The Politics of Truth in China:

Ontological-Ethical Dimensions of Science and Science Fiction

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Abstract

Reading science fiction in China as a science project, this paper articulates a philosophical reflection on the ontology and ethics of truth that stems from the world of China. Through the reading of various texts of and about science fiction in China, from the Republican to the contemporary period, this article analyzes the situation of science fiction in China. Since science fiction was originally conceived as a science novel—a literary form that meant to convey scientific truth in order to create a self-determining Chinese public—the history of science fiction in China is punctuated with the political question of what scientific truth is and what it does. Reading though such a milieu and Liu Cixin's short novel, *Hearing Dao in the Morning*, this article will demonstrate that science fiction in China offers science a different modality of truth, that evokes an ethic of truth based on the curiosity towards the "unknown unknown." The "unknown unknown" truth is significant because it re-structures the relationship between science fiction, truth, self-determination and the public.

Keywords: Science and Technology Studies, Scientific Truth, the Public, Self-determination, Ontology and Ethics, China, Anthropology and Philosophy

Introduction

Imagine that you are a scientist standing in front of the Truth Altar, where every question you have will be answered. The answers will be given in a span of ten minutes, and you will pay for the answers with your life. You decide to step forward. "Why? What do you need this freaking Truth for!?" your wife and your daughter question, seeing you move steadily towards a self-determined death, as they are incapable of changing your mind. Eventually, with ten thousand scientists from all over the world, your body and mind are burned into a plasma state which dissipates into the cosmos forever…

Most readers perhaps will side with the scientist's wife and daughter and wonder about why the scientist would pursue truth at the cost of leaving his wife and daughter widowed and orphaned. In Cixin Liu's[1] version of this Faustian moment, Liu asks the question, "what is [scientific] Truth good for?" Using the scene above in the novel *Hearing Dao in the Morning* (2001), Liu reveals his own vision of the ontology and ethics of truth.[2]

What is truth? And what is it good for? This paper attempts to answer these questions from the situation[3] of science fiction from China. Historically, unlike the science fiction genre in the Soviet bloc or the West, Chinese science fiction was written and read with the expectation of being educational and modernizing. Moreover, Chinese science fiction was also expected to deliver scientific truth to the Chinese public.

Rather than challenging such expectations, most of the Chinese science fiction writers, readers, scientists and state officials in the 80s were increasingly invested in the political-literary-scientific debate of how to make science fiction more truthful, or, as the politics became increasingly volatile, of how to eliminate and purge untruthful science fiction writers and their works. In the middle of this political disaster, the seemingly apolitical question of how exactly science fiction can deliver scientific truth to the public was now placed on stage in Chinese public life.

Such is the milieu in which Liu starts his career as a science fiction writer. While Liu Cixin is certainly not the only one who experiences the volatile and intertwining philosophies and politics regarding science fiction and scientific truth, Liu's short novel *Hearing Dao in the Morning* can be read as a continuation of the political symptoms of Chinese science fiction, as well as a philosophical solution to the question of how to mediate the relationship between science fiction, its ethical responsibilities toward the public, the truth it tells and the value behind it, and its own self-determination.

Therefore, through reading *Hearing Dao in the Morning*, my paper will attempt to develop an ontology and ethics of truth that responds to the situation of Chinese science fiction. Just what kind of ontology of truth is developed when Chinese science fiction is under the constant evaluation of its truth-telling educational value? What kind of ethical/political actions are then made possible through this new ontology of truth? I will argue that Liu's novel develops a "truth" focused on beauty beyond perception, in contrast to the "truth" of accumulation of informational knowledge.

I will argue that an ontology of "unknown unknown" truth can be developed. By this I mean a scientific truth that, through changing the scope of human perception, remakes the relationship between humans and the world. I use the term "unknown unknown" in contrast with "known unknown." A "known unknown" truth is generated through experimental science and hypothesis testing—a process by which scientific knowledge is generated through the negation of false hypothesis. In the "known unknown" ontology of truth, science fiction is no more than a simple method of delivering scientific information to the general public, a puppet that delivers the puppeteers' intentions. Under the "known unknown" truth, the ethical actualization of science fiction and its writers consists in the writers' faithful and successful injection of scientific knowledge and information into the public's mind. In contrast to the "known unknown" truth, the "unknown unknown" truth focuses on the aesthetic and perception of the known universe, where scientific truth is the way through which human beings connect with the universe beyond their consciousness. Under the "unknown unknown" truth, the ethical actualization of science fiction and its writers consists in the writers' efforts in transforming the public's perception of the universe to generate different relationships between human beings and the universe.

Transmigrating from the "known unknown" truth to the "unknown unknown" truth, science fiction moved from being a passive deliverer to being an active contributor, from the margin of the political field to the center stage of the power play. To arrive at this conclusion, this paper will begin by tracking the history of the situation of science fiction in China.

Unlike Western and Soviet/Russian science fiction writings, in which different futures, alternative realities and thought experiments are at the core, Chinese science fiction writers have been expected to represent and announce the scientific truth. As a result, the Chinese genre of science fiction writing begins with the name of "science novel," with the primary aim of delivering scientific truth to awaken the Chinese public from their sleeping unreality.[4]

The initial science novels during the Republican period (1912-1949) soon gained (r)evolutionary momentum after the establishment of the People's Republic of China. At this point, science fiction not only needs to represent scientific truth, but also needs to show how such truth can reveal the realities of the next stage of socialist society, bringing the socialist techno-future to the present. However, after the Anti-spiritual Pollution Campaign in 1983, groups of science fiction writers were purged because they failed to achieve the task. Situating Liu's works within the history of contentious politics, my reading of Liu's work suggests that science fiction is meant to reveal the beauty of the reality of the universe, using the truth of "unknown unknown" to re-make humans' relationship with the universe.

Considering such history of science fiction and its relationship to scientific truth in China, Liu's short novel (and its historical context) should be read as a metalogue. Here, "metalogue"[5] is defined as a conversation of which its form is relevant to its subject (Bateson 2000, 2). In this historical conversation (what I shall call, "struggle") between science fiction as a form of delivering scientific truth and scientific truth as the content, Liu's short novel manipulates the form of science fiction to comment on the ontology and ethics of scientific truth.

Each metalogue turning I analyze in the paper (Republican science novels, Chinese socialist science fiction and Liu's *Hearing Dao in the Morning*) all share the theme of self-determination. The theme of self-determination is similarly emphasized in Stanislaw Lem's famous novel, *Solaris*, in which scientists are driven by the belief that they can use the scientific method to discover the truth about the nature of Solaris. But Lem's novel ends with the scientists' inability to discover such "truth," demonstrating the narcissism of the scientists' ego-centric enterprise in overcoming Solaris using scientific methods. This narcissism is reversed in Liu's novel as he celebrates the self-determination of scientists, which is demonstrated through abandoning their families and embracing death in exchange for truth.

Liu is not Lem. Lem mocks scientific truth because of Soviet cold-war politics and scientific egocentrism, but Liu needs to embrace scientific truth because of Chinese science fiction's root burden of delivering scientific truth and reality to the public. In the Chinese science fiction situation, Chinese citizens are benefited by gaining self-determination

through gaining a deeper understanding of the "reality" delivered, and the scientists and the science fiction writers are tasked to discover such reality through scientific truth. Through this exchange, science fiction and its writers in China become the means through which the Chinese public gains self-determination in deciding techno-political affairs (for example, health policies around the covid-19 outbreak or national transition to clean energy).

While the relationship between science fiction and the public might now appear unilateral and hierarchical, the permanence of dialectical criticism in the Chinese public pushes the relationship into the volatile and dangerous. In fact, even though science fiction writers are the assumed leaders of the public, their status can be easily overturned by the public which remains suspicious that science fiction does not deliver the truth. In order to survive the life-or-death threat of the overzealous public (not a mere exaggeration, as the influential writer Tong Enzheng had to go on exile in the University of Michigan, and Ye Yonglie had to stop writing science fiction altogether), Chinese science fictions find theories and practices of scientific truth vital and necessary. Consequently, the Chinese science fiction writers' articulation of ontologies of truth characterizes the situation of science fiction in China, and hence it is the focus of my analysis.

Through analyzing the situation of science fiction in China, this paper bridges the gap between anthropology of China, STS (science and technology studies) and philosophy of science and science fiction. In articulating philosophies of science fiction and scientific truth, this paper attempts to show how experts (in the case of this paper, the experts are the science fiction writers) organize the public socially and politically through scientific knowledge and truth.

The question of how technoscience and scientific knowledge organize and is organized by the social and the political has been important for scholars of STS. The field has diverged and metamorphosized from the foundational influences from history and philosophy of science. Differing from history and philosophy of science, STS most notably attempts to form an integrated understanding of technoscientific discovery and revolution within social contexts. STS scholars are most famous for recognizing how sciences and technologies are entangled with social relationships. This realization is also interwoven with what is referred to as "Latourization" (after the famous scholar Bruno Latour, who advocates the Actor Network Theory, ANT) which really dissolves scientific genius or historical inevitabilities into the web of social and power relationships of humans and nonhumans (Kemiksiz & Jensen 2018, 3; Lynch 2012, 450).

Realizing scientific truth claims within their (social) actor-network leads to diverging understandings of the meaning or the ethics of truth in the public realm. On the one hand, Latour himself advocates for an ethic of scientific truth in democratic liberation and consensus making. Primarily due to the environmental denialists' and flat earthers' ruthless antagonism towards scientific discourse, Latour argues for a model where each scientific actor-network has its own scientific "representative" who competes and examines each other's truth claims and networks in a democratic parliamentary setting. This, for Latour, ensures an ethics of truth lies at the level of liberating freedom of speech for the actor-networks.

On the other hand, the Harawaynian (2007, 72) response to Latour still refers its scientific ethics back to "sharing suffering," a form of Western humanitarianism extended into the nonhuman realm. Each nonhuman participant, though participating and contributing to scientific truth production, is exploited, as each nonhuman participant is often denied the benefits of the produced scientific truth. Scientific truth, according to Haraway, is the result of a collaboration between human and nonhuman entities. While humans have been long recognized as participants of the scientific truth production process and, therefore, as beneficiaries of the produced truth, nonhumans, such as lab rats, are denied its benefits as they are reduced to instrumental objects. To avoid both the reduction of nonhumans into objects and the violent abuse of their truth-making potentialities, scientific truth should be mobilized to concretely improve the conditions of nonhumans that participate in the truth production process. For example, the truth of lab rats' genetic system should both help cure human cancer and improve the lab rats' living conditions. Hence, the Harawaynian ethics of truth sees the value of truth in its capacity of ameliorating both human and nonhuman suffering.

While both Latour and Haraway attempt to suggest ethical conclusions from different perspectives, their answers about the ethics of truth remain unsatisfactory, as both ethics reference core liberal values, whether the value of truth for the democratic liberation of freedom or the humanitarian amelioration of suffering. These values are rejected in Liu's novel as he narrates a different ontology of truth that focuses on the level of the "unknown unknown." The "unknown unknown" and its fulfillment, as Liu's novel illustrates, is ultimately the truth's value. Liu's philosophically driven novel becomes relevant in relation both to the latest developments in Haraway-Latour STS and its intersection with anthropology. By reading Liu's novel as a historical metalogue commenting on the ontology and ethics of truth, I identify an ontology and ethics of truth in China that respond to what I would call an anthropological question of the ethics of truth.

In addition to STS, the anthropological question on the ethics of truth also concerns scholars of East Asia, who are interested in understanding science and technology within the social and cultural fabrics of East Asia. A vibrant debate indeed comes to fruition in the publication *Can Science and Technology Save China?* (Greenhough 2020, 8). Such debate claims that a distinctive "Chinese" science and technology regulated by Foucauldian governmentality exists differently from the dominant Euro-American counterparts. Other efforts include research epistemology in medicines and natural history (Nappi 2009, 9), technological reasoning and its relationship to cosmology (Hui 2016, 7), and applications of actor-network theory that are unconcerned with other non-Western traditions.

These studies have yet to realize the vital discussion of the ontological status of scientific truth. Does China have a different ontology of truth? What would such truth look like, and how is it related to ethics in the Chinese public realm? Unlike others who search for answers in successful scientific projects conducted by scientists, doctors, technicians, and engineers within governmental institutions, I attempt to find the answer regarding truth within the (failed?) scientific project of science fiction in China. As I will show, fiction is closer to the truth than science, and we can learn the nature of truth better from science fiction writers than from scientists themselves.

What should we learn from science fiction in China about the relationship between scientific truth and the public, the philosophical and the socio-cultural? This discussion leads back to the famous Dewey-Lippmann debate on what truth experts care about and what they should do, where the relationship between truth, ethics and self-determination are at the debate's core. What science fiction in China may eventually suggest is that truth stands for beauty, rather that truth stands for itself. Using the lens of the Dewey-Lippmann debate, I will go back to Liu's novel and envision a particular relationship between science fiction and the public.

The Fiction that Tells the Truth: Science Novels in Early Republican China

> *. . . [By] selecting and obtaining scientific principles while removing their seriousness and maintaining their comedy effects, [science novels] will lead the readers to intuitively grasp [the content] without much thinking effort. [The readers] will unconsciously obtain one shade of intelligence and recognition, [thereby] destroying their genetically inherited superstitions. This, in consequence, will improve the [readers'] mind, therefore leading to civilization. Such is the great force of [the] science novel!*

<div align="right">Lu Xun, Translator's Note in From the Earth to the Moon. (1938, 9)</div>

When Lu Xun and other famous Chinese literati first introduced science fiction to Chinese audiences, the name they had given it was not *science fiction* (科幻小说) but *science novels* (科学小说). Here, science novels, as a historical term, referred to an amalgamation of the different genres that we now call science fiction, popular science, and children's literature.

Under the banner of "science novels," Lu Xun (see quote above), proposed that the genre of science novels should be instrumental in enlightening the feudal and unawakened Chinese masses. This point of view was also held by another leading Chinese intellectual, Liang Qichao, who was more interested in utopic visions of science novels than in scientific principles (Li 2015, 133). As these two literati both encouraged using science novels to deliver truth, two main sub-genres appeared.

First, the sub-genre called "popular science" began to emerge, primarily accredited to writers who produced science novels full of charts and formulas to recapture "scientific fact." This scientific fact and its accuracy were often so privileged that the science novels' narrative flow would be sacrificed in exchange for the accuracy of its scientific content (Wu 2010, 235).[6] Moreover, the sub-genre of "science fiction" also emerged, with contributions by writers who started experimenting with science novels as satire.

In these satirical science novels, the accuracy of scientific fact was downplayed while utopian and dystopian narratives were highlighted. The highlighting of utopic/dystopic visions is exemplary in Lao She's science novel *Cat Country*, a novel that depicts a Chinese character exploring a country on a different planet where the only intelligent beings are cat people. The cat people have an alien society and bureaucracy where corruption, extramarital affairs, and drug addictions are prevalent. As the cat people are continually introduced to the main character, they become more barbaric and uglier, along with their

country. The scenic barbarism and ugliness are meant to be mimetic of the feudal Chinese masses with whom the readers identify, and this identification is meant to create a satirical effect that "awakens" the Chinese consciousness and cultivates the Chinese desire to modernize itself.

Minor opposing opinions on the use of science fiction have also existed among Chinese intellectuals. Lu Xun's brother Zhou Zuoren, an equally established intellectual (1913), expressed disapproval for the popularization of the science novel as children's literature since he saw little difference between traditional Chinese fantasies and science novels. Science novels, Zhou Zuoren argued, still followed the narrative structure of traditional Chinese fantasies and were only different in that they replaced Confucianist/ Daoist magical items and fantastic beings with technological objects and scientific equations. The technoscientific objects and questions narrated in science novels, in Zhou Zuoren's opinion, could neither represent scientific truth sufficiently nor induce poetic imagination adequately. Pointing out the inadequacy that exists within the nature of the science novel, Zhou suggested that science novels that read as children's literature would only betray their original purposes.

The differences between science fiction, popular science, and children's literature are not as distinct as the above description suggests. For the large part, various authors still publish under the same science novel genre (even journals) and share the goal of using science novels to collectively "awaken" the feudal Chinese masses who live in their unrealities. The unrealities could be countered, those authors thought, by science novels used as a vehicle to deliver scientific truth.[7]

Socialist Instrumentalization of Science Fiction: Is Science Fiction an Art or a Science?

> *We think, science fiction should encourage people to fight for the great ideal of communism and the strategic goal of the establishment of modern socialist countries. Science fiction shall never betray the Four Cardinal Principles.[8] Authors have to pay attention to the social effects resulting from the works, [and they] shall sense the responsibility as engineers of the human spirit.*
>
> Committees in China Association for Science and Technology, in *People's Daily*, 11/02/1983. (Yang, 1983)

Science fiction in China had a low production period between the 1930s and 1970s. In the late 1970s, the situation changed as science fiction publications came to proliferate. However, this proliferation abruptly ended in 1983, during the Anti-Spiritual Pollution Campaign.

The Anti-Spiritual Pollution Campaign started during the early 1980s when a few Chinese Marxist intellectuals initiated a reading of Marx from Feuerbach's humanist perspective. Such a seemingly mundane topic soon backfired, as the Marxists began discussing the very possibility of alienation in a socialist society such as China (Wang, 1999). [9]

The Chinese government was terrified by this philosophical discussion since its conclusion—individuals can be alienated in socialism—could politically delegitimize the superiority of the Chinese Communist Party. Thus, the party and the government soon banned the Marxists' discussion and accused them of being brainwashed by "Western bourgeois spiritual pollution," which needed to be purged from a healthy Chinese socialist society. This societal level purge soon expanded from the intellectual realm to other cultural realms,[10] including science fiction.

As the campaign progressed, the ontological nature of science fiction was called into question. Specifically, the question was, "is science fiction 'literature' or 'science'?" (姓 "文" 还是姓 "科"?). The answer was "literature," as journalists in the *People's Daily* identified various "spiritual polluting" motifs, including "mad scientists destroying the world," "aliens," "using brainwashing technologies to turn regular citizens into Taiwanese spies," and "engineered pills that grant knowledge" (Shi, 1983). These seemingly mundane motifs were considered idealistic and superstitious in a way that was naturally anti-science. This "anti-science" science fiction then came to be understood as spiritually polluted "literature" that damaged the genre's truth-telling image. No longer able to qualify as a truth-teller, virtually every influential science fiction writer had to either stop publishing or change careers after the campaign.

How was science fiction supposed to tell the truth? To answer this question, methodologically I will analyze the ontogenesis process through which the scientific truth embodies science fiction. I will argue that while the old ethics of truth that sought to awaken the masses remained, scientific truth gained the new ethics of demonstrating the telos of the societal (r)evolution and Progress of History. As a result of this ethical reorientation under the socialist paradigm, which reflected a broader conceptual and institutional implantation of "science popularization" (科普) that subsumed science fiction, science fiction in China was forced into a position that highlighted scientific truth.

At the conceptual level, science popularization began to substitute for science fiction after the 1950s, when the term "science popularization" (borrowed from the Soviet Union) was introduced to Chinese audiences via public speeches, TV shows, museum displays, and a scientific encyclopedia. Superficially, these public activities appeared to be similar to North American popular science, which attempts to teach scientific truth to the public in an entertaining manner. However, entertainment was utterly absent from science popularization, with its highly serious goal of educating the masses effectively (a series like *The Magic School Bus*, for instance, simultaneously educational and fun, would be seen by science popularization workers as a sheer joke that went against their professional ethics).

The reason for this seriousness was that scientific truth carried a historical responsibility for progress, and promised to develop Chinese society to the next stage of civilization. Hence, scientific truth was not just something "good to know" (as in popular science); it was *necessary* to know it. Showing the truth and hoping that the public would adopt it (as in popular science) was not enough: the masses needed scientific truth "knocked into their heads" (Liu 2010, 12).[11]

The conceptual rearrangement of science popularization and its historical responsibilities pushed changes at the institutional level, which resulted in the opening of new academic centers and working units. The newly opened institutes, established during the 1950s, included the China Association of Science and Technology (CAST). During the 1980s, after the Culture Revolution, CAST was approved by the State Council to launch the China Research Institute for Science Popularization (CRISP).[12] Ever since, CRISP has been the primary institute to host research and academic publications about science popularization, becoming the most important academic institute to host science fiction and its critics in China.[13]

Moreover, the identification of science fiction with truth-telling strongly influenced science fiction writers. Virtually all important early Chinese science fiction writers began their careers as science popularization writers. For example, Ye Yonglie, who published the beloved *Little Smarty Travels to the Future* (小灵通漫游未来), was also an editor for *One Hundred Thousand Whys* (十万个为什么), the most famous Chinese scientific encyclopedia written for children. Other writers included Zhen Wenguang and Tong Enzheng, who also received the title of "science popularization writers" rather than "science fiction writers." Each has had an immensely successful career as a scientist—Zhen as a historian of science specializing in Chinese astronomy, and Tong as an anthropologist specializing in southwest China archeology.

At the core of the institutional reorganization of science fiction seen as science popularization (Xu 2018, 102; Liu 2009, 42), is the governmental rethinking of the ethics of science fiction writing. Cited at the beginning of this section, the announcement from CAST during the Anti-Spiritual Pollution Campaign clarified and concretized the ethics of science fiction as encouraging people to fight for the greater ideal of communism. This comment was a response to Deng Xiaoping's famous words, "science and technology are the primary forces of production" (科学技术是第一生产力). Here, science and technology are not merely neutral knowledge. Instead, they are the truth that promotes increased societal productivity, inevitably leading to progress toward the next stage of civilization. Thus, civilizational progress and its collective ethical burden reflected in the practice of science fiction forced science fiction to better articulate scientific truth "to be knocked into the masses' heads."

Through these institutional and conceptual transformations, science popularization and science fiction became *de jure* and *de facto* the same. This identification blurred the distinction between science fiction and scientific truth, forcing science fiction to function as a literary form of science popularization that is integral to science. At the core of science popularization is science fiction writing's revolutionary ethics, that aims at using truth to achieve the next stage of civilization.

The *Dao* of Science: The Ethics of Truth in *Hearing Dao in the Morning*

> *Let's say I am going to produce a movie like Jurassic Park. How should I explain it to the above? What is the reality meaning of this movie? What is its positive meaning? Why should I even bother to make such a weird movie? Yet, the main question is: "how does this movie fit into the current trend?" I cannot answer any of these questions, but no answer does no good. Here, the conclusion comes: I should not have gotten myself into this trouble to begin with.*

> Wang Xiaobo, in *Why China Doesn't Have Science Fiction Movies.*

Background

Since the downfall of the Soviet Union and China's full embrace of private economy, science fiction in China has become partially independent from the movement of science popularization. Nevertheless, science fiction is still largely unsuccessful in attracting Chinese audiences. Many Chinese science fiction writers believe that this lack of popularity has been due to the separation between science fiction and science popularization.

This outcome has been both a blessing and a curse. It has been a blessing because science fiction can now fully engage with fictional writing without repercussions; it has been a curse because science fiction has lost its justification for existence. When science fiction is no longer only written by scientists, and when science fiction loses its birthright of telling the scientific truth, how do science fiction writers justify themselves and their creative products? Who would even bother to read science fiction that no longer tells the scientific truth?

Both contemporary science fiction writers and critics are aware of this issue—the historical existence of science fiction requires the genre and its writers to embrace scientific truth. However, unconditionally embracing the scientific truth might also create the new problem of turning science fiction into a vehicle for scientific truth. Moreover, this approach would subsequently subsume science fiction as part of the science popularization project, which, in the end, would put the self-determination of science fiction at stake. To exist without self-determination or to self-determine without existence?

The only way out of such a dilemma, as Liu's short novel *Hearing Dao in the Morning* points out, is to simultaneously allow science fiction's existence while enabling an ethical space of self-determination via a different ontology of scientific truth. The classical ontology of scientific truth suggests that truth is located by experimental science in the realm of the "known unknown." In this paradigm, truth is a result of the accumulation of falsification of hypotheses; while claiming to obtain "unknown" truth, the hypotheses were technically "known" already (by the scientists).

Contrary to that "known unknown," Liu's scientific truth is located at the level of the "unknown unknown," where truth is interconnected with the nature of the universe that moves beyond the condition of the possibilities of the human imagination. This drastically shifted ontology of truth, connected to the unimaginable vastness of the universe, unavoidably trivializes the human ethics of truth that merely awakens the masses and demonstrates the next stage of society. Dissatisfied with the previous ethics that saturated

his ancestral science fiction writings, Liu turned the ethics of truth in a different direction. This time, it was about fulfilling one's curiosity toward the universe.

The Story

The story of *Hearing Dao in the Morning* is set in the near future on Earth, where human technology and science have reached a new level. The technological progress allows the scientists to build a particle accelerator around the Earth's equator—Einstein's Equator— named after Einstein because the particle accelerator was built to discover the perfect equation for the Grand Unified Theory (GUT), a hypothesis that Einstein proposed to unify the four fundamental forces in the universe.

The storyline begins with the leading scientist of Einstein's Equator project, Ding Yi,[14] who attempts to discover the ultimate equation of the GUT by using Einstein's Equator in a planet-sized, particle-collision experiment. Before the experiment, Ding brings his wife, Fang Ling, and his daughter, Wenwen, for a world tour within the tube of Einstein's Equator. After the tour, Ding goes to the experiment center to initiate the experiment but falls into an unexpected sleep in which he dreams of becoming a quantum ghost who exists everywhere and nowhere. Upon awakening, Ding is told that the experiment was initiated, but Einstein's Equator disappeared, leaving only green grass marking its disappearance. While this disappearance puzzles the project's scientists, responsibility is claimed by a suddenly appearing alien character, the Risk-Evacuator.

Appearing as a monitor of Earth intelligence from a higher multiverse that existed millions of years ago, the Risk-Evacuator claims he evaporated Einstein's Equator according to the multiverse's Sealed Knowledge Principle, which forbids the transmission and discovery of the GUT equation. The Risk-Evacuator's claim is not quite true, however. What really is forbidden is the experimental procedure that leads to the discovery of such truth, namely the particle-collision experiment. This experiment, according to the Risk-Evacuator, will lead to a "vacuum decay," a physical phenomenon that will release unimaginable amounts of energy. Although the level of energy released from the experiment would be enough to destroy civilization on earth, the Risk-Evacuator tells the Earth scientists that the resulting data will not allow them to derive the perfect equation of the GUT.

Rather than saving the Earth from this self-destructive futile act, the Risk-Evacuator clarifies that the disappearance of Einstein's Equator was done to save the whole multiverse from Earth's irresistible desire toward the demystification of the universe, which motivated the entire experiment. The experiment with Einstein's Equator itself would not lead to discovering the equation for the GUT, and the energy released would not influence the multiverse. However, the running of Einstein's Equator directly indicated that Earthlings were so driven by the unresolvable mystery of the truth of the universe that they would further develop the particle-collision technology into a monstrous size, as large as a single universe. Running particle collision experiments on the scale of a universe would then release enough energy to destroy the entire multiverse. Thus, to save the multiverse, the Risk-Evacuator stops Earth's particle-collision experiment, by taking away Einstein's Equator.

Nevertheless, Einstein's Equator's disappearance is only the beginning of the Risk-Evacuator's intervention, as the Risk-Evacuator intends to remove any particle accelerator so that Earth's particle-accelerating technology remains in permanent lockdown. This technological lockdown is devastating to Earth scientists, who are terrified by the fact that they have not only failed to learn the truth of the universe but have also permanently lost the very condition of possibility of learning it. To redeem the possibility of learning the truth, Ding proposes an alternative: "You tell me that ultimate Truth of the Universe. And then demolish me" (Liu, 2001). The Risk-Evacuator agrees.

With the Risk-Evacuator's agreement, the Truth Altar is built, upon which the Risk-Evacuator will reveal the ultimate truth of the universe to some of Earth's scientists. Despite the scientists' families and friends' attempts to persuade them away from such a suicidal act, tens of thousands of scientists still stand in front of the Truth Altar, ready to embrace the truth at the cost of their own lives. Understandably, sacrificing life for the sake of the truth is incomprehensible to most of the public. Public political leaders from all around the Earth gather in front of the Truth Altar, trying to stop such a meaningless sacrifice of scientists, who are seen as the pinnacle of Earth's civilization. Various presidents also blame the scientists' truth-seeking suicidal act as the ultimate form of self-obsession. However, the Risk-Evacuator disagrees:

> Last, when the Problem of Surviving is completely solved, when Romance dissolves because of alienation and amalgamation of individuals, and when Art dies because of its excessive exquisiteness and obscurity, the desire toward the ultimate Beauty of the Universe became the last home for the existence of civilization. Hence, what they [the scientists] do fits the fundamental value of the Universe. (2001)

Wenwen is brought in by Fang Lin to witness her father's "perverse" death. Right before Ding's death, he explains to Wenwen that what he is about to do is like visiting the most amazing zoo that he will never be able to visit again. Thus, Ding shows Wenwen that his curiosity about the unknown drives this seemingly selfish act. After explaining his motive to Wenwen, Ding and eighty-five other physicists ask the Risk-Evacuator to show them the ultimate equation of the GUT as they embrace their death. The only one exempt from death, however, is Stephen Hawking, who asked about the *purpose* of the Universe. Since the universe's purpose is unknown to the Risk-Evacuator, Stephen Hawking is the only scientist fortunate (or unfortunate) enough to survive the Truth Altar.

Fifteen years later, the story ends with a conversation between Fang Lin and Wenwen in the Taklamakan Desert, where Einstein's Equator once stood. By this time, already graduated from Ding's alma mater and major, Wenwen is studying in a Ph.D. program in quantum gravitation. Already frustrated by Wenwen's career choice, Fang Lin hopes that Wenwen is not "crossing the last line." To her mother's dismay, Wenwen stares at the Milky Way, asking her mother that same question that exempted Hawking from death: "What is the purpose of the universe?"[15] Upon hearing the question, Fang Lin collapses while whispering the same answer given by the Risk-Evacuator, "I don't know. How am I supposed to know?"

The "Known Unknown" and the "Unknown Unknown"[16]

What particularly fascinates me about *Hearing Dao in the Morning* is that the short novel can be read as a historical metalogue focused on the problematic relationship between science fiction and scientific truth, which itself can be seen as both a continuation of and a metacommentary on the historically antagonistic relationship between scientific truth and science fiction. Unlike science fiction that was commonly accepted as ethically subordinate to scientific truth, Liu's *Hearing Dao in the Morning* attempts to craft a different ontology and ethics of truth that moves science fiction beyond mere fiction subordinated to scientific truth.

Consider the title of the novel, taken from a famous Chinese traditional proverb. While the first part of the proverb provides the title for Liu's novel, the second unstated part of the proverb reads "(can) rather die in the afternoon."[17] In Liu's novel, the unstated part of the proverb refers to the trajectory of Ding in which he learns the truth of GUT by sacrificing his life. The theme of "die to learn the truth" is thus mapped onto the classical Confucian image of dying to embrace the momentary enlightenment of the Dao. Through this mapping via the storyline, it is evident that Liu sees a great resemblance between the scientific truth and the Confucian Dao.[18] And subsequently, we might say that Liu develops an idea of scientific truth with Daoist characteristics.

Liu's scientific truth with Daoist characteristics, in my reading based on *Hearing Dao in the Morning*, is not equivalent to mere scientific knowledge, the assemblage of things, or a phenomenon with its ontological stability contingent upon its conceptual apparatus. Unlike these views that might see scientific truth at the realm of the "known unknown," that strictly speaking sits within the world of human intelligence, the truth with Daoist characteristics seems to be located beyond the realm of human perception, in the realm of the pure unknown, an "unknown unknown."[19] Here, the "known unknown" and "unknown unknown" are used heuristically for clarity, and the distinction between "known unknown" and "unknown unknown" drawn specifically on the boundary of (human) consciousness. The "known unknown" is perceptible, and therefore exists within the reach of (human) consciousness, while the "unknown unknown" is beyond perception, and therefore exists at the cosmos far beyond the reach of (human) consciousness.

Situating truth in the "known unknown" universe or the "unknown unknown" universe strongly influences the ontology of truth. When considering scientific truth in the realm of the "known unknown," scientific truth can be seen as an accumulation of hypothesis falsification under experimental settings (like Karl Popper's falsificationism). In this setting, the hypothesis that awaits to be experimentally tested is already made ahead of time via human perception. While the result of falsification is technically "unknown" in the sense that the experimenter cannot predict the result ahead of time, the hypothesis tested is already "known" ahead of time, meaning that scientists have to postulate a hypothesis before testing. In this very sense, the "known unknown" scientific truths are mere compiled human hypotheses within human consciousness. Contrary to the "known unknown" scientific truth that is limited by (human) consciousness, Liu seems to suggest a different model of scientific truth that is situated in an "unknown unknown" universe that goes beyond (human) perception. In Liu's model, the truth exists rather at the level of the

cosmos, that goes beyond, both metaphorically and literally, human consciousness. Liu uses the GUT equation to illustrate how a truth might go beyond human consciousness. In the novel, the GUT equation is the key to understanding the unity of the four fundamental forces in the universe. What makes the equation extraordinary is that it relates to the "ultimate Beauty of the Universe," in the Risk-Evacuator's words. The beauty of the GUT precisely comes from its power in rendering the relationship between parts of the cosmos legible, making the parts whole again, like the four fundamental forces of the universe.

On a side note, this "unknown unknown" model of scientific truth with Daoist characteristics is different from the Daoism that Ursula Le Guin proposes as "the left hand of darkness is light" (2019, Ch.16), a relational metaphysics that constitutes the immanent harmony of this world. Unlike Le Guin's Dao that exists on other planets but begs the readers to realize it here-and-now, the GUT-like truth with Daoist characteristic can be actualized on Earth but its existence lies at the there-and-future cosmos. Where Le Guin's Daoism desires immanence, Liu's truth with Daoist characteristic seeks transcendence, pursuing irresistible, revolutionary beauty.

Hence, the difference between "known unknown" and "unknown unknown" truth is that "known unknown" scientific truth seeks a gradual quantitative accumulation of scientific hypotheses over time, while Liu's "unknown unknown" truth with Daoist characteristics is one of qualitative transformation (through which the cosmos appears to be different) that is compelled by a sense of revolutionary beauty resulting from the reunifying of the cosmos.

The distinction is not a small one, politically speaking. It is not difficult to notice that the novel's public (scientists' families and politicians) is more identified with a "known unknown" truth, while the self-immolated scientists want the "unknown unknown" truth. For Liu's imagined public, the slow, gradual and controllable truth fits better with their anticipation of progress through science, a way through which human consciousness expands its boundaries by understanding and controlling a bigger and bigger cosmos. While everyone besides the scientists finds the "known unknown" accumulation of truth satisfactory, it creates the unspoken problem of burdening the scientists. The scientists and their scientific projects, in a way, become mere instruments for the gratification of the public's desire for the "known unknown".

I believe that the foregoing relationship between the scientists and the public stands for a caricature of the problematic relationship between science fiction writers and the public. The historical resonance is not mere coincidence, and Liu's novel can be seen as a historical continuation of the love-hate relationship between science fiction and scientific truth in China. Given that science fiction is a weapon to awaken unrealities or a hammer to knock the next stage of civilization into the masses' heads, it is highly probable that Liu might desire to unshackle these historical and ethical burdens that overtake the self-determination of science fiction.

As a result, an "unknown unknown" truth is a worthy adversary for the progress-driven "known unknown" truth. When the slow and gradual "known unknown" truth that aims for quantitative accumulation becomes responsible for the loss of self-determination of both scientists and science fiction writers, the "unknown unknown" scientific truth that brings

qualitative cosmos-making capacity certainly becomes liberating. How does Liu make such a transition possible? I will bring us back to the novel's textual space to see Liu's actual operation. I suggest that such effort can be seen clearly in the trajectory of Ding's truth-seeking. By superimposing the figure of a scientist (Ding) with a science fiction writer figure, Liu suggests a different realizable trajectory of science fiction using the vocabulary of both Dao and truth.

In Exchange of Truth…

Ding's trajectory in the novel can be seen as the ethical actualization of Liu's idealized scientific truth practitioner. Filled with passion and desire towards the universe beyond his imagination, Ding finds the meaning of life as a witness to the Beauty of the Universe's truth. This Truth of the Universe is exemplified in Ding's explanation to Wenwen after their world tour:

> "No need [for such a tour]," Ding said to his daughter, "if you open the eyes of imagination. This tour is sufficient. You have seen everything you want to see in the tube, even more! Child, the more important thing is that the blue ocean, red flowers, or green forest are not the most beautiful things. True beauty can never be seen by eyes. Only the imagination can see it. [It] differs from the ocean, flowers, or forest, it has no color or shape. Only when you combine imagination and mathematics to roll the whole universe into a ball on your hand, turning it into your most beloved toy, you can then see this true beauty." (2001)

Compelled by this Beauty of the Universe's truth beyond his perceptible world, Ding then sacrifices himself on the Truth Altar.

On a superficial level, this description is a commentary on scientific truth. However, when the truth is collapsed with Dao, part of the actualization of the Beauty of the Truth and the Dao requires imagination, which is seen as the defeating feature of science fiction in the historical metalogue between science fiction and scientific truth. Scientific truth was considered contaminated by the literature's imaginative dimension throughout a large part of Chinese history, and Liu subversively includes what was considered to be the enemy of truth to part of the nature of truth.

At a more profound level, the more imagination stands at the core of scientific truth, the more the figure of the scientist appears increasingly similar to the figure of the science fiction writer. The trajectory of Ding, the scientist, can be seen as Liu's ethical actualization of a science fiction writer. Like science fiction writers who were blamed by CAST during the 1980s for betraying the core value of truth as demonstrating the next stage of society, the scientists who stepped on the Truth Altar are blamed by world leaders for being selfish. But just as the true self-determination of the scientists begins as they sacrifice their lives in exchange for the truth, so does the ethical actualization of science fiction writers begin as they exercise their imagination to see the beauty of the universe beyond their perceptible world.

Conclusion: When Anthropology Meets Science Fiction in China

Science is a cause fighting for truth. One must be free of fear, even of offending God.

Li Shu, *Zaisiji.* Quoted by Tong Enzheng, Science Fiction Writer and Anthropologist, in "Thirty Years of Chinese Archaeology (1949-1979)." (1996, 146–47)

For a long time, the question of how scientists make facts "factual" was the primary concern for anthropology of science. From Donna Haraway's (1988, 581) "situated knowledge" that focused on how power dynamics shape truth production, to Bruno Latour's (2005, 9) ANT model that argued that truth is a web of interrelated actors, scholars have been extremely interested in the question of how truth becomes truth.

A growing interest in what truth is (ontology) and what truth is good for (ethics) is increasingly apparent in more recent anthropological discussions, partly due to the appearance of post-truth and environmental denialism in the Western world (Latour 2018, 18-19). Suddenly, the goodness of science is no longer self-explanatory, and science needs to be defended. Hence, the question of scientific ethics rises unexpectedly when facing environmental denialists.

However, the proposed alternative ethical paradigms of science have also encountered anthropological critiques. On the one hand, although Latour was initially criticized for being disinterested in the question of ethics and ignorant of structural violence intertwined with scientific discoveries (Fortun 2014, 321), Latour suggested a democratic realm of scientific facts, each "re-presented" by its scientist diplomat. In fact, Latour called this democratic and parliamentary-structured political realm a *dingpolitik*, which aims to bring "facts" into politics by allowing the representatives of "facts" to speak up against each other. This model makes explicit references to the European Union and the United Nations (Latour 2018, 100). What Latour hopes to achieve through such a paradigm is to create an ideally transparent debating room, in which each representative of a "fact" can speak openly about the mediation through which they represent the "facts" so that the audience can judge which "facts" to accept.

Latour's model relies not only on Western democratic politics, but his *dingpolitik* also resembles a free market situation in which the interests of "things" are achieved by competition between different groups. In this regard, the Latourian model resembles, for example, legal theorists' efforts to formulate the interest and legal status of forests,[20] via the economic principle of maximizing profit. Conversely, Haraway sees science as a means to cultivate shared suffering with nonhuman entities.[21] For Haraway, the quasi-theological idea that animals suffer provides a new basis through which the new ethics of more-than-human-becoming can be developed (2007, 70). In this sense, Harawaynian ethics sees science and technology as a seedbed for possibilities to reduce suffering for both humans and nonhumans.

The Harawaynian ethics of science and more-than-human becoming seems to also fit into the "suffering slot" criticized by anthropologists (Robbins 2013, 449). By situating nonhuman entities as potentially fragile, powerless, suffering, and innocent beings, Haraway re-erects a common Western humanitarianism that finds its promise in saving the suffering. However, this time, humanitarian logic not only reproduces its foundational innocent subjects, such as child soldiers, illegal immigrants, and indigenous women, but also suffering nonhumans (Ticktin 2015, 61).

Given that the question of ethics of science and scientific truth has not received adequate responses, science fiction in China provides an unexpected ground for the cultivation of scientific ethics. Unlike its Western equivalent, which is less interested in commenting on scientific practice, the long history of the truth in Chinese science fiction provides a fertile context for contemporary science fiction in China to comment on the status of truth (ontology) and what it is good for (ethics).

As an example of a resulting long historical metalogue between scientific truth and science fiction, Liu's novel *Hearing Dao in the Morning* opens a different ethical system that bases scientific truth on curiosity rather than liberal values. This alternative thinking about scientific ethics seems to be directly cultivated by Liu's historical time-space and the unique political question that science fiction in China is facing. Precisely because the genre of science fiction in China during the 1980s was "spiritually polluted" and the supposed ethical responsibility of delivering the truth to the sleeping masses was abandoned, the ethical promises of scientific truth and its relationship with science fiction become the central tension of Liu's novel *Hearing Dao in the Morning*.

With such historical context in mind, it is unsurprising that science fiction in China comments on and struggles with scientific truth. Moreover, science fiction, as exemplified by Liu's short novel, must engage with the ontology and ethics of scientific truth. Within the historical metalogue of scientific truth and science fiction, Liu's mediation and reorientation are significant for moving the relationship between scientific truth and science fiction from one in which science fiction's self-determination is a hijacked scientific truth to one in which science fiction's ethical self-determination is promised via the imaginative capacity of Liu's Daoist truth.

Liu's delineation of truth with Daoist characteristics in the realm of "unknown unknown" and its irresistible beauty allows us to imagine the ethics of truth based on curiosity instead of democratic politics and nonhuman suffering. For Liu, when scientific truth starts sharing Daoist characteristics, the accumulation of truth is no longer a quantitative increase of knowledge. Instead, it is a qualitative transformation of the world. This very qualitative transformation, like the ultimate equation for GUT, promises the beauty of universal harmony by reunifying the fundamental forces of the universe again. While such transformation is imperceptible to scientists' eyes, they can imagine how the GUT reunifies the fundamental forces of the universe. Such mathematical and imaginary reunification promises a beauty that "perversely" attracts Liu's scientists, who spent their life pursuing it. In this sense, the ethics of truth reading out of Liu is promised in the perverted desire to seek the Beauty of the Universe that goes beyond perception.

Coda: "Beyond" Narcissism? Science Fiction, Truth, Self-Determination and the Public

> *Men do not sufficiently realize that their future is in their own hands. Theirs is the task of determining first of all whether they want to go on living or not. Theirs the responsibility, then, for deciding if they want merely to live, or intend to make just the extra effort required for fulfilling, even on their refractory planet, the essential function of the universe, which is a machine for the making of gods.*

<div align="right">

Henri Bergson, in *The Two Sources of Morality and Religion.* (1935, 317)

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Liu (2013, 31), in a translated publication, *Beyond Narcissism: What Science Fiction Can Offer Literature,* declared that he "only want[ed] to consider: Can an extroverted form of literature that reflects the relationship of humanity to the natural universe not exist next to a more introspective and closeted literature? Can literature not be used to reach beyond humanity?" For Liu, the recent developments in literature possess a signature humanistic narcissism that focuses on a level below the surface of human subjectivity. Obsessed with subjectivity, literature for Liu becomes narcissistic as it constantly repaints the human consciousness at the center of the universe.

If not an introverted literature obsessed with humanistic subjectivity, what should an extroverted non-narcissistic science fiction look like? I offer here a reading of Liu's version of science fiction through the lens of the debate between John Dewey and Walter Lippmann. I will show that, by moving backward in order to move forward in the historical metalogue between science fiction and scientific truth in China, Liu's rearticulation of scientific truth with Daoist characteristics raises a new ethic of truth that aims for a beauty that transforms the world qualitatively. This move may not only share its origin, but also resonate with Dewey's promotion of scientific experts as artists in gathering and creating the public, when Lippmann argues that the role of experts should be as executors of public affairs. Eventually, science fiction writers regain their self-determination as they become the Lippmannian-Deweyan experts who reveal the beauty of truth that reconnects human beings to the universe.

The debate between Dewey and Lippmann is conventionally named the "Dewey-Lippmann" debate. Initiated by Lippmann, the core of the debate can be indicated by Lippmann's simple formulation: "The environment is complex. Man's political capacity is simple. Can a bridge be built between them?" (1993, 68). Or putting the issue differently, the greatest concern of the modern democratic age is the fact that the amount of information required for informed political decisions surpasses the individual's mental capacity to receive it. Global warming is real, but how to address global warming politically requires a large amount of highly specific knowledge that individual citizens cannot reasonably know. Hence, individual human beings in democratic settings just seem to be infinitely stupid in front of complicated modern public affairs.

If modern public affairs are too complicated for individual average Joes, why not just let the experts decide what to do? Therefore, Lippmann's solution (1961, 44; 1991, 379) is to form committees composed of experts within the government to decide what to do for various public affairs. Theoretically, Lippmann envisions human societies organized technocratically via scientific experts, who use their scientific truth (like the quantitative,

informational truth emerges out of Popperian falsification!) to execute the most rational decisions.

Lippmann's *1984*-style technocratic vision remains a dystopic fantasy for Americans today, but it is already a historical reality in China. Through the genre of science novel or movements like science popularization, generations of Chinese science fiction writers were idolized as Lippmannian technocratic experts. What Lippmann did not anticipate, however, is that the technocratic experts, who are supposed to manifest self-determination for public citizens (i.e., see through all conspiracies and fantasies in order to solve public affairs), face the problem of the over-determination of the zealous public, and consequently fail in the task of deciding public affairs. In fact, this is what happened exactly during the 80s Anti-Spiritual Pollution Campaign, when the technocratic science fiction experts were suspected of not telling the truth enough, and therefore betraying the interest of the public. Even in *Hearing Dao in the Morning*, the moment when the world leaders condemn the scientists for being self-obsessed is reminiscent of the over-determination of the public over the technocratic experts.

It is evident that Dewey, like Liu, recognized such problems early on. As Dewey points out (1947, 207-209), Lippmann's technocracy rests on the assumption that the scientific experts are atomistic individuals who have a complete objective view ("omnicompetent" in Lippmann's language), while in reality, scientific experts, like other citizens, are social creatures, and science is always a social enterprise (DeCesare 2012, 111). Expecting scientific experts to have omnicompetent visions of the world is to alienate them from other social classes and turn them into a separate private class. This social separation means that the privileged private expert class will cultivate its own private interests, and therefore betray the common interests of the public (Dewey 1947, 206). In places like China, where class contradictions are often guides to mass movement, it is inevitable that a group of experts like science fiction writers would be under the constant suspicion of betraying the public interest, and therefore being constantly purged.

Instead of denying the importance of experts in directing democratic public life, Dewey solves the problem by reconceptualizing what the truth is, and thereby the role of the expert. Unlike Lippmann, who sees scientific truth as mere facts gathered by disinterested omnicompetent experts, Dewey particularly emphasizes that scientific truth is embodied, shared, and social (183 & 209). Instead of factual and abstractive, the Deweyan truth is aesthetic and experiential. The examples Dewey uses to indicate the location of truth are "implements, utensils, devices and technologies." This insistence on material culture as the center of embodied truth and knowledge pushes the Deweyan experts away from being disinterested spectators to being social participators, who should have "the ability to judge of the bearing of the knowledge supplied by others upon common concerns" (ibid). In other words, the Deweyan experts are artisans whose aesthetic sensibilities allow them to channel and coordinate living experience across different social classes. Instead of telling people what to do, Deweyan experts gather information to tell the public what could be done. Consequently, unlike Lippmann's experts, Deweyan experts do not *judicate* public affairs. Instead, they *gather* public affairs by making public affairs experiential to other social classes.

To be fair, Lippmann is not entirely ignorant of aesthetic experience. For Dewey, aesthetic experiences are what make truth and knowledge experiential and social. But for Lippmann's universe, aesthetics only cages citizens in their individualistic imaginations and separate them from reality, fostering "pictures in our heads" (1991, 3). Where Dewey finds that truth and beauty coincide, Lippmann suggests truth and beauty divorce. But in this regard, Lippmann does put his finger on the fact that truth, instead of being located at the level of human society and consciousness, is about the bigger world outside of our heads. In this regard, it is sensible that experts should be closer to the impersonally worldly phenomena rather than human individuals and societies.

While Dewey and Lippmann argue over the role of aesthetics and truth in a modern democratic age and whether experts should be artisanal or impersonal, Liu's novel might take the conversation in a new direction. In this new direction, unlike Dewey and Lippmann, who assumed the realm of aesthetics coincide with the borders of perception, Liu articulates truth with Daoist characteristics, which sees the Beauty on the edge of the Universe, rather than the edge of human consciousness. In this way, Liu's experts (both science fiction writers/scientists themselves) should be both artisanal and impersonal, Deweyan and Lippmannian. Their job, indeed, is to mobilize aesthetic experience, not to bring human beings together, but to bring them closer to the universe.

Too Faustian it might be, but the drive to go "beyond" is unmistakable. Here, to conclude with Bergson's beautiful phrase, perhaps science fiction is about telling the Truth that brings the Beauty of the Universe closer to man, and in doing so, science fiction becomes "a machine for the making of gods."

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Notes

[1] Or Cixin Liu in English.

[2] Two terms for clarification here. I use the term ethics (rather than utility) mostly because of the obligatory nature of any "situation" (see endnote 3), or simply "what is at stake." When I speak about "ethics" in this paper, I am interested in delineating those "stakes" and the corresponding self-obligation.

By "ontology of truth," I mean to indicate not the ontology contained in a particular piece of science fiction, but the implicit ontology that emerges from a science fiction within its ecology. What view of existence does it seem that a science fiction develops when situated with writers, readers, governmental officials, educators, scientists and other forces within the dark forest of China?

[3] Rather than conducting a literary analysis or philosophical commentary, this paper attempts to conduct an anthropologically informed situational analysis (Gluckman, 1940; Kapferer, 2005; Evens, 2005; Kelly, 2012; Zigon, 2018). A situational analysis reveals contradictory and oppositional forces within a literary genre or philosophical tradition. As a student of biology, I like to use co-evolutionary processes to demonstrate my understanding of how a situation operates. For example, the clown fish and sea anemone co-habitation is a situation that contains antagonistic forces between the clown fish and the sea anemone. Their cohabitation is a situation where the clown fish and the sea anemone have to develop behavioral or morphological characteristics that constantly address each other. The co-evolution through which they adapt to each other not only transforms the sea anemone and the clown fish but also the relationship between them.

The chief difference made by analyzing science fiction situationally is that it reveals heterogenous forces lurking behind what we typically considered as plain and homogenous literary, social-cultural or philosophical space. Revealing such heterogeneity of Chinese science fiction and Liu's work encourages a new articulation of philosophy of science and science fiction. For this article, my analysis situates Liu and his world in the (im)mediate world he is a part of. This article will quote Liu's words, but my intention is less about articulating or canonizing his philosophy. In this regard, like Deleuze watches movies to articulate philosophy (See *Cinema 1* and *Cinema 2*) that might betrays the filmmaker's intentions, my situational analysis uses Liu's words in ways that may differ from Liu's intended meaning. This is not coincidental. Currently, Liu's other iconic works (notably *the Three-Body Trilogy*) have developed a modality of human agency that inspires ultra-conservative Chinese technological nationalism. As I conduct fieldwork in Chinese state-owned enterprises that focuses on oversea infrastructure development, my interlocutors have framed themselves as the Wall Breakers, and the Belt and Road Initiative is what allows Chinese

civilization to survive in the Dark Forest of the global cosmos. Liu already becomes what he resists in Chinese public life. Like others Chinese science fiction writers whose work justify cold-war politics, his work inevitably justifies Chinese global expansion. In this respect, I am using Liu's own words to argue against Liu to resist this trend.

[4] "Unreality" here is used to express that common modernization sentiment that pre-modern people live in a state of un-enlightenment, a state of dreams and superstitions.

[5] Readers in sociolinguistics or linguistic anthropology will recognize the resonance of dialogical approach and Bakhtin's study of Greek genres. However, instead of focusing on the metastasis of power and ideology, my uptake of metalogue aims to explore the volatile creative energy within science fiction that is irreducible to power and ideology.

[6] Significant effort was put into finding the earliest Chinese science novel. However, my search yielded little result due to my difficulty accessing the original science novel texts. For a more comprehensive list of science novels and which sub-genre they belong to, please refer to Wu Yan's *Kehuanwenxueganglun* (2011).

[7] In a comparative lens, it is worth noting the different origins of science fiction and its cultural politics across the West, the Eastern bloc, and China. In the West, science fiction begins with liberal visionaries, however, the science fiction of central and Eastern Europe began as scientific utopias for revolutionary struggle (see *Red Planets: Marxism and Science Fiction*, 2009). The theme of revolutionary struggle then culminated in social criticism via the science fiction writing of Lem, the Strugatsky brothers, and others. In China, science fiction begins with the Republican awakening, not the communist movement. In fact, John Dewey may have well influenced the development of science fiction as a moral awakening tool as he made his influential two-year trip to China during the early 1920s. Despite the interesting nature of the discussion, the connections and differences between Soviet and Chinese science fiction remain a subject for another paper.

[8] The Four Cardinal Principles were drafted by Deng (1979, 164) after the fall of the Gang of Four, the four principles being: 1. The principle of upholding the socialist path. 2 The principle of upholding the dictatorship of the proletariat class. 3. The principle of upholding the leadership of the Communist party. 4. The principle of upholding Marxist-Leninism and Maoist thought. It is worth noting that the second principle was revised from "the dictatorship of proletariat class" to "the People's democratic dictatorship."

[9] Obviously, a bizarre political outcome to the American left, but a quite predictable pattern for Chinese socialism.

[10] Even the China Association of Circus had to post an announcement in *People's Daily* on the necessity of purging "spiritual pollution" from Chinese circus practice (Huang, 1983).

[11] Science popularization even produced a new type of state-issued career, so-called 科普工作者 (science popularization workers). The science popularization workers are usually intellectuals (sometimes current or formerly trained scientists) who know how to write their "Facts" or "Truth" down in simple language that peasants and factory workers can understand. During the 1950s, each Chinese county or city may have had one or two science popularization workers. Science popularization workers are considered the frontier fighters who weaponize various media tools to fight off Superstitions as national enemies.

[12] The CRISP was proposed by Dr. Gao, an Academician (the highest title that a scientist can obtain in China) from the Chinese Academy of Sciences, who graduated from the University of Chicago Medical School in 1927. Instead of scientific achievements, he is most famous for his science novels, science poetries, and science popularization works, such as 菌儿自传 (*An Autobiography of Bacteria*).

[13]Various contemporary science fiction writers and critics still publish their works in journals hosted by CRISP, including some writers consulted for this paper.

[14] Ding Yi (丁仪) also makes his appearance in *The Three-Body Problem*. Sharing the same name and occupation, Ding is married to Ye Wenjie's daughter, Yang Dong. Unlike Ding in *The Three-Body Problem*, who is devastated by his wife's suicide due to her religious obsession with theoretical particle physics (14), Ding in *Hearing Dao in the Morning* is the one who leaves his wife devastated by committing suicide at the Truth Altar.

[15] "What is the purpose of life?" is also asked by Wenwen to her mother.

[16] This distinction is a tribute to Aihwa Ong's canonical work *Fungible Life: Experiment in the Asian City of Life* (2016) in which Professor Ong demonstrates how Singaporean geneticists fill data into ready-made racial categories to continue quasi-eugenic biomedical research. If a "known unknown" truth dominates Singapore's Biopolis, a different possibility of "unknown unknown" truth could be told through Chinese science fiction.

[17] The original Chinese is 朝闻道, 夕死可矣.

[18] Whether Liu's novel can be considered as a continuation of the Confucian tradition is a question that remains to be answered. An interesting study would be possible in tracing the genealogy of *Dao* from Confucian classics to present day science fiction. However, my use of *Dao* adopts the more general cultural form in China.

[19] Akin to the planet of Solaris, in that the planet is not only unknown, but also its possibility of knowledge is unstable (Lem, 1970).

[20] See Christopher D. Stone, *Should Trees Have Standing? Law, Morality, and the Environment* (2010).

[21] Though claiming a multispecies focus, Haraway was mostly interested in dogs. Only her later writings incorporate other kinds of living organisms (2016).