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# 1NC

### 1

#### CP: The appropriation of outer space by private entities in The People's Republic of China is unjust, except for the appropriation of outer space by Origin Space using the Yangwang 1 satellite for nighttime light data collection. Origin Space ought to immediately publicly release said data.

#### It competes.

Jones 21 “Chinese commercial satellite has been spotting meteors and aurora” Andrew Jones [freelance space journalist with a focus on reporting on China's rapidly growing space sector. He began writing for Space.com in 2019 and writes for SpaceNews, IEEE Spectrum, National Geographic, Sky & Telescope, New Scientist and others.] September 28, 2021 <https://www.space.com/chinese-satellite-watching-meteors-aurora> SM

Chinese commercial satellite has been spotting meteors and aurora

Yangwang 1 is focused on near-Earth asteroids, but the bonus observations are stunning.

A small Chinese commercial satellite has been detecting meteors impacting the atmosphere and even filming the aurora.

The Yangwang 1 ("Look Up 1") satellite, belonging to Beijing-based space resources company Origin Space, launched in June along with three other satellites. With its small optical space telescope, Yangwang 1 has been using visible and ultraviolet observations to detect near-Earth asteroids.

#### Satellites are appropriation – that’s the 1AC – Patel very clearly defends satellites as an internal link which means you should reject any 1AC permutation for 1AR shiftiness which makes it impossible to be negative since they can unpredictably redefine the plan text to skirt neg ground – if they don’t solve satellites vote neg on presumption because it’s an alt cause to the aff

#### We’ll read ev.

Thornburg 18 [(Matthew, associate editor at the Michigan Journal of International Law) “Are the Non-appropriation Principle and the Current Regulatory Regime Governing Geostationary Orbit Equitable for All of Earth’s States?,” November 30, 2018 http://www.mjilonline.org/are-the-non-appropriation-principle-and-the-current-regulatory-regime-governing-geostationary-orbit-equitable-for-all-of-earths-states/] TDI

As the law currently stands, geostationary orbit – a constant orbital position above Earth’s equator – is governed by the OST and is therefore subject to the treaty’s attendant ban on national appropriation. Spaces, or slots, in geostationary orbit[2] are desired because they are exceedingly convenient for communicating with earth. They are highly limited and as a consequence, highly valuable. Moreover, these spaces are allotted on a first-come-first-served basis[3] making them virtually unattainable by less scientifically and economically advanced states[4], or those that are just plain late to the game. The ban on national appropriation is enumerated in the Second Article of the OST, which states: “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by other means.”[5] The geostationary orbital position is generally agreed upon by experts[6] as part of “outer space” and consequently, forbidden from appropriation. The OST is clear in prohibiting claims of sovereignty, but the subsequent clauses leave much to interpretation when considering what other acts constitute “national appropriation.” In other words, the question surrounding geostationary orbital slots is “whether the continued exclusive occupation by a geostationary satellite of the same physical area is a violation of the ban on national appropriation”[7] by use, occupation, or other means. In his article, Major Legal Issues Arising from the Use of the Geostationary Orbit, Stephen Gorove says that, “it is not clear that a satellite in geostationary orbit would be able to maintain its exact position and occupy the same area over a period of time…” so as to “appropriate” and thus violate Article II of the OST. The analysis should not turn on whether the satellites in geostationary orbit maintain their exact position. Instead, it is the continual use of the orbital slot that should be examined in light of the OST prohibition. The average lifespan of a geostationary satellite is 15-20 years,[8] effectively shutting out any other state’s use of that slot for at least that long. A time frame of this nature seems to be the exact type of “use or occupation” the treaty seeks to foreclose because of the consequent unequal access to the use of space, and the consequent potential to cement the economic interests of certain nations and firms. Compounding this concern is the fact that operators of the geostationary satellites need only refile with the International Telecommunications Union (“ITU”) to “renew” a slot and replace old satellites with new ones.[9] Essentially, such operators keep the orbital slot indefinitely. In light of the OST – a treaty dominated by goals of fair and equitable use and access to space – endless use of these valuable slots should rise to the level of national appropriation by means of use, occupation, or other means.

#### Yangwang-1 is key to nighttime light data – significant advancements over alternatives.

Zhu et al 22 “Assessment of a New Fine-Resolution Nighttime Light Imagery From the Yangwang-1 (“Look up 1”) Satellite” Xiaolin Zhu, Xiaoyue Tan, Minglei Liao, Shuheng Zhao, Yi Nam Xu, and Xintao Liu are with the Department of Land Surveying and GeoInformatics, The Hong Kong Polytechnic University; Tianshu Liu is with the S.T.E.M Academy, Orange Lutheran High School, Meng Su is with the Laboratory for Space Research, The University of Hong Kong. IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, VOL. 19, 2022 6505205 <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=9666911&tag=1> SM

The calibrated radiance of Yangwang-1 was used to estimate the population in 27 districts of Hong Kong and Shenzhen by a linear regression model (Fig. 3). The good performance of this model (R2 = 0.94) suggests that radiance data obtained by Yangwang-1 is capable of evaluating socioeconomic parameters.

B. Spatial Properties

Among three satellites, Yangwang-1 has the highest spatial resolution 38 m, which is higher than 130 m of Luojia-1 and dramatically higher than 750 m of VIIRS (Table II). As a result, Yangwang-1 should be more capable of capturing the spatial pattern of artificial lights, such as bright city blocks (e.g., business districts) and road networks. To investigate the spatial properties of NTL images from different satellites, a subregion covering the Hong Kong–Zhuhai–Macau Bridge (HZMB) was selected to demonstrate the NTL spatial patterns (Fig. 4). It is clear that all three satellites can capture the general spatial pattern of NTL, but Yangwang-1 and Luojia-1 NTL images show much more spatial details than VIIRS image. For example, the images from Luojia-1 and Yangwang-1 can clearly capture the HZMB [bright line in the middle of Fig. 4(c) and (d)], and the regular shape of the Hong Kong International Airport [the bright patch on the right side of Fig. 4(c) and (d)], but VIIRS cannot spot the HZMB and the image hardly show the shape of the airport [Fig. 4(b)]. The comparison between Yangwang-1 and Luojia1 in the zoomed area shows that Yangwang-1 [Fig. 4(h)] captures the road network more clearly than Luojia-1 [Fig. 4(g)]. To quantify the image quality in the spatial domain, the dubbed Blind/Referenceless Image Spatial Quality Evaluator (BRISQUE) index [17] was calculated for the three NTL images using a python package (https://pypi.org/project/imagequality/). BRISQUE quantifies losses of “naturalness” in the image due to distortions and a lower value indicates better image quality. To exclude the impact of the saturation problem of Yangwang-1 on the BRISQUE calculation, pixels in all three images with radiance higher than the saturated value were adjusted to the saturated one and max–min normalization was applied to all images. The results show that Yangwang-1 has a BRISQUE value lower than Luojia-1 and VIIRS (27.4 versus 40.3 and 69.7), indicating that Yangwang-1 has spatial quality better than Luojia-1 and VIIRS by 32% and 61%, respectively.

To further quantify the spatial properties, we estimated the spatial response of Luojia-1 and Yangwang-1 using the HZMB as ground reference samples. Spatial response refers to the satellite’s ability to position ground targets accurately and precisely. The HZMB comprises a 22.9-km long bridge and a 6.7-km long subsea tunnel connected by two artificial islands. To provide illumination, the lighting provisions on the HZMB include lights outlining the boundary of the artificial islands, street and traffic sign lights, high mast lights, etc. Since the bridge has a width of 33.1 m, which is smaller than a pixel of all three satellites, it is ideal to test whether the NTL image is sharp enough to delineate the actual location of the bridge. A transect crossing the bridge was used to investigate the spatial response (Fig. 5). It shows that both Luojia-1 and Yangwang-1 have a peak in NTL that corresponds to the bridge, but the peak of Yangwang-1 has a narrower width than Luojia-1, indicating its superiority in detecting tiny light sources. As for VIIRS, the light is nearly invisible due to the coarse spatial resolution [Fig. 4(b)], so the profile of VIIRS is not included in Fig. 5. In addition, the comparison also indicates that Yangwang-1 is more sensitive than Luojia-1 to low lights (e.g., reflected moonlight or weak emissions), since Yangwang-1 recorded more valid radiance on both sides of the bridge than Luojia-1 (Fig. 5). Further comparisons were conducted on selected sites located in the mountainous areas around cities [yellow points in Fig. 1(a)]. As summarized in Table III, Yangwang-1 and VIIRS/DNB have similar radiances with a difference of less than 1 nW·cm−2·sr−1, whereas Luojia-1 did not record these low radiance values.

C. Spectral Properties

Fig. 6(a) shows the spectral responses of the three satellites for the NTL visible band. Spectral response describes the sensitivity of the sensor to optical radiation of different wavelengths. This is important because spectral responses determine which part of the optical radiation spectrum is measured. The spectral responses of Luojia-1 and VIIRS were collected from previous studies [14], [18]. The spectral response of Yangwang-1 was estimated as the product of the quantum efficiency (QE) and lens transmittance data provided by the Yangwang-1 satellite team [19]. Fig. 6(a) suggests that the spectral response of Yangwang-1 is significantly different from Luojia-1 and VIIRS. It shifts more to the shorter wavelengths, which indicates that Yangwang-1 has some strengths in artificial light monitoring. First, the absorption of the atmosphere mainly happens in the band greater than 650 nm, and Yangwang-1 concentrates on a shorter wavelength ranging from 420 nm to approximately 700 nm, so Yangwang-1 will be less influenced by the absorption of the atmosphere. Second, the energy of three main types of artificial lights (fluorescent, high-pressure sodium, and LED) mainly distributes within the spectral response curve of Yangwang-1 except for the narrow peak of high-pressure sodium [Fig. 6(b)]. Therefore, Yangwang-1 is more suitable to be utilized for observing artificial lights, especially for LEDs of which the first peak of energy is out of the spectral responses of Luojia-1 and VIIRS.

IV. DISCUSSIONS AND CONCLUSION

From our assessment, NTL imagery from Yangwang-1 has acceptable quality compared to the state of the art in NTL remote sensing (e.g., VIIRS, Luojia-1) and some aspects are even better. For the radiometric property, Yangwang-1 has a detectable minimum radiance lower than the other two satellites, so it can better capture weak light emissions. For spatial properties, Yangwang-1 images have the highest spatial resolution among the currently available NTL satellites except for some images acquired through aerial photography and commercial satellites. Therefore, Yangwang-1 can help monitor human activities and socioeconomic disturbances at fine scales, such as neighborhood scale. For spectral property, based on the comparison of spectral response curves, Yangwang-1 is more suitable to detect artificial light and less influenced by the absorption of the atmosphere. Considering the capability and improvement of Yangwang-1 in NTL imaging, Yangwang-1 NTL data can be applied to various fields, including urban mapping, road network extraction, light pollution, illegal fishing, fires, disaster detection, and human settlements and associated energy infrastructure mapping at fine scales. The sample data used in this study can be downloaded from <https://github.com/XZhu-lab/Yangwang-1-NTLdata-assessment>.

#### Improved NTL data key to fisheries management.

Exeter et al 21 “Shining Light on Data-Poor Coastal Fisheries” 28 January 2021 Owen M. Exeter [Environment and Sustainability Institute, College for Life and Environmental Sciences, University of Exeter, Environmental Biology, College for Life and Environmental Sciences, University of Exeter], Thaung Htut [3Wildlife Conservation Society], Christopher R. Kerry [Environment and Sustainability Institute, College for Life and Environmental Sciences, University of Exeter], Maung Maung Kyi4 [Rakhine Coastal Region Conservation Association] Me'ira Mizrahi [Wildlife Conservation Society], Rachel A. Turner [Environment and Sustainability Institute, College for Life and Environmental Sciences, University of Exeter], Matthew J. Witt [Environment and Sustainability Institute, College for Life and Environmental Sciences, University of Exeter, Environmental Biology, College for Life and Environmental Sciences, University of Exeter] and Anthony W. J. Bicknell [2Environmental Biology, College for Life and Environmental Sciences, University of Exeter] https://www.frontiersin.org/articles/10.3389/fmars.2020.625766/full SM

Coastal fisheries provide livelihoods and sustenance for millions of people globally but are often poorly documented. Data scarcity, particularly relating to spatio-temporal trends in catch and effort, compounds wider issues of governance capacity. This can hinder the implementation and effectiveness of spatial tools for fisheries management or conservation. This issue is acute in developing and low-income regions with many small-scale inshore fisheries and high marine biodiversity, such as Southeast Asia. As a result, fleets often operate unmonitored with implications for target and non-target species populations and the wider marine ecosystem. Novel and cost-effective approaches to obtain fisheries data are required to monitor these activities and help inform sustainable fishery and marine ecosystem management. One such example is the detection and numeration of fishing vessels that use artificial light to attract catch with nighttime satellite imagery. Here we test the efficiency and application value of nighttime satellite imagery, in combination with landings data and GPS tracked vessels, to estimate the footprint and biomass removal of an inshore purse seine fishery operating within a region of high biodiversity in Myanmar. By quantifying the number of remotely sensed vessel detections per month, adjusted for error by the GPS tracked vessels, we can extrapolate data from fisher logbooks to provide fine-scale spatiotemporal estimates of the fishery's effort, value and biomass removal. Estimates reveal local landings of nearly 9,000 mt worth close to $4 million USD annually. This approach details how remote sensed and in situ collected data can be applied to other fleets using artificial light to attract catch, notably inshore fisheries of Southeast Asia, whilst also providing a much-needed baseline understanding of a data-poor fishery's spatiotemporal activity, biomass removal, catch composition and landing of vulnerable species.

Introduction

Small-scale coastal fishing fleets are known to exert pressure on marine ecosystems. Without effective management even small-scale operations can deplete fish stocks (Wilson et al., 2010), contribute to species declines through bycatch and intentional targeting (Mangel et al., 2010; Alfaro-Shigueto et al., 2011; Aylesworth et al., 2018) and cause the degradation of coastal habitats through high impact fisheries methods (Blaber et al., 2000; Thrush et al., 2002; Fox and Caldwell, 2006; Shester and Micheli, 2011; Chan and Hodgson, 2017). Small-scale fisheries are also intrinsically linked to food security and livelihoods. Twenty-two of an estimated 50 million fishers globally are involved in small-scale operations (Teh and Sumaila, 2013). With annual yields close to 22 million tons (Pauly and Zeller, 2016), these fisheries are estimated to contribute more than half of reported landings in developing regions (World Bank, 2012) yet are often considered poorly documented and neglected by management authorities (Food and Agriculture Organisation, 2015).

To monitor fisheries, larger vessels are often instrumented with global positioning systems (GPS) including vessel monitoring systems (VMS) and automatic identification systems (AIS) (Witt and Godley, 2007; Jennings and Lee, 2012; Kroodsma et al., 2018). This has allowed fisheries scientists to quantify their spatial footprint (Natale et al., 2015; Kroodsma et al., 2018) and assess the effectiveness of spatial management efforts (White et al., 2017; Ferrà et al., 2018). Small-scale coastal fisheries, notably in developing regions, often lack the capacity to equip such systems or are not currently required to carry them (Dunn et al., 2010; Breen et al., 2015; Kroodsma et al., 2018). Despite being globally distributed, spanning a variety of gear types, vessel sizes, target species, spatial profiles and socioeconomic characteristics (Smith and Basurto, 2019), these fleets largely lack data on spatial and temporal trends in activity (Johnson et al., 2017; Selgrath et al., 2018). As small-scale fleets primarily operate in inshore zones (Stewart et al., 2010), the paucity of spatial data on vessel behavior can seriously hinder effective coastal management, impacting both people and wildlife (Ban et al., 2009; Metcalfe et al., 2017; Cardiec et al., 2020).

In the absence of traditional tracking technologies, a variety of alternate methods have been used to quantify small-scale fisheries in time and space. These include self-reporting logbooks (Vincent et al., 2007), sightings (Breen et al., 2015), participant mapping and interviews (Léopold et al., 2014; Selgrath et al., 2018; Gill et al., 2019), mapping known behaviors (Witt et al., 2012) or combinations of these (Turner et al., 2015). These methods are often only a snapshot in time and can host inaccuracies as a result of observer bias (Brown, 2012, 2017). The novel application of remote sensing systems offers a potential source of long-term monitoring data (Chassot et al., 2011). Remote sensing systems provide high resolution data over large spatial scales and long temporal periods (Chassot et al., 2011; Klemas, 2013). One example is the detection of vessels using sensors on weather satellites at night (Croft, 1978) i.e., the Defense Meteorological Satellite Program Operational Linescan System (DMSP OLS). This has been demonstrated to be useful in detecting vessels that use artificial light to lure fish or squid to the surface before netting or hooking (Liu et al., 2015; Cozzolino and Lasta, 2016; Paulino et al., 2017). More recently, the National Oceanic and Atmospheric Administration's (NOAA) Suomi National Polar Partnership satellite primary imager, the Visible Infrared Imaging Radiometer Suite (VIIRS) Day/Night Band, has captured a variety of artificial light sources at the Earth's surface (Elvidge et al., 2015). The subsequent development of algorithms by the Earth Observation Group (EOG) for the automatic detection of fishing vessels from VIIRS imagery provides an open-source repository of global nighttime fishing effort (Elvidge et al., 2015). These data have proven highly effective for the monitoring of fisheries closures (Elvidge et al., 2018), identifying fishing grounds (Geronimo et al., 2018; Hsu et al., 2019), estimating capacity of illegal, unreported and unregulated fisheries (Oozeki et al., 2018) or combining with government landing statistics to predict stock migration routes (Choi et al., 2008). However, VIIRS imagery has yet to be combined with landings data collected in situ to quantify fine-scale spatiotemporal trends of effort, catch and value in data-poor scenarios. Combination in this manner could enable real-time estimation of biomass removal across large spatial scales and inform targeted fisheries and conservation management.

Fishing fleets using artificial light operate throughout the world's oceans and are prominent across Southeast Asia where these practices are known as “light-boat fishing.” Squid species are generally targeted by these fleets, but small forage fish, such as clupeids, are also targeted in coastal waters (Gorospe et al., 2016). Light-boat fisheries, as with other fish aggregation methods, are often considered high impact, associated with landings of immature fish and have high bycatch rates of vulnerable megafauna due to low-selectivity and small net mesh sizes (Solomon and Ahmed, 2016). Myanmar is one of the top ten fish producing countries of the world, with more than three million metric tons of fish providing 43% of the country's consumed protein per year Food and Agriculture Organisation, 2014; Tezzo et al., 2018). Marine fisheries also provide direct livelihoods to ~1.4 million fishers (Department of Fisheries, 2017). Myanmar's small-scale marine fisheries are characterized as multi-gear, multi-species fisheries, with limited access to external markets (Schneider and Thiha, 2014).

Myanmar is also an example of a country lacking capacity to implement effective management and conduct long-term monitoring. This has led to data on marine fisheries being scarce, especially for the inshore fleet (Tezzo et al., 2018). Government statistics reveal decadal (2003–2012) increases of 121% in landings (Pauly and Zeller, 2016) with small pelagic fish stocks estimated to be at 10% of 1979 levels (Krakstad et al., 2014). Few spatial management areas exist to aid stock recovery (Boon et al., 2016) or protect Myanmar's rich biodiversity and species of conservation concern (Birch et al., 2016). Some gear restrictions exist, including the ban of certain trawl gears in inshore waters, however without enforcement illegal fishing continues unabated (Wildlife Conservation Society, 2018). Whilst the Government of Myanmar has taken steps toward monitoring its marine fisheries through the installation of VMS, this is limited to offshore fishing vessels, with no current monitoring of small-scale vessels. As Myanmar enters a new phase of rapid globalization (Orlov, 2012; Prescott et al., 2017), its marine environment is likely to experience increased pressures in the future. Strengthening governance, improving enforcement capacity and designing community-led initiatives will all be required to resolve wider issues of management capacity. Baseline data on fisheries landings and effort is therefore an important first step to improved marine management for the country.

#### Concede the fish wars impacts

### 2

#### CP:

#### Russia ought to become a signatory of the Artemis Accords.

#### China ought to

#### become a signatory of the Artemis Accords,

#### end all space cooperation with Russia, and

#### end all space projects outside the scope of Artemis Accords.

#### The United States ought to designate an exception to the Wolf Amendment to enable bilateral cooperation on space projects.

David 21 “Can the U.S. and China Cooperate in Space?” LEONARD DAVID AUGUST 02, 2021 <https://www.scientificamerican.com/article/can-the-u-s-and-china-cooperate-in-space/> SM

Rather than await a heavy lift from the White House to change the Wolf Amendment, Head suggests it could be more fruitful for scientists to petition Congress for an exception so that they can work bilaterally with their Chinese peers on space projects. A way forward could be through the Inter-Agency Consultative Group for Space Science, an informal collective of researchers from major space agencies that executes interagency coordination on select missions.

Having China become a signatory of the Artemis Accords might be a productive pathway, too, Head adds. Led by the U.S. Department of State and NASA, these accords describe a shared vision for principles, grounded in the Outer Space Treaty of 1967, to create a safe and transparent environment that facilitates exploration, science and commercial activities on the moon. As of this writing, a dozen countries have embraced the Artemis Accords: Australia, Brazil, Canada, Italy, Japan, Luxembourg, New Zealand, South Korea, Ukraine, the United Arab Emirates, the U.K. and the U.S.

#### It’s competitive

Davenport 20, Christian. “Seven nations join the U.S. in signing the Artemis Accords, creating a legal framework for behavior in space” WaPo. 10-13-20. <https://www.washingtonpost.com/technology/2020/10/13/artemis-moon-mining-agreement-signed/> TG

NASA announced Tuesday that seven nations have joined the United States in signing the Artemis Accords, a series of bilateral agreements that would establish rules for the peaceful use of outer space and govern behavior on the surface of the moon.

The rules would allow private companies to extract lunar resources, create safety zones to prevent conflict and ensure that countries act transparently about their plans in space and share their scientific discoveries.

#### Sino Russian absence decks Artemis credibility.

Jhaveri 20 “Launching for Gold: The Artemis Accords and the Legality of Extraterrestrial Mining” KUNAL JHAVERI 2020 <http://www.mjilonline.org/launching-for-gold-the-artemis-accords-and-the-legality-of-extraterrestrial-mining/> SM

The U.S. aims to resolve the interpretative ambiguity of “national appropriation” by attempting to codify American policy on extraterrestrial mining into international customary law. The Artemis Accords arrived after the U.S. Congress passed of the Space Act 2015, which established the right to use and trade space resources into American domestic law.[xvi] Through the Artemis Accords, the U.S. advances the policy articulated by Congress that countries and companies can own the materials they extract from space objects and bodies without claiming ownership over the entirety of the extraterrestrial object or body. According to NASA Administrator Jim Bridenstine, the U.S. “believe[s] that, just like in the ocean, you can extract resources from the ocean. But that doesn’t mean you own the ocean. You should be able to extract resources from the Moon. Own the resources but not own the Moon.”[xvii]

While conceding that national appropriation of space, including celestial bodies, is not permitted, the U.S.-led Artemis Accords intends to exploit the absence of a clear prohibition of harvesting space resources in the OST and international customary law frameworks. The Artemis Accords, if adhered to by its signatories and if accepted by a broader contingent of nations, could enable the U.S. interpretation of national appropriation in space, as articulated by Administrator Bridenstine, to prevail and make the U.S., the licensing nation for the majority of the world’s space enterprises, the apparent custodian of the Moon, asteroids, and other celestial bodies.[xviii] As acquiescence is often tantamount to consent in customary international law, the Artemis Accords’ interpretation of OST’s Article II, if not disputed by other nations, would likely strengthen the U.S. interpretation.

Ultimately, the utilization of bilateral agreements that dictate norms of behavior as a condition of involvement in a space program is a significant undertaking in space governance. For now, the Artemis Accords is just a collection of broadly phrased guidelines, without any defined enforcement mechanisms. All seven partnering countries that have agreed to the Accords with the U.S. are expected participants in the Artemis Program and have the potential to adhere to the Accords’ stated principles. In the leadup to the signing, Japan signaled interest in lunar exploration[xix] and Luxembourg adopted domestic legislation that permits space mining.[xx] The UAE and Australia are both actively trying to establish collaborative links with the broader space industry; the Accords represent an attractive opportunity for these countries to bolster their space capacity.[xxi] Further, Italy, the UK, and Canada all have public ambitions to develop their space manufacturing industries and view the Artemis Program as an opening to grow their respective space industries.[xxii]

Nevertheless, significant absences form the signing of the Accords threaten the framework’s legitimacy to define international law on extraterrestrial mining. Russia and China, two of the world’s leading space powers behind the U.S. have not signed the Artemis Accords. Russia has already labeled the Artemis Program as being too “US-centric.”[xxiii] China’s absence is partially explained by the U.S.’ statutory prohibition on NASA’s ability to coordinate any joint scientific activity with the country.[xxiv] Germany, France and India, countries with well-developed space programs, are also notably absent for the Accords. Time will tell how these absentees will react to the Artemis Accords’ interpretation of national appropriation as it relates to extraterrestrial mining. With disagreement likely, the Artemis Accords’ interpretation is unlikely to become the universal standard in the near future.

#### Resolves the Sino-Russia coop advantage and preserves US dominance – functionally surrenders the space race which de-escalates conflict.

Whittington 21 “The new race to the moon: the Artemis Alliance vs. the Sino-Russian Axis” 3/28/21 MARK WHITTINGTON <https://thehill.com/opinion/technology/545280-the-new-race-to-the-moon-the-artemis-alliance-vs-the-sino-russian-axis> SM

The new race to the moon: the Artemis Alliance vs. the Sino-Russian Axis

Space News recently reported that China and Russia have signed a memorandum of understanding to build what the two countries call an “International Lunar Research Station” (ILRS). The facility would conduct a number of activities either on the lunar surface or lunar orbit and would be “open to all interested countries and international partners.”

Whether deliberate or not, the two countries have formed an axis against what has come to be known as the Artemis Alliance being formed by NASA with a number of countries and commercial partners. In effect, China and Russia have challenged the United States and the rest of the world to a new race to the moon.

With the Biden administration having endorsed the Trump-era Artemis program, it looks like two credible, rival return-to-the-moon programs are now ongoing. Since one of those programs is run by two authoritarian nations and the other is led by NASA and consists of what many would consider the civilized world, the very definition of a race to the moon has developed, without fanfare, without brave speeches throwing down gauntlets.

Is this a good thing or a bad thing?

On the positive side, nothing like competition with a hostile power or two focuses the mind and ensures that the Artemis program remains on track and on a sensible schedule. The Apollo program succeeded because the winner of the race to the moon would have bragging rights for being the more technologically adept superpower.

On the negative side, what happens to determine which side “wins” the modern space race? During the Apollo-era, the answer was easy. President John F. Kennedy declared the goal of sending a man to the moon and returning him safely to the Earth before the end of the 1960s. In July 1969, the mission was accomplished. Indeed, the Apollo program had enough momentum for six more manned lunar missions before the United States stopped going to the moon and turned to other priorities.

What must happen for the winner to be declared in the new moon race? Who is first to return to the moon is not as important as what happens next.

The south pole of the moon is replete with water ice in shadowed craters, Water can be used to help sustain a lunar base. Water can be refined into rocket propellent, making the moon a refueling stop for spacecraft headed to other destinations in the solar system, such as Mars.

The moon also has a number of other resources ranging from rare earths, to platinum-group metals, to industrial metals such as titanium, iron and aluminum. Helium-3, an isotope embedded in lunar soil, could serve as fuel for future fusion power plants.

In short, the side that first exploits lunar resources effectively will be the side that creates a space-based industrial revolution enabled by lunar resources. Either the Sino-Russian Axis or the Artemis Alliance will own the future.

A few years ago, according to Space.com, Ian Crawford, a professor of planetary science and astrobiology at Birkbeck College in the UK, suggested that an economic case could be made for prospecting and mining lunar resources as a way to enable a near-Earth industrial infrastructure. He was skeptical about helium-3, which he regarded as a kind of “fossil fuel.” However, he concluded that in aggregate, the variety of resources on the moon could be exploited in an economical manner.

The other question is, who can own space resources? The Outer Space Treaty prohibits any assertion of sovereignty on the moon or any other celestial body. However, Congress passed a law a few years ago called the U.S. Space Launch Competitiveness Act that asserts that American citizens who mine space resources, including on the moon, own those resources. The fact that the United States owns the moon rocks that the Apollo astronauts gathered is seen as a precedent. On the other hand, some suggest that since the act can be seen as an assertion of sovereignty, it violates the spirit of the Outer Space Treaty. The governments of China and Russia might be expected to support the latter view.

In order to avoid conflict over resources on the moon or anywhere else in space, some kind of agreement, perhaps based on the Artemis Accords, needs to be struck between the Artemis Alliance and the Sino-Russian Axis. The first side to exploit a deposit of minerals should own it. Otherwise, we might expect the possibility that the Third World War might start on the moon with catastrophic consequences.

#### Artemis Accords establish Lunar Governance which stops resource conflicts.

Elvis et al 21 Elvis, Martin, Alanna Krolikowski, and Tony Milligan. "Concentrated lunar resources: imminent implications for governance and justice." Philosophical Transactions of the Royal Society A 379.2188 (2021): 20190563. //Elmer

3. Disputes over ‘potentially harmful interference’ If conflicts over lunar resources arise in the coming decade, as seems probable, they will incentivize searches for creative interpretations of the only applicable treaty with broad international recognition, the 1967 Outer Space Treaty (OST) [47]. More specifically, they may invite creative interpretations of Article II’s explicit statement that ‘Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means’. While the letter and the spirit of the Treaty prohibit formal appropriation, some of its provisions may in fact enable unexpected forms of de facto appropriation. In particular, Article IX introduces the principle of parties’ ‘due regard’ for the activities of other parties. The Treaty also states that, if a party’s activity could cause ‘potentially harmful interference with activities of other States’, parties can enter in consultations to address the matter. These concepts have enduring relevance. A statement of principles for the Artemis Accords, an architecture of bilateral agreements for lunar cooperation proposed by the United States in 2020, reaffirms commitment to Article IX and emphasizes a duty for parties to coordinate with and notify each in order to prevent interference [48]. These provisions in view, we recognize that parties could invoke their research activities to seek the exclusion from nearby areas of others whose activities present interference risks. At minimum, where significant resources are at stake, it seems likely that disputes over expectations and the practical meaning of ‘due regard’ will arise and require resolution. No mechanism for resolving such disputes currently exists. We argue here that our previous work on the Peaks of Eternal Light [3], identifying the likelihood of competition for this limited resource, is not a special case. Disputes over entitlements to access and entitlements to exclude, in order to prevent ‘potentially harmful interference,’ will apply in many cases, independent of the local resources or the lack thereof. But they are especially likely to occur at, or near to, the strategically valuable locations where lunar resources happen to be concentrated.

#### Military escalation from Lunar Conflicts – draw-in now due to Military interests.

David 21 Leonard David 12-6-2021 "Military interest in the moon is ramping up" <https://www.space.com/military-interest-moon-cislunar-space> (Leonard David is an award-winning space journalist who has been reporting on space activities for more than 50 years. Currently writing as Space.com's Space Insider Columnist among his other projects, Leonard has authored numerous books on space exploration, Mars missions and more, with his latest being "Moon Rush: The New Space Race" published in 2019 by National Geographic.)//Elmer

There is growing interest in protecting strategic assets in cislunar space, the realm between Earth and the moon. The U.S. Space Force is not the only entity engaged in reflecting on the topic of how best to extend military presence far from Earth. Other nations such as China are doing so as well. Parallel to air, land and sea skirmishes between nations here on Earth, is cislunar space, and perhaps the moon itself, an emerging military "high ground" and new territory for conflict? There’s a variance of views, according to experts Space.com talked to. Cislunar primer Earlier this year, the Air Force Research Laboratory distributed "A Primer on Cislunar Space," a document targeted at military space professionals who will answer the call to develop plans, capabilities, expertise and operational concepts for the region. "Cislunar space has recently become prominent in the space community and warrants attention," the document explains. As the U.S. Space Force "organizes, trains, and equips to provide the resources necessary to protect and defend vital U.S. interests in and beyond Earth orbit," the primer also underscores that new collaborations will be key to "operating safely and securely on these distant frontiers." Visionary wish list In the interim, the Defense Sciences Office at the U.S. Defense Advanced Research Projects Agency (DARPA) has blueprinted a wish list of new research to enable the fabrication of future space structures — including the use of lunar resources to enable those structures. Some of that research will be performed by the Novel Orbital and Moon Manufacturing, Materials and Mass-efficient Design program, or NOM4D. NOM4D aims to develop new materials, manufacturing, and design technologies to enable future structures to be built in Earth orbit or on the moon's surface. For instance, large solar arrays, large radio frequency reflector antennas and segmented infrared reflective optics are visualized. Building a precision structure while minimizing the required mass fraction brought from Earth will enable a spectrum of Department of Defense systems to be built using lunar-derived materials, DARPA officials say. "For the purposes of understanding the hypothetical use case, proposers may consider fabrication of structures on orbit or on the lunar surface for relaunch back into orbit as long as the proposed system is consistent with the Outer Space Treaty," NOM4D documentation explains. Contract negotiations are currently underway, with the selection of NOM4D winners soon to be announced, DARPA has advised Space.com. Military moon Advertisement The U.S. military has eyed the moon before. As far back as 1959, when NASA was still picking its first astronauts, the U.S. Army was concocting plans for a moon base, under the title of Project Horizon, explained Robert Godwin, a space historian and owner of Apogee Books, a Canadian publishing house that examines a variety of space history topics. Some details of the U.S. military's past interest in the moon remain classified to this day, Godwin said. In particular, there were looks at a nuclear bomb detonation in orbit around the moon that would empower "the weapon" — an X-ray laser that would take out enemy satellites and spacecraft, he told Space.com. That was then. But valuable U.S. assets on the moon, such as planned commercial ventures there, will make "the military presence to ensure their safety," Godwin said, "almost inevitable." "Back in 1959, the U.S. military was fretting over whether they could get supplies of toilet paper up there," he added. Looking back, he said those working on Project Horizon were coming out of World War II, practiced in moving hundreds of thousands of tons of heavy equipment around the world. "The fact they were going to have to make that equipment 'go up' instead of 'sideways' seemed to be secondary to their thinking," Godwin said. To that end, things have progressed. For example, scientists now believe that there's a lot of water on the moon. "But at the end of the day, you still go skin the cat. The way to do that could be more affordable now," Godwin said.

#### Space war goes nuclear.

Johnson-Freese 17 Joan Johnson-Freese, Professor and chair of space science and technology @ Naval War College, 17, Space Warfare in the 21st Century, Routledge, ISBN 978131552917, p 18-20.

Space warfare runs two untenable risks: the creation of destructive debris and escalation to terrestrial, even nuclear, warfare. Kinetic warfare in space creates debris traveling at a speed of more than 17,000 miles per hour, which then in itself becomes a destructive weapon if it hits another object—even potentially triggering the so-called Kessler Syndrome,86 exaggerated for dramatic effect in the movie Gravity. Ironically, both China and the United States learned the negative lessons of debris creation the hard way. In 1985, the United States tested a miniature homing vehicle (MHV) ASAT launched from an F-15 aircraft. The MHV intercepted and destroyed a defunct US satellite at an altitude of approximately 250 miles. It took almost 17 years for the debris resulting from that test to be fully eliminated by conflagration re-entering the Earth’s atmosphere or being consumed by frictional forces, though no fragment had any adverse consequences to another satellite—in particular, no collisions. China irresponsibly tested a direct-ascent ASAT in 2007, destroying one if its defunct satellites. That test was at an altitude almost twice that of the 1985 US test. The debris created by the impact added 25 percent to the debris total in low Earth orbit87 and will dissipate through the low Earth orbit, heavily populated with satellites, for decades, perhaps centuries, to come. Perhaps most ironically, because of superior US debris-tracking capabilities, the United States—even though not required to do so—has on more than one occasion warned China that it needed to maneuver one of its satellites to avoid a collision with debris China itself had likely created.88 In 2013, a piece of Chinese space junk from the 2007 ASAT test collided with a Russian laser ranging nanosatellite called BLITS, creating still more debris.89 The broader point is that all nations have a compelling common interest in avoiding the massive increase in space debris that would be created by a substantial ASAT conflict. Gen. Hyten has said that not creating debris is “the one limiting factor” to space war. “Whatever you do,” he warns, “don’t create debris.”90 While that might appear an obvious “limiting factor,” preparing to fight its way through a debris cloud had been a Pentagon consideration in the past. Now, however, sustaining the space environment has been incorporated into Pentagon space goals. Beyond debris creation, MacDonald points out that as China becomes more militarily capable in space and there is more symmetry between the countries, other risks are created – specifically, escalation. That is, the United States could threaten to attack not just Chinese space assets, but also ground-based assets, including ASAT command-and-control centers and other military capabilities. But such actions, which would involve attacking Chinese soil and likely causing substantial direct casualties, would politically weigh much heavier than the U.S. loss of space hardware, and thus might climb the escalatory ladder to a more damaging war that both sides would probably want to avoid.91 MacDonald isn’t alone in concerns about escalation. Secure World Foundation analyst Victoria Samson has also voiced apprehension regarding US rhetoric that does not distinguish between actions against unclassified and classified US satellites, stating that “things can escalate pretty quickly should we come into a time of hostility.”92 Theresa Hitchens explained the most frightening, but not implausible, risk of space war escalation in a 2012 Time magazine interview. Say you have a crisis between two nuclear-armed, space-faring countries, Nation A and Nation B, which have a long-standing border dispute. Nation A, with its satellite capability, sees that Nation B is mobilizing troops and opening up military depots in a region where things are very tense already, on the tipping point. Nation A thinks: “That’s it, they’re going to attack.” So it might decide to pre-emptively strike the communications satellite used by Nation B to slow down its ability to move toward the border and give itself time to fortify. Say this happens and Nation B has no use of satellites for 12 hours, the time it takes it to get another satellite into position. What does Nation B do? It’s blind, it’s deaf, it’s thinking all this time that it’s about to be overwhelmed by an invasion or even nuked. This is possibly a real crisis escalation situation; something similar has been played out in U.S. Air Force war games, a scenario-planning exercise practiced by the U.S. military. The first game involving anti-satellite weapons stopped in five minutes because it went nuclear – bam. Nation B nuked Nation A. This is not a far-out, “The sky’s falling in!” concern, it is something that has been played out over and over again in the gaming of these things, and I have real fears about it.93 While escalation to a nuclear exchange may seem unthinkable, in war games conducted by the military, nuclear weapons are treated as just another warfighting weapon. Morgan also voiced concerns about escalation generally and nuclear escalation specifically in the 2010 RAND report, stating: The adversary would also likely be deterred from damaging U.S. satellite early-warning system (SEWS) assets to avoid risking inadvertent escalation to the nuclear threshold, but that firebreak would almost certainly collapse with the conclusion that such escalation is inevitable and that it is in the adversary’s interest to launch a preemptive nuclear strike.94

### Case

#### 1AR theory is skewed towards the aff –

#### a) the 2NR must cover substance and over-cover theory, since they get the collapse and persuasive spin advantage of the 3min 2AR,

#### b) their responses to my counter interp will be new, which means 1AR theory necessitates intervention,

#### c) they have a 7-6 advantage on all 1AR offs.

#### Implications –

#### a) drop the arg to minimize the chance the round is decided unfairly,

#### b) use reasonability with a bar of defense or the aff always wins since the 2AR can line by line the whole 2NR without winning real abuse

### Debris

#### Collision risk is infinitesimally small

Fange 17 Daniel Von Fange 17, Web Application Engineer, Founder and Owner of LeanCoder, Full Stack, Polyglot Web Developer, “Kessler Syndrome is Over Hyped”, 5/21/2017, http://braino.org/essays/kessler\_syndrome\_is\_over\_hyped/

The orbital area around earth can be broken down into four regions. Low LEO - Up to about 400km. Things that orbit here burn up in the earth’s atmosphere quickly - between a few months to two years. The space station operates at the high end of this range. It loses about a kilometer of altitude a month and if not pushed higher every few months, would soon burn up. For all practical purposes, Low LEO doesn’t matter for Kessler Syndrome. If Low LEO was ever full of space junk, we’d just wait a year and a half, and the problem would be over. High LEO - 400km to 2000km. This where most heavy satellites and most space junk orbits. The air is thin enough here that satellites only go down slowly, and they have a much farther distance to fall. It can take 50 years for stuff here to get down. This is where Kessler Syndrome could be an issue. Mid Orbit - GPS satellites and other navigation satellites travel here in lonely, long lives. The volume of space is so huge, and the number of satellites so few, that we don’t need to worry about Kessler here. GEO - If you put a satellite far enough out from earth, the speed that the satellite travels around the earth will match the speed of the surface of the earth rotating under it. From the ground, the satellite will appear to hang motionless. Usually the geostationary orbit is used by big weather satellites and big TV broadcasting satellites. (This apparent motionlessness is why satellite TV dishes can be mounted pointing in a fixed direction. You can find approximate south just by looking around at the dishes in your northern hemisphere neighborhood.) For Kessler purposes, GEO orbit is roughly a ring 384,400 km around. However, all the satellites here are moving the same direction at the same speed - debris doesn’t get free velocity from the speed of the satellites. Also, it’s quite expensive to get a satellite here, and so there aren’t many, only about one satellite per 1000km of the ring. Kessler is not a problem here. How bad could Kessler Syndrome in High LEO be? Let’s imagine a worst case scenario. An evil alien intelligence chops up everything in High LEO, turning it into 1cm cubes of death orbiting at 1000km, spread as evenly across the surface of this sphere as orbital mechanics would allow. Is humanity cut off from space? I’m guessing the world has launched about 10,000 tons of satellites total. For guessing purposes, I’ll assume 2,500 tons of satellites and junk currently in High LEO. If satellites are made of aluminum, with a density of 2.70 g/cm3, then that’s 839,985,870 1cm cubes. A sphere for an orbit of 1,000km has a surface area of 682,752,000 square KM. So there would be one cube of junk per .81 square KM. If a rocket traveled through that, its odds of hitting that cube are tiny - less than 1 in 10,000.

#### McKnight is talking about status quo debris from current dust and rockets – inserted the table below – their evidence isn’t predictive, it’s descriptive – means current dust thumps.

McKnight 17 Dr. Darren McKnight 17, Ph.D., Technical Director for Integrity Applications, Previously Senior Vice President and Director of Science and Technology Strategy at Science Applications International Corporation, “Proposed Series of Orbital Debris Remediation Activities,” 3rd International Conference and Exhibition on Satellite & Space Missions, 5/13/2017, https://iaaweb.org/iaa/Scientific%20Activity/debrisminutes03166.pdf [graphics omitted]

Table

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#### Starlink thumps – their interntal links to debris are quantity of satellites and disregard for rules of engagement which are non uq

Pultarova 21 “SpaceX Starlink satellites responsible for over half of close encounters in orbit, scientist says” Tereza Pultarova [Master's in Science from the International Space University, France, to her Bachelor's in Journalism and Master's in Cultural Anthropology from Prague's Charles University. She worked as a reporter at the Engineering and Technology magazine, freelanced for a range of publications including Live Science, Space.com, Professional Engineering, Via Satellite and Space News and served as a maternity cover science editor at the European Space Agency.], August 18, 2021 <https://www.space.com/spacex-starlink-satellite-collision-alerts-on-the-rise> SM

SpaceX Starlink satellites responsible for over half of close encounters in orbit, scientist says

Starlink satellites might soon be involved in 90% of close encounters between two spacecraft in low Earth orbit.

Operators of satellite constellations are constantly forced to move their satellites because of encounters with other spacecraft and pieces of space junk. And, thanks to SpaceX's Starlink satellites, the number of such dangerous approaches will continue to grow, according to estimates based on available data.

SpaceX's Starlink satellites alone are involved in about 1,600 close encounters between two spacecraft every week, that's about 50 % of all such incidents, according to Hugh Lewis, the head of the Astronautics Research Group at the University of Southampton, U.K. These encounters include situations when two spacecraft pass within a distance of 0.6 miles (1 kilometer) from each other.

Lewis, Europe's leading expert on space debris, makes regular estimates of the situation in orbit based on data from the Socrates (Satellite Orbital Conjunction Reports Assessing Threatening Encounters in Space ) database. This tool, managed by Celestrack, provides information about satellite orbits and models their trajectories into the future to assess collision risk.

Lewis publishes regular updates on Twitter and has seen a worrying trend in the data that reflects the fast deployment of the Starlink constellation.

"I have looked at the data going back to May 2019 when Starlink was first launched to understand the burden of these megaconstellations," Lewis told Space.com. "Since then, the number of encounters picked up by the Socrates database has more than doubled and now we are in a situation where Starlink accounts for half of all encounters."

The current 1,600 close passes include those between two Starlink satellites. Excluding these encounters, Starlink satellites approach other operators’ spacecraft 500 times every week.

Chart, line chart

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A graph showing the growing number of close encounters in space involving Starlink satellites as plotted by Professor Hugh Lewis using data from the Socrates database. (Image credit: Hugh Lewis)

In comparison, Starlink's competitor OneWeb, currently flying over 250 satellites, is involved in 80 close passes with other operators' satellites every week, according to Lewis' data.

And the situation is bound to get worse. Only 1,700 satellites of an expected constellation of tens of thousands have been placed into orbit so far. Once SpaceX launches all 12,000 satellites of its first generation constellation, Starlink satellites will be involved in 90% of all close approaches, Lewis’ calculations suggest.

**Chart, line chart

Description automatically generated**

A graph showing the number of close encounters between Starlink satellites and spacecraft of other operators plotted by Professor Hugh Lewis based on data from the Socrates database. (Image credit: Hugh Lewis)

The risk of collision

Siemak Hesar, CEO and co-founder of Boulder, Colorado, based Kayhan Space, confirms the trend. His company, which develops a commercial autonomous space traffic management system, estimates that on average, an operator managing about 50 satellites will receive up to 300 official conjunction alerts a week. These alerts include encounters with other satellites as well as pieces of debris. Out of these 300 alerts, up to ten might require operators to perform avoidance maneuvers, Hesar told Space.com.

Kayhan Space bases their estimates on data provided by the U.S. Space Surveillance Network. This network of radars and telescopes, managed by the U.S. Space Force, closely monitors about 30,000 live and defunct satellites and pieces of debris down to the size of 4 inches (10 centimeters) and provides the most accurate location data of the orbiting objects.

The size of this catalog is expected to increase ten times in the near future, Hesar added, partly due to the growth of megaconstellations, such as Starlink, and partly as sensors improve and enable detection of even smaller objects. The more objects in the catalog mean more dangerously close encounters.

"This problem is really getting out of control," Hesar said. "The processes that are currently in place are very manual, not scalable, and there is not enough information sharing between parties that might be affected if a collision happens."

Hesar compared the problem to driving on a highway and not knowing that there has been an accident a few miles ahead of you. If two spacecraft collide in orbit, the cloud of debris the crash generates would threaten other satellites travelling through the same area.

"You want to have that situational awareness for the other actors that are flying in the neighbourhood," Hesar said.

Bad decisions

Despite the concerns, only three confirmed orbital collisions have happened so far. Earlier this week, astrophysicist and satellite tracker Jonathan McDowell, who's based at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Massachusetts, found evidence in Space-Track data that the Chinese meteorological satellite Yunhai 1-02, which disintegrated in March this year, was actually hit by a piece of space debris.

The worst known space collision in history took place in February 2009 when the U.S. telecommunication satellite Iridium 33 and Russia's defunct military satellite Kosmos-2251 crashed at the altitude of 490 miles (789 kilometres). The incident spawned over 1,000 pieces of debris larger than 4 inches (10 cm). Many of these fragments were then involved in further orbital incidents.

Lewis is concerned that with the number of close passes growing, the risk of operators at some point making a wrong decision will grow as well. Avoidance maneuvers cost fuel, time and effort. Operators, therefore, always carefully evaluate such risks. A decision not to make an avoidance maneuver following an alert, such as that made by Iridium in 2009, could, however, clutter the orbital environment for years and decades.

"In a situation when you are receiving alerts on a daily basis, you can't maneuver for everything," Lewis said. "The maneuvers use propellant, the satellite cannot provide service. So there must be some threshold. But that means you are accepting a certain amount of risk. The problem is that at some point, you are likely to make a wrong decision."

Hesar said that uncertainties in the positions of satellites and pieces of debris are still considerable. In case of operational satellites, the error could be up to 330 feet (100 meters) large. When it comes to a piece of debris, the uncertainty about its exact position might be in the order of a mile or more.

"This object can be anywhere in this bubble of multiple kilometres," Hesar said. "At this point, and for the foreseeable future, avoidance is our best recourse. People that say 'I'm going to take the risk', in my humble opinion, that's an irresponsible thing to do."

Starlink monopoly

Lewis is concerned about the growing influence of a single actor — Starlink — on the safety of orbital operations. Especially, he says, as the spaceflight company has entered the satellite operations world only recently.

"We place trust in a single company, to do the right thing," Lewis said. "We are in a situation where most of the maneuvers we see will involve Starlink. They were a launch provider before, now they are the world's biggest satellite operator, but they have only been doing that for two years so there is a certain amount of inexperience."

SpaceX relies on an autonomous collision avoidance system to keep its fleet away from other spacecraft. That, however, could sometimes introduce further problems. The automatic orbital adjustments change the forecasted trajectory and therefore make collision predictions more complicated, according to Lewis.

"Starlink doesn't publicize all the maneuvers that they're making, but it is believed that they are making a lot of small corrections and adjustments all the time," Lewis said. "But that causes problems for everybody else because no one knows where the satellite is going to be and what it is going to do in the next few days."

#### Lack of attribution means no retaliation

Schwarzer et al ’19 [Daniela, Eva-Marie McCormack, and Torben Schutz; Director, Editor, and Associate Fellow in the Security, Defense, and Armaments Program at the German Council of Foreign Relations; Deutsche Gesellschaft fur Auswartige Politik, “Technology and Strategy: The Changing Security Environment in Space Demands New Diplomatic and Military Answers,” [https://www.ssoar.info/ssoar/bitstream/handle/document/63288/ssoar-2019-schutz-Technology\_and\_Strategy\_the\_Changing.pdf](https://www.ssoar.info/ssoar/bitstream/handle/document/63288/ssoar-2019-schutz-Technology_and_Strategy_the_Changing.pdf?sequence=1&isAllowed=y&lnkname=ssoar-2019-schutz-Technology_and_Strategy_the_Changing.pdf);]

However, even a (misinterpreted) threat to space assets could start a chain reaction and quickly escalate an incident in space to a wider war. Successful deterrence, therefore, requires situational awareness, attribution capabilities and resilient assets. Especially the latter two are notoriously difficult to achieve in space. While it might be easy to attribute a kinetic attack executed with a missile, the same is not true for ASAT attacks by other satellites, and, especially, not for cyberattacks and electronic warfare measures. Without clear attribution, however, it is difficult to deter any adversary, since he could speculate that an attack cannot be traced back to him – making deterrence and retaliation more difficult. Although cross-domain deterrence, i.e. threatening an actor through potential retaliation attacks on or by other-than-space assets, is always possible, it also amplifies the problems involved in traditional deterrence: A response has to be timely and proportionate, and it should not further expand of the conflict.

#### Missing internal link to reentry – even if nuclear sats get hit the probability they’re hit with enough force and the exact trajectory to REENTER the atmosphere and hit a populated area is basically 0

#### How tf does a single sat give everyone cancer

### Heg

### Offshore Balancing

#### Restraint works – only offshore balancing locks in primacy, ensures domestic development, and checks terrorism and proliferation

Walt & Mearsheimer 16 JOHN J. MEARSHEIMER is R. Wendell Harrison Distinguished Service Professor of Political Science at the University of Chicago. STEPHEN M. WALT is Robert and Renee Belfer Professor of International Affairs at the Harvard Kennedy School, July/August 2016, "The Case for Offshore Balancing," Foreign Affairs, <https://www.foreignaffairs.com/articles/united-states/2016-06-13/case-offshore-balancing> mvp

Americans’ distaste for the prevailing grand strategy should come as no surprise, given its abysmal record over the past quarter century. In Asia, India, Pakistan, and North Korea are expanding their nuclear arsenals, and China is challenging the status quo in regional waters. In Europe, Russia has annexed Crimea, and U.S. relations with Moscow have sunk to new lows since the Cold War. U.S. forces are still fighting in Afghanistan and Iraq, with no victory in sight. Despite losing most of its original leaders, al Qaeda has metastasized across the region. The Arab world has fallen into turmoil—in good part due to the United States’ decisions to effect regime change in Iraq and Libya and its modest efforts to do the same in Syria—and the Islamic State, or ISIS, has emerged out of the chaos. Repeated U.S. attempts to broker Israeli-Palestinian peace have failed, leaving a two-state solution further away than ever. Meanwhile, democracy has been in retreat worldwide, and the United States’ use of torture, targeted killings, and other morally dubious practices has tarnished its image as a defender of human rights and international law.

The United States does not bear sole responsibility for all these costly debacles, but it has had a hand in most of them. The setbacks are the natural consequence of the misguided grand strategy of liberal hegemony that Democrats and Republicans have pursued for years. This approach holds that the United States must use its power not only to solve global problems but also to promote a world order based on international institutions, representative governments, open markets, and respect for human rights. As “the indispensable nation,” the logic goes, the United States has the right, responsibility, and wisdom to manage local politics almost everywhere. At its core, liberal hegemony is a revisionist grand strategy: instead of calling on the United States to merely uphold the balance of power in key regions, it commits American might to promoting democracy everywhere and defending human rights whenever they are threatened.

By husbanding U.S. strength, an offshore-balancing strategy would preserve U.S. primacy far into the future.

There is a better way. By pursuing a strategy of “offshore balancing,” Washington would forgo ambitious efforts to remake other societies and concentrate on what really matters: pre­serving U.S. dominance in the Western Hemisphere and countering potential hegemons in Europe, Northeast Asia, and the Persian Gulf. Instead of policing the world, the United States would encourage other countries to take the lead in checking rising powers, intervening itself only when necessary. This does not mean abandoning the United States’ position as the world’s sole superpower or retreating to “Fortress America.” Rather, by husbanding U.S. strength, offshore balancing would preserve U.S. primacy far into the future and safeguard liberty at home.

SETTING THE RIGHT GOALS

The United States is the luckiest great power in modern history. Other leading states have had to live with threatening adversaries in their own backyards—even the United Kingdom faced the prospect of an invasion from across the English Channel on several occasions—but for more than two centuries, the United States has not. Nor do distant powers pose much of a threat, because two giant oceans are in the way. As Jean-Jules Jusserand, the French ambassador to the United States from 1902 to 1924, once put it, “On the north, she has a weak neighbor; on the south, another weak neighbor; on the east, fish, and the west, fish.” Furthermore, the United States boasts an abundance of land and natural resources and a large and energetic population, which have enabled it to develop the world’s biggest economy and most capable military. It also has thousands of nuclear weapons, which makes an attack on the American homeland even less likely.

These geopolitical blessings give the United States enormous latitude for error; indeed, only a country as secure as it would have the temerity to try to remake the world in its own image. But they also allow it to remain powerful and secure without pursuing a costly and expansive grand strategy. Offshore balancing would do just that. Its principal concern would be to keep the United States as powerful as possible—ideally, the dominant state on the planet. Above all, that means main­taining hegemony in the Western Hemisphere.

Unlike isolationists, however, offshore balancers believe that there are regions outside the Western Hemisphere that are worth expending American blood and treasure to defend. Today, three other areas matter to the United States: Europe, Northeast Asia, and the Persian Gulf. The first two are key centers of industrial power and home to the world’s other great powers, and the third produces roughly 30 percent of the world’s oil.

In Europe and Northeast Asia, the chief concern is the rise of a regional hegemon that would dominate its region, much as the United States dominates the Western Hemisphere. Such a state would have abundant economic clout, the ability to develop sophisticated weaponry, the potential to project power around the globe, and perhaps even the wherewithal to outspend the United States in an arms race. Such a state might even ally with countries in the Western Hemisphere and interfere close to U.S. soil. Thus, the United States’ principal aim in Europe and Northeast Asia should be to maintain the regional balance of power so that the most powerful state in each region—for now, Russia and China, respectively—remains too worried about its neighbors to roam into the Western Hemisphere. In the Gulf, meanwhile, the United States has an interest in blocking the rise of a hegemon that could interfere with the flow of oil from that region, thereby damaging the world economy and threatening U.S. prosperity.

Offshore balancing is a realist grand strategy, and its aims are limited. Promoting peace, although desirable, is not among them. This is not to say that Washington should welcome conflict anywhere in the world, or that it cannot use diplomatic or economic means to discourage war. But it should not commit U.S. military forces for that purpose alone. Nor is it a goal of offshore balancing to halt genocides, such as the one that befell Rwanda in 1994. Adopting this strategy would not preclude such operations, however, provided the need is clear, the mission is feasible, and U.S. leaders are confident that intervention will not make matters worse.

HOW WOULD IT WORK?

Under offshore balancing, the United States would calibrate its military posture according to the distribution of power in the three key regions. If there is no potential hegemon in sight in Europe, Northeast Asia, or the Gulf, then there is no reason to deploy ground or air forces there and little need for a large military establishment at home. And because it takes many years for any country to acquire the capacity to dominate its region, Washington would see it coming and have time to respond.

In that event, the United States should turn to regional forces as the first line of defense, letting them uphold the balance of power in their own neighborhood. Although Washington could provide assistance to allies and pledge to support them if they were in danger of being conquered, it should refrain from deploying large numbers of U.S. forces abroad. It may occasionally make sense to keep certain assets overseas, such as small military contingents, intelligence-gathering facilities, or prepositioned equipment, but in general, Washington should pass the buck to regional powers, as they have a far greater interest in preventing any state from dominating them.

If those powers cannot contain a potential hegemon on their own, however, the United States must help get the job done, deploying enough firepower to the region to shift the balance in its favor. Sometimes, that may mean sending in forces before war breaks out. During the Cold War, for example, the United States kept large numbers of ground and air forces in Europe out of the belief that Western European countries could not contain the Soviet Union on their own. At other times, the United States might wait to intervene after a war starts, if one side seems likely to emerge as a regional hegemon. Such was the case during both world wars: the United States came in only after Germany seemed likely to dominate Europe.

In essence, the aim is to remain offshore as long as possible, while recognizing that it is sometimes necessary to come onshore. If that happens, however, the United States should make its allies do as much of the heavy lifting as possible and remove its own forces as soon as it can.

Offshore balancing has many virtues. By limiting the areas the U.S. military was committed to defending and forcing other states to pull their own weight, it would reduce the resources Washington must devote to defense, allow for greater investment and consumption at home, and put fewer American lives in harm’s way. Today, allies routinely free-ride on American protection, a problem that has only grown since the Cold War ended. Within NATO, for example, the United States accounts for 46 percent of the alliance’s aggregate GDP yet contributes about 75 percent of its military spending. As the political scientist Barry Posen has quipped, “This is welfare for the rich.”

The aim is to remain offshore as long as possible, while recognizing that it is sometimes necessary to come onshore.

Offshore balancing would also reduce the risk of terrorism. Liberal hegemony commits the United States to spreading democracy in unfamiliar places, which sometimes requires military occupation and always involves interfering with local political arrangements. Such efforts invariably foster nationalist resentment, and because the opponents are too weak to confront the United States directly, they sometimes turn to terrorism. (It is worth remembering that Osama bin Laden was motivated in good part by the presence of U.S. troops in his homeland of Saudi Arabia.) In addition to inspiring terrorists, liberal hegemony facilitates their operations: using regime change to spread American values undermines local institutions and creates ungoverned spaces where violent extremists can flourish.

Offshore balancing would alleviate this problem by eschewing social engineering and minimizing the United States’ military foot­print. U.S. troops would be stationed on foreign soil only when a country was in a vital region and threatened by a would-be hegemon. In that case, the potential victim would view the United States as a savior rather than an occupier. And once the threat had been dealt with, U.S. military forces could go back over the horizon and not stay behind to meddle in local politics. By respecting the sovereignty of other states, offshore balancing would be less likely to foster anti-American terrorism.

A REASSURING HISTORY

Offshore balancing may seem like a radical strategy today, but it provided the guiding logic of U.S. foreign policy for many decades and served the country well. During the nineteenth century, the United States was preoccupied with expanding across North America, building a powerful state, and establishing hegemony in the Western Hemisphere. After it completed these tasks at the end of the century, it soon became interested in preserving the balance of power in Europe and Northeast Asia. Nonetheless, it let the great powers in those regions check one another, intervening militarily only when the balance of power broke down, as during both world wars.

During the Cold War, the United States had no choice but to go onshore in Europe and Northeast Asia, as its allies in those regions could not contain the Soviet Union by themselves. So Washington forged alliances and stationed military forces in both regions, and it fought the Korean War to contain Soviet influence in Northeast Asia.

In the Persian Gulf, however, the United States stayed offshore, letting the United Kingdom take the lead in preventing any state from dominating that oil-rich region. After the British announced their withdrawal from the Gulf in 1968, the United States turned to the shah of Iran and the Saudi monarchy to do the job. When the shah fell in 1979, the Carter administration began building the Rapid Deployment Force, an offshore military capability designed to prevent Iran or the Soviet Union from dominating the region. The Reagan administration aided Iraq during that country’s 1980–88 war with Iran for similar reasons. The U.S. military stayed offshore until 1990, when Saddam Hussein’s seizure of Kuwait threatened to enhance Iraq’s power and place Saudi Arabia and other Gulf oil producers at risk. To restore the regional balance of power, the George H. W. Bush admin­istration sent an expeditionary force to liberate Kuwait and smash Saddam’s military machine.

For nearly a century, in short, offshore balancing prevented the emergence of dangerous regional hegemons and pre­served a global balance of power that enhanced American security. Tellingly, when U.S. policymakers deviated from that strategy—as they did in Vietnam, where the United States had no vital interests—the result was a costly failure.

Events since the end of the Cold War teach the same lesson. In Europe, once the Soviet Union collapsed, the region no longer had a dominant power. The United States should have steadily reduced its military presence, cultivated amicable relations with Russia, and turned European security over to the Europeans. Instead, it expanded NATO and ignored Russian interests, helping spark the conflict over Ukraine and driving Moscow closer to China.

In the Middle East, likewise, the United States should have moved back offshore after the Gulf War and let Iran and Iraq balance each other. Instead, the Clinton administration adopted the policy of “dual containment,” which required keeping ground and air forces in Saudi Arabia to check Iran and Iraq simultaneously. The George W. Bush administration then adopted an even more ambitious strategy, dubbed “regional transformation,” which produced costly failures in Afghanistan and Iraq. The Obama administration repeated the error when it helped topple Muammar al-Qaddafi in Libya and when it exacerbated the chaos in Syria by insisting that Bashar al-Assad “must go” and backing some of his opponents. Abandoning offshore balancing after the Cold War has been a recipe for failure.

HEGEMONY’S HOLLOW HOPES

Defenders of liberal hegemony marshal a number of unpersuasive arguments to make their case. One familiar claim is that only vigorous U.S. leadership can keep order around the globe. But global leadership is not an end in itself; it is desirable only insofar as it benefits the United States directly.

One might further argue that U.S. leadership is necessary to overcome the collective-action problem of local actors failing to balance against a potential hegemon. Offshore balancing recognizes this danger, however, and calls for Washington to step in if needed. Nor does it prohibit Washington from giving friendly states in the key regions advice or material aid.

Other defenders of liberal hegemony argue that U.S. leadership is necessary to deal with new, transnational threats that arise from failed states, terrorism, criminal networks, refugee flows, and the like. Not only do the Atlantic and Pacific Oceans offer inadequate protection against these dangers, they claim, but modern military technology also makes it easier for the United States to project power around the world and address them. Today’s “global village,” in short, is more dan­gerous yet easier to manage.

This view exaggerates these threats and overstates Washington’s ability to eliminate them. Crime, terrorism, and similar problems can be a nuisance, but they are hardly existential threats and rarely lend themselves to military solutions. Indeed, constant interference in the affairs of other states—and especially repeated military interventions—generates local resentment and fosters corruption, thereby making these transnational dangers worse. The long-term solution to the problems can only be competent local governance, not heavy-handed U.S. efforts to police the world.

Nor is policing the world as cheap as defenders of liberal hegemony contend, either in dollars spent or in lives lost. The wars in Afghanistan and Iraq cost between $4 trillion and $6 trillion and killed nearly 7,000 U.S. soldiers and wounded more than 50,000. Veterans of these conflicts exhibit high rates of depression and suicide, yet the United States has little to show for their sacrifices.

Defenders of the status quo also fear that offshore balancing would allow other states to replace the United States at the pinnacle of global power. On the contrary, the strategy would prolong the country’s domi­nance by refocusing its efforts on core goals. Unlike liberal hegemony, offshore balancing avoids squandering resources on costly and counterproductive crusades, which would allow the government to invest more in the long-term ingredients of power and prosperity: education, infrastructure, and research and development. Remember, the United States became a great power by staying out of foreign wars and building a world-class economy, which is the same strategy China has pursued over the past three decades. Meanwhile, the United States has wasted trillions of dollars and put its long-term primacy at risk.

Another argument holds that the U.S. military must garrison the world to keep the peace and preserve an open world economy. Retrenchment, the logic goes, would renew great-power competition, invite ruinous economic rivalries, and eventually spark a major war from which the United States could not remain aloof. Better to keep playing global policeman than risk a repeat of the 1930s.

Such fears are unconvincing. For starters, this argument assumes that deeper U.S. engagement in Europe would have prevented World War II, a claim hard to square with Adolf Hitler’s unshakable desire for war. Regional conflicts will sometimes occur no matter what Washington does, but it need not get involved unless vital U.S. interests are at stake. Indeed, the United States has sometimes stayed out of regional conflicts—such as the Russo-Japanese War, the Iran-Iraq War, and the current war in Ukraine—belying the claim that it inevitably gets dragged in. And if the country is forced to fight another great power, better to arrive late and let other countries bear the brunt of the costs. As the last major power to enter both world wars, the United States emerged stronger from each for having waited.

Furthermore, recent history casts doubt on the claim that U.S. leadership preserves peace. Over the past 25 years, Washington has caused or supported several wars in the Middle East and fueled minor conflicts elsewhere. If liberal hegemony is supposed to enhance global stability, it has done a poor job.

Nor has the strategy produced much in the way of economic benefits. Given its protected position in the Western Hemisphere, the United States is free to trade and invest wherever profitable opportu­nities exist. Because all countries have a shared interest in such activity, Washington does not need to play global policeman in order to remain economically engaged with others. In fact, the U.S. economy would be in better shape today if the government were not spending so much money trying to run the world.

Offshore balancing may seem like a radical strategy today, but it provided the guiding logic of U.S. foreign policy for many decades.

Proponents of liberal hegemony also claim that the United States must remain committed all over the world to prevent nuclear proliferation. If it reduces its role in key regions or withdraws entirely, the argument runs, countries accustomed to U.S. protection will have no choice but to protect themselves by obtaining nuclear weapons.

No grand strategy is likely to prove wholly successful at preventing proliferation, but offshore balancing would do a better job than liberal hegemony. After all, that strategy failed to stop India and Pakistan from ramping up their nuclear capabilities, North Korea from becoming the newest member of the nuclear club, and Iran from making major progress with its nuclear program. Countries usually seek the bomb because they fear being attacked, and U.S. efforts at regime change only heighten such concerns. By eschewing regime change and reducing the United States’ military footprint, offshore balancing would give potential proliferators less reason to go nuclear.

Moreover, military action cannot prevent a determined country from eventually obtaining nuclear weapons; it can only buy time. The recent deal with Iran serves as a reminder that coordinated multi­lateral pressure and tough economic sanctions are a better way to discourage proliferation than preventive war or regime change.

To be sure, if the United States did scale back its security guarantees, a few vulnerable states might seek their own nuclear deterrents. That outcome is not desirable, but all-out efforts to prevent it would almost certainly be costly and probably be unsuccessful. Besides, the down­sides may not be as grave as pessimists fear. Getting the bomb does not transform weak countries into great powers or enable them to blackmail rival states. Ten states have crossed the nuclear threshold since 1945, and the world has not turned upside down. Nuclear proliferation will remain a concern no matter what the United States does, but offshore balancing provides the best strategy for dealing with it.

THE DEMOCRACY DELUSION

Other critics reject offshore balancing because they believe the United States has a moral and strategic imperative to promote freedom and protect human rights. As they see it, spreading democracy will largely rid the world of war and atrocities, keeping the United States secure and alleviating suffering.

No one knows if a world composed solely of liberal democracies would in fact prove peaceful, but spreading democracy at the point of a gun rarely works, and fledgling democracies are especially prone to conflict. Instead of promoting peace, the United States just ends up fighting endless wars. Even worse, force-feeding liberal values abroad can compromise them at home. The global war on terrorism and the related effort to implant democracy in Afghanistan and Iraq have led to tortured prisoners, targeted killings, and vast electronic surveillance of U.S. citizens.

Some defenders of liberal hegemony hold that a subtler version of the strategy could avoid the sorts of disasters that occurred in Afghanistan, Iraq, and Libya. They are deluding themselves. Democracy promotion requires large-scale social engineering in foreign societies that Americans understand poorly, which helps explain why Washing­ton’s efforts usually fail. Dismantling and replacing existing political institutions inevitably creates winners and losers, and the latter often take up arms in opposition. When that happens, U.S. officials, believing their country’s credibility is now at stake, are tempted to use the United States’ awesome military might to fix the problem, thus drawing the country into more conflicts.

If the American people want to encourage the spread of liberal democracy, the best way to do so is to set a good example. Other countries will more likely emulate the United States if they see it as a just, prosperous, and open society. And that means doing more to improve conditions at home and less to manipulate politics abroad.

THE PROBLEMATIC PACIFIER

Then there are those who believe that Washington should reject liberal hegemony but keep sizable U.S. forces in Europe, Northeast Asia, and the Persian Gulf solely to prevent trouble from breaking out. This low-cost insurance policy, they argue, would save lives and money in the long run, because the United States wouldn’t have to ride to the rescue after a conflict broke out. This approach—sometimes called “selective engagement”—sounds appealing but would not work either.

For starters, it would likely revert back to liberal hegemony. Once committed to preserving peace in key regions, U.S. leaders would be sorely tempted to spread democracy, too, based on the widespread belief that democracies don’t fight one another. This was the main rationale for expanding NATO after the Cold War, with the stated goal of “a Europe whole and free.” In the real world, the line separating selective engagement from liberal hegemony is easily erased.

There is no good reason to keep U.S. forces in Europe, as no country there has the capability to dominate that region.

Advocates of selective engagement also assume that the mere presence of U.S. forces in various regions will guarantee peace, and so Americans need not worry about being dragged into distant conflicts. In other words, extending security commitments far and wide poses few risks, because they will never have to be honored.

But this assumption is overly optimistic: allies may act recklessly, and the United States may provoke conflicts itself. Indeed, in Europe, the American pacifier failed to prevent the Balkan wars of the 1990s, the Russo-Georgian war in 2008, and the current conflict in Ukraine. In the Middle East, Washington is largely responsible for several recent wars. And in the South China Sea, conflict is now a real possibility despite the U.S. Navy’s substantial regional role. Stationing U.S. forces around the world does not automatically ensure peace.

Nor does selective engagement address the problem of buck-passing. Consider that the United Kingdom is now withdrawing its army from continental Europe, at a time when NATO faces what it considers a growing threat from Russia. Once again, Washington is expected to deal with the problem, even though peace in Europe should matter far more to the region’s own powers.

THE STRATEGY IN ACTION

What would offshore balancing look like in today’s world? The good news is that it is hard to foresee a serious challenge to American hegemony in the Western Hemisphere, and for now, no potential hegemon lurks in Europe or the Persian Gulf. Now for the bad news: if China continues its impressive rise, it is likely to seek hegemony in Asia. The United States should undertake a major effort to prevent it from succeeding.

Ideally, Washington would rely on local powers to contain China, but that strategy might not work. Not only is China likely to be much more powerful than its neighbors, but these states are also located far from one another, making it harder to form an effective balancing coalition. The United States will have to coordinate their efforts and may have to throw its considerable weight behind them. In Asia, the United States may indeed be the indispensable nation.

#### Regionalism institutions maintains a rules based order and check transitionary conflict

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The maintenance of world order depends on regional orders. As Henry Kissinger argues, “The contemporary quest for world order will require a coherent strategy to establish a concept of order within the various regions and to relate these regional orders to one another.”[22](https://www.ethicsandinternationalaffairs.org/2017/multiplex-world-order/#fn-12859-22) Yet developing such inclusive, open regional orders is a critical challenge. This would require creating new regional mechanisms and supporting those that already exist but are constrained by a lack of resources. While some liberal thinkers see regionalism (not including the European Union) as a threat to world order, there are many regional initiatives that, if recognized and strengthened, could actually support world order. For example, ASEAN+3’s Chiang Mai initiative on finance has allowed those countries to better cope with short-term liquidity problems, supplementing the existing capacity of the International Monetary Fund.[23](https://www.ethicsandinternationalaffairs.org/2017/multiplex-world-order/#fn-12859-23) As another example, though the Obama administration feared the Chinese-inspired AIIB would be a competitor to the World Bank, its structure and rules mimic those of established multilateral institutions, and its management includes persons from Western countries. Thus, it is more likely to complement rather than compete with the World Bank or Asian Development Bank. In a fragmented and pluralistic world, exploring local and regional initiatives in diverse issue areas that complement older but fragmenting global institutions could be one of the most promising ways to build world order in the twenty-first century.

A multiplex world will not be free from disorder, but it is also not necessarily doomed to be what Ian Bremmer and Nouriel Roubini call a G-Zero World—“one in which no single country or bloc of countries has the political and economic leverage—or the will—to drive a truly international agenda”[24](https://www.ethicsandinternationalaffairs.org/2017/multiplex-world-order/#fn-12859-24)—simply because of the loss of a predominant U.S. leadership role. Leadership-sharing between the Western powers and the emerging powers is more attainable than (hard) power-sharing. A world less dependent on U.S. leadership—but without a complete U.S. retreat into isolationism—will still find ways to cooperate. It will still come together in crisis, as happened at the G-20 summit after the 2008 global financial crisis, or to combat common perils, as happened with the 2015 Paris Agreement on climate change.[25](https://www.ethicsandinternationalaffairs.org/2017/multiplex-world-order/#fn-12859-25) The latter was made possible not because of proactive U.S. leadership but because of common understanding among the Western nations, the emerging powers (led by China), and civil society groups. Importantly, the agreement avoided the traditional Western legalistic sanction-based approach in favor of a softer, voluntaristic approach that is characteristic of the Association of Southeast Asian Nations.

A multiplex world is a G-Plus world, featuring established and emerging powers, global and regional institutions and actors, states, social movements, corporations, private foundations, and various kinds of partnerships among them.

#### Decline has popularized restraint – a bipartisan coalition formed to avoid the failures of liberal hegemony

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For nearly three decades after the end of the Cold War, U.S. foreign policy was characterized by a bipartisan consensus: that as the world’s “indispensable nation” and with no competitor, the United States had little choice but to pursue a transformational agenda on the world stage. Over the last few years, however, that consensus has collapsed. A growing chorus of voices are advocating a strategy of restraint—a less activist approach that focuses on diplomatic and economic engagement over military intervention. And they have found a receptive audience.

In that, they have undoubtedly been helped by circumstance: the United States’ failed “war on terror,” the rise of China, and growing partisan polarization at home have all made it clear that U.S. foreign policy cannot simply remain on autopilot. Even those who continue to argue for an interventionist approach to the world typically acknowledge that their strategy must be shorn of its worst excesses. Where restraint was once excluded from the halls of power and confined largely to academic journals, now some of its positions have become official policy.

Although President Donald Trump’s record was defined by dysfunction more than any coherent strategy, he did wind down the war in Afghanistan, raise doubts about the value of U.S. alliances in Europe and Asia, and question the wisdom of military intervention and democracy promotion. President Joe Biden, for his part, has begun withdrawing U.S. troops from Afghanistan, has initiated a review of the United States’ global military posture, and has taken steps to stabilize the U.S.-Russian relationship. In 2019, Jake Sullivan, now Biden’s national security adviser, wrote, “The U.S. must get better at seeing both the possibilities and the limits of American power.” That this sentiment is now openly embraced at the highest levels of government is nothing short of a win for those who have long called for a more restrained U.S. foreign policy.

Yet victory also raises a question: Where do restrainers go from here? With Washington having dialed down the war on terrorism, the most politically popular of their demands has been achieved. Now, they are liable to face an uphill battle over the rest of U.S. foreign policy, such as how to treat allies or what to do about China—issues that have little public salience or on which the restrainers are divided. Although often bundled together by Washington’s foreign policy elites and derided as isolationists, the members of the restraint community include a diversity of voices, running the gamut from left-wing antiwar activists to hard-nosed conservative realists. It should not be surprising that they disagree on much.

If the restraint camp focuses on what divides them rather than what unites them, then it will find itself consumed with internecine battles and excluded from decision-making at the very moment its influence could be at its height. But there is a viable consensus, a path forward for restraint that can achieve the most important goals, alienate the fewest members of the coalition, and win new converts. This more pragmatic strategy, which would entail the gradual lessening of U.S. military commitments, would not achieve the most ambitious of the restrainers’ goals. But it has the best chance of moving U.S. foreign policy in a more secure and more popular direction.

A DEBATE REBORN

The idea that the United States is uniquely qualified to reshape the world has manifested itself in different ways in the 30 years since the collapse of the Soviet Union marked the end of a bipolar world. Humanitarian intervention, democracy promotion, and counterterrorism—all were attempts to mold the world according to American preferences. Yet the unipolar moment has largely failed to live up to expectations. Today, democracy is in decline, there are more state-level conflicts than at any time since 1990, the war on terrorism has largely failed, a

nd China’s rise has given the lie to the notion that the United States can prevent the emergence of peer competitors. Washington’s foreign policy community now appears to accept the need for a course correction, although it remains divided on the specifics.

Today, opinion is increasingly coalescing around three distinct views. The first of these is a modified form of liberal internationalism, the school of thought that believes that U.S. leadership is a stabilizing force in the world, emphasizes militarized deterrence, and has faith in a liberal, rules-based international order. Proponents of this approach often frame threats from China and Russia as threats to this order rather than as threats to concrete U.S. security interests. Yet the strain of this view dominant today is also, at least in theory, a softer, reformed version of the post–Cold War consensus, one that takes into account critiques of recent U.S. foreign policy and rejects parts of the war on terrorism.

Because they are more aware of the limits of American power than their predecessors, advocates of this view are best described as liberal internationalists, rather than liberal interventionists. The scholars Mira Rapp-Hooper and Rebecca Lissner—both of whom now serve on the National Security Council—belong to this camp. As they wrote in these pages in 2019, “Rather than wasting its still considerable power on quixotic bids to restore the liberal order or remake the world in its own image, the United States should focus on what it can realistically achieve.”

Restrainers have not offered a coherent alternative to today’s foreign policy.

Another alternative has percolated out of the synthesis of the Republican foreign policy establishment and the Trump administration: a form of belligerent unilateralism that prioritizes maintaining U.S. military primacy. This “America first” approach to the world is also a clear successor to the old consensus, but one that privileges power over diplomacy and U.S. interests over a liberal order. Like their liberal internationalist counterparts, the America firsters—both Trump administration alumni and more mainstream Republican foreign policy hands—have absorbed the notion that U.S. foreign policy has become unpopular, particularly among the GOP base. They have therefore shifted from democracy promotion and nation building toward a militarized global presence more akin to classic imperial policing.

They also reject some of the core liberal components of the old consensus, spurning diplomacy and arms control, fetishizing sovereignty, and preferring American solutions to global problems over multilateral solutions. For them, the liberal order is a mirage. As Nadia Schadlow, a veteran of the Trump White House, wrote in these pages in 2020, “Washington must let go of old illusions, move past the myths of liberal internationalism, and reconsider its views about the nature of the world order.”

Both approaches to the world are still problematic. A rebooted liberal internationalism may succeed at rehabilitating the United States’ image, but it is unlikely to advance democracy or build a unified liberal order through nonmilitary means when military ones have failed. And as the global balance of power shifts, liberal internationalism simultaneously overestimates the contributions that U.S. allies can make to collective defense and underestimates the differences they have with Washington. The “America first” approach, for its part, may yield short-term dividends—Trump, after all, was able to force U.S. allies to abide by sanctions on Iran and renegotiate the North American Free Trade Agreement—but it has diminishing returns. The more the United States uses coercive tools against other countries, the more they will look for ways to blunt those tools. And both approaches lean heavily on a forward U.S. military presence in ways that could all too easily trigger an unplanned conflict, particularly in Asia.

The remaining alternative, restraint, comes from outside the Washington policymaking world and is largely focused on these flaws. It is far more ideologically diverse than the other two, but most restrainers agree on several core principles. They share a conviction that the United States is a remarkably secure nation, that unlike many great powers in history, it faces no real threat of invasion, thanks to geography and nuclear weapons. They argue that U.S. foreign policy has been characterized in recent years by overreach and hubris, with predictably abysmal results. And they think U.S. foreign policy is overmilitarized, with policymakers spending too much on defense and too quickly resorting to force. Most important, advocates of restraint strike directly at the notion of the United States as the indispensable nation, considering it instead as but one among many global powers.

RESTRAINT’S MOMENT

The most common slap at restrainers is that they focus too much on criticism without offering plausible policy alternatives. That is not an entirely accurate evaluation; individual proponents of restraint have offered detailed prescriptions for everything from the war in Afghanistan to U.S.-Russian relations. But it is true that restrainers have often focused on what draws them together—namely, their shared criticisms of the status quo—rather than what would pull them apart: the question of which specific policies to implement instead. As restraint enters the mainstream conversation, the distinctions within this group are coming to the surface.

Restraint contains several different overlapping ideas. The first (and best defined) of these is an academic theory of grand strategy formulated by the political scientist Barry Posen in his 2014 book, Restraint. His version of restraint envisages a much smaller military based primarily within the United States. Other restrainers—such as the international relations theorists John Mearsheimer and Stephen Walt—advocate a grand strategy of offshore balancing, a distinct but related approach that also calls for downsizing the United States’ global military role. (The distinction between the two is one of degree: Posen backs an entirely offshore military presence, whereas Mearsheimer and Walt admit that the United States may occasionally need to intervene to keep a hostile state from dominating a key region.) As grand strategies, both leave many granular policy details unstated, but they present internally coherent and fully formulated approaches to the world.

There is also a looser definition of “restraint.” Increasingly, the term is Washington shorthand for any proposal for a less militarized and activist foreign policy. That includes those put forth not just by academic realists but also by progressive Democrats and conservative Republicans in Congress, as well as various antiwar groups (such as Code Pink and the Friends Committee on National Legislation) and newer entrants into the antiwar space (such as the veterans’ group Common Defense). Thus, the term “restraint” is now used as often to signify this broader political movement as it is to describe a grand strategy.

Any movement that includes Mearsheimer and Code Pink is by necessity a big tent, and indeed, there are many motivations for restraint. For some, it might be a moral consideration: many libertarians believe that war grows the state, and anti-imperialists want to rein in what they see as an overbearing military-industrial complex. For others, the motivation is financial: although conservative deficit hawks are far less vocal on defense than on other issues, they exist, and many progressives and even some mainstream Democrats view cuts to military spending as an easy way to free up resources for infrastructure or social programs. For others in the restraint community, it is personal: some of the recent activism around ending the war on terrorism has been driven by veterans who are concerned about what the conflict has done to their fellow soldiers and to American society writ large. Then there are the strategists, for whom the pursuit of restraint is largely about avoiding the failures and risks of the current approach. There are even those who might be called “restraint-curious,” people who are open to a more restrained foreign policy on specific issues but reject the broader notion.

The result is a coalition that—much like its opposition—is broad and bipartisan, a partnership of the left and the right in which the two sides don’t agree with each other on much else. Consider the congressional activism around ending U.S. support for the Saudi-led war in Yemen, a movement that was spearheaded by two liberals, Senator Bernie Sanders of Vermont and Senator Chris Murphy, a Democrat from Connecticut, and two Republicans, Senators Rand Paul of Kentucky and Mike Lee of Utah. Or consider the strange bedfellows made by the war in Afghanistan. In the House of Representatives, advocates of withdrawal included Alexandria Ocasio-Cortez of New York, the standard-bearer of the Democratic Party’s left wing, and Matt Gaetz of Florida, a Republican devotee of Trump. The transpartisan nature of the coalition pushing for restraint is one of its core strengths.

#### Empirics go neg – most qualified studies disprove hegemonic stability theories.

Fettweis 17 –Christopher J. Fettweis is an American political scientist and the Associate Professor of Political Science at Tulane University. “Unipolarity, Hegemony, and the New Peace, Security Studies” 26:3, 423-451; EG)

Even the most ardent supporters of the hegemonic-stability explanation do not contend that US influence extends equally to all corners of the globe. The United States has concentrated its policing in what George Kennan used to call “strong points,” or the most important parts of the world: Western Europe, the Pacific Rim, and Persian Gulf.64 By doing so, Washington may well have contributed more to great power peace than the overall global decline in warfare. If the former phenomenon contributed to the latter, by essentially providing a behavioral model for weaker states to emulate, then perhaps this lends some support to the hegemonic-stability case.65 During the Cold War, the United States played referee to a few intra-West squabbles, especially between Greece and Turkey, and provided Hobbesian reassurance to Germany’s nervous neighbors. Other, equally plausible explanations exist for stability in the first world, including the presence of a common enemy, democracy, economic interdependence, general war aversion, etc. The looming presence of the leviathan is certainly among these plausible explanations, but only inside the US sphere of influence. Bipolarity was bad for the nonaligned world, where Soviet and Western intervention routinely exacerbated local conflicts. Unipolarity has generally been much better, **but whether or not this was due to US action is again unclear.** Overall US interest in the affairs of the Global South has dropped markedly since the end of the Cold War, as has the level of violence in almost all regions. There is less US intervention in the political and military affairs of Latin America compared to any time in the twentieth century, for instance, and also less conflict. Warfare in Africa is at an all-time low, as is relative US interest outside of counterterrorism and security assistance.66 **Regional peace and stability exist where there is US active intervention, as well as where there is not**. No direct relationship seems to exist across regions. If intervention can be considered a function of direct and indirect activity, of both political and military action, a regional picture might look like what is outlined in Table 1. These assessments of conflict are by necessity relative, because there has not been a “high” level of conflict in any region outside the Middle East during the period of the New Peace. Putting aside for the moment that important caveat, some points become clear. The great powers of the world are clustered in the upper right quadrant, where US intervention has been high, but conflict levels low. **US intervention is imperfectly correlated with stability, however. Indeed, it is conceivable that the relatively high level of US interest and activity has made the security situation in the Persian Gulf and broader Middle East worse.** In recent years, substantial hard power investments (Somalia, Afghanistan, Iraq), moderate intervention (Libya), and reliance on diplomacy (Syria) have been equally ineffective in stabilizing states torn by conflict. While it is possible that the region is essentially unpacifiable and no amount of police work would bring peace to its people, it remains hard to make the case that the US presence has improved matters. **In this “strong point,” at least, US hegemony has failed to bring peace.** In much of the rest of the world, the United States has not been especially eager to enforce any particular rules. Even rather incontrovertible evidence of genocide has not been enough to inspire action. Washington’s intervention choices have at best been erratic; Libya and Kosovo brought about action, but much more blood flowed uninterrupted in Rwanda, Darfur, Congo, Sri Lanka, and Syria. The US record of peacemaking is not exactly a long uninterrupted string of successes. During the turn-of-the-century conventional war between Ethiopia and Eritrea, a highlevel US delegation containing former and future National Security Advisors (Anthony Lake and Susan Rice) made a half-dozen trips to the region, but was unable to prevent either the outbreak or recurrence of the conflict. Lake and his team shuttled back and forth between the capitals with some frequency, and President Clinton made repeated phone calls to the leaders of the respective countries, offering to hold peace talks in the United States, all to no avail.67 The war ended Table 1. Post-Cold War US intervention and violence by region. High Violence Low Violence High US Intervention Middle East Europe South and Central Asia Pacific Rim North America Low US Intervention Africa South America Former Soviet Union in late 2000 when Ethiopia essentially won, and it controls the disputed territory to this day. The Horn of Africa is hardly the only region where states are free to fight one another today without fear of serious US involvement. Since they are choosing not to do so with increasing frequency, something else is probably affecting their calculations. Stability exists even in those places where the potential for intervention by the sheriff is minimal. Hegemonic stability can only take credit for influencing those decisions that would have ended in war without the presence, whether physical or psychological, of the United States. It seems hard to make the case that the relative peace that has descended on so many regions is primarily due to the kind of heavy hand of the neoconservative leviathan, or its lighter, more liberal cousin. Something else appears to be at work.

#### China’s drive for regional hegemony can be peaceful and mutually beneficial with the US BUT that’s dependent on avoiding aggressive containment strategies

Heer 19 [Paul, National Intelligence Officer for East Asia in the Office of the Director of National Intelligence from 2007 to 2015, the Robert E. Wilhelm Research Fellow at the Massachusetts Institute of Technology’s Center for International Studies and an Adjunct Professor at George Washington University’s Elliott School of International Affairs, Jan 8, 2019, “Rethinking U.S. Primacy in East Asia,” <https://nationalinterest.org/print/blog/skeptics/rethinking-us-primacy-east-asia-40972>]

First, China is pursuing hegemony in East Asia, but not an exclusive hostile hegemony. It is not trying to extrude the United States from the region or deny American access there. The Chinese have long recognized the utility—and the benefits to China itself—of U.S. engagement with the region, and they have indicated receptivity to peaceful coexistence and overlapping spheres of influence with the United States there. Moreover, China is not trying to impose its political or economic system on its neighbors, and it does not seek to obstruct commercial freedom of navigation in the region (because no country is more dependent on freedom of the seas than China itself). In short, Beijing wants to extend its power and influence within East Asia, but not as part of a “winner-take-all” contest.

China does have unsettled and vexing sovereignty claims over Taiwan, most of the islands and other features in the East and South China Seas, and their adjacent waters. Although Beijing has demonstrated a willingness to use force in defense or pursuit of these claims, it is not looking for excuses to do so. Whether these disputes can be managed or resolved in a way that is mutually acceptable to the relevant parties and consistent with U.S. interests in the region is an open, long-term question. But that possibility should not be ruled out on the basis of—or made more difficult by—false assumptions of irreconcilable interests. On the contrary, it should be pursued on the basis of a recognition that all the parties want to avoid conflict—and that the sovereignty disputes in the region ultimately are not military problems requiring military solutions. And since Washington has never been opposed in principle to reunification between China and Taiwan as long as it is peaceful, and similarly takes no position on the ultimate sovereignty of the other disputed features, their long-term disposition need not be the litmus test of either U.S. or Chinese hegemony in the region.

Of course, China would prefer not to have forward-deployed U.S. military forces in the Western Pacific that could be used against it, but Beijing has long tolerated and arguably could indefinitely tolerate an American military presence in the region—unless that presence is clearly and exclusively aimed at coercing or containing China. It is also true that Beijing disagrees with American principles of military freedom of navigation in the region; and this constitutes a significant challenge in waters where China claims territorial jurisdiction in violation of the UN Commission on the Law of the Sea. But this should not be conflated with a Chinese desire or intention to exclusively “control” all the waters within the first island chain in the Western Pacific. The Chinese almost certainly recognize that exclusive control or “domination” of the neighborhood is not achievable at any reasonable cost, and that pursuing it would be counterproductive by inviting pushback and challenges that would negate the objective.

So what would Chinese “hegemony” in East Asia mean or look like? Beijing probably thinks in terms of something much like American primacy in the Western Hemisphere: a model in which China is generally recognized and acknowledged as the de facto central or primary power in the region, but has little need or incentive for militarily adventurism because the mutual benefits of economic interdependence prevail and the neighbors have no reason—and inherent disincentives—to challenge China’s vital interests or security. And as a parallel to China’s economic and diplomatic engagement in Latin America, Beijing would neither exclude nor be hostile to continued U.S. engagement in East Asia.

A standard counterargument to this relatively benign scenario is that Beijing would not be content with it for long because China’s strategic ambitions will expand as its capabilities grow. This is a valid hypothesis, but it usually overlooks the greater possibility that China’s external ambitions will expand not because its inherent capabilities have grown, but because Beijing sees the need to be more assertive in response to external challenges t

o Chinese interests or security. Indeed, much of China’s “assertiveness” within East Asia over the past decade—when Beijing probably would prefer to focus on domestic priorities—has been a reaction to such perceived challenges. Accordingly, Beijing’s willingness to settle for a narrowly-defined, peaceable version of regional preeminence will depend heavily on whether it perceives other countries—especially the United States—as trying to deny China this option and instead obstruct Chinese interests or security in the region.