deemed by Derrida the most telling and pervasive opposition. Western philosophers often treated speech as primary to writing. According to the traditional view, speech is a more authentic form of language because spoken words directly express the ideas and intentions of the speaker, whereas when written the author's ideas are not immediately 'present' and thus more prone to be misunderstood. Derrida attributes the primacy of speech over writing to a distorted yet very pervasive conception of meaning in natural language. According to the entry of 'Deconstruction' in *Encyclopaedia Britannica*,[2]

> As Derrida argues, however, spoken words function as linguistic signs only to the extent that they can be repeated in different contexts, in the absence of the speaker who originally utters them. Speech qualifies as language, in other words, only to the extent that it has characteristics traditionally assigned to writing, such as 'absence', 'difference' (from the original context of utterance), and the possibility of misunderstanding. One indication of this fact, according to Derrida, is that descriptions of speech in Western philosophy often rely on examples and metaphors related to writing. In effect, these texts describe speech as a form of writing, even in cases where writing is explicitly claimed to be secondary to speech.

As Derrida's followers would say, the purpose of such a deconstructive analysis is neither to claim a reversed relationship between speech and writing (i.e., arguing speech is secondary to writing), nor to argue that there is no difference between them, but to displace the oft-said binary and hierarchical relationship so as to show that neither speech nor writing is primary to the other. While the principle of deconstruction is *neither* to destruct *nor* to construct, through his analysis, Derrida pragmatically tried to replace the conventional view by his argument that *both* speech *and* writing are forms of a more generalized 'arche-writing' that encompasses all of natural language.

Buddhism

The principle-pragmatism structure of Neither-And thinking also exhibits in the Buddhist theory of emptiness. According to Westerhoff (2019), 'There is unanimous agreement that Nagarjuna (ca 150–250 AD) is the most important Buddhist philosopher after the historical Buddha himself and one of the most original and influential thinkers in the history of Indian philosophy. His philosophy of

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the "middle way" (madhyamaka) based around the central notion of "emptiness" (sunyata) influenced the Indian philosophical debate for a thousand years after his death; with the spread of Buddhism to Tibet, China, Japan and other Asian countries the writings of Nagarjuna became an indispensable point of reference for their own philosophical inquiries'.

To prove his theory of emptiness, Nagarjuna adopted the Indian principle of four-cornered negation that can be summarized as 'S is neither P, nor not-P, nor both P and not-P, nor neither P nor not-P' (Raju, 1954: 694). Although Nagarjuna held the principle that phenomena appearing to exist independently actually are empty of inherent existence, self-nature, or essence, because of which change is possible and perpetual, he pragmatically reckoned that these phenomena were not non-existent but conventionally real. Such a doctrine of the two truths or two realities – a conventional or nominal truth and an ultimate truth – is, according to Garfield (1994: 219), Nagarjuna's greatest philosophical contribution to Buddhism.

Hui-Neng (638–713 AD), the 'Sixth Patriarch' of Chinese Chan (Zen in Japanese) Buddhism, pushed such pragmatism to an even higher level. While Nagarjuna would only negate and not affirm any proposition, Hui-Neng had no hesitation in offering affirmative propositions of his own. This is evident in a story recorded in *The Platform Sutra of the Sixth Patriarch*. 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, italics added).

In this story, the two monks thought the movement of banner and the movement of wind as mutually exclusive because the former indicates that the movement of wind was the cause and the movement of banner the effect while the latter indicates exactly the opposite. However, Hui-Neng accepted *neither* of the two opposite cognitive propositions and offered an enlightened insight that can reconcile *both* of the two, namely, it is the movement or arousal of one's mind or consciousness that leads one to see only the nominally real phenomena without being able to see the ultimate emptiness of those phenomena.

While Hui-Neng also upheld the principle of emptiness (neither/nor thinking), clearly reflected in his famous poem part of which reads 'as there is not a single thing, nowhere could any dust be attracted', he pragmatically unified the wind-banner opposites by recourse to the conventionally-understood Chinese notion of *xin* (心, i.e., heart/mind) that should in principle be empty of inherent existence.

Quantum Physics

Whether light is wave or particle is a long-lasting question that many great minds in human history have wrestled with.[3] In Ancient Greek times, Democritus argued

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that all things in the universe, with light being no exception, are composed of indivisible particles called atoms. In contrast, Aristotle believed that light was some kind of disturbance in the air, which is wave in nature. In the seventeenth century, two French philosophers, Rene Descartes and Pierre Gassendi, engaged in a debate where Descartes viewed light as wave while Gassendi asserted that light was made up of discrete particles. This wave or particle debate was then picked up by two English scientists, Isaac Newton and Robert Hooke, whose arguments were based on their empirical observations of light's behaviors. While Hooke held up the wave theory of light, Newton decided to support the particle view.

Due to Newton's fame and reputation, the particle view dominated the intellectual discourse on light for more than one century until an English physician, Thomas Young, in 1803 discovered in his famous double-slit experiment that light demonstrated interference effect, a behavior particular to waves. Since then, light being wave became common sense among scientists.

However, this belief was once again shaken by Albert Einstein's discovery in 1905 of the photoelectric effect in which ultraviolet light forces a surface to release electrons. In attempt to explain the photoelectric effect, Einstein followed Max Planck's lead to define light as a stream of discrete energy pockets called light quanta (later renamed into photons). Planck's and Einstein's works laid the foundation of the quantum revolution of physics in the twentieth century.

The evolution of philosophical and scientific understanding of light gave rise to the notion of the wave-particle paradox, which is explained by Einstein as follows:

> But what is light really? Is it a wave or a shower of photons? Once before we put a similar question when we asked: is light a wave or a shower of light corpuscles? At that time there was every reason for discarding the corpuscular theory of light and accepting the wave theory, which covered all phenomena. Now, however, the problem is much more complicated. There seems no likelihood of forming a consistent description of the phenomena of light by a choice of only one of the two possible 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: 278, italic added)

Niels Bohr and Werner Heisenberg came up with a coherent explanation of such a difficulty of forming a consistent description of light, which has been known as the Copenhagen Interpretation of quantum mechanics. According to Bohr's complementarity principle, any (quantum) object has both wave and particle properties as complementary aspects of a single reality. Some sort of measurement is needed to observe the properties of subatomic objects, such as electrons.

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Experiments designed to measure the wave properties of an electron will show the wave aspect, while experiments designed to measure the particle properties of an electron will show the particle aspect. While the wave and particle descriptions are contrary or contradictory, they are complementary and indispensable for defining the true nature of a quantum object.

On a surface (nominal or conventional truth) level, Bohr's complementarity principle represents both/and thinking. Yet, on a deeper (ultimate truth) level, it reveals neither/nor thinking, as Plotnitsky (2013: 8) points out:

> Bohr's earlier approaches to complementarity […] were shaped by the apparently necessary use of certain mutually exclusive conceptions in quantum theory, such as those of particles and of waves, and the corresponding physical theories, within the same theoretical framework. This is in part why Schrödinger's wave mechanics as a whole, rather than only his equation, initially had a certain, qualified, appeal to Bohr. Even at this stage of his thinking, however, Bohr was aware of the difficulties of applying the idea of waves to quantum objects themselves, even by way of complementarity; he avoids the language of waves and, more crucially, the concept of wave-particle complementarity altogether. I would argue that wave-particle complementarity, with which the concept of complementarity is arguably associated most, did not play a significant, if any, role in Bohr's thinking, at least after the Como lecture and even there, Bohr's ultimate solution to the dilemma of whether quantum objects are particles or waves – or his 'escape' from the paradoxical necessity of seeing them as both – is that they are neither.

The argument that light is neither wave nor particle was later affirmed by R. P. Feynman who shared the Nobel Prize in Physics in 1965 for his fundamental work in quantum electrodynamics. Feynman pointed out, 'Historically, the electron, for example, was thought to behave like a particle, and then it was found that in many respects it behaved like a wave. So it really behaves like neither. Now we have given up. We say: "It is like *neither*"' (Feynman, Leighton, & Sands, 1963: 37).

At the core of such neither/nor thinking is the notion that the true nature of a quantum object is unknowable. A quantum object is neither wave nor particle but a probability wave, or more specifically, 'a complex-valued probability distribution that has quantized (discrete) properties such as energy'.[4] Before a humanly-devised measurement or observation is made, the nature of a quantum object is truly uncertain, and all that scientists can say about the object is the probability it will exhibit a particular physical property such as position, momentum, or velocity. This interpretation resembles the Buddhist worldview that sees the worldly phenomena as illusions and lacking of self-nature. This radical anti-realist Interpretation was never accepted by Einstein who believed that God does not play dice (Stent, 1979).

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At the core of the famous Bohr-Einstein debate lies the fundamental conception of scientific objectivity. For Einstein, objectivity and subjectivity are contraries, while for Bohr, both objectivity and subjectivity 'are jointly achieved' (Hooker, 1991: 507). According to Bohr, everything scientists can observe in an experiment is not the true nature of the observed 'object' but a result that is co-constructed by the interaction between the observed and the observer (including the observational instruments). Bohr (1938: 436) once made a famous saying that human beings are 'spectators and actors in the great drama of existence'.

The Copenhagen Interpretation has profound implications for the practice of science. In Bohr's (1934: 18) words, 'in our description of nature the purpose is not to disclose the real essence of the phenomena but only to track down, as far as it is possible, relations between the manifold aspects of our experience'. In a more proactive tone, Bohr said 'There is no quantum world. There is only an abstract quantum physical description. It is wrong to think that the task of physics is to find out how nature is. Physics concerns what we can say about nature' (cited in Petersen, 1963: 12).

Nevertheless, both Einstein and Bohr 'attempt to understand the history of science as a history of increasingly adequate and objective representations of nature' (Hooker, 1991: 507). To do so, Bohr pragmatically insisted on the need of unambiguous and objective description of experience. To make a quantum mechanical description objective, Bohr (1963: 4) pointed out that 'the unambiguous account of proper quantum phenomena must, in principle, include a description of all relevant features of the experimental arrangement'. For Bohr, '[the] tool for [formulating unambiguous and objective descriptions] is, of course, plain language which serves the needs of practical life and social intercourse' (Bohr, 1958: 67), with 'suitable application of terminologies of classical physics' (Bohr, 1958: 39). As Faye (1991: 220) points out, 'Everyday language is also a necessary condition for unambiguous communication because of the fact that by describing the experiment in the common material-object language, one of whose very functions is to express the relationship between cause and effect, we are able to pay "proper attention to the placing of the object-subject separation" [(Bohr, 1958: 78)] that is necessary for unambiguous communication of our experience'. Clearly, while in principle Bohr insisted on the object-subject interaction, in practice (of science) he pragmatically emphasized on the object-subject separation.

DISCUSSION

In this article, I propose a typology of thinking pattern that helps us understand the five variants of so-called 'both/and thinking' shared by many organizational paradox scholars in the West and China. The variants are distinguished by the 'primary thinking (in principle)-secondary thinking (in practice)' relationship between the two combined elementary thinking. An examination of March's (1994) *A Primer on Decision Making* reveals that there is ample evidence that many

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of March's ideas correspond or reflect all of the five variants of the both/and thinking identified in the proposed typology. However, I am most interested in the Neither-And thinking that is associated with March's discussion of logic of consequences and logic of appropriateness. The typology shows the uniqueness of March's Neither-And solution because it is the only one among the five variants to embrace neither/nor as its primary thinking. The value of March's unique Neither-And solution is demonstrated by its wide applicability to paradoxes outside organizational studies, ranging from Deconstruction philosophy, Buddhist religion, and quantum physics.

This article contributes to the literature of organizational paradox by demonstrating that March has not only identified the problem of organizational paradox but also provided a unique Neither-And solution to it that is of significant value to the research not only on organizational paradox but also on paradox in general.

Another contribution is the identification of the role of pragmatism in solving paradox. The necessity of pragmatism may be justified by a seeming paradox of life, namely, often time, the more one wants the less one gets. Chinese people often say that one has to give up something in order to make it happen (将欲取之, 必先与之). In this sense, Neither-And thinking can be said as a paradoxical solution to paradox, namely, it implies that in order to have 'both/and' one has to enact 'neither/nor'. As a Chinese saying goes: the flower that's purposefully planted may not blossom, while the twig that is unintentionally inserted into the soil may grow into a big tree (有心栽花花不发, 无心插柳柳成荫).

There are two limitations of this article. First, the descriptions about the elements of the typology (i.e., the cells in the Figure 1) are very brief and need to be further elaborated and backed up by appropriate literature review. This is not done here primarily due to the limit of my current knowledge. Second, this article focuses on, in addition to a few others, March's (1994) book and his 2011 article without examining other writings of March's. This is partly due to the limit of space allowed here, but partly due to the limit of my current knowledge about March's wide range of academic writings.

CONCLUSION

In conclusion, I have three suggestions for future research on solutions to paradox. First, to advance Neither-And thinking we should further study the logic of appropriateness. For example, as a decision maker may have multiple identifies (roles) simultaneously, we should ask the question: when we enact logic of appropriateness, should we take an action that is appropriate to me as an individual human being or an organizational position holder? Would it be appropriate as the starting point or for the whole process? Second, we should identify the advantages and disadvantages of each of the five generic solutions and theorize what and how to use them and under what conditions. The extant literature on organizational paradox seems to assume some solutions are superior to others, however, the contingency

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theory (as a legitimate solution to paradoxical tension) tells us that nothing is always superior to others. Third, we should examine whether there are sub-categories within each of the five generic solutions (combinative thinking). As the ambidexterity literature has identified two distinct sub-categories, i.e., structural and contextual, and the literature on Zhong-Yong has also identified two distinct sub-categories, i.e., ratio-based and analytical synthesis, it is my intuition that there might also be sub-categories in the other three generic solutions to paradox.

NOTES

[1] One may also draw a three-dimensional matrix to make a more sophisticated typology. But, such a 3 × 3×3 typology will include 27 patterns of thinking, which is too complex to be suitable for our purpose here.

[2] Available from URL: https://www.britannica.com/topic/deconstruction (Cited 16 August 2019).

[3] Much of the information contained in this paragraph and the following one is from an online peer-reviewed article titled 'Light I: Particle or Wave'?, posted on www.visionlearning.com. The funding for this website is provided through grants from the US Department of Education and the National Science Foundation. Available from URL: https://www.visionlearning.com/en/library/Physics/24/Light-I/132 (Cited 12 March 2019).

[4] This description is made by Dr. Christopher S. Baird, Assistant Professor of Physics at West Texas A&M University. Available from URL: http://wtamu.edu/~cbaird/sq/2013/01/16/is-light-a-particle-or-a-wave/ (Cited 12 March 2019).

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