China's Take on Changing Global Space Governance: A Moral Realist Argument

In January 2022, the Chinese government published a whitepaper summarising past years' accomplishments in space. "To explore the vast cosmos, develop the space industry and build China into a space power is our eternal dream," Xi Jinping, state president, is quoted (Xi, 2022, in The State Council Information Office of the People's Republic of China (hereinafter: State Council Information Office), 2022). This indicates how China expects to substantially change the contemporary global space governance structure. Global space governance, which can be understood as the international regimes which regulate and bring together space actors' expectations and attempt to regulate their behaviour, is dominated by the United States (Oltrogge & Christensen, 2020). This paper aims to answer the research question: how does China aim to change the structure of global space governance? In order to provide a well-founded answer, the paper provides background information on the topic and introduces moral realism, as described by Yan (2016), to analyze then both the status quo in global space governance as well as the efforts China makes to change it. Using moral realism, a Chinese International Relations theory, the issue of global space governance can be analyzed from the perspective of the emerging player, China, instead of describing it through a Western lens. The paper goes on to question the effectiveness of China's approaches. It concludes that China aims to reposition itself within and change the current system of global space governance by aiming to increase its strategic credibility through moral conduct in space regarding peace and cooperation.

Contemporary Global Space Governance

Since space exploration began in the 1950s, an increasing number of nations have developed space capabilities. While over 50 countries and organizations retain a presence in space, only ten are able to conduct an independent launch: India, Iran, Japan, Russia, North and South Korea, Israel, the European Space Agency, the United States, and China (White, 2021). Since activity in space is not limited to civilian use but also heavily contributes to a country's military capabilities, multiple treaties govern the space-faring countries' behavior in space, the most important of which is the 1967 Outer Space Treaty (OST) (Chunsi, 2008). The OST bans the testing and deployment of weapons of mass destruction (WMD) in outer space as well as their testing or deployment on the surface of the moon. With this, the OST sets essential guidelines for the scope of military operations in and involving space (Burbach & Johnson-Freese, 2019).

However, the OST does not entirely govern the militarization and weaponization of space. Militarization refers to using space-based assets for so-called C4ISR-military purposes: command, control, communications, computers, intelligence, surveillance, and reconnaissance. On the other side, weaponization describes the deployment of weapons into outer space, on celestial bodies, or creating earth-based weapons that target space-based assets (Vasani, 2017). Thus, the OST only refers to a periphery of weaponization – the deployment of WMD in space. By becoming signatories to the OST, space-faring nations pledge a peaceful use of outer space, but the definition of peaceful is contestable. Since other space weapons are not regulated by any treaty, their deployment or non-deployment depends on the respective nation's definition of the peaceful use of space (Burbach & Johnson-Freese, 2019).

The two major powers in space are the United States and China. The United States present an apparent hegemony

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to global space governance with over 2900 satellites in orbit. China is already the second major power in space, with 499 satellites in orbit (UCS Satellite Database, 2021) as well as its own space station following its exclusion from the International Space Station by the United States (White, 2021). Chunsi (2008) names the three primary goals of the Chinese space strategy: development, defence, and technological innovation. The early commercialization of the space program meant that it effectively contributed to Chinese economic growth. It is also highly attractive to many university graduates and sponsored by the government (Chunsi, 2008), which meant that China quickly spiralled to the forefront of technological innovation – especially in the past five years, over 6000 patents have been issued for Chinese space technology, more than to any other country (Kharpal, 2021). The last of Chunsi's (2008) points, defence, constitutes the most crucial aspect of the Chinese space program. Chinese C4ISR technology in space was named as essential to national security in past Space Program White Papers issued by the government. China developed Anti-Satellite (ASAT) Technology and demonstrated its efficiency in 2007 when it shot down one of its own satellites in the lower earth orbit (LEO) (Dellios, 2012). However, Chinese officials have always stressed a peaceful development of space capabilities as well as international cooperation (Chunsi, 2008).

China's rapid developments in space technology in the past years and its ambitions to become the leading space power naturally seem to target the current US-dominated status quo in space. In order to understand how that status quo is expected to change with China's rise in global space governance, Yan Xuetong's (2016) moral realism needs to be introduced as a framework for this paper.

Moral Realism

Moral realism was developed by Tsinghua University researchers, particularly Yan Xuetong, who aimed to diversify Western-centric IR theories. By remembering Chinese culture and tradition, Yan (2016) claims, a more holistic image of Chinese foreign policy emerges, which can adequately describe China's rise. The theory developed by Yan combines traditional realist assumptions with historical Chinese political philosophy. As proposed by realist scholar Morgenthau, Yan agrees that in the anarchic state system, the absence of central ruling power leads to perpetual competition among states. Becoming a hegemon is the most viable option for any state. As a hegemon, it can create an international order in which it can reap the most benefits due to its influential position (Yan, 2016).

However, Yan criticizes Morgenthau's realist theory regarding the unspecified use of the word power. Power, according to Yan, not only describes military capability and the strength to impose one's will on another nation, but it also includes what he calls strategic credibility. Moral realism argues that no hegemon can sustainably maintain its position in the international system by only accumulating military power. Instead, the hegemon has to promote his strategic credibility by adhering to certain moral and international norms. Through this, he builds trust, credibility, and, thus, authority. Authority of strategic credibility and military power sustain the hegemon's position. As a hegemonic theory, moral realism seeks to answer why a rising state can, at times, replace a dominant state when it is still in a weaker position. The fundamental answer is that the rising state has sufficiently developed both its material capabilities as well as its authority. It does so by promoting strategic credibility through acting morally. International moral norms, according to Yan (2016), include "equality, fairness, democracy, justice, freedom, and civility (…)" (pg. 3 para. 4).

Eventually, the rising state will encounter the dilemma of the rise. The puzzle consists of the inevitable conflict between the rising and the dominant state due to the zero-sum anarchic international system. The more power a rising state accumulates, the more pressure it will face from the dominant state, which seeks to safeguard its dominance (Yan, 2016).

Unlike traditional realists, Yan also does not treat states as black boxes. Both the position of the state in the international system as well as its leadership is vital in understanding its strategy. First, a state's approach depends significantly on its previous position in the global system, its *comprehensive strength*. It can be a dominant state which decides over the international system or a rising state which seeks to take the dominant state's position. The subject of analysis can also be a regional hegemon or a small state with only minor influence over the international system. A state's comprehensive strength informs its *strategic interests*. A dominant and rising state's strategic interest is the domination of the global system, while a regional state only seeks regional hegemony. A small state's

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strategic interest is firstly to safeguard its own survival (Yan, 2016).

Secondly, Yan characterizes the *state's leadership* into four archetypes: inactive, conservative, proactive, and aggressive. Depending on the leadership, different *political perceptions* are formed. An inactive leadership will shape its rule around avoiding the dilemma of the rise and choosing non-interference. Conservative leaderships are those preoccupied with maintaining the status quo and often believe this to work best through economic ties. Proactive leaderships are committed to increasing their influence in the international system through political alliances. Lastly, aggressive leaderships follow the same goal as proactive ones but seek to advance their impact through militarism and expansionism (Yan, 2016).

Moral realism thus rests on the critical assumptions of realism while enriching it with traditional Chinese philosophy. This leads to the assumed importance of moral actions in the international realm in order to strengthen authority through strategic credibility. A state's final strategic preference depends on its comprehensive strength, which shapes its interests as well as the state's leadership which determines its political perceptions (Yan, 2016).

China and the United States in Global Space Governance

Moral realism allows for two levels of analysis when applied to the situation in outer space. First, it helps to understand the present status quo in space. Secondly, it presents a tool for analyzing the change in the status quo in this context, especially the relationship between the United States and China.

Presently, global space governance is dominated by the United States. Starting with its victory in the space race with the USSR, the United States has continuously expanded their presence in outer space (Larsen, 2018). Next to the civilian use of satellites and other space-based assets, the United States also uses space for military purposes. It is estimated that between 70-90% of their intelligence and communication regarding military matters relies on satellites (White, 2021). The United States are thus the dominant power with regard to the global space arena (Larsen, 2018). According to moral realist theory, their strategic interest, which follows from their comprehensive strength, is the continued domination of the system. This is also supported by the 2011 National Security Space Strategy, which clearly states that the continued dominant role of the United States in space "is central to our national security (…)." (National Security Space Strategy, 2011, Preface). Next, the political leadership of the United States in space can be characterized as proactive. Different administrations, from Bush to Obama (Larsen, 2018) to Trump (Vasani, 2017), have prioritized defending the United States' position. Steps such as cooperation and alliance building and the continued capacity building in defensive weapons and technological innovation as mandated in the National Security Strategy (2011) show the United States' political perceptions as proactive players committed to their position in the international system.

Next to the United States, China is the major rising power in global space governance. Since the 1950s, China has seen substantial development (Dellios, 2012). Today, it is the only country next to the United States to independently operate a space station (Space Foundation Editorial Team, 2021). It owns 499 satellites, ranking only second behind the United States (UCS Satellite Database, 2021). Following their position in global space governance as a rising state, their strategic interest, too, is the domination of the international system. Just like the United States, the Chinese leadership with regard to space governance is a proactive one. The 2022 white paper on China's space program quotes President Xi Jinping: "[t]o explore the vast cosmos, develop the space industry, and build China into a space power is our eternal dream." (Xi, as quoted in State Council Information Office, 2022). Statements like these show the Chinese leadership's ambitions regarding space. China seeks to expand its global space governance position and replace the United States as the leading power. Proactive leadership also explains its political perceptions regarding space governance. Like the United States, China relies on political alliances and cooperative approaches to promote its position in global space governance (Chunsi, 2008).

The dominant and rising positions of the United States and China, respectively, lead to what Yan (2016) calls the dilemma of the rise for China. The more power it accumulates, the more pushback it will receive from the United States, whose objective is to defend its dominant position. This becomes evident in instances such as the United States banning Chinese astronauts from the International Space Station. However, China accepts the dilemma in

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turn for a greater influence in global space governance (Chunsi, 2008).

Building and Losing Strategic Credibility

After assessing the status quo from a moral realist perspective, the theory provides the opportunity to analyze the change in the status quo. The previous sections have elaborated on China's growing presence in space, which goes hand in hand with the dilemma of the rise. The following section will elaborate on how China seeks to increase its strategic credibility through moral actions relating to space in order to build authority and how the United States apparently failed to consolidate their strategic credibility, possibly leading to a shift in power in the international system.

As delineated in the theoretical section of this paper, Yan (2016) sees the way for a rising power to become a dominant power in acting morally and, through moral action, advance strategic credibility, which grants the rising power authority in the international system. Together with military capability, the rising power can thus overtake the previously dominant one (Yan, 2016).

Over the past years, China has tried to improve its strategic credibility in space by following two central policies promoting its moral standing: cooperation and an overall peaceful approach. Especially among developing countries, China's cooperative approach is favoured. Cooperation and enabling equal access to space for all countries, especially developing ones, is explicitly part of China's space agenda (Chunsi, 2008), reiterated in China's 2022 white paper (State Council Information Office, 2022). For instance, China has cooperated with many Latin American countries since the 1980s in developing technologies, launching joint missions, and exchanging research in bi- and multilateral ways. Developing countries that partner with China in space technology and capacity development include Namibia, Pakistan, and Kenya, among others (Klinger, 2018).

Secondly, China tries to increase strategic credibility by promoting peace in space. The peaceful use of space is a fundamental part of the OST and the United States (NSSS, 2011) and China's (State Council Information Office, 2022) space strategies. One example of Chinese attempts to actively shape space into a safe environment is its joint proposal with Russia of the *Treaty on the Prevention of the Placement of Weapons in Outer Space and the Threat or Use of Force against Outer Space Objects*. This treaty proposal, however, was rejected by the United States under the premise that it did not fully include all dual-use technology of the proposing states (Dellios, 2012).

This instance also demonstrates the United States' loss of strategic credibility in space-related matters, which, according to Yan (2016), is also observable in other areas of global governance. Moral realism proposes that in order to maintain strategic credibility, a country cannot pursue double standards in fundamental moral questions (Yan, 2016). The United States advocating for peace and non-weaponization of space while rejecting respective treaty proposals constitutes a double standard, leading to credibility loss. The United States also apply different standards to their allies' actions than non-friendly countries when it comes to space-related matters. An example is the Indian and Chinese tests of ASAT technology against their own satellites. When China shot down an old satellite in 2007, the United States condemned the operation since it produced space debris which potentially endangered space travel. It was also seen as an aggressive display of ASAT technology which could possibly be used to target US satellites. When India, a strategic ally of the United States, demonstrated their ASAT capability in 2014 and shot down a satellite that produced space debris and showcased India's offensive capabilities, the United States stayed silent on the matter (Burbach & Johnson-Freese, 2019). Moral realism shows here how in the case of space governance, the dominant power, the United States, loses authority by acting immorally. In contrast, a rising power, China, is presented with the opportunity to rise to the position of the dominant state by advancing its strategic credibility.

Questioning China's Ability to Promote Strategic Credibility

So far, this paper has assumed China to be able to promote strategic credibility through moral actions. However, when considering moral realism's emphasis on avoiding double standards (Yan, 2016), this assumption must be questioned. According to moral realists, pursuing double standards directly opposes the ability to obtain strategic

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credibility. In order to build actual authority, power needs to act in line with international moral standards. It cannot divert from them in order to favour themselves or an allied power. Two points need to be considered with regard to China's ability to assume strategic credibility in space: the dual-use problem of space technology and their domestic policies.

First, the dual-use problem of space technology describes the realist dilemma that defensive technology can often also be used offensively. This is especially applicable in space. Defensive technology, such as lasers that inhibit satellites, can also be used to restrict enemies' access to their own satellites, and ASAT technology can easily destroy an enemy satellite (Burbach & Johnson-Freese, 2019). This would prove fatal for the United States, which relies on space-based assets for 70-90% of its military communications (White, 2021). China has been stressing that it only seeks to develop defensive capabilities (Chunsi, 2008). However, regarding these technologies' use in space, a defensive weapon is always also offensive. It can therefore be questioned whether China does or does not pursue double standards when promoting the peaceful use of space while at the same time developing technologies which can be used offensively.

Secondly, Yan (2016) emphasized that "moral realism defines a state's core of political morality as its responsible benevolent governance at the state level (…)" (pg. 21, para. 3). What constitutes responsible benevolent governance depends on each country's definition of it. However, Yan (2016) also describes international moral norms to include "equality, fairness, democracy, justice, freedom, and civility (…)" (pg. 3 para. 4). The ongoing genocide against the Uighur population in China is a clear example of China not adhering to any of Yan's posited norms on the domestic level (Newlines Institute, 2021). The genocide serves here as a sole example since it is beyond the scope of this paper to elaborate on more examples which demonstrate China's lack of domestic benevolent governance. From this follows its inability to act morally and build international authority through this. Eventually, both the United States as well as China's ability for sustainable moral management regarding global space governance need to be questioned.

Conclusion

To answer the research question "How does China aim to change the structure of global space governance?" this paper introduced moral realism as a framework for analysis of the current and changing status quo in global space governance. Through this analysis, the article has shown that by aiming to increase its strategic credibility through moral conduct in space regarding peace and cooperation, China aims to reposition itself and change the current system of global space governance. However, regarding domestic governance and the development of dual-use technology, China still pursues double standards, which weakens its strategy of obtaining strategic credibility.

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