Foresight and wisdom:

The case of the Classic of Changes

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Abstract

Wisdom has remained an elusive topic of perennial interest to philosophers and theologians, and more recently to psychologists and ethnographers. In constructing scientific theories of wisdom, we owe a great intellectual debt to received and long-debated philosophical and theological texts. As the psychology of wisdom becomes increasingly interested in the capacity of wise individuals for prognostication, we explore the importance of one such received wisdom text in China, 易經, or the *Classic of Changes*. The *Changes* has historically been used for divination, philosophical reflection, and the personal development of wisdom. We argue that the historical engagement of the *Changes* exemplifies the emphasis on timely, optimal action in classical Chinese understandings of wisdom, since divination aims to help ascertain a course of action that will bring about an optimal outcome. Reflection on important texts is also integral to modern efforts to teach for wise problem-solving. We discuss applications of both divination and reflection to developing wisdom as understood in modern psychology, and their implications for research on wisdom.

Keywords: wisdom; development; Classic of Changes; Chinese thought; wisdom texts

Public Significance Statement

The present paper examines views on wisdom derived from the *Classic of Changes*, a classical Chinese wisdom text and manual of divination. Classical uses of the *Changes* for cultivating wisdom are interpreted via modern psychological research. Such interpretations show the viability and importance of studying prognostic ability as a means of better understanding the nature of wisdom and its development.

"To deal with the chaotic and yet manage to avoid confusion

and to handle change and yet manage not to drown in it,

only [the Changes], being the most profound and subtle device in the whole world,

could ever be up to doing these things!"

(Wang Bi, 226-249)

Wisdom and Foresight: The Case of the *Classic of Changes*

The ideal of striving to live a good life is common to most, if not all, cultures, and gaining wisdom is typically integral to attaining that ideal (Tafarodi et al., 2011). The last 30 years have seen wisdom increasingly become an object of psychological research (Clayton & Birren, 1980; Staudinger & Glück, 2011). Among other things, research on wisdom has found a negative correlation with anxiety and depression (Thomas et al., 2017), and a positive correlation with well-being (Grossmann et al., 2013; Fu, Wei, Wang, & Wang, 2019), life satisfaction (Le, 2010), and meaning in life (Webster et al., 2017).

Despite the relative success of research on wisdom, and the broad consensus on how to operationalize it (Bangen, Meeks, & Jeste, 2013; Glück, 2018; Grossmann et al., 2020; Jeste et al., 2010), there has been less consensus regarding methods for intentionally developing wisdom. While training people to achieve greater distance from their own perspective has achieved some success in facilitating wiser reasoning (Grossmann, 2017), most attempts to develop wisdom in school and professional training have shown little evidence of meaningful progress (Ferrari & Kim, 2019).

And yet, practices to intentionally develop wisdom are a near historical cultural universal, coded into the received texts and practices of the world's religious and philosophical wisdom traditions (Curnow, 2015; Hadot, 1995; Walsh, 2014). In the Chinese cultural sphere, there has been one particularly influential text considered not only the work of wise sages, but consulted

as a sage-oracle itself. Commonly known as 周易 (*Zhōuyì*, Changes of the Zhou Dynasty) in China, it is better known in the West as the *I Ching,* or *Yijing* (the *Classic of Changes*; hereafter *Changes¹*). As Smith (2008, 2012) shows, the *Changes* is alive and well as a contemporary object of study and influence, not only in China but in Western nations, even receiving government approval in Taiwan. In fact, laypeople's study of the *Changes* in China, Hong Kong, and Taiwan saw a boom in popularity in the late 20th century: study groups are still common in most major cities, and books on the *Changes*, including graphic novels, are easy to find (Smith, 2012). Likewise, the *Changes* is still used in Chinese medicine (e.g. Zhang, 2002), management (e.g. Lu, Qian, Wang & Lu, 2011), education (e.g. Zhang, 2008), and design (e.g. Li, 2008) to name but a few areas of continuing professional influence.

Perhaps most interestingly, the *Changes* is not a book as we are accustomed to them in modern, culturally Western settings. Rather than being a collection of poetry, arguments in prose, or a cultural historical narrative, the *Changes* is most famous as a manual of divination, being a collection of models of different possible moments in time and their developmental changes, described through poetry and metaphor. As Larson (2019) notes, divination neatly parallels the therapeutic process. Both begin with a person seeking advice, leading to an assessment and diagnosis of the case at hand, and a prognosis for future outcomes. Much like a therapeutic manual, the *Changes* and its methods of divination provide tools for diagnosing particular moments in time and giving a prognosis for what may follow from them, including how ill fortune is to be avoided if one acts wisely. Larson's work is quite timely, as the study

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[1] Translation of the Changes into English is complicated by different methods of transliterating Classical Chinese into English script, the source of the dual I Ching/Yijing rendering. I Ching uses the old Wade-Giles system, Yijing uses modern Pinyin. To simplify matters, we have elected to refer to the text as the *Changes*, using a common translation of the title among scholars of Chinese texts (Lynn, 1994; Smith, 2008). Where Chinese names or terms are untranslated, we have used the Pinyin system. We have also primarily made reference to direct translations of Chinese sources into English, either from contemporary scholars or rendered by the second author, who reads Chinese fluently.

of wisdom has recently begun to take an interest in the capacity of wise individuals to reason about future events (Peetz & Grossmann, in press).

By interpreting classical uses of the *Changes* to develop wisdom in light of modern Western psychology, the present paper highlights the importance of prognostic skill for a full understanding of wisdom. While foresight is an increasingly acknowledged element of wisdom in Western scientific models, most Western lay theories and expert models of wisdom emphasize reflection, or skillful hindsight (Weststrate, Bluck, & Gluck, 2019), perhaps due to their emphasis on life experience as the main developmental source of wisdom. By contrast, the *Changes* emphasises both a different key skill (prognostication) and a different developmental source (study and practice). We argue that exploring this perspective on deliberate development of wisdom opens up fruitful avenues for future empirical research and theoretical understanding of wisdom.

A Brief Introduction to Wisdom as Foresight

Much early research on wisdom focuses on lay theories of wisdom, or what the average person considers to be a wise person or wise behavior, especially when seeking to understand cross-cultural differences in wisdom. Despite the general emphasis on reflection as characteristic of wise individuals (Weststrate, Bluck, & Gluck, 2019), foresight is also integral to many lay theories of wisdom (Ardelt, Ferrari, & Shi, in press; Asadi, 2015; Holliday & Chandler, 1986; Ji, Nisbett, & Su, 2001). While not always highlighted, foresight forms one core aspect of the original performance method of measuring wisdom: the Berlin Wisdom Paradigm (BWP; Staudinger, Smith, & Baltes, 1994). The BWP assesses wisdom by asking participants to think aloud about the experiences of hypothetical situations. True, in life review tasks, participants are asked to reflect on how a person might have experienced some event. However, in life planning tasks, participants are asked to reason prospectively about what a person might say or do to response to a future event. In both cases, participants' responses are

coded according to five criteria: 1) factual knowledge about the fundamental pragmatics of life; 2) procedural knowledge about dealing with the fundamental pragmatics of life; 3) understanding of life contexts; 4) knowledge about the differences in values and life goals; 5) knowledge about and management of uncertainty. In short, the BWP assesses wisdom by asking participants to draw upon their knowledge and perspectival skills to predict the outcomes and potential development of life situations, a classic context for divination. Given Larson's (2019) point about the similarity between divinatory methods and psychological diagnostic techniques—between diviners and therapists—it is perhaps unsurprising that practicing clinical psychologists have a wisdom score equivalent to people nominated as wise (Smith, Staudinger, & Baltes, 1994).

In addition to lay theories and performance measures, recent research by Grossmann and colleagues explores the relationship between wisdom, future-directed reasoning, and affective forecasting. These studies have found that wise reasoning about future conflicts better resolves conflicts (Huynh, Yang, & Grossmann, 2016; Peetz & Grossmann, in press), and that training wise reasoning skills results in more balanced predictions about future emotional reactions (Grossmann et al, 2020).

Given this strong connection between wisdom and foresight, examining the *Changes*—historically both a wisdom text and a divination manual—may provide ideas for research on methods to increase wisdom as foresight. We now move to a discussion of the *Changes*, our approach to examining it as a text that provides 64 universal patterns of wisdom-related pragmatics of life, and its influence on Chinese philosophy.

The *Changes* and Wisdom Literature

Texts that are traditionally held to be important tools for imparting wisdom are an ancient genre. The term "wisdom literature" originates in Abrahamic scholarship, in reference to specific books of the Old Testament (Crenshaw, 2015; Kugel, 2012), but analogous wisdom texts are

found in cultures the world over, including: the Bhagavad Gita, the Golden Verses of Pythagoras, or the Analects of Confucius and many more (Curnow, 2015). Rudolph (1987/2005) argues that the basic form of wisdom literature is the short proverb, but from that core finds itself expanded into a wide variety of forms. Narratives, riddles, and even collections of omens could be considered wisdom literature. The *Changes* falls into the latter category, since its core text has its origins in mantic interpretations of hexagram patterns that draw on seasonal motifs, poetry, and mythology familiar to diviners at the time it was developed (Smith, 2008).

As with other world wisdom literature, the *Changes* is a difficult text to translate, though many translations have been made, since the 18th century (Shaughnessy, 1993; see Smith [2012] for an account of these many translations). While the Wilhelm/Baynes translation of the *Changes* is undoubtedly the most famous and is not false, it is a translation from Chinese into German, and then into English that is now over 50 years old. For these reasons, more recent translations of the text and accompanying commentaries, based on wider classical scholarship and more recent archeological findings, are cited in the present paper.

The *Changes* and its Influence

Historically there have been three versions of the *Changes*: 周易 (*Zhōuyì,* which became the *Classic of Changes*, and to which we refer unless specified otherwise), 連山 (*Liánshān*), and 歸藏 (*Guīcáng*[2]). In its basic structure, the *Changes* consists of all possible combination of 8 trigrams (3-lined sets of broken and unbroken lines), giving 64 hexagrams

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[2] While the *Zhōuyì* version of the text eventually became a Confucian classic, the *Guīcáng* version of the *Changes* re-discovered in part in 1993, emphasises the *yīn* elements and was influential in Daoist circles. This version is traditionally attributed to the Yellow Emperor (黄帝, 2698–2598 B.C.), an important figure in religious Daoism (Zhang, 1991). While *Zhōuyì* starts with the *Qián* (乾) hexagram (all solid lines), representing Heaven and ultimate activity, *Guīcáng* begins with the *Kūn* (坤) hexagram (all broken lines), representing Earth and ultimate receptivity. The *Guīcáng* holds *yīn* characteristics in high regard, represented by the qualities of the female and the earth (Zhang, 1991). Developing the softness and humility of the *Guīcáng*, Laozi and the Daoist philosophy advocate naturalness (自然, *zìrán*), effortlessness and non-action (無为, *wúwéi*) (Chan, 2017). Daoist religious practices also used hexagram symbolism to chart the path of inner cultivation (Liu, 1947/2008), with Daoist philosophy both influenced by and influencing the development of scholarship on the *Changes*. Little is known about the *Liánshān* version, since only fragments of it remain in quotation.

and their interpretation (Fig. 1). Unbroken lines represent qualities of firmness, activity, and expansion (traditionally associated with the principle of *yáng,* 陽), while broken lines represent qualities of yielding, abiding, and contraction (traditionally associated with the principle of *yīn*, 陰).
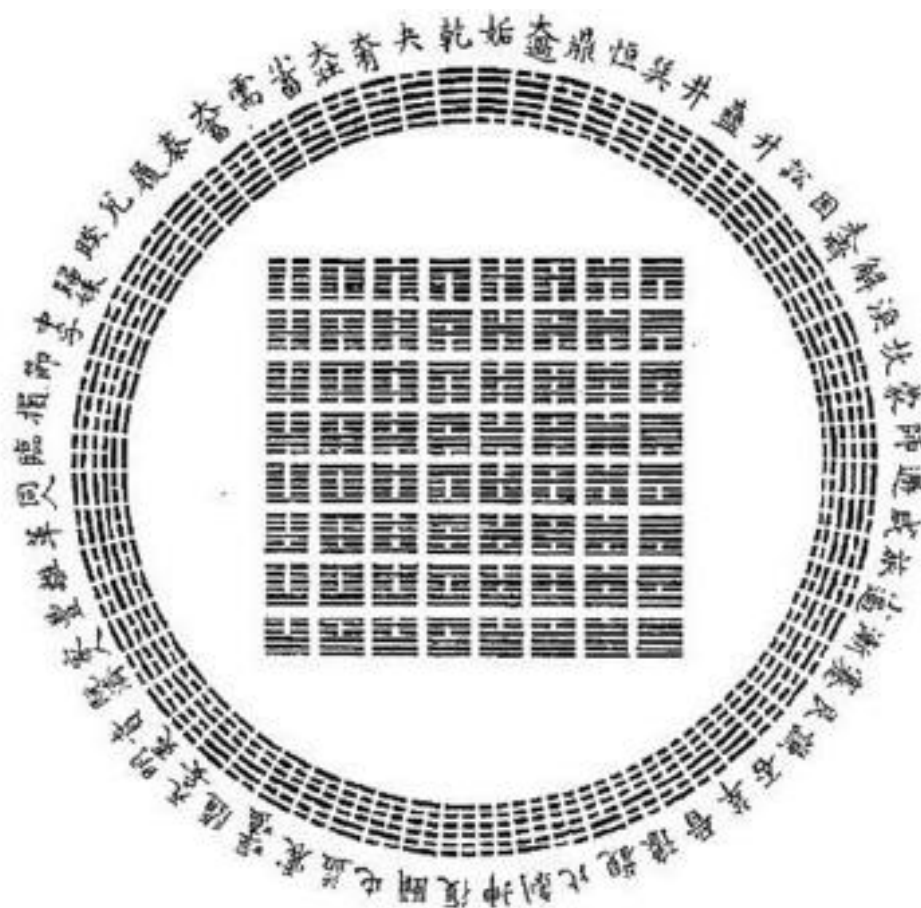

Figure 1: The Hexagrams of the Classic of Changes

The historical genesis of the hexagrams is a matter of much debate. According to the most common received histories of the *Changes*, the combinations of *yīn* and *yáng* lines into 8 trigrams are attributed to the legendary sage and culture hero Fu Xi (伏羲), while the 64 hexagrams and their line readings are ascribed to the wise King Wen of Zhou (周文王, 1152-1056 B.C., founder of the Zhou Dynasty) (Smith, 2008). The archaeological record is less clear,

with evidence of hexagrams being used in divinatory practices as early as the prior Shang Dynasty, ca. 1200-1045 BCE (Shaughnessy, 2014).

In the received text, each of these 64 hexagrams is given a name which draws upon ideas or symbolism that appear in the overall judgments, along with readings for each line (e.g., #33, 遯 Retreat; #34, 大壯 The Power of the Great). The judgements and readings themselves drawing on many images (e.g., 天下有山, 'Mountain under heaven above'), scenes (e.g., 系遯 有疾厉, 'A halted retreat is nerve-wracking and dangerous.') and tropes (e.g., 执之用黄牛之 革莫之胜说, 'He holds him fast with yellow oxhide. No one can tear him loose.')—all from Hexagram #33—that would have been familiar to a person of the time (Smith, 2008). With this imagery as a base, the hexagram system allows for the formal, binary notation of qualitative attributes (Secter, 1998). When contexts change, the preponderance of *yīn* and *yáng* are thought to change dynamically, resulting in different states, represented by different hexagrams or different lines in a hexagram. This relativity of *yīn* and *yáng* qualities in any object, event, or situation emphasizes change as the ultimate constant in all things. As explicated in Wang Bi's (王弼) influential commentaries (trans. Lynn, 1994), the *Changes* is thus considered a collection of analogous universal models, capturing moments of change and transformation, along with wise commentary by past sages.[3]

This models of change and transformation thus established, the *Changes* becomes a system of 64 patterns for representing the fundamental pragmatics of change over time, both is particular situations, and as universal principles. Consulting the *Changes* as an oracle in divination identifies where one is in the flow of events, what to anticipate, and what conduct would be appropriate to that particular situation, while also considering how the situation may

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[3] While many readers may be familiar with Jung's attempt to understand the *Changes* through comparison to his notion of synchronicity, this classical understanding, exemplified by Wang Bi, supports Pauli's argument that the text catalogues induced correspondences, rather than spontaneous coincidences (see Zabriskie, 2005).

further unfold in the future. Used in this way, the *Changes* is a useful tool for "knowing-to"—

identifying the optimal course of action appropriate to a given time, one likely to be considered

the most virtuous and wisest in the long run. Studied as a classical philosophical text, debated

and reflected on by scholars, and as an exercise in self-cultivation (Smith, 2008), the *Changes*

also serves as a vehicle for developing and integrating multiple perspectives—the sort of

dialectical thought at the core of philosophy as spiritual practice (Hadot, 1995), and a hallmark

of classical Chinese wisdom in particular (Grossmann, 2018). In fact, research by Ji, Nisbett

and Su (2001) found that Chinese participants judged those who predicted change to be wiser,

demonstrating the importance of change to the Chinese understandings of wisdom.

      The influence of the *Changes* on Chinese philosophy is clear in the historical interaction

of the native Confucian and Daoist schools with the *Changes.* The Ten Wings commentary,

the core philosophical exegesis of the *Changes*, has traditionally been ascribed to Confucius.[4]

According to Sima Qian, Confucius became fond of the text in his later years and came to

believe that early study of the *Changes* was necessary; that, had he done so, he would have

made no major mistakes (Ren, 2001), and would have considered himself a *jūnzǐ* (君

子, "superior person"). In the Confucian view, the *Changes* explicates the fundamental order

of the cosmos to understand and guide human actions (推天道以明人事), expanding two

aspects of social life: socio-political life (e.g. how to govern a state) and self-cultivation (Lai,

Chen & Lin, 2013). The moral order in human society mirrors the natural order, and the *Ten*

Wings interpretations of the *Changes* serves to demonstrate this connection (Lai, Chen & Lin,

2013).

      Having reviewed the history of the *Changes* and its influence on the ideals of Chinese

philosophy, the following sections will review different uses of the *Changes* as an oracle for

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[4] According to modern scholarship, the Ten Wings is of unknown authorship, and usually considered the work
of multiple authors (Smith, 2008).

prognostication and as reflective text, before discussing how both uses contribute to cultivating wisdom.

The *Changes* as Divinatory Oracle

The *Changes* is often associated with the mantic casting of oracles that purportedly identify one's situation at a particular moment in time, present possible developments of that situation, and invite one to choose the best conduct available under existing circumstances. The original mantic use of the *Changes* demonstrates two important factors of the Chinese wisdom tradition that followed it: (1), that foresight—the ability to discern how events will unfold and then prepare accordingly—is vital to wisdom, and (2), that our capacity for foresight can be trained or scaffolded by using tools, like the *Changes*. A diviner skilled in the mantic arts was able to discern patterns invisible to ordinary people. Their prognostications could help prepare for imminent misfortunes, affording a better life for oneself and others—enduring hallmarks of wisdom. As Ting et al. (2020) observe, in the cultural system stemming from the Classical Chinese worldview, the diviner often provided primary mental health care, using their skills to identify how an individual had come uncoupled from fate, and potential opportunities to realign with the unfolding natural order.

Guan Lu's Mantic Prognostication

This kind of prognostic skill is exemplified by adepts like Guan Lu (209–256 CE), a famous diviner of the Late Han Dynasty. In one story, Guan used the correlative hexagram systems to interpret the dream of a high ranking official, about some blue flies on the official's nose:

> "[Y]our nose is of a shape corresponding to the hexagram Gen [#52{Stillness/immobility}] and might be likened to a mountain in the center of your face. [Your nose] is high, but not excessively steep, so you will be able to preserve your noble place. The green flies you describe are rank and offensive, and they are gathering

about your nose. Those who stand at dangerous heights must be overturned, and those who commit impulsive acts of valor will perish. One must contemplate the cycles of waning and waxing, the periods of rise and decline. This is why a mountain under earth is called 'modesty' [謙 *Qiān*, #15, composed of the Mountain trigram below the Earth trigram] and thunder over heaven is called 'power of the great' [大壯 *Dàzhuàng*, #34, the Thunder trigram above the Heaven trigram]. The import of 'modesty' is decreasing the numerous to increase the scarce. The import of 'power of the great' is treading no path that is not a correct path. Self-sacrifice always leads to highly visible greatness, and acting wrongly always brings harm and defeat." (DeWoskin, 1983, pp. 99, injections our own)

The hexagrams form the core of Guan's advice: Modesty requires a balancing of forces, while Power of the Great requires avoiding actions that violate decorum. When accused of being all talk by another official, Guan further predicted the demise of both officials, who were eventually executed after their patron was deposed (Smith, 2008). Guan was famous in his day for making powerfully accurate divinations, based on a deep understanding of the fundamental patterns depicted in the *Changes*.

Guan's use of the hexagrams to represent and convey important insights is emulated by later thinkers like Zhu Xi, who argued that the *Changes* provided a scaffold for discerning patterns that might otherwise be ineffable (trans. Adler, 2017, 2019), and allowing them to be communicated. This use of the oracle illustrates attunement to changing times and circumstances; mantic readings evoke insight in others appropriate to a particular moment in time. This skill is echoed in Wang's contemporary psychological model of wisdom (Wang & Zheng, 2014), particularly in its emphasis on correctly diagnosing problematic situations and generating virtuous solutions that are creative, novel, and apt.

In observing the use of proverbs in Irish cultural wisdom, Edmondson (2012) has found that proverbs serve a similar function to mantic readings, characterising proverbs as cultural encapsulations of forms of reasoning. Edmondson argues that the wise use of proverbs involves the ability to diagnose a situation, perceive how it might change, and activate shared proverbial knowledge to promote virtue in others—a process also found in Jewish Tanakh (also called the Christian 'Old Testament') that could as easily describe interpreting the line readings of the *Changes*. As previously mentioned, the *Changes* contains many proverbs, and many of its line readings are still used as such in conversation today (Xu, 1995). While Irish proverbial wisdom lacks the explicit context of seeking alignment with an overarching natural order present in mantic readings of the *Changes*, both use gnomic statements to provoke behavioural changes, illustrating how divination can encouraging wiser action. Indeed, proverbs and omens are exemplary of ancient gnomic wisdom traditions found the world over (Rudolph, 1987/2005).

Zhu Xi's Spiritual Exercises

While Guan's emphasis on the divinatory uses of the *Changes* is extreme, Zhu Xi (1130-1200), the great Neo-Confucian commentator of the Song Dynasty (960-1279), advocated casting the oracle as a spiritual exercise. In fact, the philosophical core of Zhu Xi's entire doctrine owes itself to his spiritual practices of self-cultivation (Adler, 2008). The aim of Zhu's practice—centred around standard Confucian meditation, reflective study, and strict observance of social conduct—was to gain a clearer understanding of natural and personal patterns of change and development. Positing that the *Changes* would not be useful to anyone lacking self-cultivation, Zhu Xi's use of the oracle places it somewhere between pedagogical tool and diagnostic test. By casting the oracle and attempting to interpret the resulting answer, one can assess the degree to which one's mind is aligned with the minds of the sages who created the *Changes*. The greater one's understanding, the closer one was to being a sage, a process Zhu referred to as "transmission of mind (傳心心)" (Munro, 2015).

This more self-reflective use of the *Changes* as oracle is very suggestive of research findings regarding interactive minds and wisdom. Dialoguing with other minds—both as another individual actually present or simply imagined—has been shown to promote wisdom, as assessed through the Berlin Wisdom Paradigm (Staudinger & Baltes, 1996). While the results of Staudinger and Baltes (1996) were inconclusive, Grossmann (2017) reviews substantial evidence that taking a more distant perspective—either that of another person or a general third person point of view—can facilitate wise thinking. In consulting the *Changes* as an oracle, the ritual aspects of the consultation, and the abstract nature of the reading, encourages the practitioner to step out of their ordinary mode of thinking in a way that resembles some of the strategies reviewed by Grossmann (2017).

The *Changes* also adds an additional level of dynamism to the transmission and facilitation of wisdom unlike that of standard texts not so consulted. Hadot (1995) argues that the question-and-answer structure of many classical Greek dialogues and Christian parables effectively approximate dialogue. Such texts are limited by their medium and cannot directly answer specific questions put to them, making them a poor substitute for an actual teacher or dialogic partner. The *Changes*, however, can answer specific questions. True, as the *Commentary on the Appended Phrases* (系辭傳 *Xìcízhuàn*) of the Ten Wings observes, the *Changes* is inert. But, as an oracle, stimulated by a question put to it, the *Changes* can provide an answer for anything asked of it. Casting an oracle can return either stable lines— referring to the hexagram situation alone—or lines changing to their opposite, and so transforming into another hexagram situation (i.e., the one that the current one will develop into, once those lines have changed). Much was written during the Han Dynasty to elaborate on the near-limitless permutations of textual elements (images, scenes, tropes) available when combined and recombined in response to any question posed to it (Smith, 2008). Backed by this wealth of distributed cognition (see Hutchins, 1995), the *Changes* provides a skillful – though necessarily

<mark>complex – method of avoiding the usual problems associated with consulting classical texts for answers to contemporary problems</mark>. By allowing recombined aspects of its text and structure to produce different 'proverb-like' answers, the *Changes* facilitates both a transference of proverbial wisdom to particular situations, discussed by Edmondson (2012). It also facilitates self-distancing from habitual egocentric modes of thinking, which Grossmann (2017) finds essential to wise reasoning.

Ouyi Zhixu's Karma Diagnosis

In the Ming Dynasty (1368-1644) Buddhist Ouyi Zhixu (1599-1655), we find a further use of the *Changes* as oracle in a different philosophical tradition. This occurs despite official Buddhist monastic proscription of such practices, making him something of a historical anomaly. McGuire (2014) cites two times in Ouyi's life when he used divination: once to choose a school of Buddhism, and once to divine his karma. In Ouyi's system, divination reveals both karmic obstacles (e.g., arrogance) and karmic potential (preventing despondency). In this sense, Ouyi's is a Buddhist version of Zhu Xi's use of the oracle for self-examination.

The oracle was also used for decision making, bootstrapping wise reasoning through divination. Line readings of the *Changes* outline the behaviours of greater or lesser persons, allocating praise and blame to possible actions. The use of divination for making decisions thus integrates acknowledging uncertainty—important in Western models of wisdom like the Berlin Wisdom Paradigm (Baltes & Smith, 1990, 2008) and Grossmann's model of wise reasoning through self-distancing (Grossmann, 2017; Grossmann & Kross, 2014)—and seeking positive moral outcomes—characteristic of Chinese lay and expert models of wisdom (Chen et al., 2014; Wang & Zheng, 2014; Yang, 2008; 2013). All decisions contain an element of uncertainty, but the *Changes* helps the diviner determine the course of action leading to the best moral outcome for a given moment of uncertainty.

In addition to its use for divination, the *Changes*, along with a library worth of commentaries, was debated and reflected upon as a philosophical text. In the next section, we discuss the non-divinatory uses of the *Changes* in cultivating wisdom.

The *Changes* as Reflective Aid

As with any great philosophical or spiritual text, private and academic study of the *Changes* was commonplace among the Chinese elite for generations. Numerous commentarial traditions flourished throughout the history of the *Changes* up to the present day. Several such traditions, dating to its earliest documented uses, focused on the *Changes* as a book of moral teachings rather than its use as an oracle. Such use of the *Changes* is most commonly found in Confucian traditions, which formed the dominant scholastic movement in China for most of recorded history. For example, in the *Yào* (要) text discovered in the archeological tomb site *Mǎwángduī* (馬王堆) in Changsha, China (sealed in 168 BCE), Confucius explained to his student Zi Gong that one should refer to the *Changes* for the philosophical lessons offered in its judgements and line readings, rather than solely as a divinatory tool. He said that doing so was a helpful method for people not yet able to understand and adhere to *rén* (仁, "humaneness" or "consummate conduct"). Note that *rén* is not merely the highest virtue in Confucianism, but a key normativity on human interaction in the Confucian cultural system (Hwang, 2019; 2020). *Jūnzǐ* (君子, superior people) having acquired *rén* will use it as the guiding principle. But when in doubt they may consult the *Changes* for inspiration (Ding & Li, 2015).

Thus, the relationship between reflection and divinatory practice is analogous to the relationship between studying a map to understand the lay of the land and using a map to navigate. In reflection, one gains an understanding of the overall patterns, developing a sensitivity for change in general; in divination, one queries a particular case, and receives guidance about a particular situation. Such reflection on the *Changes* differs importantly from the retrospective reflection on life experience emphasised in Western studies of wisdom

(Weststrate, Bluck, & Gluck, 2019). While both may involve refining one's skill at recognising patterns, retrospection depends on individual experience to gain knowledge of the fundamental pragmatics of life through incremental induction. Reflection on the *Changes*, however, permits the student to arrive at fundamental patterns deductively, moving from universal patterns to particular events. Using the *Changes* in this manner has the further benefit of allowing the student to benefit from the distributed cognition (Hutchins, 1995) of past and present scholars, using the shared structure of the *Changes* to describe patterns and experiences.

Training Intuition

The strongest connections between reflecting on the *Changes* and developing wisdom are found in Wang Bi's (226-249 CE) commentaries, a highly influential (indeed standard) interpretation of the *Changes,* until Zhu Xi's neo-Confucian synthesis centuries later (Smith, 2008). Wang argued that the structure and images of the *Changes* were simply signposts to their more valuable function, their capacity to represent change and transformation (Smith, 2008). For Wang, study of the *Changes* helped develop an intuitive sensitivity to moments in time and their changes. Wang's general interpretation of the Changes, as described in his *General Remarks on the Zhou Changes* (周易略例), is that each hexagram corresponds to a particular situation or moment in time, while each line corresponds to a possible state of change within it. Thus, Wang considered the *Changes* as a collection of analogous models (trans. Lynn, 1994). Reflecting on each of these hexagram models deepened one's understanding of such moments and their transformations, building up a repertoire of what the Berlin Wisdom Paradigm (Baltes & Smith, 2008) calls wisdom related knowledge about potential behaviour in similar circumstances.

Psychological research has well-established evidence that analogical reasoning can greatly improve insight problem solving, allowing one to break free of inappropriate perspectives and assess problems from new angles (Gick & Holyoak, 1983; Helman, 2013;

Kaminski, Sloutsky, & Heckler, 2013). Insight is important in Western models of wisdom (McKee & Barber, 1999; Meeks & Jeste, 2009; Vervaeke & Ferraro, 2013), and echoes Wang's claim that creativity is an essential aspect of wisdom (Wang & Zheng, 2014). The direct connection between intuition and wisdom in Western philosophy is reviewed by Curnow (1999). Intuition is also a vital to divination and therapeutic skill by Larson (2019). While the exact relationship between intuition and insight remains unclear (Brock, 2015), Vervaeke, Ferraro, and Herrera-Bennett (2018) propose a tight coupling between intuition, insight, and optimal performance characteristic of flow (Csikszentmihalyi, 1990). Following Hogarth (2001), they note that flow conditions and methods for training insight or intuition share an identical requirement: clear, meaningful feedback from the environment. Through continuously refining one's ability to predict the flow of events—using either Wang Bi's reflective methods or Zhu Xi's more active prognostic exercises—the *Changes* potentially provides a powerful tool for training intuition, and thereby, wisdom.

Representation of the Ineffable

Zhu Xi also advocated reflection on the *Changes* as a set of potential situations, in addition to his above-mentioned use of the *Changes* for divination. In his commentary on the Ten Wings, Zhu Xi explicitly notes that the *Changes* are useful for representing and reasoning about patterns of change that might otherwise be ineffable, by bringing them to one's attention to serve as a focus for reflection (Adler, 2017). Thus, consulting and studying the *Changes* brought one to a closer understanding of the *Dao* and the patterns that arise from the cosmological interchange of *yīn* and *yáng*, by allowing one to align them with one's own actions. Such use of reflection was not limited to the Confucian tradition.

Unlike many of his predecessors, the commentaries of the Qing Dynasty Daoist writer Liu Yiming (1734-1821; trans. Cleary, 1986) contain few alchemical metaphors and symbols common to Daoist texts on self-cultivation (sometimes called 'inner alchemy'). Instead, in

Liu's writings, the hexagrams representing states of mind or being and the *Changes*' are a tool for cultivating a Daoist understanding of life and general psychological change (Liu, 1986).

The study of philosophical texts has a central place in many current suggestions about how to teach for wisdom (Bruya & Ardelt, 2018a; 2018b; Ferrari & Kim, 2019). But the nature of the text reflected upon may influence the type of wisdom gained: when the judgements, line readings, and commentaries in the *Changes* are read for philosophical rather than oracular purposes, they help build skill in representing complex systems. The individual line readings of a hexagram, taken together, often exhibit a narrative structure, with the progression of hexagrams in the standard order of the *Changes* sometimes also demonstrating a narrative order of progress and regress (Smith, 2008). Oatley and colleagues (Oatley, 1999, 2016; Mar & Oatley, 2008) have argued that literary narratives provide a simplified, compressed simulation of possible situations that allow readers to practice the emotional responses and problem solving such situations require, building cognitive capacities in the reader.

Imagining how to respond to patterns of change should provide similar simulation training, as refined and adjusted through feedback—something integral to Chen and colleagues' (2014) model of developing wisdom, and to Grossmann's (2017) model of wise reasoning. According to Lee (2000), the influence of the *Changes* on Chinese culture is at least partially responsible for Peng & Nisbett's (1999) finding that Chinese participants are more comfortable with dialectical reasoning and apparent paradoxes than are Americans. Finally, Ji, Nisbett, and Su (2001) found that Chinese participants were more accurate and more likely to predict change than American participants.

Contributions of the *Changes* to the Science of Wisdom

The *Changes* and its commentaries are concerned with predicting and capitalizing on inevitable change; the Ten Wings in particular praises sages for their great actions and deep insight into the natural world. This cultural emphasis on well-timed, efficacious action as a

hallmark of wisdom may help explain why military strategists are still frequently cited as iconic exemplars of wisdom in China (Hu et al., 2018; Wang & Zheng, 2014). In his account of the relationships between divination, psychological assessment, and self-cultivation, Larson (2019) references such a capacity for timeliness in the principle of *Kairos*. *Kairos* originates in Classical Greek poetry and dramaturgy, referring to the need for proper timing to obtain optimal dramatic effect. The term later gained philosophical cachet, in reference to proper timing for virtuous action.

Larson notes that *Kairos* is also an important aspect both of divination and the therapeutic process. In both therapy and divination, one party seeks support in making decisions about their future welfare (the patient/client), and the other party (the therapist/diviner) is sought out for their expertise in providing such support. The process begins with a consultation using some set of tools that generates a diagnosis of problems facing the seeker. Based on this diagnosis and supporting expertise, the seeker is given a prognosis, suggestions for future actions and possible consequences for action or inaction. In both cases, this prognosis may result in follow-up sessions. The timing of the insight or information delivered by the therapist or diviner, and the timing of patient's or client's action, are vital to achieving optimal outcomes for the shared goal of growth.

Kairos is not totally absent from Western scientific models of wisdom, though it is not named as such. Edmondson's (2012) emphasis on the timely use of proverbs and Grossmann's focus on wisdom as a changing state, not a trait (Grossmann, Gerlach, & Denissen, 2016) make these two models the most situationist of contemporary psychological wisdom theories of wisdom. By contrast, Ardelt (2003), Webster (2007), Levenson (Levenson et al., 2005), among others, conceptualise wisdom as something closer to an individual personality trait, rather than as action.

In addition to valuable moments, there is also an emphasis on timely, long term, *optimal* action. This idea too is found in contemporary scientific theories. However, the *Changes* show how these two features of wisdom are interrelated: the inevitability of change provides an opportunity for virtuous action, and cautions that foresight is needed to determine what is good, fortunate, or virtuous over the long term (Ji, Nisbett, & Su, 2001). More importantly, the *Changes* places a premium on understanding the *kind* of change that might occur. The future is uncertain, of course, but most people are able to have at least an inkling of the ethical implications of how events are likely unfold, and in the tradition of the *Changes*, this hunch can be developed and augmented, just like any other skill.

Emphasis on the inevitability of change, and predicting how the flow of events is likely to develop from any given point, is in our view the most important contribution of the *Changes* to the contemporary study of wisdom. This perspective makes it possible to proactively model and proscribe wise actions. As discussed above, while Western theories of wisdom make accepting the inevitability of change a hallmark of wisdom, they make no effort to imagine what changes to expect, thereby lacking the foresightful, prognostic element of the *Changes*. To expect things to change only for the good when one has just won the lottery would be blind optimism; to expect things to only change for the worse when one has just experienced adversity, pure pessimism. In the *Changes*, however, the wise understand that everything contains the seeds of its opposite. In times of good luck, prepare for misfortune; in times of duress, remain open to opportunities. Capitalising on the inevitability of change and "riding the momentum" to positive moral effect is a hallmark of the philosophical tradition of the *Changes* (Chang, 2009). This is well-described in the Commentary on the Appended Phrases of the Ten Wings commentary (book two, section 5):

> "The *Changes* [in Hexagram 40, 解 *Xiè*, "Release"] say: 'The duke uses this
>
> opportunity to shoot at a hawk located atop a high wall, so he gets it, and nothing fails

to be fitting.' The Master [Confucius] said: 'The hawk is the quarry, the bows and arrows are the instruments, and he who does the shooting is a man. The noble man lays up a store of instruments in his own person and waits for the proper moment and then acts, so how could there ever be anything to his disadvantage! Here one acts without impediment; it is due to this that when one goes out, he obtains his catch. What this means is that one should act only after having first developed his instruments.' (Lynn, 1994, trans.; injections our own).

True, posterity plays a critical role in judging any action as wise—something important for Chinese wisdom theories proposed by Yang (2008; 2013) and Wang (Wang & Zheng, 2014) that emphasise long-lasting positive effects as hallmarks of wise actions. Similarly, we cannot create typologies of wise actions as we might typologies of plants or animals; what is wise in one situation may be foolish in another. What we can do, however, is recognise our circumstances (whether positive or negative), and learn to anticipate what changes are possible and optimal in those circumstances—foreseeing potential adversity in good times and good fortune in ill. While there is likely no way to assure wisdom in advance with any guarantee, the *Changes* shows how we people can attend to their circumstances and anticipate change wisely.

Limitations and Conclusions

Our work is not without limitations. A specialist in Chinese classics, or in the *Changes* specifically, might find far more nuance to its account of how to develop wisdom than we have presented here. However, far from being a flaw in the present paper, we see it as an avenue for fruitful future collaboration. For example, future research might have people interpret the Berlin Wisdom Paradigm vignette tasks (Baltes & Smith, 1990) with access to a scaffolding tool like a hexagram reading, to see if such virtual help modeling potential wise responses leads

them to give better advice than simple reflection. Collaboration between empirical and philosophical studies of wisdom is vital to effectively teaching for wisdom (Bruya & Ardelt, 2018a). We welcome the opportunity to collaborate with other scientists and humanists to better understand how to develop wisdom through study of the *Changes* and similar tools for developing prognostic skill. Such tools as the *Classic of Changes* show the viability and importance of studying prognostic ability as a way to better understand the full nature of wisdom and its development.

References

Adler, J. A. (2008). Zhu Xi's spiritual practice as the basis of his central philosophical concepts. *Dao*, *7*(1), 57-79.

Ardelt, M. (2003). Empirical assessment of a three-dimensional wisdom scale. *Research in Aging, 25*(3), 275-324.

Ardelt, M. (2004). Wisdom as Expert Knowledge System: A Critical Review of a Contemporary Operationalization of an Ancient Concept. *Human Development, 47*(5), 257-285. doi:10.1159/000079154

Ardelt, M., Ferrari, M., & Shi, W. (In press). Implicit wisdom theories from around the world: Variations by gender, age group, and nation. In B. Schwartz, C. Bernacchio, C. González-Cantón, & A. Robson (Eds). *Handbook of practical wisdom in business and management*. Springer.

Baltes, P. B., & Smith, J. (1990). Toward a psychology of wisdom and its ontogenesis. In R. J. Sternberg (Ed.), *Wisdom: Its nature, origins, and development* (pp. 87-120). New York, NY: Cambridge University Press.

Baltes, P. B., & Smith, J. (2008). The fascination of wisdom: Its nature, ontogeny, and function. *Perspectives on Psychological Science*, *3*(1), 56-64.

Bruya, B., & Ardelt, M. (2018a). Fostering Wisdom in the Classroom, Part 1: A General Theory of Wisdom Pedagogy. *Teaching Philosophy*, *41*(3), 239-253.

Bruya, B., & Ardelt, M. (2018b). Wisdom can be taught: A proof-of-concept study for fostering wisdom in the classroom. *Learning and Instruction*, *58*, 106-114.

Chang, W. (2009). Reflections on time and related ideas in the Yijing. *Philosophy East and West, 59*(2), 216-229. doi:10.1353/pew.0.0047

Chen, L., Cheng, Y., Wu, P., & Hsueh, H. (2014). Educators' implicit perspectives on wisdom: A comparison between interpersonal and intrapersonal perspectives. *International Journal of Psychology*, *49*(6), 425ional http://doi.org/10.1002/ijop.12045

Clayton, V. P., & Birren, J. E. (1980). The development of wisdom across the life span: A reexamination of an ancient topic. *Life-span Development and Behavior, 3*, 103-135.

Curnow, T. (1999). *Wisdom, intuition and ethics*. Aldershot: Ashgate.

Curnow, T. (2015). Wisdom: A history. Reaktion Books, Limited

DeWoskin, K. J. (1983). *Doctors, diviners, and magicians of ancient China: Biographies of fang-shih*. New York: Columbia University Press.

"又鼻者艮，此天中之山，高而不危，所以長守貴。今青蠅臭惡，而集之焉。位峻者顛，輕豪者亡，不可不思害盈之數，盛衰之期。是故山在地中曰謙，雷在天上曰壯；謙則褒多益寡，壯則非禮不履。未有損己而不光大，行非而不傷敗。"《三國志·魏書二十九·管輅傳》

Ding, S., & Li, P. (2015). Lun Mawangdui bo shu Yao pian "Guan Qi De Yi" de yi xue nei han [Discussing the Yi-ological meaning of "Guan Qi De Yi" in the Yao chapter from the Mawangdui silk texts]. *Wuhan University Journal, 68*(1), 39-45. DOI: 10.14086/j.cnki.wujhs.2015.01.006

Edmondson, R. (2012). Intergenerational relations in the West of Ireland and sociocultural approaches to wisdom. *Journal of Family Issues, 33*(1), 76-98.

Ferrari, M., & Kim., J. J. (2019). Educating for wisdom. In R. J. Sternberg and J. Glück (Eds.), *Cambridge handbook of wisdom*. Cambridge, UK: Cambridge University Press.

Fu, X. R., Wei, X.D., Wang, Y.L., &Wang, F. Y., (2019). The relationship between wisdom and well-being: A perspective based on multiple orientations to well-being. *Advances in Psychological Science*, *27*(3), 544-556.

Gick, M. L., & Holyoak, K. J. (1983). Schema induction and analogical transfer. *Cognitive Psychology, 15*(1), 1-38.

Grossmann, I. (2017). Wisdom in context. *Perspectives on Psychological Science*, *12*(2), 233-257.

Grossmann, I. (2018). Dialecticism across the lifespan. In J. Spencer-Rogers & K. Peng (Eds.), *The Psychological and Cultural Foundations of East Asian Cognition: Contradiction, Change, and Holism*. Oxford: Oxford University Press.

Grossmann, I., Dorfman, A., Oakes, H., Santos, H. C., Vohs, K. D., & Scholer, A. (2020). Training for wisdom: The illeist diary method. PsyArXiv. doi:10.31234/osf.io/a5fgu

Grossmann, I., & Kross, E. (2014). Exploring Solomon's Paradox: Self-distancing eliminates the self-other asymmetry in wise reasoning about close relationships in younger and older adults. *Psychological Science*, *25*(8), 1571-1580.

Grossmann, I., & Kung, F. Y. H. (in press). Wisdom and culture. In S. Kitayama & D. Cohen (Eds.), *Handbook of cultural psychology* (2nd Edition). New York: Guilford Press.

Grossmann, I., Gerlach, T. M., & Denissen, J. J. (2016). Wise reasoning in the face of everyday life challenges. *Social Psychological and Personality Science, 7*(7), 611-622.

Grossmann, I., Na, J., Varnum, M. E., Kitayama, S., & Nisbett, R. E. (2013). A route to well-being: intelligence versus wise reasoning. *J Exp Psychol Gen, 142*(3), 944-953. doi:10.1037/a0029560

Grossmann, I., Oakes, H., & Santos, H. C. (2019). Wise reasoning benefits from emodiversity, irrespective of emotional intensity. *Journal of Experimental Psychology: General, 148*(5), 805.

Grossmann, I., Weststrate, N. M., Ardelt, M., Brienza, J. P., Dong, M., Ferrari, M., ... Vervaeke, J. (in press). Wisdom Science in a Polarized World: Knowns and Unknowns. *Psychological Inquiry*. [target article]

Hadot, P. (1995). *Philosophy as a way of life: Spiritual exercises from Socrates to Foucault*. Oxford: Blackwell. (M. Chase, trans.)

Helman, D. H. (2013). *Analogical reasoning: Perspectives of artificial intelligence, cognitive science, and philosophy*. Springer Science & Business Media.

Hogarth, R. M. (2001). *Educating intuition*: University of Chicago Press.

Hu, C. S., Ferrari, M., Liu, R. D., Gao, Q., & Weare, E. (2018). Mainland Chinese Implicit Theory of Wisdom: Generational and Cultural Differences. *Journal of Gerontology Series B: Psychological Sciences and Social Sciences, 73*(8), 1416-1424. doi:10.1093/geronb/gbw157

Hutchins, E. (1995). *Cognition in the Wild*. Cambridge, MA: MIT Press.

Huynh, A. C., Yang, D. Y.-J., & Grossmann, I. (2016). The value of prospective reasoning for close relationships. *Social Psychological and Personality Science, 7*(8), 893-902.

Jeste, D. V., Ardelt, M., Blazer, D., Kraemer, H. C., Vaillant, G., & Meeks, T. W. (2010). Expert consensus on characteristics of wisdom: A Delphi method study. *The Gerontologist*, *50*(5), 668-680.

Ji, L.-J., Nisbett, R. E., & Su, Y. (2001). Culture, change, and prediction. *Psychological Science, 12*(6), 450-456.

Kugel, J. L. (2012). *How to Read the Bible: A Guide to Scripture, Then and Now*. Simon and Schuster.

Kaminski, J. A., Sloutsky, V. M., & Heckler, A. F. (2013). The cost of concreteness: The effect of nonessential information on analogical transfer. *Journal of Experimental Psychology: Applied, 19*(1), 14.

Ferrari, M., & Kim., J. J. (2019). Educating for wisdom. In R. J. Sternberg and J. Glück (Eds.), *Cambridge handbook of wisdom* (pp. 347-371). Cambridge, UK: Cambridge University Press

Le, T. N. (2010). Life Satisfaction, Openness Value, Self-Transcendence, and Wisdom. *Journal of Happiness Studies, 12*(2), 171-182. doi:10.1007/s10902-010-9182-1

Levenson, M. R., Jennings, P. A., Aldwin, C. M., & Shiraishi, R. W. (2005). Self-transcendence: conceptualization and measurement. *Int J Aging Hum Dev, 60*(2), 127-143. doi:10.2190/XRXM-FYRA-7U0X-GRC0

Li, Y. (2008). To learn and to apply: Preliminary study for I Ching design thoughts. *Journal of Nanjing Arts Institute (Fine Arts & Design), 2008*(5), 4-7.

Liu, Y. (1986) *The Taoist I Ching* (T. Cleary, trans.). Boston: Shambhala.

Lu, Y., Qian, Y., Wang, D., & Lu, Y. (2011). Implications of I Ching on innovation management. *Chinese Management Studies, 5*(4), 394-402. doi:10.1108/17506141111183163

Lynn, R. J. (1994). *The classic of Changes. A new translation of the I Ching as interpreted by Wang Bi.* New York. Columbia University Press.

易曰："公用射隼于高墉之上，獲之，无不利。"子曰："隼者禽也，弓矢者器也，射之者人也。君子藏器於身，待時而動，何不利之有？動而不括，是以出而有獲，語成器而動者也。"《繫辭下》

Mar, R. A., & Oatley, K. (2008). The function of fiction is the abstraction and simulation of social experience. *Perspectives on Psychological Science*, *3*(3), 173-192.

McGuire, B. F. (2014). *Living karma: The religious practices of Ouyi Zhixu*. Columbia University Press.

McKee, P., & Barber, C. (1999). On defining wisdom. *The International Journal of Aging and Human Development*, *49*(2), 149-164.

Meeks, T. W., & Jeste, D. V. (2009). Neurobiology of wisdom: a literature overview. *Arch Gen Psychiatry, 66*(4), 355-365. doi:10.1001/archgenpsychiatry.2009.8

Munro, D. (2015). Unequal human worth. In B. Bruya (Ed.) *The Philosophical Challenge from China*, (pp. 23-58). MIT Press.

Oatley, K. (1999). Why fiction may be twice as true as fact: Fiction as cognitive and emotional simulation. *Review of General Psychology*, *3*(2), 101-117.

Oatley, K. (2016). Fiction: Simulation of social worlds. *Trends in Cognitive Sciences*, *20*(8), 618-628.

Peng, K., & Nisbett, R. E. (1999). Culture, dialectics, and reasoning about contradiction. *American Psychologist, 54*(9), 741-754.

Rudolph, K. (2005) Wisdom. In L. Jones (Ed.). *Encyclopedia of Religion* (2nd ed., Vol. 14, pp. 9746-9754). Detroit: Macmillan Reference

Secter, M. (1998). The Yin-Yang system of ancient China: The Yijing-Book of *Changes* as a pragmatic metaphor for change theory. *Journal for Interdisciplinary and Cross-Cultural Studies*, *1*(1), 85-106.

Shaughnessy, E. L. (1993). Shang shu (Shu ching). In M. Loewe (Ed.). *Early Chinese texts: a bibliographic guide* (pp. 376-389). Berkeley: The Society for the Study of Early China and the Institute of East Asian Studies, University of California

Shaughnessy, E. L. (2014). *Unearthing the Changes: Recently discovered manuscripts of the Yi Jing (I Ching) and related texts*. Columbia University Press.

Smith, J., Staudinger, U. M., & Baltes, P. B. (1994). Occupational settings facilitating wisdom-related knowledge: the sample case of clinical psychologists. *J Consult Clin Psychol, 62*(5), 989-999.

Smith, R. J. (2008). *Fathoming the cosmos and ordering the world: the Yijing (I Ching, or Classic of Changes) and its evolution in China*. University of Virginia Press.

Smith, R. J. (2012). *The" I Ching": A Biography*: Princeton University Press.

Staudinger, U. M., & Baltes, P. B. (1996). Interactive minds: A facilitative setting for wisdom-related performance?. *Journal of Personality and social psychology*, *71*(4), 746-762.

Staudinger, U. M., & Glück, J. (2011). Psychological wisdom research: Commonalities and differences in a growing field. *Annual Review of Psychology*, *62*, 215-241.

Staudinger, U. M., Smith, J., & Baltes, P. B. (1994). *Manual for the assessment of wisdom-related knowledge*: Max-Planck-Institut für Bildungsforschung.

Tafarodi, R. W., Bonn, G., Liang, H., Takai, J., Moriizumi, S., Belhekar, V., & Padhye, A. (2011). What Makes for a Good Life? A Four-Nation Study. *Journal of Happiness Studies, 13*(5), 783-800. doi:10.1007/s10902-011-9290-6

Thomas, M. L., Bangen, K. J., Ardelt, M., & Jeste, D. V. (2017). Development of a 12-Item Abbreviated Three-Dimensional Wisdom Scale (3D-WS-12): Item Selection and Psychometric Properties. *Assessment, 24*(1), 71-82. doi:10.1177/1073191115595714

Ting, R. S., Mah., S., & Zhang, K. (2020). Chinese traditional religions and mental health. In T. A. Sisemore & J. J. Knabb (Eds.). *The psychology of world religions and spiritualities: An indigenous perspective* (pp. 237-262). West Conshohocken, PA: Templeton Press.

Vervaeke, J., & Ferraro, L. (2013). Relevance, meaning and the cognitive science of wisdom. In M. Ferrari and N. Weststrate (Eds.). *The scientific study of personal wisdom* (pp. 21-51). Springer Netherlands.

Vervaeke, J., Ferraro, L., & Herrera-Bennett, A. (2018). Flow as Spontaneous Thought. In K. Christoff & K. C. R. Fox (Eds.), *The Oxford Handbook of Spontaneous Thought* (pp. 309-326). New York, NY: Oxford University Press.

Wang, F., & Zheng, H. (2014). Exploration and application of psychological theory of wisdom [In Chinese; 智慧心理学的理论探索与应用研究]. Shanghai, China: Shanghai Education Press.

Webster, J. D. (2007). Measuring the character strength of wisdom. *The International Journal of Aging and Human Development, 65*(2), 163-183.

Webster, J. D., Weststrate, N. M., Ferrari, M., Munroe, M., & Pierce, T. W. (2017). Wisdom and Meaning in Emerging Adulthood. *Emerging Adulthood, 6*(2), 118-136. doi:10.1177/2167696817707662

Weststrate, N. M., Bluck, S., & Glück, J. (2019). Wisdom of the crowd: Exploring people's conceptions of wisdom. In R. J. Sternberg and J. Glück (Eds.), *Cambridge handbook of wisdom* (pp. 347-371). Cambridge, UK: Cambridge University Press

Xi, Z. (2017). *Commentary on the Xicizhuan 繫辭傳 (Treatise on the Appended Remarks) Appendix of the Yijing 易經 (Scripture of Change) – Part A* (J. Adler, trans.). Unpublished manuscript, Kenyon College. Retrieved from https://www.academia.edu/28098340/Zhu_Xis_Commentary_on_the_Xicizhuan_%E7%B9%AB%E8%BE%AD%E5%82%B3_Treatise_on_the_Appended_Remarks_Appendix_of_the_Yijing_%E6%98%93%E7%B6%93_Scripture_of_Change_-_Part_A

Xi, Z. (2019). *The Original Meaning of the Yijing: Commentary on the Scripture of Change* (J. Adler, trans.). New York: Columbia University Press.

Xu, C. (1995). Zhouyi cheng ci li shuo [Examples of word etymology based on the Zhouyi]. *Journal of Literature, History and Philosophy, 1995*(1), 89-91.

Yang, S. Y. (2008). A process view of wisdom. *Journal of Adult Development*, *15*(2), 62-75.

Yang, S. Y. (2013). Wisdom and good lives: A process perspective. *New Ideas in Psychology, 31*(3), 194-201. doi:10.1016/j.newideapsych.2013.03.001

Zhang, J. (2008). Theories on moral formation in primary ignorance in "hexagram Meng" in The Book of Change. *Studies in Ethics, 2008*(1), 99-102.

Zhang, L. (1991). *Zhouyi and Confucianism, Daoism, and Mohism* [周易与儒道墨]. Taibei Shi : Dong da tu shu.

Zhang, Q. (2002). Model of "images": The intersection point of Yi and traditional Chinese

medicine - simultaneously on traditional Chinese medicine's quintessence and its future.

Studies of Zhou Yi, 2002(2), 71-80.

Zabriskie, B. (2005). Synchronicity and the I Ching: Jung, Pauli, and the Chinese

woman. *Journal of Analytical Psychology, 50*(2), 223-235.