

CICERO AND WANG CHONG: ON DIVINATION AS AN ANCIENT SCIENCE

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In this article, I delve into divination as an ancient science. My examination focuses on Cicero's two types of divination and Wang Chong's interpretation of the concept of spontaneity (ziran 自然), along with his critical attitude. Furthermore, I describe the similarities, differences, or connections between divination and modern science across three domains, including methodology, the place of humans in the world or universe, and the issue of inclusivity and exclusivity of disciplines or areas of inquiry. Ultimately, I highlight three key insights from the discussion on divination and the comparisons that are relevant today: first, the importance of recognizing the diverse sources and forms of knowledge; second, the position of humans in the world or universe, suggesting a sense of equality alongside other creatures; and third, to treat professional endeavors with moral significance.

Keywords: Ancient Science, Cicero, Divination, Wang Chong

INTRODUCTION

Divination is an ancient science. It provided people guidance on navigating the complexities of life, addressing crucial questions, whether personal or social, encompassing realms such as politics and religion. Philip M. Peek (1991, 1) characterized divination as a special form or source of knowledge. In her comparative study of divination, Lisa Raphals (2013, 7) observed the continued prevalence of this practice, acknowledging its enduring popularity despite the spirit of rationalism today, albeit with a caveat regarding its level of respectability. These remarks suggest the unique nature of divinatory knowledge, setting it apart from modern scientific knowledge, which is widely regarded as the foremost and most reliable form or source of knowledge today.

Given the advanced state of modern science, which impacts various aspects of human life, theoretical physicist and futurist Michio Kaku boldly projects into the future. He declared that through modern science, humanity possesses the capacity to overcome the barbarism of the ancient times, assuming roles as choreographers, masters, and conservators of nature (Kaku 2011, 17). While it is undeniable that modern science provides answers to various questions, it prompts reflection on the

potential insights or teachings that could be gleaned from the ancients, particularly in the topic of divination.

In this article, I delve into divination as articulated by Marcus Tullius Cicero (106 BCE—43 BCE) and Wang Chong (王充, 27 CE—ca 97 CE), considered the first theorists of divination in the ancient Greco-Roman and early Chinese traditions (Raphals 2012; 2013, 386). Specifically, I refer to Cicero’s trilogy, *De Natura Deorum* (*On the Nature of the Gods*), *De Divinatione* (*On Divination*), and *De Fato* (*On Fate*), as well as various chapters from Wang Chong’s *Lunheng* (论衡).¹ My focus lies on Cicero’s two types of divination and Wang Chong’s interpretation of the concept of spontaneity (*ziran* 自然), along with his critical attitude, which collectively can provide insights into ancient science. Additionally, I describe the similarities, differences, or connections between divination and modern science across three domains, including methodology, the place of humans in the world or universe, and the issue of inclusivity and exclusivity of disciplines or areas of inquiry. In conclusion, I highlight three key insights from the discussion on divination and the comparisons that are relevant today: first, the importance of recognizing the diverse sources and forms of knowledge; second, the position of humans in the world or universe, suggesting a sense of equality alongside other creatures; and third, to treat professional endeavors with moral significance.

DIVINATION AS AN ANCIENT SCIENCE

Pertaining to ancient science, H. Floris Cohen (2015, 4) recounts that “for centuries Greeks but also Chinese, Europeans but also Arabs, monks but also laymen, lone thinkers but also philosophical schools, had reflected with great acumen and perseverance on how the natural world hangs together.” This indicates that the pursuit of understanding nature or the natural world lies at the very core of ancient science (also see Lloyd 2004, 14; Lehoux 2012, 10). However, despite the widespread acceptance of this aspect of ancient science, it lacks substantial distinction, as this aspect persists in modern science, particularly in the realm of natural sciences. In essence, the pursuit of understanding nature or the natural world remains an enduring challenge for humanity. However, according to G.E.R. Lloyd (2004, 12-13), there is a distinction between ancient and modern science, as modern science’s demand for truth or results obtained through the use of rigid methods and instruments was not found in the ancient world.²

Raphals (2013, 1) defines divination as “a deliberate search for understanding of the hidden significance of events in the future, present, or past.”³ These events or signs, integral to divination, are observed within nature or natural phenomena. As an ancient science, divination aims to interpret these events or signs to comprehend the workings of nature, the world, or the universe, and their impact or significance on humans. Moreover, scholars have affirmed divination as an ancient science. Joseph Needham and Ling Wang (1956, 346), for instance, stressed the significance of understanding divination in the study of ancient cultures, noting the challenge for historians of science to disregard their conceptualization and practice of divination, given its richness as a source for understanding their view of the universe.

It is crucial to note that divination transcends mere understanding of the physical or natural world. This is primarily because divination is an ancient science that constitutes a comprehensive system spanning philosophical, religious, ethical, and political realms. At times, divination is even regarded as both a religious and political activity. This multifaceted aspect of divination stands in contrast to modern science, where it is often viewed as an amoral pursuit (see Becker 1968). What is implied here is that modern science aims to pursue its objectives independently or exclusively, free from the constraints of other considerations, operating under the premise that every discipline has entirely distinct objectives. In ancient times, evidenced by the discussions on divination by Cicero and Wang Chong, there is no robust division among disciplines or areas of inquiry.

In Cicero's discourse on divination, the absence of robust division among disciplines or areas of inquiry is evident, for instance, in his discussion of fate (*fatum*), which holds both scientific (i.e., understanding the natural world) and ethical implications. On one hand, Cicero presented fate as a means to understand the universe. Fate suggests that the future can be divined or foreknown because things or events are predetermined and occur out of necessity. This also positions fate, alongside God and nature, as a vital principle of divination.⁴ While determination implies the interconnectedness of things or events and merely requires time to reveal their connections (see *DD I*, par. 128), necessity asserts that things or events are predetermined even before they come into existence, leaving no room for alteration or human creativity (see *DDI*, par. 127). On the other hand, it is by alluding to the concept of fate that Cicero safeguarded the freedom of human will. He rejected the idea that everything is solely determined by fate or solely a result of human free will. He illustrated this by discussing propensities (*propensiores*) and will (*voluntas*) (*DF*, par. 9). While propensities may be influenced by external factors or predetermined, human will remains unaffected by such influences.

The concept of Heaven (*tian* 天) holds a central position in ancient Chinese divination. Wang Chong, in criticizing the anthropomorphized conception of Heaven, offers an alternative understanding that attributes spontaneity (*ziran* 自然) as its fundamental principle (*LH I*, 92 and 182-183). Moreover, his conception of Heaven serves as an example of how the absence of robust division among disciplines or areas of inquiry is evident in Wang Chong's discourse of divination. Specifically, Heaven contains religious, political, and scientific implications. From a religious and political perspective, Wang Chong criticized governmental and popular practices, including rituals, worship, and sacrifices to Heaven and other representative entities, such as ghosts and ancestors (*LH I*, 509-524). Scientifically, Wang Chong described Heaven as the origin of various things, creatures, and events in the world through its spontaneous process (*LH I*, 92-102). By attributing spontaneity as the fundamental principle of Heaven, he describes the workings of the natural world. Additionally, Wang Chong perceived Heaven as a component of the natural world, identifying it with the sky and even quantifying its distance from Earth as exceeding 60,000 Li (*LH I*, 275).

Thus far, divination has been described as an ancient science, highlighting its pursuit of understanding the world. This pursuit aligns it with modern science in this

regard. However, it differs from modern science because modern science is characterized by its exclusivity, contrasting with ancient science's lack of robust division among disciplines or areas of inquiry. The subsequent sections will delve deeper into divination as elucidated by the two ancient theorists, providing additional insights into ancient science.

CICERO AND THE TWO TYPES OF DIVINATION

In the context of ancient Rome, divination holds a distinct significance within discussions of ancient science. According to Daryn Lehoux (2012, 22), "divination [...] offers us an important window into Roman understandings of nature and the natural world." Lehoux particularly refers to Cicero's trilogy as an important source for exploring this topic. Moreover, Giambattista Vico (1668-1744), an Italian philosopher during the Age of Enlightenment, acknowledged the value of divination. In "How All the Other Sciences Must Take Their Principles from this [Science of Divination]," Vico (2004, 101-104) emphasizes that divination serves as a model for other sciences, suggesting that it is the foundational science—preceding logic, morals, economy, politics, physics, cosmography, astronomy, chronology, and geography. For instance, in relation to morals, he asserts that divination marks the beginning of wisdom, equating it with the knowledge of good and evil (Vico 1948, 98; also see Vico 2004, 102). Additionally, concerning logic, Vico (2004, 102) underscores the divine origin of ideas, which echoes the idea that God is the source of wisdom.

The importance of divination in ancient Roman science and tradition is evident from the discussion above. In this regard, Cicero's account of divination, especially his categorization and explanation of two types of divination, holds significance because it offers insights into the workings of ancient science.

Artificial Divination

In the first book of the *De Divinatione*, Cicero distinguished two types of divination—the artificial and the natural (*DD I*, par. 12). Artificial divination is characterized by "diviners employ[ing] art [to] learn the known by observation, [and to] seek the unknown by deduction" (*DD I*, par. 34). Two crucial terms in this description warrant attention: observation and deduction. Moreover, in the Latin text, Cicero associates this type of divination with the term *ars*, which refers to skill or art. What I intend to underscore here is that the terms skill (*ars*), observation, and deduction presuppose a form of learning essential in artificial divination. In other words—and this is where the contrast between the two types of divination lies—artificial divination involves a degree of technicality wherein learning, in various forms, is required to enhance effectiveness in the process of observation and interpretation.

There are various forms of artificial divination (*DD I*, par. 12 and 72). These include: the prophecies of soothsayers (which encompass the inspection of entrails, also known as the art of soothsaying or haruspicy), the interpretation of prodigies and lightning, the art of augury, omens, and astrology. All these forms of divination involve intentional action, characterized by a deliberate search for signs. For instance,

haruspicy is the deliberate search for signs within the livers or innards of animals, with interpretation relying on a prolonged observation; astrology is the search for the patterns or formations of heavenly bodies, predominantly stars, to discern the meaning and future of human lives; and the interpretation of lightning considers its direction or location to determine its significance (*DD II*, par. 28; *DD II*, par. 87-99; *DD II*, par. 42-49). The interpretation of dreams is sometimes included as a form of artificial divination (*DD I*, par. 72 and 116). Here, it is crucial to distinguish the interpretation of dreams as a skill, rendering it a form of artificial divination, and the manner in which messages are conveyed in dreams, which classifies it as a form of natural divination. Consulting dream interpreters is not always necessary, but it may occur when the message conveyed in dreams is obscure.

Cicero criticized artificial divination in the second book of *De Divinatione* (see *DD II*, par. 28-99). Elsewhere, I discussed Cicero's criticism of divination under three headings: *Pragmatic Criticism/ Impracticality of Divination*, *On the Inconsistency of Divination*, and *The Incoherence of the Fundamental Concepts of Divination* (Cabural 2023a, 7-10). Pertinent to the purpose of this article, I recall the first of Cicero's criticism of the impracticality or uselessness of artificial divination. This was due to the presence of various specialists in areas that were once within the scope of divination. These specialists include physicians, musicians, mathematicians, philosophers, sages, physicists, logicians, and people with eminent knowledge of statecraft (*DD II*, par. 10-12). As these specialists gained credibility in their respective crafts, they were better equipped to address the immediate and essential concerns of individuals and society, thereby displacing practitioners of divination whose methods and underlying assumptions were questioned and dismissed as superstitious.

The distinction between artificial divination and other crafts becomes more apparent when examining how Cicero differentiated between physicians and interpreters of dreams. While the latter relies on messages conveyed through dreams, Cicero notes that "by the use of reason, the physician foresees the progress of a disease" (*DD II*, par. 15; also see *DND III*, par. 15). One of the underlying issues here appears to be the manner in which elements are connected to explain a particular event (or disease, in this context). In the case of physicians and other crafts, the elements they present are directly linked, demonstrating a logically connected cause and effect; for example, a physician might assert that consuming a specific food could trigger a stomachache. However, in divination, the connection between the sign and the interpreted message is not as evident (also see *Hippocratic Writing*, 514). Cicero commented on this, noting that there seems to be no "connection between nature and the condition of the entrails" (*DD II*, par. 35). This issue of how elements of explanation are connected may have contributed to why specialists of other crafts were considered more superior and helped establish their credibility. Divination, on the other hand, struggled to provide such clear explanations. For instance, the defense of divination in Book I of *De Divinatione* heavily relied on historical occurrences or results to demonstrate its efficacy, but it lacked a robust discussion regarding its causes (*DD I*, par. 12). Additionally, in another instance reflecting the primacy of results over causes, Quintus Cicero states, "I am content with my knowledge that it does, although I may not know why" (*DD I*, par. 16).⁵

In summary, artificial divination, as an ancient science, relied on observation, deduction, and certain skills or techniques that were not consistently practiced or standardized. However, it did not fully develop a sophisticated understanding of cause and effect, nor did it clearly elucidate how the observed events and signs informed human decisions and fate. As a result, other crafts that surpassed or transcended the status of divination gained greater credibility. Additionally, these other crafts appear to be closer to modern science. They progressed and maintained credibility, as evidenced by the continued existence of experts in fields such as statecraft (e.g., political scientists) and the ongoing advancements in medicine. In contrast, divination remained stagnant and subject to ridicule in contemporary society.

Natural Divination

Natural divination was described as a process that is “without art, [...] unaided by reason or deduction or by signs which have been observed and recorded, [and people] forecast the future while under the influence of mental excitement, or of some free and unrestrained emotion” (*DD I*, par. 34). Its most notable distinction from artificial divination lies in the absence of learning, skill, or technicality required in the observation and interpretation process.

In the Latin text, the term associated with this second type of divination is *natura*. Nature holds significant philosophical implications. Cicero employed this concept in two distinct senses. First, it means the fundamental and necessary quality of an entity, as in the “nature” of the gods. It is what defines the objective nature or essence of an entity, similar to Aristotle’s notion of essence (*Metaphysics* 1014b35-37). Second, nature refers to the underlying structure of the physical world. Quintus Lucilius Balbus, drawing from Stoic sources, defines “nature [as] the sustaining and governing principle of the world” (*DND II*, par. 57 and 82).⁶ Here, nature is the active agent in the world, while matter, comprising everything within it, assumes a passive role, being governed by this active agent.

The second sense of the notion of nature—regarded as a vital force of divination, alongside God and the concept of fate—is central to the Stoic defense of divination.⁷ It is fundamental to Stoic pantheism, wherein nature is identified with God (Meijer 2007, 1). But most importantly, it underpins their concept of providence. Providence, or *pronoia* in Latin, denotes the divine intellect governing and organizing the universe, as well as the benevolence of the immortal gods toward humanity (*DND I*, par. 4). The Stoic stance on providence is intricately related to their defense of divination. Specifically, the argument concerning divine providence, rooted in love and care, serves as a basis for affirming and validating the truth of divination. This contention is clearly articulated in the first book of *De Divinatione*, where Quintus Cicero presented the Stoic argument in defense of divination: namely, that the gods, out of their love and care for humans and their friendship with them, exist and provide signs along with the means to interpret those signs.⁸

Nature, which is the active agent of the world or God, serves as the source of messages conveyed in natural divination. In other words, God sends messages to humans through dreams or moments of frenzy, which constitute the two forms of natural divination (*DD I*, par. 12). Since God is considered the source of the messages,

it explains why “these two methods (because they originate in nature) take the highest rank in divination” (*DD I*, par. 113). The Stoics posit that the soul attains great power when liberated from bodily senses, such as during sleep, enabling individuals to perceive or comprehend things inaccessible to them while absorbed in bodily concerns (*DD I*, par. 129). This liberation of the soul from the body is a fundamental tenet underlying both forms of natural divination, dreams, and frenzy.

Moreover, this very idea of the liberation of the soul from the body forms the basis for one of the distinctions between natural divination and artificial divination, wherein the former lacks reason and consciousness, i.e., *sine ratione et scientia* (*DD I*, par. 4). However, this does not imply that nature, as the chief source of this kind of divination, is irrational. Rather, it indicates that the manner in which knowledge of the future and the meaning of events are conveyed cannot be explained by usual human understanding. Moreover, not everyone possesses the innate ability to foresee the future, as this gift is bestowed upon only a select few (*DD I*, par. 66).

WANG CHONG: ZIRAN, DIVINATION, AND CRITICAL ATTITUDE

Divination is central to Chinese culture. Raphals (2013, 30) further revealed that the Chinese context offers a wealth of materials and evidence for studying this topic, surpassing what is available in Greek materials. One of the most notable materials is the *Zhouyi* (周易), a divination manual. Later, appended texts, known as the *Ten Wings* (*shiyi* 十翼) and ascribed to Confucius, expanded upon it, resulting in the classic *Yijing* (易经). Over time, this text evolved from a mere divination manual to a repository of wisdom encompassing philosophical, ethical, and psychological implications. The significance of the *Yijing* transcends Chinese history and has piqued the interest of Western scholars, sparking studies in philosophy, psychology, and even quantum mechanics (Nelson 2011, 377-396; Redmond and Hon 2014, 224; Jung 1967, xxi-xxxix).

The significance of divination in China remains evident in contemporary times. For instance, consider the case of Wenzhou, a coastal city in Zhejiang province, Southeastern China, renowned for its economic prosperity, rich religious material culture, and adherence to ritual. Mayfair Yang, a cultural anthropologist, conducted a study on this community, highlighting a distinct aspect of the Wenzhou economy, which she referred to as the ritual economy (*liyi jingji* 礼仪经济) (Yang 2020, 281). This feature pertains to the Wenzhou people’s sustained belief in divination (i.e., they still consult diviners regarding when is the auspicious time to open a new business and consult fengshui masters in order to know the right time and place for new business ventures), in sacrifice to the gods and buddhas in exchange for better health, in offering to ancestors, etc. (Yang 2020, 280-281). In the case of Wenzhou, what is suggested here indeed is that the ancient practice of divination is still alive in contemporary times, and it is actually a crucial part of their culture. This aspect underscores the enduring belief of the Wenzhou people in divination practices. They continue to consult diviners to determine auspicious times for opening new businesses and seek guidance from fengshui masters to ascertain the optimal timing and location for new ventures.

Moreover, they engage in rituals such as making offerings to gods, buddhas, and ancestors in exchange for improved health and prosperity (Yang 2020, 280-281).

What has been emphasized thus far is the significance of divination within Chinese culture. In Wang Chong's account, divination emerges as a component within the broader inquiry about the world, nature, or the universe. It is within this framework that divination can be perceived as an integral aspect or as a form of ancient science within the Chinese tradition. By examining Wang Chong's interpretation of the concept of *ziran* and its role in shaping his view of the world and divination, as well as his critical approach, we can gain insight into the progression of ancient science in China.

***Ziran*: The Principle of Heaven and Its Role in Divination**

Ziran, or spontaneity, is a key concept in the philosophical thought of Wang Chong, who also offered a new interpretation of this concept. As he explains, “the [D]aoist school argues on spontaneity, but it does not know how to substantiate its cause by evidence. Therefore, their theory of spontaneity has not yet found credence” (*LHI*, 97).⁹ Wang Chong incorporates the notion of *qi* (气) into his conception of *ziran*, specifically conceiving *ziran* as *qi*-transformation (Wang *et al.* 2020, 234).¹⁰ In the chapter of his work dedicated to elucidating the concept of *ziran*, he states: “By the fusion of the fluids [*qi*] of Heaven [*tian*] and Earth [*di*], all things of the world are produced spontaneously [*ziran*], just as by the mixture of the fluids of husband and wife children are born spontaneously” (*LHI*, 92).

Wang Chong's conception of spontaneity is central to his understanding of Heaven and in explaining the mechanism of the universe. The concept of Heaven, an important concept in Chinese philosophy, encompasses multifarious meanings, including nature or part of nature, universal and moral law, and a spiritual being with will, serving as the governor of the universe (*Key Concepts in Chinese Thought and Culture 1* 2015, 74; Wang *et al.* 2020, 31). Viewed as part of nature, Heaven is perceived as the sky (*LHI*, 275). Regarding Heaven as moral law, I described elsewhere that this is discernible in Wang Chong's discussion of the concepts of destiny (*ming* 命) and natural disposition (*xing* 性).¹¹ Wang Chong, however, rejects the last meaning, namely the anthropomorphized conception of Heaven or the idea of Heaven as a conscious being with intentions towards humans and other creatures. Instead, he views Heaven as the spontaneous natural agent and origin of things (McLeod 2018, 186). In essence, spontaneity serves as the fundamental principle of Heaven, governing the processes of generation, existence, and events in the world. However, the term agent as employed here does not imply that Heaven possesses intentions or care for humans, things, and other creatures; rather, it refers to its indispensable role in accordance with the principle of spontaneity. Moreover, the notion that spontaneity renders Heaven devoid of any deliberate intention towards humans suggests the idea of human equality with other creatures. This idea, referred to as ontocosmological equality, posits that all creatures, irrespective of their size, species, or status, are equally subject to the same processes of generation and degeneration and inhabit the same natural environment (for example, see *LHI*, 92, 202, 528).

Ziran plays a fundamental role in Wang Chong's defense of divination. He utilized this concept to elucidate the possibility of divination, for example, the appearance of omens and portents. What is suggested here is that the appearance of omens and portents (or, simply, omens and portents in and of themselves) is both spontaneous and natural. It is spontaneous because it arises without deliberate intention from Heaven or any other agent; rather, it is the result of the spontaneous changes or transformations of *qi* (*LHI*, 102). Furthermore, it is natural as it originates from nature, indicating that it is not artificially produced by humans or any other agents for a specific purpose (*LHI*, 97). As Wang Chong puts it,

... [the signs of] auspicious and inauspicious events are like the flushed colour appearing on the face. Man cannot produce it, the colour comes out of itself. Heaven and Earth are like the human body, the transformation of their [*qi*], like the flushed colour. How can Heaven and Earth cause the sudden change of their [*qi*], since man cannot produce the flushed colour? The change of the [*qi*] is spontaneous, it appears of itself, as the colour comes out of itself (*LHI*, 102).

In another instance, Wang Chong referred again to the concept of spontaneity to explain and rectify a misconception regarding the infestation of agricultural crops by insects, erroneously attributed to the improper conduct—such as covetousness and other forms of encroachment—of government officials (*LHII*, 363). He explained that there is no causal link between these occurrences, substantiating his argument by citing examples of other natural phenomena and their emergence as part of the natural process. He elaborates further in the following passage:

...when Heaven is about to rain, ants come out, and gnats fly about, thus conforming to the weather. Perhaps the birth of all insects of itself, accords with the temperature, but why then incriminate the officials of the various departments? The principle of Heaven is spontaneity; good and bad luck happen by chance (*LHII*, 368).

This understanding of Heaven, the universe, and various processes or events, including divination, positions Wang Chong as a naturalist. However, it is important to note that the term naturalism contains multifarious meanings, raising concerns about its appropriateness in describing Wang Chong. Alexis McLeod was quick to point out the problematic assumption that naturalism is synonymous with materialism, underscoring that Wang Chong is indeed a naturalist but not a materialist (McLeod 2018, 181-182). By characterizing Wang Chong as a naturalist, I intend to convey his inclination towards providing naturalistic explanations for things and events, devoid of supernatural beings or gods. However, this classification does not categorize him as a materialist in its entirety, as he does not assert that only material entities hold truth. This point can be further elucidated through the concepts of *qi* and *ziran*. Spontaneity or *ziran* as *qi*-transformation is not a materialist teaching or doctrine. Although spontaneity may manifest predominantly on the material plane, particularly evident in everyday occurrences in the natural world, it should not be misconstrued as a purely

materialist doctrine. Similarly, *qi* does not solely represent matter; it is not a minute or microscopic entity floating everywhere, awaiting activation to give life to other entities. Perhaps the non-material nature of *qi* is best captured in this brief passage: “*qi* is not some primordial, immutable material [...], it is somewhere in between, a kind of matter on the verge of becoming energy, or energy at the point of materializing” (Kaptchuk 2000, 101).

The Critical Attitude of Wang Chong

Wang Chong is a critical thinker. This is evident, for instance, in his method of questioning (*wen* 问) and challenging (*nan* 难) to know the truth or ascertain whether a statement is true or false (*shi* 实 or *xu* 虚).¹² Moreover, his commitment to critical inquiry lies at the core of his work, as he articulates: “Now, fancy the *Lunheng* with its minute discussions and thorough arguments, intended to explain the common errors and elucidate the right and wrong principles so that future generations can clearly see the difference between truth and falsehood!” (*LH I*, 88). Wang Chong viewed critical inquiry as not only a personal mission but also a moral obligation, extending beyond his time to subsequent generations. In another instance, he expresses: “truth and reality are drowned in a flood of inventions and fabrications. Can we remain silent, when our heart swells to overflowing, and the pencil trembles in our hand?” (*LH I*, 89).

Divination emerges as a significant subject of Wang Chong’s criticism. Through his critical stance, he aimed to dispel false views about divination and uphold or promote its genuine aspects. His goal was not merely to abolish the practice, as he recognized its historical and traditional importance (*LH II*, 104). Wang Chong directed his criticism towards prevailing views on divination in his time and preceding periods, including the opinions of the people, views of the scholars such as those of the Literati, and misinterpretations in historical records (*LH I*, 190; *LH II*, 104 and 114). However, ultimately, his critique of divination served as a foundational step towards establishing the truth of the practice, as well as addressing related issues such as sacrifice and the role of sages (*LH I*, 189; Puett 2005/2006, 275).

It is interesting to note that Wang Chong formulated a comprehensive explanation of thunder, which also reflects his critical attitude. In his time, it was commonly believed that if lightning struck someone, it was due to their hidden faults, and the rumbling sound of thunder was interpreted as a message or expression of Heaven’s anger, likened to the gasping and breathing of humans when they are angry (*LH I*, 285). Wang Chong regarded these notions as exaggerated and countered them with five arguments to demonstrate that thunder is a result of fire and not related to the emotions of Heaven. These arguments are articulated as follows:

1. Thunder is fire. When a man dies struck by thunder, one discovers upon examining his body, if the head be hit, that the hair is singed, and if the body be struck, that the skin is charred. Coming near the body, one scents the smell of burning.

2. Taoist experimentalists hold that a stone heated by a thunder-clap, becomes red. If it be thrown into a well, the stone being burning hot, the well cool, an explosion ensues with a loud detonation like thunder.

3. When somebody takes cold, the cold fluid enters his stomach. The stomach being as a rule warm within, the warmth and the cold struggle together, and the exploding air gives a thunder-like sound.

4. In a thunder-storm brilliant lightnings appear every then like the glares of big fires.

5. When the lighting strikes, it often burns man's houses and buildings, or grass and trees. (*LH Part I*, 295)

This exaggeration serves as one of the prevalent superstitions during his era. I highlighted this specific instance to underscore that Wang Chong's critical attitude is not just a mere skill or method; it also underscored his inclination towards offering naturalistic explanations for things or events. As context, the superstitious interpretation of thunder stemmed from their anthropomorphized conception of Heaven, a notion that Wang Chong consistently refuted on multiple occasions. In essence, his critical stance was deeply intertwined with the rejection of superstition.

With his critical attitude, Wang Chong emerges as a distinct and significant thinker, drawing attention from scholars over the years to delineate his position in the history of science and rationalism in China (also see Needham & Wang 1956, 368). Hu Shih expressed appreciation for the thoughts of Wang Chong, particularly praising his critical attitude, which he deemed in line with the scientific spirit. He asserts that "to doubt and question without fear and favor is the spirit of science." Hu Shih portrayed Wang Chong as embodying a "courageous doubt and intellectual honesty [...] on the fight of human reason against ignorance and falsehood, of creative doubt and constructive criticism against superstition and blind authority" (Hu 2012, 282). Wing-tsit Chan (1963, 292) further emphasized Wang Chong's significant contribution to Chinese thought, noting that his "chief contribution to the history of Chinese thought is to clear the atmosphere of superstition and enhance the critical and rational spirit that was already incipient."

DIVINATION AND MODERN SCIENCE: SOME COMPARISONS

The preceding sections have explored four key ideas—artificial divination, natural divination, *ziran*, and critical attitude—providing further insights into ancient science. Some comparisons and connections between divination and modern science are discernible across three domains, including methodology, the place of humans in the world or universe, and the issue of inclusivity and exclusivity.

Regarding methodology, similarities can be deduced between artificial divination and modern science, particularly in the context of experimentation. On one hand, artificial divination heavily relied on observation, akin to the observation stage in the experimental process where scientists utilize their senses and may utilize tools such as microscopes. On the other hand, it has been noted that the forms of artificial divination "are dependent on conjecture, or on deductions from events previously

observed and recorded” (*DD I*, par. 72). Similarly, experimentation in modern science relies on records and observations, and these findings are also proximate rather than ultimate, reflecting the nature of conjectures in divination. The notion of proximate quality in experimentation is explained by the need for replicating experiments and accounting for several factors such as time, context, and method, all of which are subject to continual change, positing the temporary nature of scientific knowledge (Iso-Ahola 2020).

Also, concerning methodology, a difference can be observed between natural divination and modern science. Here, it is important to consider the nature of natural divination as non-technical or non-skill based. This is evident in how messages are conveyed through dreams or moments of frenzy, suggesting an alternative way of acquiring knowledge. This difference resonates with Lloyd’s (2004, 12-13) assertion that ancient science does not merely rely on rigid methodologies and instruments, contrasting with modern science.

With respect to the place of humans in the world or universe, comparisons can be drawn regarding the concept of spontaneity. It is intriguing that the term spontaneity is linked to the prevailing theory about the origin of the universe. Stephen Hawking (2018, 29) remarks that “the universe was spontaneously created out of nothing.” Similarly, together with Leonard Mlodinow, Hawking states that “the universe appeared spontaneously, starting off in every possible way” (Hawking and Mlodinow 2010, 136). In both instances, the emphasis is placed on the absence of a supernatural being or God in the creation process, signifying that divine or supernatural intervention is unnecessary for the emergence of the universe and other universes (Hawking and Mlodinow 2010, 8). Interestingly, there seems to be a resonance between Wang Chong’s concept of *ziran* and this contemporary association of spontaneity in explaining the origin of the universe. Both perspectives underscore the lack of purpose or intentionality in the creation of the universe, attributing its emergence solely to *ziran* and the laws of nature.

However, despite the parallels between ancient theories and modern science, such as the concepts of *ziran* and spontaneity, there exist notable differences in how humans are perceived or their position in the universe. For instance, Kaku (2011, 17) suggests a special place or favored status for humans in the universe. In contrast, Wang Chong’s linkage of spontaneity to Heaven as its principle, suggesting ontocosmological equality, highlights the interconnectedness of humans with other creatures and entities in the universe (*LH Part I*, 92, 202, and 528; Cabural 2023b, 233-237).

Regarding the issue of inclusivity and exclusivity, as discussed in the preceding section concerning fate and Heaven, divination as an ancient science differs from modern science. Modern science is characterized by its exclusivity, contrasting with ancient science, which is inclusive or lacks robust division among disciplines or areas of inquiry. It has also been noted that this exclusivity of modern science suggests it is an amoral pursuit. Furthermore, the inclusivity of ancient science is evident in how Wang Chong demonstrated his critical attitude, recognized as an important aspect of the history of science in China. His critical attitude can be described as inclusive because it serves not only as a cognitive pursuit but also as a moral obligation toward his contemporaries and subsequent generations.

CONCLUSION

In this article, I explored divination as an ancient science, focusing on Cicero's artificial and natural divination, as well as Wang Chong's interpretation of *ziran* and his critical attitude. I also discussed the similarities and differences between divination and modern science in terms of methodology, the place of humans in the world or universe, and the issue of inclusivity and exclusivity. In conclusion, I aim to highlight three key insights that are relevant today.

First, both divination and modern science acknowledge the proximate or temporary nature of human knowledge. However, Cicero's understanding of divination offers a unique perspective, particularly in natural divination, where knowledge can be derived from dreams or moments of frenzy. They are accessible only to a select few and are non-technical or non-skill based. This unique perspective underscores the importance of recognizing the diverse sources and forms of knowledge. As Paul Feyerabend (2010, 27) aptly asserts, "There is no idea, however ancient and absurd, that is not capable of improving our knowledge. The whole history of thought is absorbed into science and is used for improving every single theory. Nor is political interference rejected. It may be needed to overcome the chauvinism of science that resists alternatives to the status quo." Moreover, despite the different sources of knowledge, human understanding remains limited; we can only grasp proximate and temporary knowledge. Consequently, this signifies our inability to exert complete control over the world; instead, we can only approach it with our imperfect or proximate knowledge.

Second, pondering the place of humans in the world or universe entails certain risks, as it profoundly influences human behavior or way of living. For instance, Chung-Ying Cheng described the exclusive humanism prevalent in Western thought, noting its potential for the exploitation of the universe by humans, leading to ecological issues (Cheng 1998, 211). In contrast, Wang Chong's perspective emphasizes the equality and unity of humans with other beings. This perspective suggests that humans should be more attuned to the needs of other creatures and exercise greater mindfulness in their actions to avoid disrupting the balance of nature. Moreover, this highlights the significance of humility as a virtue. Despite the vast knowledge available to humans, cultivating humility fosters harmonious relationships with ourselves, fellow humans, other creatures, and the world, nature, or the universe at large.

Third, Wang Chong emerges as a relevant exemplar for today. In the realm of modern science, often perceived as amoral, Wang Chong offers valuable lessons about embracing one's professional endeavors with moral significance. By demonstrating a strong sense of moral duty in discerning between truth and falsity, Wang Chong shows an example for scientists and individuals alike to reflect on the value and consequences of their studies or work.

NOTES

1. The following notes provide an explanation for citing these sources. When citing the works of Cicero, I use abbreviated titles followed by the book number and paragraph

number/s. Specifically, *De Natura Deorum* is abbreviated as *DND I (II or III)*, *De Divinatione* as *DD I (or II)*, and *De Fato* as *DF*. When citing the works of Wang Chong, I abbreviate the title of the book and, in accordance with the arrangement of the translation, provide the volume number followed by the page number/s. The *Lunheng* is abbreviated as *LH I (or II)*.

2. In addition to this distinction, Lloyd also delved into the issue of linguistic or terminological incommensurability inherent in the inquiry of whether there was science in ancient times. He notes, “In no ancient language was there a term that exactly corresponds to ‘science,’ even though they generally have rich vocabularies to talk of knowledge, wisdom, and learning” (Lloyd 2004, 12).

3. Raphals’ definition encompasses the entirety of times—future, present, or past—setting it apart from the usual understanding that divination merely concerns the future. In my previous article, I discussed how Raphals’ definition also aligns with the conceptions of divination presented by Cicero and Wang Chong (Cabural 2023a, 2-3).

4. Cicero adopted these three vital principles from Posidonius, a Greek Stoic philosopher whose works survived only in fragments, as they were recorded in the works of other thinkers, either his contemporaries or later thinkers who had access to his writings (*DD I*, par. 125). Moreover, these three vital principles are influential in shaping the structure and themes of Cicero’s trilogy—*De Natura Deorum*, *De Divinatione*, and *De Fato*. It is evident that the first and third books correspond to discussions of God and Fate. Although not as explicitly demonstrated as in the former instances, a discussion of Nature, specifically natural divination, is found in his book *De Divinatione*. It is noteworthy that in addition to Posidonius, Cicero alluded to the general Stoic arguments in their defense of divination.

5. Quintus (Quintus Tullius Cicero) is the brother of Cicero (Marcus Tullius Cicero). Cicero adopts dialogue as the style of his writing, which allows him to articulate varying philosophical perspectives effectively. In his particular work, *De Divinatione*, he assigns Quintus the role of advocating for the defense of divination, drawing arguments and sources from the Stoics.

6. Quintus Lucilius Balbus is a Stoic. In *De Natura Deorum*, Cicero assigns him the role of presenting the Stoic argument and sources about the nature of the gods and the notion of providence.

7. Regarding the three vital principles of divination, see Note 4.

8. The whole argument states: “If there are gods and they do not make clear to [hu]man in advance what the future will be, then they do not love [hu]man; or, they themselves do not know what the future will be; or, they think that it is of no advantage to [hu]man to know what it will be; or, they think it inconsistent with their dignity to give [hu]man forewarnings of the future; or, finally, they, though gods, cannot give intelligible signs of coming events. But it is not true that the gods do not love us, for they are the friends and benefactors of the human race; nor is it true that they do not know their own decrees and their own plans; nor is it true that it is of no advantage to us to know what is going to happen, since we should be more prudent if we knew; nor is it true that the gods think it inconsistent with their dignity to give forecasts, since there is no more excellent quality than kindness; nor is it true that they have not the power to know the future; therefore it is not true that there are gods and yet that they do not give us signs of the future; but there are gods; therefore they give us such signs; and if they give us such signs, it is

not true that they give us no means to understand those signs—otherwise their signs would be useless; and if they give us the means, it is not true that there is no divination; therefore there is divination” (*DD I*, par. 83).

9. For a detailed discussion of the differences between Wang Chong’s interpretation and the Daoist understanding of *ziran*, see Cabural 2020, 142-143.

10. The term *qi* encompasses different meanings and kinds, but in this context, it specifically refers to the *principal qi* (*yuan qi* 元气) as elucidated by Dong Zhongshu (董仲舒, 179 BCE—104 BCE). This *principal qi* is considered to be “the original substance (*wuzhi* 物质) for the creation of the universe” (Wang *et al.* 2020, 180; also see Fung 1953, 19–20).

11. Although these concepts are significant in Wang Chong’s philosophy, they are not necessary to discuss in this article. For further details, see Cabural 2020, 135-139.

12. According to McLeod (2018, 91), “*Wen*, literally “questioning”, is applied when the meanings of a statement are unclear. One questions in order to discern implications of a certain statement or to get clear on certain points concerning the statement itself... *Nan* plays the critical role of presenting difficulties, or objections, to the statement, to determine whether there are logical inconsistencies that result from holding the statement in connection with other statements that are either obviously true and accepted or that the author of the initial statement holds to be true.”

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