## **1**

#### **Interpretation: The affirmative may only garner offense from direct implementation of the resolution not implementation of an action that would lead to the resolution.**

#### **Violation:**

#### **Standards:**

#### **1 - Predictable Limits - The aff interpretation allows any plan to become topical as long as it eventually leads to the the reduction of appropriation. Creates an infinite amount of topical affs that the neg can never predict or prepare for.**

#### **2 - Ground - destroys neg ground because they can spike all topic links by achieving them through another action.**

#### **Paradigm:**

#### **Fairness – Debate is a competitive activity governed by rules. You can’t evaluate who did better debating if the round is structurally skewed, so fairness is a gateway to substantive debate.**

#### **DTD – Time spent on theory cant be compensated for, the 1nc was already skewed, and its key to deterring abuse.**

#### **Prefer Competing interps -**

#### **1. reasonability is arbitrary and invites judge intervention.**

#### **2. it Causes a race to the bottom where debaters push the limit as to how reasonably abusive, they can be.**

#### **No RVI’s -**

#### **1. Chills some debaters from reading theory against abusive postions.**

#### **2. incentivizes theory baiting where you can just bait theory to win.**

## 

### **2**

#### **Internet is open to massive vulnerabilities now.**

**Griffiths 19** James Griffiths 7-26-2019 "The global internet is powered by vast undersea cables. But they’re vulnerable." <https://www.cnn.com/2019/07/25/asia/internet-undersea-cables-intl-hnk/index.html> (CNN Analyst)//ELmer

Hong Kong (CNN) - On July 29, 1858, two steam-powered battleships met in the middle of the Atlantic Ocean. There, they connected two ends of a 4,000 kilometer (2,500 mile) long, 1.5 centimeter (0.6 inch) wide cable, linking for the first time the European and North American continents by telegraph. Just over two weeks later, the UK’s Queen Victoria sent a congratulatory message to then US President James Buchanan, which was followed by a parade through the streets of New York, featuring a replica of a ship which helped lay the cable and fireworks over City Hall. In their inaugural cables, Queen Victoria hailed the “great international work” by the two countries, the culmination of almost two decades of effort, while Buchanan lauded a “triumph more glorious, because far more useful to mankind, than was ever won by conqueror on the field of battle. The message took over 17 hours to deliver, at 2 minutes and 5 seconds per letter by Morse code, and the cable operated for less than a month due to a variety of technical failures, but a global communications revolution had begun. By 1866, new cables were transmitting 6 to 8 words a minute, which would rise to more than 40 words before the end of the century. In 1956, Transatlantic No. 1 (TAT-1), the first underwater telephone cable, was laid, and by 1988, TAT-8 was transmitting 280 megabytes per second – about 15 times the speed of an average US household internet connection – over fiber optics, which use light to transmit data at breakneck speeds. In 2018, the Marea cable began operating between Bilbao, Spain, and the US state of Virginia, with transmission speeds of up to 160 terabits per second – 16 million times faster than the average home internet connection. Today, there are around 380 underwater cables in operation around the world, spanning a length of over 1.2 million kilometers (745,645 miles). **Underwater cables** are the invisible force **driving** the **modern internet**, with many in recent years being funded by internet giants such as Facebook, Google, Microsoft and Amazon. They **carry almost all our communications** and yet – in a world of wireless networking and smartphones – we are barely aware that they exist. Yet as the internet has become more mobile and wireless, the amount of data traveling across undersea cables has increased exponentially. “Most people are absolutely amazed” by the degree to which the internet is still cable-based, said Byron Clatterbuck, chief executive of Seacom, a multinational telecommunications firm responsible for laying many of the undersea cables connecting Africa to the rest of the world. “People are so mobile and always looking for Wi-Fi,” he said. “They don’t think about it, they don’t understand the workings of this massive mesh of cables working together. “They only notice when it’s cut.” Network down In 2012, **Hurricane Sandy slammed** into the US East Coast, causing an estimated $71 billion in damage and knocking out several key exchanges where **undersea cables** linked North America and Europe. “It was a major disruption,” Frank Rey, director of global network strategy for Microsoft’s Cloud Infrastructure and Operations division, said in a statement. “The **entire network between North America and Europe was isolated for a number of hours.** For us, the storm **brought to light a potential challenge** **in the consolidation of transatlantic cables** that all landed in New York and New Jersey.” For its newest cable, Marea, Microsoft chose to base its US operation further down the coast in Virginia, away from the cluster of cables to minimize disruption should another massive storm hit New York. But most often when a cable goes down nature is not to blame. There are about **200** such **failures each year** and the **vast majority are caused by humans**. “**Two-thirds** of cable failures are **caused by accidental human activities,** fishing nets and trawling and also ships’ anchors,” said Tim Stronge, vice-president of research at TeleGeography, a telecoms market research firm. “The next largest category is natural disaster, mother nature – sometimes earthquakes but also underwater landslides.” A magnitude-7.0 earthquake off the southwest coast off Taiwan in 2006, along with aftershocks, cut eight submarine cables which caused internet outages and disruption in Taiwan, Hong Kong, China, Japan, Korea and the Philippines. Stronge said the reason most people are not aware of these failures is because the whole industry is designed with it in mind. Companies that rely heavily on undersea cables spread their data across multiple routes, so that if one goes down, customers are not cut off. How a cable gets laid Laying a cable is a years-long process which costs millions of dollars, said Seacom’s Clatterbuck. The process begins by looking at naval charts to plot the best route. Cables are safest in deep water where they can rest on a relatively flat seabed, and won’t rub against rocks or be at risk of other disturbances. “The deeper the better,” Clatterbuck said. “When you can lay the cable down in deep water you rarely have any problems. It goes down on the bottom of the seabed and just stays there.” Things become more difficult the closer you get to shore. A cable that is only a few centimeters thick on the bottom of the ocean must be armored from its environment as reaches the landing station that links it with the country’s internet backbone. “Imagine a long garden hose, inside of which are very small tubes that house a very, very thin fiber pair,” Clatterbuck said. That hose is wrapped in copper, which conducts the direct current that powers the cable and its repeaters, sometimes up to 10,000 volts. “The fibers are wrapped in urethane and wrapped in copper and wrapped again in urethane,” he said. “If we’re going to have to put that cable on a shoreline that is very shallow and has a lot of rocks, you’re now going to have to armor coat that cable so no one can hack through it.” Cables in less hospitable areas can be far thicker than garden hoses, wrapped in extra plastic, kevlar armor plating, and stainless steel to ensure they can’t be broken. Depending on the coast, cable companies might also have to build concrete trenches far out to sea, to tuck the cable in to protect it from being bashed against rocks. “Before the cable-laying vessels go out they send out another specialized ship that maps the sea floor in the area when they want to go,” said TeleGeography’s Stronge. “They want to avoid areas where there’s a lot of undersea currents, certainly want to avoid volcanic areas, and avoid a lot of elevation change on the sea floor.” Once the route is plotted and checked, and the shore connections are secure, huge cable laying ships begin passing out the equipment. “Imagine spools of spools of garden hose along with a lot of these repeaters the size of an old travel trunk,” Clatterbuck said. “Sometimes it can take a month to load the cable onto a ship.” The 6,600 kilometer (4,000 mile) Marea cable weighs over 4.6 million kilograms (10.2 million pounds), or the equivalent of 34 blue whales, according to Microsoft, which co-funded the project with Facebook. It took more than two years to lay the entire thing. Malicious cuts The blackout came without warning. In February 2008, a whole swath of North Africa and the Persian Gulf suddenly went offline, or saw internet speeds slow to a painful crawl. This disruption was eventually traced to damage to three undersea cables off the Egyptian coast. At least one – linking Dubai and Oman – was severed by an abandoned, 5,400 kilogram (6-ton) anchor, the cable’s owner said. But the cause of the other damage was never explained, with suggestions it could have been the work of saboteurs. That raises **the issue of another threat to undersea cables: deliberate human attacks**. In a 2017 paper for the right-wing think tank Policy Exchange, British lawmaker Rishi Sunak wrote that “**security remains a challenge” for undersea cables**. “Funneled through exposed choke points (often with minimal protection) and their isolated deep-sea locations entirely public, the arteries upon which the Internet and our modern world depends have **been left highly vulnerable**,” he said. “The threat of these vulnerabilities being exploited is growing. A successful attack would deal a crippling blow to Britain’s security and prosperity.” However, with more than 50 cables connected to the UK alone, Clatterbuck was skeptical about how useful a deliberate outage could be in a time of war, pointing to the level of coordination and resources required to cut multiple cables at once. “If you wanted to sabotage the global internet or cut off a particular place you’d have to do it simultaneously on multiple cables,” he said. “You’d be focusing on the hardest aspect of disrupting a network.”

#### **SpaceX satellites are key to internet access.**

James **Pethokoukis 21** [James Pethokoukis, a columnist and an economic policy analyst, is the Dewitt Wallace Fellow at the American Enterprise Institute, where he writes and edits the AEIdeas blog and hosts a weekly podcast, “Political Economy with James Pethokoukis.” He is also a columnist for The Week and an official contributor to CNBC. “Why a SpaceX bankruptcy would hurt the global poor” Faster, Please! November 30, 2021 <https://fasterplease.substack.com/p/-why-a-spacex-bankruptcy-would-hurt>

I don’t have enough deep knowledge about SpaceX’s business or financials to reliably gauge the actual bankruptcy risk here, and the piece’s reporter is skeptical. I will note, however, that although the company is currently valued at around $100 billion, the bank Morgan Stanley assigns it a valuation “of somewhere between $5bn and $200bn, with uncertainty about its success accounting for the wide range,” according to The Economist. Starship and Starlink are key to that upper bound. (Also: A Morgan Stanley survey of “institutional investors and industry experts” expect SpaceX to become more valuable than Tesla, currently a trillion-dollar company. We’ll see.) So it’s not surprising that Musk emphasizes the importance of the Starlink internet satellite venture here, especially its next incarnation. Now go and Twitter search on the terms “Musk,” “ruining,” and “sky,” and you’ll find plenty of complaints about the Starlink constellation — with currently more than 1,700 satellites in low-Earth orbit. For many of these keyboard critics, Starlink is nothing more than an uberbillionaire's reckless effort to become an even wealthier uberbillionaire. Or maybe it’s just another Muskian vanity project, like building rockets to Mars. Either way, these diehard anti-Muskers see a cluttered sky for visual astronomers, both amateur and professional, as a horrific tradeoff just so the entrepreneur can sell global internet access. Now, the extreme version of this critique is unserious, little more than anti-billionaire emoting. The profit potential of Starlink is unclear, though it seems to be Musk’s goal that the telecom business will one day help fund his Mars ambitions. But the venture isn’t there yet. Last summer, Musk estimated that Starlink would likely need between $20 billion and $30 billion in investment. "If we succeed in not going bankrupt, then that'll be great, and we can move on from there," Musk said. For now, Starlink aims to add another 1,000 satellites a year, even more when Starship is operational. That is, assuming Starship become operational. But the astronomy issue is a real one, as SpaceX has acknowledged. And after astronomer complaints about the brightness of the first group of 60 satellites launched in 2019, SpaceX developed a work-around to minimize the glare from solar reflection on subsequent launches. Of course, some scientists don’t want to rely on the goodwill of SpaceX and other satellite companies. They see an international regulatory agreement, perhaps a new protocol under the Outer Space Treaty, as a necessity. But as such an add-on is unlikely to happen anytime soon, notes The Economist, “not least because other issues raised by the mega constellations, such as risks from debris, will doubtless seem more pressing.” Here’s one of the many pictures floating around the Internet showing the impact of Starlink satellites — “the 333-second exposure shows at least 19 satellites passing overhead” — on astronomical observations, via the IFLScience website: Of course, framing the trade-off as the above picture vs. “better global internet” doesn’t quite capture the benefits of the latter. And they are considerable. There remains a stark digital divide in global internet access. As the World Economic Forum notes: “Globally, only just over half of households (55 percent) have an internet connection, according to UNESCO. In the developed world, 87 percent are connected compared with 47 percent in developing nations, and just 19 percent in the least developed countries.” It seems pretty clear that broadband internet access brings considerable economic gains, particularly to poorer countries. (Musk has specifically said this is a goal of Starlink.) Here are a few examples from the August 2021 analysis “The Economic Impact of Internet Connectivity in Developing Countries” by Jonas Hjort (Columbia University) and Lin Tian (INSEAD): Quite a few studies convincingly estimate the effect on consumption of specific internet-enabled technologies (rather than internet connectivity itself) through model-based approaches, and a few do so more directly. Jack & Suri (2014) show that access to mobile money decreased consumption poverty by two percentage points in Kenya. In contrast, Couture et al. (2021) finds that expansion of e-commerce in China has little effect on income to rural producers and workers. Different areas of Sub-Saharan Africa got access to basic internet at different times starting in the early 2000s. Exploiting variation arising from the gradual arrival of submarine cable connections and using nighttime satellite image luminosity as a proxy for economic activity, Goldbeck & Lindlacher (2021) estimate that basic internet availability leads to about a two percentage point increase in economic growth. As we briefly discussed in Sub-section 3.1.1, Bahia et al. (2020) show evidence that the gradual roll-out of mobile broadband in Nigeria between 2010 and 2016 increased labor force participation and employment. The paper also shows that household consumption simultaneously increased and poverty decreased. Households that had at least one year of mobile broadband coverage experienced an increase in total consumption of about 6 percent. Masaki et al. (2020) document a similarly striking result. Combining household expenditure surveys with data on the location of fiber-optic transmission nodes and coverage maps of 3G mobile technology, they show that 3G coverage is associated with a 14 percent increase in total consumption and a 10 percent decline in extreme poverty in Senegal. Finally, Bahia et al. (2021) use a similar empirical approach to study the effect of mobile broadband roll-out in Tanzania and find a comparable increase in household consumption and decline poverty in this setting. The eventual endgame here is that there are going to be many tens of thousands more satellites in orbit, enabling total global internet coverage. And they will be joined by all manner of human-occupied installations for tourist, commercial, and scientific endeavors. (You may have missed the late October announcement that Blue Origin, the space company owned by Jeff Bezos, is teaming up with other firms to build a space station in Earth orbit.) Stargazing from Earth will never be the way it used to be. Then again, people still complain about shadows from skyscrapers even as humanity continues to build them. But recall one of the running themes of this newsletter: Technology solves one problem, creates another, then solves that one — rinse and repeat — even as the overall direction is forward. More astronomy in the future will be space based. And if all those space objects and structures make even low-Earth orbit astronomy difficult, more of it will need to be performed further out, as with the James Webb Space Telescope. Or maybe via telescopes on the Moon, such as the proposed Lunar Crater Radio Telescope, which would deploy robots to transform a half-mile wide crater into an observatory by attaching a wire mesh along the crater walls. And once there are lots of satellites around a fully colonized Moon, off to Mars — which might be accessible thanks to Starlink funding Musk’s deep-space ambitions. Meanwhile, there will be a lot less global poverty here on Earth than otherwise.

#### **Internet access checks multiple existential threats.**

**Eagleman 10** [Dr. David; 11/9/2010; PhD in Neuroscience @ Baylor University, Adjunct Professor of Neoroscience @ Stanford University, Former Guggenheim Fellow, Director of the Center for Science and Law, BA @ Rice University; “Six Ways The Internet Will Save Civilization”; https://www.wired.co.uk/article/apocalypse-no]

Many great civilisations have **fall**en, leaving nothing but cracked ruins and scattered genetics. Usually this results from: natural **disasters**, **resource depletion**, economic meltdown, disease, poor **info**rmation flow and corruption. But we’re luckierthan our predecessors because we command a technology that no one else possessed: a rap**id communication** network that finds its highest expression in the **internet**. I propose that there are six ways in which the net has vastly reduced the threat of societal collapse. **Epidemics** can be deflected by telepresence One of our more dire prospects for collapse is an infectious-disease epidemic. Viral and bacterial epidemics precipitated the fall of the Golden Age of Athens, the Roman Empire and most of the empires of the Native Americans. The internet can be our **key to survival** because the ability to work telepresently can inhibit microbial transmission by reducing human-to-human contact. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. If we are well prepared when an epidemic arrives, we can fluidly shift into aself-quarantined society in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us. The internet will predict natural disasters We are witnessing the downfall of slow central control in the media: news stories are increasingly becoming user-generated nets of up-to-the-minute information. During the recent California wildfires, locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: the internet carried news about the fire more **quickly**and **accurately** than any news station could. In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today. Discoveries are retained and shared Historically, critical information has required constant rediscovery. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. Consider smallpox inoculation: this was under way in India, China and Africa centuries before it made its way to Europe. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on **immediately**; information spreads **widely**. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk. **Tyranny** is mitigated Censorship of ideas was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines in the USSR, Romania, Cuba, China, Iraq and elsewhere. In many cases, such as Lysenko’s agricultural despotism in the USSR, it directly contributed to the collapse of the nation. Historically, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way. It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance. Human capital is vastly increased Crowdsourcing brings people together to solve problems. Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. The net opens the gates education to anyone with a computer. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare. The new **human capital** will serve us well when we confront **existential threats** we’ve never imagined before. Energy expenditure is reduced Societal collapse can often be understood in terms of an energy budget: when energy spend outweighs energy return, collapse ensues. This has taken the form of deforestation or soil erosion; currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow. The tangle of events that triggers societal collapse can be complex, and there are several threats the net does not address. But vast, networked communication can be an **antidote** to several of the most deadly diseases **threatening civilisation**. The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

### **3**

#### **CP Text: The United States federal government should substantially increase direct military-to-military communication and bilateral and multilateral hotlines with the Russian Federation and the People’s Republic of China.**

**Hotlines and dialogue prevent escalation.**

**Trenin 19** [Dr. Dmitri Vitalyevich Trenin, PhD is the director of the Carnegie Moscow Center, a think tank and regional affiliate of the Carnegie Endowment for International Peace. Strategic Stability in the Changing World. March 2019. https://carnegieendowment.org/files/3-15\_Trenin\_StrategicStability.pdf]

To maintain the minimum degree of strategic **stability**, it’s essential to prevent a direct military collision between the United States and Russia or the United States and China. With that goal in mind, there are already around-the-clock **comm**unication lines between the top military leaderships: ministers of defense, chiefs of general staff, and key U.S./NATO and Russian military personnel. Direct communication lines make it possible to **prevent** or **neutralize** incidents in the air, at sea, or on land that involve Russian and U.S./ NATO armed forces, thus **avoiding** any uncontrollable **escalation**. Communication channels between the leadership of the U.S. armed forces and the top brass of the Chinese **P**eople’s **L**iberation **A**rmy serve a similar purpose. A communication channel between the respective heads of U.S. and Russian intelligence, and between the U.S. and Chinese services, could play an important role as well. Direct contacts at the top political level are also critically important as a means of de-escalation in the most dangerous situations. In addition to constantly functioning lines of communication, **U.S.**, **Russian**, and **Chinese** heads of national security, foreign affairs, and defense should engage in **regular dialogue** on **strategic stability issues**. Such dialogue allows parties to better **understand** each other’s **strategic logic**, the contents of **military doctrines**, and the rationale behind approaches to global and regional security programs. However, broader U.S.-Russian dialogue on strategic issues will likely remain blocked for a long time due to political reasons. Functioning **arms control treaties** are **not** a sine qua non **requirement** for **strategic stability**. It is **highly unlikely** that the **U**nited **S**tates and **China** will **conclude arms control** agreements in the foreseeable future. Preserving **U.S.-Russian arms control** is already difficult enough, with **no prospect** for **improvement** visible on the horizon. But in this atmosphere of growing mistrust and mutual suspicion, discussions about strategic stability that aren’t aimed at negotiating specific agreements will likely be ineffective. The most that can be done diplomatically in the short term— or even the medium term—is to agree on conflict prevention, confidence-building, and transparency measures.

## 

## **Case**

# !

#### **No water wars – states cooperate.**

Patrice C. **McMahon 17**. Associate professor of political science, University of Nebraska. “Cooperation Rules: Insights on Water and Conflict from International Relations” in Jean Axelrad Cahan ed. *Water Security in the Middle East: Essays in Scientific and Social Cooperation*. Anthem Water Diplomacy Series. 19-37.

At least implicitly, many disciplines recognize that a changing climate with higher temperatures and altered precipitation patterns will require adaptive water- management strategies. Climate change necessitates a collective and coordinated response to water shortage, and states must yield to this reality. If these processes are not carefully calibrated to respond both to physical characteristics and to cultural norms, the path ahead will have grave implications for future generations who will experience human suffering, social and political discord and an impoverished environment. An important question for political scientists is this: will water insecurity—whether it is caused by access, allocation, degradation or scarcity—necessarily result in violent conflict between states? The answer may depend on whom you ask and the region in question. Although research on water politics and international conflict has led to separate substantial literatures, this chapter considers them together and presents a tentative answer. I argue that, although literature in international relations (IR) is historically predisposed to focusing on war and interstate violent conflict, when it comes to arguments and research on water there is a **decisive**, if largely overlooked, **consensus** that it is cooperation rather than violent conflict that dictates interstate water relationships. The past is not always the best predictor of the future, but research on war and conflict thus far indicates that water insecurity is **unlikely** to result in violent conflict between states. As Aaron Wolf puts it, water may be a tool, target or victim of warfare, but up until this point it **has not been the cause** (2007, 4). Nonetheless, a significant amount of scholarship in IR **assumes**, and sometimes **asserts**, that problems with access to freshwater and water insecurity will not only lead to violence within states but also result in interstate war (Setter et al. 2011 ). Especially for scholars who focus on certain regions where water scarcity is severe, where political tensions are significant and where there are no international institutions in place to promote cooperation, violent conflict is overdetermined. The Middle East is usually considered one of the likely hot zones where the quest for water is seen as a catalyst for future conflict either within states or between states (Dinar 2002). This volume’s focus on the Middle East and peace building demonstrates clearly that conflict over water is not inevitable and that many institutions, mechanisms and ideas exist to encourage states, local authorities and members of civil society to use water as a **conduit for cooperation and peaceful interactions**. Employing literature from IR and security studies, this chapter provides several explanations for cooperation and many examples of cooperative water management, even in the Middle East.

#### **No water wars - drought diplomacy solves.**

**AFP 21 [(**Agence France-Presse, international news agency headquartered in Paris, world's oldest news agency) **“**Drought diplomacy boosts Israel-Jordan ties,” Al Jazeera, 8/31/2021] JL

But, experts say, instead of the pressure provoking arguments, Israel and Jordan could be poised for an **unprecedentedboom in water cooperation** amid technological advancements and climate pressures. **Warnings about looming “water wars”, including in the Middle East, were often inflated**, said Duke University professor Erika Weinthal. “Water is a resource that allows for adversaries to actually find ways to cooperate,” said Weinthal, a specialist in global environmental politics, who has worked extensively on Israel-Jordan issues. “If you look at the data, you see more cooperation over water than conflict, and where there is conflict, it is usually verbal.” Jordan is one of the world’s most water-deficient countries, suffering from extreme droughts, and **water cooperation with Israel long pre-dates a 1994 peace deal** between the two. The issue came to prominence in 1921, when Pinhas Rutenberg, a Russian-Jewish engineer who had moved to Palestine, convinced British authorities and Hashemite royals to approve a hydropower station where the Yarmuk tributary meets the Jordan River. It continued after Israel’s founding in 1948, through decades when the nations were officially at war. Water deals, like all bilateral ties, suffered in recent years under former Israeli prime minister Benjamin Netanyahu, whom critics have accused of neglecting Jordan as he pursued deeper ties with Iran’s foes in the Gulf. But there have been signs of progress since Prime Minister Naftali Bennett’s government took office in June, with the countries agreeing to their largest-ever water transaction. New technologies reducing costs have made seawater desalination “a profitable concern”, with investors from Israel, Jordan and the United Arab Emirates – which just normalised ties with the Jewish state – showing interest, said Gidon Bromberg, Israel director at EcoPeace Middle East. “The people that are going to invest in more desalination very much see the opportunities for profit,” Bromberg said. It means that Israel – one of the world’s desalination leaders – can **sell more water**, including natural freshwater from the Sea of Galilee, **to Jordan** without threatening domestic demand, he said. And Israel has a new incentive to do so, because it now needs something from Jordan in return, according to analysts. To meet the 2015 Paris climate accord commitments, Bennett’s government has approved a target of reducing greenhouse gas emissions in the energy sector by at least 85 percent. Multiple assessments show Israel does not have enough land to ramp up the necessary solar production, so it will have to buy solar power from Jordan to hit its targets. “For the very first time, all sides will have something to sell and something to buy,” said Bromberg, whose organisation works in Israel, Jordan and the occupied Palestinian territory, which is also struggling from a worsening water crisis. This unprecedented alignment of interests could help repair semi-fractured diplomatic relations, he argued. “There are relatively few opportunities to try and rebuild trust,” Bromberg added. “Water and energy are one of those rare opportunities.”

#### **No warming extinction – it takes 12 degrees without adaptation**

**Farquhar et al. 17** [Sebastian Farquhar (PhD Candidate in Philosophy at Oxford and Project Manager at Future of Humanity Institute), John Halstead (climate activist and one of the co-founders of 350 Indiana-Calumet), Owen Cotton-Barratt (PhD in pure mathematics at Oxford. Previously worked as an academic mathematician and as Director of Research at the Centre for Effective Altruism), Stefan Schubert (Researcher at Department of Experimental Psychology at University of Oxford), Haydn Belfield (Associate Fellow at the Leverhulme Centre for the Future of Intelligence. He has a background in policy and politics, including as a Senior Parliamentary Researcher to a British Shadow Cabinet Minister, as a Policy Associate to the University of Oxford’s Global Priorities Project, and a degree in Philosophy, Politics and Economics from Oriel College, University of Oxford), Andrew Snyder-Beattie (Director of Research at the Future of Humanity Institute at Oxford, Holds degrees in biomathematics and economics and is currently pursuing a PhD in Zoology at Oxford), Existential Risk: Diplomacy and Governance, Global Priorities Project (Bostrom’s Institute), 2017-01-23, https://www.fhi.ox.ac.uk/wp-content/uploads/Existential-Risks-2017-01-23.pdf] TDI

The most likely levels of global warming are **very unlikely to cause human extinction.**15 The existential risks of climate change instead stem from tail risk climate change – **the low probability of extreme levels of warming** – and interaction with other sources of risk. It is impossible to say with confidence at what point global warming would become severe enough to pose an existential threat. Research has suggested that warming of 11-**12°C would render most of the planet uninhabitable**,16 and would completely devastate agriculture.17 This would pose an extreme threat to human civilisation as we know it.18 Warming of around 7°C or more could potentially produce conflict and instability on such a scale that the indirect effects could be an existential risk, although it is extremely uncertain how likely such scenarios are.19 Moreover, the timescales over which such changes might happen could mean that **humanity is able to adapt enough to avoid extinction in even** very **extreme scenarios**. The probability of these levels of warming depends on eventual greenhouse gas concentrations. According to some experts, unless strong action is taken soon by major emitters, it is likely that we will pursue a medium-high emissions pathway.20 If we do, the chance of extreme warming is highly uncertain but appears non-negligible. Current concentrations of greenhouse gases are higher than they have been for hundreds of thousands of years,21 which means that there are significant unknown unknowns about how the climate system will respond. Particularly concerning is the risk of positive feedback loops, such as the release of vast amounts of methane from melting of the arctic permafrost, which would cause rapid and disastrous warming.22 The economists Gernot Wagner and Martin Weitzman have used IPCC figures (which do not include modelling of feedback loops such as those from melting permafrost) to estimate that if we continue to pursue a medium-high emissions pathway, **the probability of eventual warming of 6°C is around 10%,**23 and of 10°C is around 3%.24 These estimates are of course highly uncertain. It is likely that **the world will take action** against climate change once it begins to impose large costs on human society, long before there is warming of 10°C. Unfortunately, there is significant inertia in the climate system: there is a 25 to 50 year lag between CO2 emissions and eventual warming,25 and it is expected that 40% of the peak concentration of CO2 will remain in the atmosphere 1,000 years after the peak is reached.26 Consequently, it is impossible to reduce temperatures quickly by reducing CO2 emissions. If the world does start to face costly warming, the international community will therefore face strong incentives to find other ways to reduce global temperatures.

**PTD**

#### **No space PTD – no sovereignty.**

**Jonckheere 18** – Master’s Dissertation on Public and International Law, Evarist Ghent University. (Evarist Jonckheere, reviewed by Maes Frank and René Oosterlinck, professors at Evarist Ghent University, “The Privatization of Outer Space and the Consequences for Space Law”, May 2018)

121 The common heritage of mankind principle has been applied throughout history in the form of the ‘public trust’doctrine.122 However, this application **is problematic in outer space.** The doctrine proposes that states possessall the property rights of the common areas. While these states remain the owners, they can subsequently convey usage rights of the property to its residents – possibly private enterprises. This results in a division between the rights of the state and the rights conveyed to its residents. Both parties have their own interests in owning the area and using its resources, but the state’s interest is the **primary concern**. Article I of the **Outer Space Treaty** seemingly creates such a public trust situation. **However**, states **do not have the purposed sovereignty over outer space** that is **necessary** in the public trust doctrine. Sovereign control over real property by a state is needed before any rights can be conferred to private actors. **States do not have this control in outer space** and as a result, states would not be able to recognize private ownership there.

#### **Court-empowered public trust lacks legitimacy and has no legal teeth to compel corporations.**

**Byrne 12** (J. Peter, Professor of Law, Georgetown University Law Center, “The Public Trust Doctrine, Legislation, and Green Property: A Future Convergence?”, University of California, Davis Law Review, Vol. 45:915, pp. 915-930)

Professor Mary Wood has articulated a theory of a planetary public trust in the atmosphere.46 Concerned that climate change will bring catastrophe and that environmental law will not adequately address it, she has urged a global effort to secure judicial enforcement of a public trust ordering carbon accountings and “enforceable carbon budgets.”47 Professor Wood admirably explains the doctrinal foundation by asserting that “it is no great leap to recognize the atmosphere as one of the crucial assets of the public trust.”48 One must respect the boldness of such an effort to counter looming disaster, based upon a plausible chain of legal reasoning. Yet, the initiative also exposes the public trust doctrine’s greatest weakness: it simply claims too much. The purpose of declaring the atmosphere a public trust is to empower judges to employ traditional legal tools, such as nuisance law, to order private entities to reduce harmful emissions and governments to introduce other mitigation measures. Thus, courts around the world would truly become the “Platonic guardians”49 of society, establishing basic environmental norms on the basis of a valuable yet unfamiliar legal doctrine. **Such authority would lack political legitimacy**. To respond to climate change, political majorities need to acknowledge the problem and authorize their institutions to take the difficult painful measures necessary to address it. **Pressing for judicial recognition** of a public trust in the atmosphere seems impractical in the short run and **may be counterproductive** in the long run. The Supreme Court’s recent decision in American Electric Power Co. v. Connecticut50 demonstrated that courts are unlikely to accept authority to order reductions in emissions without legislative direction and administrative support. The Court unanimously held that because Congress addressed carbon pollution through the Clean Air Act, it had displaced the federal common law of nuisance. As a result, courts were without authority to entertain federal nuisance actions against major emitters of greenhouse gases. Underlying the decision and mirrored in other climate nuisance decisions, Justice Ginsburg’s opinion for the unanimous Court expressed strong judgment that tackling climate change requires complex and coordinated judgments about science and economics beyond the judicial capacity: It is altogether fitting that Congress designated an expert agency, here, EPA, as best suited to serve as primary regulator of greenhouse gas emissions. The expert agency is surely better equipped to do the job than individual district judges issuing ad hoc, case-by-case injunctions. Federal judges lack the scientific, economic, and technological resources an agency can utilize in coping with issues of this order. Judges may not commission scientific studies or convene groups of experts for advice, or issue rules under notice-and-comment procedures inviting input by any interested person, or seek the counsel of regulators in the States where the defendants are located. Rather, judges are confined by a record comprising the evidence the parties present. Moreover, federal district judges, sitting as sole adjudicators, **lack authority to render precedential decisions binding** other judges, even members of the same court.51 Although the case dealt with displacement of federal common law, American Electric Power stands as a strong admonishment against employing judicial power to comprehensively address climate change. Even if judges felt confident enough to order emission reductions based upon a public trust in the atmosphere, such orders might undercut long-term efforts to reach environmental sustainability. **There is no substitute for persuading U.S. citizens to support protection of the atmosphere through the democratic political process.** Because implementation will require widespread and willing compliance, such measures require political legitimacy, which the courts lack. Reducing emissions substantially and adapting to inevitable climate change will **require people to change their preferences and behavior.** Political debate and messy compromises will more likely mobilize such change than the judicial extensions of legal principles, notwithstanding the current stalled state of national discussions of climate change. My disagreement with Professor Wood about which institutions should address climate change does not mean that I think the public trust doctrine cannot play a constructive role in the legal struggle. Legal recognition of public property rights in the atmosphere may improve political discourse and should reduce the threat that courts will find reasonable regulations — reducing emissions or lessening harms from climate change — to constitute regulatory takings. Reasonable legislative adjustment of competing property rights should be judged more generously than regulations that diminish property. In my approach, courts are asked to permit rather than command legislative action.

#### **0% risk chance asteroid mining takes off in the near future – abundance, gravity, power, and rebalancing.**

David **Fickling 20**, covering commodities, as well as industrial and consumer companies. He has been a reporter for Bloomberg News, Dow Jones, the Wall Street Journal, the Financial Times and the Guardian., 12-21-2020, "We’re Never Going to Mine the Asteroid Belt," Bloomberg,[https://www.bloomberg.com/opinion/articles/2020-12-21/space-mining-on-asteroids-is-never-going-to-happen //](https://www.bloomberg.com/opinion/articles/2020-12-21/space-mining-on-asteroids-is-never-going-to-happen%20/) AAli

It’s such an alluring vision that real money has been put toward its realization. Alphabet Inc.’s Larry Page and Eric Schmidt, and Hollywood filmmaker James Cameron (director of the Alien sequel Aliens) all invested in Planetary Resources Inc., which raised venture finance with its mission of mining high-value minerals from asteroids and refining them into metal foams that could be shot back down to Earth. Deep Space Industries Inc., a rival startup, also had bold plans to extract resources from space. Though both companies have now been bought out and their projects put into mothballs, the idea of a space mining industry has refused to die. It’s wonderful that people are shooting for the stars — but those who declined to fund the expansive plans of the nascent space mining industry were right about the fundamentals. **Space mining won’t get off the ground in any foreseeable future — and you only have to look at the history of civilization to see why.** One factor rules out most space mining at the outset: **gravity**. On one hand, it guarantees that most of the solar system’s best mineral resources are to be found under our feet. Earth is the largest rocky planet orbiting the sun. **As a result, the cornucopia of minerals the globe attracted as it coalesced is as rich as will be found this side of Alpha Centauri.** Gravity poses a more technical problem, too. Escaping Earth’s gravitational field makes **transportingthe volumes of material needed in a mining operation hugely expensive**. On Falcon Heavy, the large rocket being developed by Elon Musk’s SpaceX, transporting a payload to the orbit of Mars comes to as little as $5,357 per kilogram — a drastic reduction in normal launch costs. Still, at those prices just lofting a single half-ton drilling rigto the asteroid belt **would use up the annual** exploration **budget of a small mining company**. **Power** is another issue. The international space station, with 35,000 square feet of solar arrays, generates up to 120 kilowatts of electricity. That drill would need a similar-sized power plant — and most mining companies operate multiple rigs at a time. Power demands risedrastically once you move from exploration drilling to mining and processing. Bringing material back to Earth would raise the costs even more. Japan’s Hayabusa2 satellite spent six years and 16.4 billion yen ($157 million) recovering a single gram of material from the asteroid Ryugu and returning it to Earth earlier this month. What might you want to mine from space? **Water** is an essential component of most earth-bound mining operations and a potential raw material for hydrogen-oxygen fuel that could be used in space. The discovery in October of ice molecules in craters on the Moon was taken as a major breakthrough. Still, the **concentrations** of 100 to 412 parts per million **are extraordinarily low by terrestrial standards.** Copper, which typically costs about $4,500 per metric ton to refine, has an average ore grade of about 6,000 ppm. **The more promising commodities are platinum, palladium, gold and a handful of rare related metal**s. Because of their affinity for iron, these so-called siderophile elements mostly sunk toward the metallic core of our planet early in its formation, and **are relatively scarce in the Earth’s crust**. **Estimates of their abundance on some asteroids, such as the enigmatic Psyche 16 beyond the orbit of Mars, suggest concentrations several times higher than can be found in terrestrial mines.** Still, human ingenuity is all about cutting our coat according to our cloth. If such platinum-group metals are going to justify the literally **astronomical costs of space mining**, they’ll **need** to count on **sustained high prices** for the decade or so that would be needed to get such an operation up and running — and that sort of situation is all but unheard-of in the materials industry. When prices of an essential commodity get excessively high, chemists get extraordinarily good at finding ways to avoid using it, scrap merchants improve their recycling rates, and miners discover new deposits that wouldn’t have been viable at lower prices. Even criminals get in on the game. That eventually pushes supply up and demand down, so that prices rebalance — a dynamic we’ve seen play out in the markets for rare earths, lithium and cobalt in recent years. The world mines about three times more platinum than it did in the early 1970s, but prices have barely changed once adjusted for inflation.

## **A2 – Space War**

### **Turn – Asset Protection**

#### **Space commercialization is a strong constraint on conflict – solves the adv 2 and 1**

#### Wendy N. Whitman **Cobb 20**, is currently an associate professor of strategy and security studies at the US Air Force's School of Advanced Air and Space Studies, 7-21-2020, "Privatizing Peace: How Commerce Can Reduce Conflict in Space," Routledge & CRC Press, <https://www.routledge.com/Privatizing-Peace-How-Commerce-Can-Reduce-Conflict-in-Space/Cobb/p/book/9780367337834> // AAli

By the end of the twentieth century, scholars zeroed in on the democratic peace theory which attempts to explain why democracies do not go to war with other democracies and why, in some analyses, they seem to be more prone to peace in general than non-democracies. Similar to the golden arches, what is it about democracy that seems to induce such peacefulness? Academics have proposed everything from the nature of mediating institutions to the restraint of public opinion, to trade relations. While these variations will be explored further in Chapter 3, of interest here are the versions that focus explicitly on trade, commercial ties, and capitalism. Along these lines, Erik Gartzke argues, "peace ensues when states lack differences worthy of costly conflict."31 **If the costs of conflict are too high**, then **states should be more unlikely to engage in it**. To this end, economic globalization can provide the means through which costs are raised. “The integration of world markets not only facilitates commerce, but also creates new interests inimical to war. Financial interdependence ensures that damage inflicted on one economy travels through the global system, **afflicting** even **aggressors**."32 Focusing his analysis primarily on the influence of capitalism, Gartzke's findings suggest that states with markets more closely tied to the global economy are far less likely to experience a militarized dispute. In thinking about the space environment today, there are obvious principles of capitalism at work. However, China, a major spacefaring state that has been making capitalist reforms, arguably remains far from a true capitalist country. This is especially true in their space industry which is heavily subsidized by the state and almost wholly integrated with China's military.34 Many other states continue to subsidize space activities heavily as well. A better approach through which to examine conflict in space is presented by an offshoot of the capitalist peace which is termed the commercial peace. The commercial peace thesis emphasizes the role of trade and the connections made through it to explain a lack of conflict. Han Dorussen and Hugh Ward write: Trade is important not only because it creates an economic interest in peace but also because trade generates 'connections' between people that promote communication and understanding.... Based on these ideas, the flow of goods between countries creates a network of ties and communication links. If two countries are more embedded in this network, their relations should be more peaceful 35 Given the interconnectedness of the global economy to space-based assets, a version of the commercial peace thesis can be used to argue that the chance of conflict in space is less than is commonly understood or recognized precisely because of the extent to which **the global economy has become dependent on space-based assets.** To understand this argument, consider a scenario in which Russia, in preparation for a new assault on Eastern Europe, attacks a key US military satellite with the purpose of disrupting and disabling military communications in Europe. This action would conceivably enable the Russians to undertake their attack under more favorable conditions and prevent a quicker response from America and its allies. However, if the satellite was attacked via an ASAT that kinetically destroyed the US satellite, the debris cloud created from the attack could have disastrous consequences beyond military communications Much like the movie Gravity, the debris cloud could cause a chain reaction, hitting and ~~disabling~~ dismantling other satellites that would in turn disrupt civilian communications, business transactions, and perhaps even Russian military satellites. The economic effects of lost satellites would not be restricted to one country alone; the global economic consequences in terms of lost property (satellites), lost transactions, and financial havoc would echo throughout the world, including in Russia itself. Finally, the attack on one satellite could even ultimately endanger the ISS and its inhabitants, several of which are Russians. Destruction of the ISS would negate billions of dollars in investment from not just Russia, but other countries that have participated in it including Japan, Italy, and Canada. Therefore, an attack on a US military satellite would not just be an attack on one but an attack on all. While the previous scenario highlights several reasons why it would not be in Russia's best interest to attack a US satellite, this book argues that the economic argument is both the strongest and the most restraining especially as space becomes more congested, competitive, contested, and commercialized. The emergence of private space companies enhances this argument. "In the commercial sector, companies need reliability and legal enforcement mechanisms if they are going to operate profitably in a shared environment."36 In order to foster the growing area of space commercialization, companies must be assured that the activities they undertake in space will be protected in some way or, at a minimum, allowed to proceed to the extent where they can reap the profit. This could be done through international organizations that would provide some sort of space traffic control, but **the likelihood of a major international breakthrough on rules regarding space is unlikely in the near term**. Therefore, **actors must rely on** the**protections afforded them by an increasingly globalized economy that is ever more dependent on space-based assets**.