

# Sophons, Wallfacers, Swordholders, and the Cosmic Safety Notice: Strategic Thought in Chinese Science Fiction

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Science fiction, due to its ability to encourage creative thinking in environments estranged from our own, can be employed in strategy development and inspiration. Liu Cixin's *The Three-Body Problem* trilogy focuses on galactic relations and defense in a rich and nuanced way and provides insight into Chinese thought. An analysis of four strategies—sophons, wallfacers, swordholders, and the cosmic safety notice—highlights the ways in which Chinese strategic thinking systematically differs from Western modes of thinking.

Science fiction, like other types of literature and entertainment, is used for a multitude of purposes including entertainment, explanation, exploration, and persuasion. The genre explores topics from the technical to the emotional, examining technological and scientific futures while considering the nature of humanity and relationships between ourselves and the more alien among us. Because of their (often) futuristic settings, science fiction stories are frequently framed allegorically, highlighting contemporary social and moral problems in a way that is more detached. Given the popularity of science fiction entertainment and its tendency to comment and reflect upon serious questions of the day, it is no wonder the genre has drawn the attention of and proven instructive for military thinkers and scholars alike.

Political scientists, particularly those studying international relations, have identified ways in which science fiction serves as a mirror for political reality but also helps to constitute it. As a mirror, scholars have examined the ways in which science fiction franchises like *Doctor Who*, *Star Trek*, and *Battlestar Galactica* reflect major ideas in international relations and political science.<sup>1</sup>

In addition to simply reflecting politics, others, in a constructivist vein, argue “popular culture makes world politics what it currently is.”<sup>2</sup> Jutta Weldes writes, “popular culture, then, helps to construct the reality of world politics for elites and the public alike and, to the extent that it reproduces the content and structure of dominant foreign-policy discourses, it helps to produce consent to foreign policy and state action.”<sup>3</sup> J. Furman

Daniel and Paul Musgrave take this one step further in proposing a model for how this influence occurs. In their theory of “synthetic experiences,” popular culture creates a sort of “pseudo-recollection” that informs and influences the way people perceive and think about the world around them.<sup>4</sup>

In terms of military thinking, scholars argue there is a long history of science fiction influence in America and a strong science fiction influence in late twentieth-century nuclear and military policy.<sup>5</sup> As the Industrial Revolution arrived and the speed of technological innovation increased, militaristic fantasies not only predicted military developments but informed them as well.<sup>6</sup> Stories from the likes of H. G. Wells influenced Robert Goddard, the father of American rocketry, and later military space policy.<sup>7</sup> Wells even coined the term “atomic bomb” in his 1914 book, *The World Set Free*.<sup>8</sup> Later in the century, science fiction author Robert Heinlein’s *Solution Unsatisfactory* predicted to a degree the ramifications of nuclear weapons.

This influence continues today as military analysts turn to science fiction in the development of strategic fictions. These narratives “further military funding and development”—after all, if this is the possible future, military leaders must prepare for it today.<sup>9</sup> Much as the strategic narrative of the second Iraq War is an example of such a fiction, the 2001 Rumsfeld Report that predicted scenarios of a “space Pearl Harbor” can also be considered a strategic fiction.<sup>10</sup> More recently, the 2015 book *Ghost Fleet* features a Chinese attack on the United States that begins with an assault on the International Space Station.

Another role for science fiction is as a source for creating or inspiring current strategy.<sup>11</sup> This article explores possible strategies derived from a non-Western science fiction source, Chinese author Liu Cixin’s trilogy *The Three-Body Problem*. The strategies adopted in this trilogy serve two main functions. First, they present a nontraditional, creative source for Western strategic thinking, providing military strategists “with a mental framework that allows [them] to think outside the current paradigm.”<sup>12</sup>

Second, the trilogy provides Western readers with insights into Chinese thinking. In an era of strategic competition, understanding the culture and intentions of possible adversaries is vital, particularly when the Chinese government has shown interest in leveraging culture as an element of soft power.<sup>13</sup> Chinese government calculations and motivations can often be difficult to understand and analyze; accordingly, cultural artifacts such as *The Three-Body Problem* offer increased insights into the people and culture.

### ***The Three-Body Problem***

The first book in the series, the eponymous *The Three-Body Problem*, was published in China in 2008 and became a best seller in a country unfamiliar with reading and consuming science fiction on a broad scale.<sup>14</sup> Two sequels—*The Dark Forest* and *Death's End*—followed, and the first English translations were published in the United States in 2014.<sup>15</sup> The series quickly garnered attention in the Western world, even making it onto then-US President Barack Obama's year-end reading list. The trilogy, along with Liu's other books and short stories, have evolved into a cultural phenomenon, stoking considerable internet fan debate and even additional books set in *The Three-Body Problem* universe. A television series is now under development at Netflix.

In addition to its pop-culture impact, *The Three-Body Problem* is significant in other respects. First, it is a major science fiction work coming from a country that has not often engaged in such literature.<sup>16</sup> Though science fiction briefly flourished in the years following the Cultural Revolution, a 1983 editorial in a Communist Party newspaper claimed science fiction was "spiritual pollution," thus stymieing the growth of the genre.<sup>17</sup>

Mingwei Song argues a "new wave" of Chinese science fiction authors appeared around 1989 with Liu among them.<sup>18</sup> This generation of writers has focused on themes of a rising China, the myth of development, and posthuman developments, with Liu falling most squarely in the last of these.<sup>19</sup> Although Liu does not focus on politics directly, the influence of Mao Zedong, the Cultural Revolution, and China's scientific and technological capabilities are palpable in his work.<sup>20</sup> Yet, even with Liu's success in both the global and Chinese markets, there has still been some doubt about the cultural impact of science fiction in general in China.<sup>21</sup>

Second and more important, Liu's work represents a particular Chinese way of thinking about strategy. Though Liu has denied that *The Three-Body Problem* speaks directly to Chinese-American relations, to the extent it is different or emphasizes different concepts, the series provides insights into how the Chinese approach strategy.<sup>22</sup> While one series of books by one author cannot possibly be representative of an entire culture, if fiction is indeed reflective of the society and culture from which it emerges and helps shape the external environment, *The Three-Body Problem* is an important object of study.

While larger elements of the story will be discussed below, in brief, *The Three-Body Problem* begins in China during the Cultural Revolution where university professors are beaten and killed for not being sufficiently communist in their thoughts and teachings. Like her father, Ye Wenjie, a young

astrophysics student, is deemed a traitor, and she is sent to a work camp in rural China. There, she sets in motion an event of galactic magnitude when she uses a radar research project to blast a message to the universe and any potential extraterrestrial life.

Eight years later, a message from the planet Trisolaris arrives, warning against further communication lest the Trisolarians attack and destroy Earth. Disillusioned by the Chinese regime, her life, and the state of humanity, Ye Wenjie ignores the warning and once again broadcasts a message inviting the invaders to do as they please.

Given the immense distances involved, the consequences of Ye Wenjie's actions are not fully known for some decades. As the novel transitions to the present, the books detail a series of events that begins with Earth working to protect and defend against a Trisolaran invasion, explains how they come to an uneasy truce, and concludes with how the future Earth attempts to survive in what is revealed to be a very dangerous universe indeed.

It is impossible in this format to discuss every strategic concept Liu introduces. Accordingly, this article will focus on four strategies that speak most clearly to current strategic debates including the use of technology, deterrence and credibility, and signaling: (1) the use of "sophons" to prevent Earth from making technological progress that might threaten the Trisolaran invasion; (2) the "wallfacers" whose job it is to secretly devise strategy to defeat the Trisolarians; (3) the "swordholder," the one person responsible for unleashing a cosmic attack on Trisolaris as a form of deterrence; and (4) a cosmic safety notice that clearly broadcasts a civilization's peaceful intentions. Each strategy speaks to potential, employable real-world strategies and provides insights into Chinese cultural influences, the two purposes of this article.

## **Sophons**

As the Trisolarians plot their invasion of Earth, they quickly realize Earth could soon be on the cusp of scientific and technological developments that would enable it to respond to their attack. To prevent this and to provide a means of communication between Trisolaris and its allies on Earth, Trisolaris creates sophons, advanced 11-dimensional supercomputers that when folded down into three dimensions are the size of a proton.

Because of their size, Trisolaris launches them toward Earth well in advance of the larger invasion force. Once on Earth, they stop scientific advances by interfering in experiments like those being performed at the Large Hadron Collider. Additionally, because the sophons are quantum entangled with other particles that remain on Trisolaris, the sophons can

communicate with their home world in real time and facilitate cooperation between the Trisolarians and their Earth allies.

The sophons represent a strategy of technological strangulation—if Earth cannot develop advanced technology, then they cannot threaten the technologically sophisticated Trisolarians. Today, this approach is evident in regulations restricting the proliferation of certain types of technologies including missile and nuclear.

There are two differences, however, between sophons and regimes such as the Missile Technology Regime and International Traffic in Arms Regulations. One, systems preventing the proliferation of technology do not prevent the knowledge of such technology from proliferating. Indeed, using the internet or academic papers, a would-be nuclear bomb builder can quickly learn the basic construction of such a weapon. Two, nonproliferation efforts are widely known and understood; sophons act in stealth to subvert scientific discovery.

While 11-dimension supercomputers are likely not possible, sophons do suggest a particular strategy in terms of the nonproliferation of knowledge: rather than restrict the acquisition of machinery and capabilities, restrict the availability of the knowledge. Admittedly, this approach is difficult, as the failure of the United States after World War II to keep secret its nuclear know-how confirmed. But the cyber domain offers a new opportunity to attempt a similar endeavor.

Utilizing cyber tools to enact a sophon-like strategy is not simply akin to the Stuxnet attack where a destructive worm inserted into Iranian computer systems destroyed the nuclear centrifuges necessary to create weapons-grade uranium. Instead, cyber weapons could be used to infiltrate scientific and research laboratories and disrupt experiments or spoof results. In this way, cyber weapons act like the sophons to interrupt the gaining of knowledge rather than the application of that knowledge.

Of course, any strategy aimed at disrupting knowledge acquisition would be difficult to undertake for several reasons. First, a country undertaking such a strategy would need to know what knowledge it is trying to suppress. This assumes it knows what is dangerous and potentially dangerous, which in turn presumes the knowledge in question is already understood. Unfortunately, the dangerous effects of knowledge are not always known in advance. In *The Three-Body Problem*, the Trisolarians were advanced enough to know what type of research would ultimately threaten their attack.

Second, civilian-based research is difficult to suppress. While the ultimate goal of scientists is different (e.g., money, publication of results), most goals are premised on sharing acquired knowledge with others. Pre-

venting such sharing might be easier to do with government-sponsored research, but even then, suppression is not guaranteed.<sup>23</sup>

Third, scientific research is often conducted by multiple teams at multiple locations. For a sophon strategy to be successful, all researchers undertaking a particular line of inquiry would need to be monitored and suppressed, not just those in a target country. Because of their unique, quantum nature, sophons were able to do this on a large scale. Using cyber technology, this may not be impossible, but it may not be probable either.

Finally, this strategy certainly conflicts with the openness of a democratic society. While countries around the world have often committed acts that conflict with their core national values in the name of national security, a sophon strategy, if revealed, could damage the international image and consequent soft power of the United States. Moreover, this damage would almost certainly not be limited to those outside of the United States but extend to US citizens who value science, understanding, and the discovery of knowledge.

## Wallfacers

While sophons might not be possible, wallfacers hew a bit closer to reality. The omnipresent sophons allow the Trisolarans to know exactly what Earth's leaders are doing to prepare for their invasion, giving them a strategic advantage. To overcome this, the United Nations creates the Planetary Defense Council which, in turn, creates the position of wallfacer, an individual responsible for developing a strategy to counter the Trisolarans.

Liu writes that the name "wallfacer" is meant to evoke "that ancient Eastern name for meditators [which] mirrors the unique characteristics of their work," as they present a false narrative to the public to conceal the true strategy from the sophons.<sup>24</sup> Wallfacers are given any resource or power they wish to enact their strategy, but they are not to divulge what that strategy is. In this way, their strategy can be kept secret from the Trisolarans.

Though a real-world country might not face such an existential threat, intelligence gathering methods keep a state's strategy, or at least the parts that should remain opaque, secret. In a world where cyber espionage and space-based data gathering make keeping state secrets hard, a wallfacer strategy might be a viable option. In this sense, a wallfacer might be charged with protecting a country's national security, empowered with creating and enacting strategies that promote a country's survival. They would not have to tell anyone what the ultimate strategy consists of but would have to direct the allocation of resources to enact it.

The wallfacer strategy encompasses a number of advantages. For one, it retains the element of surprise. And even if a wallfacer does discuss a particular strategy, there is no way to know whether that strategy is the true one—disclosing a strategy might be a feint in one direction preserving freedom of maneuver in another. Indeed, one of the wallfacers in *The Dark Forest* encounters just this problem. Luo Ji, an otherwise unremarkable Chinese sociologist, is selected as a wallfacer for unknown reasons. Not understanding why he was chosen, he refuses to work, lives a profligate and expensive lifestyle, and uses the resources offered to him to build a luxurious home and find a wife. When he explicitly tells officials that this is not part of his strategy, they refuse to believe him. Ultimately, they become frustrated with his lack of work and put his wife and child into hibernation as a means of forcing him to work.

A wallfacer strategy also centralizes authority and planning in one individual with explicit responsibility. One of the critiques of the current American national security establishment is that either there is no one in charge of thinking holistically about national strategy or that very few are.<sup>25</sup>

Further, senior leadership changes from election to election—a president may be in office between four and eight years with no guarantee a successor will continue a particular strategy. This situation yields either a short-term strategy that can be executed or a long-term strategy that might not come to fruition. A wallfacer whose term of office is unlimited can rise above short-term electoral politics to enact long-term strategies that might better advance the position of a given country.

The dangers of secrecy, however, outweigh the advantages. Given that wallfacers are endowed with whatever resources they could possibly ask for without question, accountability is lacking, a severe disadvantage in democratic societies. One wallfacer attempts to design a method in which Mercury crashes into the sun, causing it to explode and destroy the entire solar system. Yet another devises an elaborate plot to be seen as cooperating with the Trisolarans only to double-cross them. While a form of accountability was ultimately imposed on Luo Ji, a wallfacer strategy lacking such a mechanism is ultimately risky unless the individual merits high levels of trust.

The individual becomes the second problem—who exactly could be made a wallfacer? How would that individual be chosen? What characteristics would such a person need to have? In the United States, citizens presume the president is ultimately in charge of national security strategy; would it be constitutional to “subcontract” such a responsibility? Would the wallfacer need to change after each presidential administration? Would

the wallfacer be able to enact domestic changes to ensure national security? How might a wallfacer be removed from their position? Clearly, in an open, democratic society, a wallfacer strategy would face almost insurmountable barriers.

## **Swordholders**

Luo Ji, though initially perturbed by his selection as a wallfacer and careless in his approach, does eventually discover a possible mechanism by which Trisolaris could be thwarted. In the second book, it emerges that Luo Ji had a brief encounter with Ye Wenjie in his younger years in which she imparted some general principles of a cosmic sociology. “First: Survival is the primary need of civilization. Second: Civilization continuously grows and expands, but the total matter in the universe remains constant.”<sup>26</sup>

Additionally, Ye Wenjie tells Luo Ji of two other strategic concepts he will need: chains of suspicion and the technological explosion. In describing a chain of suspicion, Liu writes that even if two galactic civilizations believe each other to be benevolent, it is impossible to “know what you think about what I think about what you’re thinking about me.”<sup>27</sup> Technological explosions are defined as the capability of a civilization to undergo significant technological change when faced with an immediate threat.

From this, Luo Ji finally discovers the universe is essentially a “dark forest” and describes realism on a universal scale. If one civilization encounters another and communication is possible, then the technology of both is on a scale where one can threaten the other and vice versa. Because of the tyranny of distance and time on a universal scale, there is no way to allay mutual fears and no way to know the other civilization’s ultimate goals and aims. Not knowing the other’s intent, it is in the interest of any given civilization to immediately attack and destroy the other lest they give away their own civilization’s position to others in the dark forest. Thus, all occupants of the dark forest have an inherent interest in remaining undetected.<sup>28</sup>

Based on this theory, Luo Ji recognizes one way to defeat Trisolaris is to reveal its position in the universe to the other members of the forest. To test his theory, Luo Ji utilizes his wallfacer power to cast a magic spell: using the sun as an amplifier like Ye Wenjie did, he broadcasts the location of an innocuous star. If he is correct, that star will be destroyed several hundred years in the future.

While the Trisolarans clearly understand the intent of the spell and place a hold on their invasion force, Luo Ji uses deception on Earth to hide the true intent of his strategy. Understanding that his spell will take



time, Luo Ji chooses to hibernate for 200 years. When he emerges, Earth technology has greatly advanced despite the sophon lock. Defensive forces from Earth have amassed a fleet of spaceships and are preparing to intercept the inbound Trisolaran fleet.

While Earth's fleet ultimately fails to slow the advancing Trisolaran fleet, it is soon revealed that Luo Ji's magic spell indeed resulted in the destruction of the star. To overcome this new threat, the Trisolarians respond by preventing Luo Ji from transmitting their planet's location and continue their advance. In response, Luo Ji and Earth's defense organizations plot to use nuclear weapons to create vast fields of dust and debris allowing Earth to monitor the progress of the enemy fleet. Moreover, Luo Ji realizes he can use the bombs, if detonated, to broadcast Trisolaris's location. Trisolaris and Earth again find themselves mutually deterred: if Trisolaris attacks, Earth will broadcast its location. Alternatively, if Earth attacks Trisolaris, the Trisolarians' advanced technology not only could broadcast Earth's location but destroy the Earth on its own.

As a result of the course of events, the system of precisely placed nuclear bombs remains under Luo Ji's sole control. Abandoned by his wife and daughter and chastened by his experiences, he assumes the position of swordholder—the one individual empowered to detonate the nuclear bombs at the first indication of a Trisolaran attack. Further, Luo Ji, the swordholder, does not have the luxury of time in responding to any Trisolaran action as their capabilities allow for the immediate destruction of the Earth and its inhabitants.

### ***Credibility***

Of the traditional concepts of deterrence, nuclear strategy, and credibility enshrined in the idea of a swordholder, credibility is the most developed. The system of deterrence described in the series is based on the belief that the other side is capable of an attack. While Trisolaris demonstrates this in action—the destruction of the Earth's fleet—Earth's credibility lies solely in Trisolaris's belief that Luo Ji would initiate the nuclear detonations. Because Trisolaris knows Luo Ji grasps the dark-forest nature of the universe, they believe he will initiate the broadcast, via the detonations, if Earth is threatened.

As is often the case, credibility is not easily transmitted from one officeholder to the next. As it comes time for Luo Ji to retire from the position of swordholder, a new candidate is chosen, Cheng Xin. Through a series of events that also involve enchanted time-lapse sleep, Cheng Xin soon becomes a leading candidate for the next swordholder because of qualities

that make her the antithesis of Luo Ji. She is feminine; she represents an earlier period; and she reveals herself to be someone who is softer and lacks Luo Ji's jadedness. Yet those characteristics that make people believe she will be a kinder, gentler alternative to the warrior-monk Luo Ji are precisely those which make her a less credible threat to Trisolaris.

As Cheng Xin enters the swordholder bunker and assumes the mantle from Luo Ji, Trisolaris initiates a devastating attack on Earth and its population. This attack reveals Trisolaris did not judge Cheng Xin to be a credible swordholder—they did not believe she would initiate the broadcast, which is exactly the case. In the moment of ultimate threat, Cheng Xin declined to initiate the nuclear broadcast that would not only destroy Trisolaris but Earth as well.

Cheng Xin's failure demonstrates credibility is not easily conferred and is not conferred on an individual simply because they possess a position of power. In contrasting these two swordholders, Liu suggests credibility is to be judged based on a depth of true understanding, though how that understanding is to be acquired is entirely unclear.

Examining the wallfacer and swordholder strategies together, one element they hold in common is the centrality of individual power. While this might seem anathema to those in the West with a strong democratic heritage, Chinese notions of central leadership and authority are consistent with these approaches. While an entire machinery of people and effort support both wallfacers and swordholders, the ultimate power and authority is vested in one individual, reflective of Chinese cultural notions of governance.

And while these approaches are attractive for several reasons (e.g., attribution of responsibility, clear decision making, ease of decision making, lack of need for compromise), Liu appears sharply critical based on his depictions of both wallfacers and swordholders. In the case of the wallfacers, three of the four are ultimately heralded as turncoats and war criminals for the strategies they propose that would kill many, if not all, people.

In the case of the swordholder, Liu's narrative suggests this might be a productive strategy if credibility can be established and maintained. In the absence of credibility, it too fails because of the centrality of one person. Research on the credibility of deterrent threats in recent years has similarly identified this problem.<sup>29</sup> Thus while the swordholder and wallfacer strategies appear to be superior solutions to the problems Earth faces, Liu is certainly aware and ultimately wary of the points of failure that exist.

### ***Personal Cost***

Luo Ji's story is also a warning of how the individual chosen for such a task may indeed suffer. The Earth prefers to center its existential decision-making power in one individual rather than instill this power in a distributed command and control system. In his time first as a wallfacer and then as swordholder, Luo Ji is worshiped alternately as a savior and a monster. Luo Ji suffers from the burden: initially his wife and child are taken away, and when they ultimately leave on their own volition, he suffers from alcoholism and depression.

When he finally passes on the duty of the swordholder, Luo Ji lives in a monk-like state in isolation in a bunker deep underground. By the end of the trilogy, he is the lone human on Pluto and the last caretaker of Earth's most precious treasures. When considering strategies that place inordinate power in the hands of a single individual, societies must contemplate the question of extreme personal cost.

### **Cosmic Safety Notice**

Following their attack on Earth, the Trisolarans forcibly move all remaining people to Australia to prepare for the arrival of the main attack force. Despite the severe decimation of Earth's population, the continent cannot support the remaining people. Consequently, the move to Australia also becomes a means of culling the population to a more manageable size. Owing to the escape of two of Earth's war ships from Trisolaris's earlier attack, it is soon discovered that Trisolaris itself is destroyed by another civilization because of a location broadcast from one of the escaped ships.

Knowing it is only a matter of time before Earth, too, is caught in the galactic crosshairs, the Trisolarans abandon their invasion and seek to impart the notion of a "cosmic safety notice" to those remaining on earth. This notice is intended to signal peaceful intentions to the rest of the universe. Once decoded, the message suggests one way to do this is to slow down the speed of light via a series of black holes around the solar system so that no light escapes.

In this way, not only does a civilization declare its intentions, but it closes its cosmic neighborhood off to escape and to other potential civilizations. This approach is reflective of proposals involving "costly signaling."<sup>30</sup> In this instance, foreclosing all future opportunities to engage with the universe is not only the cost but ensures Earth's future protection from galactic threats.

The notion of a cosmic safety notice raises interesting parallels to strategy today: How does a state signal peaceful intentions despite actions that seem potentially aggressive? While this happens in all domains, consider the use of near Earth space in recent years. With increasing movement towards the overt weaponization of space, Russia, China, and the United States have all said they are taking actions they believe are required to protect and defend their space-based assets and that their actions are not offensive in nature.

But because defensive weapons can also be used offensively and space technology is inherently dual-use, it is difficult for each country to trust the other's statements particularly with more aggressively hostile rhetoric being used on all sides. In such a situation, how might a country legitimately and credibly signal their intentions?

Liu's answer suggests signaling cannot necessarily be undertaken without also hobbling one's own capabilities. While the solar system, subsequently destroyed by another galactic civilization, is never able to implement the cosmic safety notice, if it had been, humans would have been doomed to remain within the solar system, never able to explore outside its boundaries.

This is not, however, the same as unilateral disarmament. If Russia, China, or the United States were to forego weapons in space, that would leave that respective country open to attack by another actor. With the cosmic safety notice, the method that declares peace is also the method that protects it. For this type of strategy to work in the real world, whatever action the message consists of must both defang and defend at the same time.

### **Conclusion: Science Fiction Strategies**

Leaning too far into science fiction's influence can yield certain dangers. Due to its relative conceptual accessibility, it appears to be somewhat realistic or achievable. More often than not, however, science fiction presents a far-flung future that is decades if not centuries ahead of us (if indeed it ever comes to pass). Consequently, its technological optimism may unduly influence our thinking about contemporary international relations challenges. Instead of focusing on the realities of strategic challenges, our attention is drawn more to the problems we might face in the far future. Further, if future scenarios painted by science fiction never come to pass, the strategies writers describe in them may never be feasible or possible.

Still, and with these limitations in mind, science fiction can be a source of inspiration in overcoming strategic challenges. After years immersed in

traditional doctrine and strategy, military practitioners may find thinking imaginatively a difficult task. Exercising that imagination through regular reading of (science) fiction helps keep the mind limber and able to make conceptual leaps and bounds not otherwise readily apparent.<sup>31</sup>

Science fiction can create new linkages and pathways and new ways of thinking about common problems, as evidenced by *The Three-Body Problem* trilogy. In thinking about how global international relations may be played out on a galactic scale, Liu provides the reader a sense of estrangement from the real world that allows for a clearer-eyed assessment of that world. Estrangement is often used in science fiction to allow writers to explore topics relevant to their audience but from a place apart. *The Three-Body Problem* embodies this principle—in providing another arena in which to examine international relations theory at play, we can stand apart and above the situation and see it a bit clearer than we often do from within it.

The strategies outlined here—sophons, wallfacers, swordholders, and cosmic safety notices—though perhaps not entirely applicable in an American context—can still cause us to think more on what is possible or how these may be adapted to our own concerns. Further, the series is valuable in its role as Chinese science fiction. Improved understanding of Chinese perspectives and thinking is important as policymakers seek to counter Beijing's more bellicose rhetoric and actions—culture and literature are important components to deepening this knowledge. Certainly, the individualistic and centralized strategies depicted in the trilogy are not only keys to understanding Chinese thinking but also contain implicit critiques of them from a Chinese author. **SSQ**

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