# 1AC

## 1AC---Intellectual Property

### ADV---Geopolitics

**NATO tech incentives are falling behind---countries need an innovation framework.**

**Murray, 20** [Rob Murray is NATO’s Head of Intelligence, Surveillance and Reconnaissance, 9-1-2020, accessed on 6-19-2022, Nato Review, "NATO Review - Building a resilient innovation pipeline for the Alliance", https://www.nato.int/docu/review/articles/2020/09/01/building-a-resilient-innovation-pipeline-for-the-alliance/index.html]/ISEE

The head of NATO’s Innovation Unit looks at how the Allies need to leverage comparative advantage, creativity and capital to win the race to adopt emerging disruptive technologies. Dwight Eisenhower, NATO’s first Supreme Allied Commander Europe and later the 34th President of the United States, argued for the “most defense at less cost with least delay”. He believed that the real challenge was to “build this defense with wisdom and efficiency. […] We must achieve both security and solvency. In fact, the foundation of military strength is economic strength.” (Congressional Records, 1962) These statements were made against the backdrop of an existential arms race with the Soviet Union and the bipolar world of the Cold War. Through America’s net assessment strategy (comparing two systems together and seeking opportunities/risks), capitalism and competitive spending – underpinned by liberal democratic values – the West used these tools to beat the Soviets. It worked and that was the “end of history”. Maybe not. Today, NATO’s competition is a global one and the race is one of technological adoption – that is, the acceptance, integration and use of new technology in society. From artificial intelligence to quantum and everything in between, governments are in a race to leverage these technologies at scale and speed – first adopter advantage for emerging disruptive tech could not be more prevalent in the world of geopolitics and deterrence. Indeed, the nations that win this race may be those with the most agile bureaucracy rather those with the best technology. From artificial intelligence to quantum and everything in between, governments are in a race to leverage these technologies at scale and speed In contrast to the Cold War, the United States and its NATO Allies are unlikely to simply outspend others. In a post-Covid-19 world, rebalancing public finances could see further financial pressure placed on Allied defence budgets. We now need a different advantage, one which will deliver in the short term and build resilience over the longer term – more defence at less cost with least delay. This starts with our people, their creativity, education and access to funding. It ends with a robust pipeline of new dual-use (civil and military) technologies constantly being created, commercialised and capitalised upon. The Alliance’s transatlantic nature places it in a unique position within the international order to provide both demand-side policies and supply-side resources that can genuinely build such a pipeline, creating not only innovations but entirely new markets – as Eisenhower noted: the foundation of military strength is economic strength. Recent history would suggest, the model of democracy and Allied governments’ willingness to make big bets on mission-oriented technology does indeed create new markets and it is this model, underpinned by shared values, which will be key to NATO’s longer term success. But what about now? In the short term, NATO innovation needs to lay the foundations for Allies to realise those benefits of an Alliance-wide approach. Answers may lay in focussing on two core areas: addressing the fragmentation of researchers, academia, start-ups and government at the beginning of this pipeline – that is, managing uncertainty. being able to adopt and scale these new technologies as and when they are ready – meaning the necessity of nimble, agile investment and acquisition entities across both public and private sectors, all of which need to be equally incentivised to take significant levels of risk. These activities are difficult in their own right but combining them into an Alliance innovation pipeline, while attempting to make use of the comparative advantage each Ally brings to the table, leaves the Alliance with a “wicked problem”. It is wicked because it demands a combination of both sustained and disruptive innovation (which seeks to radically change the status-quo) occurring simultaneously across NATO. Leveraging diversity In aggregate, the Alliance has an abundance of world-class academic institutions, the finest scientific researchers, amazingly creative start-ups and a mature well-resourced financial eco-system. These constitute the core ingredients, which, when combined and focused, can solve dual-use, ‘tough-tech’ problems – that is, challenges facing both defence and non-defence sectors, such as augmented reality and quantum computing. A dual-use model is important for disruptive defence innovation because when we eventually get to commercialising such tough-tech breakthroughs, Allies will need start-ups and tech firms to maximise the reach of their products by looking at ‘total addressable problems’ rather than ‘total addressable markets’. In other words, we should not want start-ups building the next wave of technology to have governments as their only customer. We want such technologies to benefit society too and therefore have civil, commercial use. Such commercial use then drives the subsequent development of said technology, pulling the government-side along with it, which means better products and technology all round – building defence with wisdom and efficiency. Indeed, dual-use potential will help align the incentives of our researchers, entrepreneurs and finance communities as the prospective commercial upside (problem) will be big enough for them to undertake the investment of commercialisation. The geopolitical advantage such disruptive innovation fosters (picking winners via big bets on the next breakthrough) will also be large enough to allow for its creation via early stage patient public sector capital investment. But before we get to commercialisation, we need to create the direction of what it is we wish to see commercialised. Technological disruptive innovation does not just happen. It starts with a mission-oriented vision, where measuring risk is impossible and only uncertainty reigns. It requires bold moves that will signpost the future; the confidence to place big bets on technology not yet invented; and an ability to pick winners – all of which must be underpinned by persistent engagement, encouragement and enlightenment. Since the end of the Second World War, only one entity has taken-on such uncertainty: Allied governments (see image below). Technological disruptive innovation does not just happen. It starts with a mission-oriented vision, where measuring risk is impossible and only uncertainty reigns. Step 1: agree innovation priorities among Allies The first step towards fixing the fragmentation of Allied disruptive innovation is for Allies, through the NATO framework, to focus on agreed innovation priorities. This will allow them to pick winners and invest public patient capital – the private sector is unlikely to invest venture capital as the risk is simply too high (nations tend not to go out of business and can take on such uncertainty). This direction and investment will help to maintain NATO’s overarching technological edge. Indeed, as Keynes and Weber argued, the ability to make things happen that otherwise would not needs a combination of technological, policy and bureaucratic skills matched by investment. Step 2: leverage the comparative advantage of the Alliance If Allies are to achieve most defence at less cost with least delay built with wisdom and efficiency, then it is logical to leverage those natural advantages that geography and skill sets afford NATO member states. A network of the finest universities across the Alliance should be established and resourced to allow cutting-edge multinational research to take place across multiple disruptive technologies simultaneously. Perhaps Stanford could lead on relevant AI research, while Delft and the University of Chicago partner on quantum; maybe Imperial College London looks at biotechnologies with Johns Hopkins University, while Tallinn University centres its efforts on next generation cyber defences; and the École Polytechnique and Massachusetts Institute of Technology examine future telecommunication needs. The point is Allies will need to leverage such networks of universities in conjunction with national government research labs to provide maximum innovation coherence. The diversity of multinational, multi-disciplined defence and security innovation research teams, which NATO can engender, is a huge asset and is the Alliance’s competitive advantage. So to fix the fragmentation at the beginning of our innovation pipeline, we need to have clear mission-oriented Allied direction on where to focus resources for disruptive innovation research, maximising comparative advantage across our geography(s) and linking up universities with government research entities. All of this could be funded by Allies through public sector early stage patient capital. Please see footnote below for source references for this image. It is prohibited to re-use or reproduce this copyright material without a consent of the copyright holder - Penguin Books Limited (UK edition), Public Affairs (US edition) & Wylie Agency (French, Polish, Turkish, Russian, Ukrainian editions). As the image above shows, governments have done this before and the technologies created (internet, GPS, touchscreen et al, which fed into the building of the iPod and iPhone) have had a huge impact on the way we live. However, for all those successes, there will have been many failures and this is where Allies will need to get comfortable. To quote one anonymous Allied defence innovator: “if our success rate begins to go above 35 per cent, I start to worry. It means we’ve stopped taking big enough risks.” Indeed, obvious research areas Allies might collaborate on include the follow-on to 5G or the technology needed to enable total supply chain assurance, for example. Utilise, adopt and scale Where the first stage of NATO’s innovation pipeline should centre on the creation of disruptive innovative technologies, stage two is all about their utilisation and adoption at scale. Utilisation This is where initial public venture capital (VC) entities, such as in-q-tel, NSSIF, DefInvest and SmartCap, can help ‘crowd in’ trusted private venture capital to provide safe financing to NATO’s fledgling start-ups, thereby minimising their susceptibility to nefarious foreign direct investment. This issue is impacting many start-ups as they raise funds and carries implications when they wish to export their products but may not be able to, due to unfriendly foreign ownership and technology transfer concerns raised by Allied governments. In addition to Venture Capital entities supporting the trusted financing of Allied start-ups, innovation accelerators – in combination with elite universities, and supported by Allied defence professionals (operators, investors and procurement experts) – can help provide the necessary ‘polish’ to start-ups and their value propositions. This will create the necessary ecosystem to maximise the likelihood of commercial success. The United States’ Air Force Ventures is an interesting model of this approach, which helps to acquire new start-up products at speed without being bogged down by acquisition bureaucracy. Adoption But even when dual-use disruptive innovation is commercialised, turned into prototypes and the product/market fit is achieved, the challenge of getting initial contracts from customers (both government and commercial) remains. Cash is king for young companies, as they do not have the financial reserves to work through long acquisition processes often associated with Allied governments. If start-ups cannot close deals in a matter of weeks and months rather than quarters and years, then they would not attempt to (opportunity cost). Now, some commentators may argue: Why spend so much time discussing start-ups? Traditional large armaments companies can be innovative. Why go through all this effort for tiny companies that may or may not make it? The reason is simple: the competition and creativity generated by start-ups is good for the Allied defence ecosystem. Allied open democracies and open educational models bring about levels of creativity which other forms of government are unable to do. This maximises disruptive innovation efforts and, as such, forces incumbents (large companies) to compete with new, fresh thinking – it builds resilience. Speaking at a workshop on technology, security and finance, in June 2020, NATO Deputy Secretary General Mircea Geoană emphasised that “we need to develop a culture of innovation, become more agile, have more flexible governance arrangements and dare to take risks.” Such creativity and disruption is NATO’s competitive advantage. Therefore, NATO needs to adapt its acquisition models to accommodate start-ups, their timelines and their potential. This fundamentally means our acquisition professionals should be empowered to take measurable risk. As one Ally’s legislative body recently remarked: “Defence stakeholders must integrate the risk culture, which is the only way to both enable innovation in defence and to very quickly capture dual or civilian innovation. Acculturation to innovation is a priority.” Scaling If we have managed to commercialise new technology, adopt it quickly as a prototype and now wish to scale, how might this be done? Big tech could have a role to play here. In May, it was reported that, in the first quarter of 2020, Facebook, Apple, Amazon, Alphabet and Microsoft spent over 29 billion US dollars on research and development (R&D). That is more than the entire 2020 NASA budget and represents a 17 per cent increase on the same time period last year. In November 2018, the US Congressional Research Service noted: “In 1960, the United States accounted for 69% of global R&D, with U.S. defense-related R&D alone accounting for more than one-third of global R&D (36%). Additionally, the federal government funded approximately twice as much R&D as U.S. business. However, from 1960 to 2016, the U.S. share of global R&D fell to 28%, and the federal government’s share of total U.S. R&D fell from 65% to 24%, while business’s share more than doubled from 33% to 67%. As a result of these global, national, and federal trends, federal defense R&D’s share of total global R&D fell to 3.7% in 2016.” Big tech has the resources and wherewithal to be able to scale new technologies at speed. They could partner with successful start-ups, perhaps through a joint venture or an Alliance-wide public-private partnership, to provide those scale-up skills that start-ups lack (for example, compliance, legal support, production on mass, intellectual property protection) without necessarily acquiring these young companies. Sceptics will say this would present big tech with too many opportunities for mergers and acquisitions and thus create monopolistic risk. They might be right and clearly incentives for all parties would need to be found. But, if we are to win the technological adoption race built upon liberal democratic values, we need to use every advantage we have. To utilise, adopt and scale these technologies effectively, we must have at the forefront of our minds the need to work at the speed of relevance rather than the speed of approval. This means new ways of financing technologies, interacting with tech firms both big and small, and much more agile acquisition models, which carry the empowerment and incentives to those responsible for equipping the Alliance. Such a cultural shift will not be easy – but innovation rarely is. As we look towards NATO 2030 and heed Eisenhower’s words of achieving both security and solvency, while noting that the foundation of military strength is economic strength, a resilient innovation pipeline that leverages our comparative advantage, creativity and capital will be critical to the Alliance maintaining its technological edge built on shared Allied values. This is the first of a mini-series of articles in which NATO’s innovation team will focus on technologies Allies are looking to adopt and the opportunities they will bring to the defence and security of the NATO Alliance.

#### Strengthening IP will be the cornerstone of ethical and sustainable emerging tech development as well as maintaining tech leadership.

**Iancu and Kappos, 21** [Andrei Iancu is a Senior Adviser (Non-resident) and Co-Founder, Renewing American Innovation Project, David J. Kappos Partner Cravath, Swaine & Moore, and Former Under Secretary of Commerce for Intellectual Property of United States, 7-12-2021, accessed on 7-6-2022, Csis, "U.S. Intellectual Property Is Critical to National Security", https://www.csis.org/analysis/us-intellectual-property-critical-national-security]/ISEE

July 12, 2021 America has been the undisputed global leader in science and technology over the past century. But this global order is in flux. China’s extensive investments and years of strategic planning—including strengthening its intellectual property (IP) regimes—have enabled it to catch up to, and in some areas surpass, our capabilities in artificial intelligence (AI) and other emerging technologies. Congress is mulling over legislative proposals to counter China’s economic and geopolitical ambitions for technological dominance and the president is getting ready to announce a national AI strategy. IP reform must be a part of this sea change to ready the United States for the AI era. The newly emerging technologies are vastly different from technologies of the past. AI provides computers the ability to learn on their own and make decisions that have traditionally required human intelligence. And when combined with other emerging technologies, its power will be truly dramatic. Quantum computers, for example, which are based on the behavior of energy and materials on the atomic and subatomic levels, can be millions of times faster than current classical computers. Just imagine military equipment driven by AI and operated by quantum computers. The country that gains the lead in these technologies will enjoy towering national security advantages, including in economic and military power. For the United States to maintain its technological edge, we must encourage Americans to make more discoveries in AI and other emerging technologies. This in turn requires providing strong IP rights to incentivize and protect the huge investments required to make those discoveries. China’s president Xi Jinping recognizes the critical role IP plays in innovation and ultimately national security and has underscored its importance to new fields such as big data, AI, and genetic technology. The irony is that China relentlessly steals IP from the United States, while simultaneously working to strengthen its own IP system. China now reliably issues patents on cutting-edge technologies, provides injunctions for infringement of patented inventions, and has created specialty IP courts with procedures and rules similar to those of Western courts. China’s AI patenting has increased dramatically in the past few years and is distributed broadly across its companies, government organizations, and universities, while U.S. patenting on AI comes mostly from large companies. On the international stage, China uses its IP policies to attract innovation to its borders and influence the adoption of its technologies as global standards. Although we are undeniably in a race for technology leadership, the United States is failing to leverage IP to its full advantage. By including IP rights in the Constitution, America had granted itself a global head start in the industrial revolution. But the statute that defines the types of inventions eligible for patent protection has effectively not changed since 1793, well before any of the technologies of the modern era. This has left the Supreme Court to hold recently that some of the most critical inventions at the very core of AI and some other emerging technologies are outside the scope of our patent laws. This puts the United States at a significant disadvantage vis-à-vis our key competitors. We are also behind our competitors when it comes to IP policies surrounding the big datasets necessary for AI. If we are to maintain our technological lead, we must reexamine all such key IP weaknesses and embrace IP policies that will incentivize and protect investments in creating AI and other emerging technologies. These are bipartisan issues. As former directors of the United States Patent and Trademark Office (USPTO) in Democrat and Republican administrations, we know that the U.S. government has the expertise and capabilities to develop comprehensive IP policies to fuel innovation aligned with our national security interests. This government-wide expertise must be coordinated. A whole-of-government approach to develop comprehensive IP policies is exactly what has just been recommended by the National Security Commission on Artificial Intelligence (NSCAI). An independent commission created by Congress, NSCAI recently published a report that recommends elevating U.S. IP policy to a national priority **integrated** into our national security strategies. Under NSCAI’s proposal, the secretary of commerce, in coordination with the USPTO director and leaders of other agencies, would recommend reforms and new policies that strengthen our IP system and encourage more American innovation. As reflected in NSCAI’s recommendations, public deliberation with stakeholders in industry and academia will be critical in exploring these issues. If we are going to win the race for AI and other technologies critical to our national security, we must use every available tool to expand America’s innovation engine. This means pulling America’s IP levers to optimize technology and economic competitiveness. The United States should implement NSCAI’s IP recommendations.

#### Norm setting over AI is key to maintain a US led order. Anything else causes extinction.

Carayannis and Draper, 22 [Elias G. Carayannis works for George Washington University in the European Union Research Center, John Draper works for the Economics and Business Research Committee at the Center for Global Nonkilling, 1-11-2022, accessed on 7-8-2022, PubMed Central (PMC), "Optimising peace through a Universal Global Peace Treaty to constrain the risk of war from a militarised artificial superintelligence", https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8748529/]/ISEE

While some maintain an artificial general intelligence (AGI), i.e., human or above human artificial intelligence (AI), is impossible (Fjelland 2020), others believe an AGI is attainable (Goertzel and Pennachin 2020; Wang and Goertzel 2012). In the latter instance, that the world has not attained global peace is a risk factor for the development of an AGI (Yamakawa 2019). Consequently, the international defence community is beginning to consider the national security risk posed by AGI development and its implications for international relations (IR), including calls to act (De Spiegeleire et al. 2017:107). One risk is that a single nation–state developing an AGI could ‘lock in’ economic or military supremacy as an ‘end point’ to competition in international politics, as that state would be able to prevent a rival AGI being developed and through accumulating power would establish global domination (Horowitz 2018:54). AI is already a major national security issue because it can be militarized, employed in adversarial contexts, and provide a decisive advantage in terms of economic, information and military superiority (Allen and Chan 2017; Babuta et al. 2020; National Security Commission on Artificial Intelligence [NSCAI] 2021). Consequently, the 2021 NSCAI report urges that the US attain military AI readiness by 2025; thus, AI is important for waging decisive war. For the major powers, AI technological supremacy, generated by economic power, is already viewed as paramount to national security and global leadership (NSCAI 2021:7): Military AI is potentially revolutionary as it could outstrip the pace of human decision-making, “potentially resulting in a loss of human control in warfare” (Congressional Research Service [CRS] 2020:37). It also constitutes an unpredictable threat: “AI systems capable of inherently unpredictable actions in close proximity to an adversary’s systems may result in inadvertent escalation or miscalculation” (CRS 2020:37). Additionally, while Baum (2017) found little evidence of military AGI projects, the 2021 NSCAI report endorses a push towards more general AI, in a future that it envisages will experience a societal level of advanced, accelerated adversarial AI attacks and ubiquitous interstate AI warfare, including by autonomous systems, with conflict over intellectual property and technological leadership. As with some previous researchers (e.g., Totschnig 2019), we maintain that developing an AGI is not primarily a technological problem but a political one. However, where most such researchers consider humanity’s relationship with an above-human-intelligence Artificial Superintelligence (ASI; Bostrom 2014) at a general political level, this article focuses on the specific challenge it poses for IR via militarized ASI-enabled/directed war. Consequently, our research question applies Bostrom’s (2002:25) Maxipok rule of thumb for moral action for existential risks, i.e., how is it possible to “Maximize the probability of an okay outcome, where an “okay outcome” is any outcome that avoids existential disaster?”, to constraining by treaty the risk of ASI-enabled/directed warfare? In humanity’s simultaneously militarizing AI along nation-state lines and developing ASI projects, it is playing technology roulette. Yet, formal cooperation in high-level global peacebuilding presents a realistic solution that alleviates the ‘security dilemma’ (Tang 2009) that developing an ASI causes. Former Navy Secretary Richard Danzig (2018:21) noted, “If humanity comes to recognize that we now confront a great common threat from what we are creating, we can similarly open opportunities for coming together.” In this cooperative spirit, we constrain the existential risk with the stratagem of peace-building by treaty. In security terms, steps towards a peace treaty governing ASI development and deployment, and potentially reaching out to a future ASI, are a form of misperception-avoiding reassurance—a probing communication designed to both signal benign intentions and obtain information via feedback on another party’s intent, as well as a means of resolve (Tang 2010), i.e., signaling and operationalizing resistance to a malignly directed or to an intrinsically malign, expansionist, and hegemonic ASI. This article hypothesizes that militarizing AI introduces the risk that ASI development is weaponized, or weaponizes itself. We then argue that the existential risk that this presents can be minimized, or partly ‘constrained’, in the same way as other potentially catastrophic risks involving weapons, i.e., by treaty. Bostrom (2014) briefly considers treaty approaches, and one of Allen and Kania’s (2017:6) recommendations is for the US to: “study what AI applications the United States should seek to restrict with treaties.” They focus on an arms control approach, using the example that AI should never control dead man’s nuclear switches. Another treaty-based approach is optimising the likelihood of developing a beneficial ASI, through a comprehensive UN ‘Benevolent AGI Treaty’ (Ramamoorthy and Yampolskiy 2018). We consider an alternative, but potentially compatible, approach, i.e., the Universal Global Peace Treaty (UGPT; Carayannis et al. 2019), currently under development by the peacebuilding NGOs-backed Global Ceasefire to Universal Global Peace Treaty Project. This article’s conceptualization of a UGPT transcends the UN’s ongoing COVID-19-inspired Global Ceasefire (Chekijian and Bazarchyan 2021) to adopt the Kantian concept of a ‘perpetual peace’, founded on a cosmopolitanism and a democratic state of states (Terminski 2010), the foundational notion which underpins the UN’s transitioning the world from war to peace. Kantian cosmopolitanism is based on respect for fellow intelligences and so is of particular relevance to ASI researchers (Totschnig 2019). The UGPT described herein would formalise the present quasi-universal status of interstate peace and end the declaring of war. It would also seek to end existing interstate hot and cold wars, as well as internal or civil wars, which might prove to be flashpoints for a future global conflict; seek to prevent a pre-emptive war against a non-malign emerging ASI; and seek to constrain the future actions of both a malign and intrinsically non-malign but malignly directed ASI to prevent it warring on behalf of a nation–state, or on behalf of itself, for global domination, which we term ASI-enabled/directed war. That an ASI could pose an existential risk is well theorised (Bostrom 2002, 2014). The basic thesis is, first, an initial superintelligence might obtain a decisive strategic advantage such that it establishes a ‘singleton’, i.e., global domination (Bostrom 2006). Second, the orthogonality principle suggests that a superintelligence will not necessarily share any altruistic human final values. Third, instrumental convergence suggests that even a superintelligence with a positive final goal might not limit its activities so as not to infringe on human interests, particularly if humans constitute potential threats. Consequently, an ASI might turn against humanity (‘the treacherous turn’) or experience a catastrophic malignant failure mode, for instance through perversely instantiating its final goal or pursuing infrastructure profusion. Additionally, Bostrom noted that a superintelligence might hijack infrastructure and military robots and create a powerful military force and surveillance system. He acknowledged the existential risks associated with the lead-up to a potential intelligence explosion, due to “war between countries competing to develop superintelligence first” (2014:94), but he did not elaborate on ASI warfare.

future legislative and policy choices adhere to foundational principles embodied in the nation’s counter-majoritarian supreme law.

#### The AI arms race is inevitable. Its try or die for the US to come out on top.

Carayannis and Draper, 22 [Elias G. Carayannis works for George Washington University in the European Union Research Center, John Draper works for the Economics and Business Research Committee at the Center for Global Nonkilling, 1-11-2022, accessed on 7-8-2022, PubMed Central (PMC), "Optimising peace through a Universal Global Peace Treaty to constrain the risk of war from a militarised artificial superintelligence", https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8748529/]/ISEE

The external risk is predicated on a nation-state developing and using an ASI to optimise itself and wage war, whether cyber, hot, or otherwise, for global domination, i.e., war by AI-state. Such an ASI would affect military technological supremacy and transform both IR and warfare. AI already adds complexity to national security (CRS 2020) in bargaining, verification and enforcement, communication, deterrence and assurance, and the offense–defense balance, as well as norms, institutions, and regimes (Zwetsloot 2018). It contributes to military capacity in intelligence, surveillance, and reconnaissance; logistics; cyberspace operations; information operations; semiautonomous and autonomous vehicles; lethal autonomous weapons (LAWs) systems, and command and control (CRS 2020). Interstate ASI-enabled cyberwarfare introduces the possibility of a successful surprise attack with covert capabilities, destabilizing the status quo and risking a preventive first strike (Buchanan 2016). An AI-state capable of optimising all these capabilities is highly desirable for strategic military planning and interstate warfare (Sotala and Yampolskiy 2015). A “one AI” solution to the ‘control problem’ of ASI motivation (Turchin et al. 2019) includes the first ASI being used to assume global control, providing a decisive strategic and military advantage for a superpower. While this may be acceptable to the AI-state superpower and its allies, it presents a ‘high risk’ for others. The race to develop an ASI is likely to be closely fought, especially given competing major states with different fundamental ideologies (Bostrom 2014); it therefore presents a very concrete risk. AI is already being militarized and weaponized by several states, including China and Russia, for strategic geopolitical advantage (NSCAI 2021). Russia plans to obtain 30% of its combat power from remote-controlled and AI-enabled robotic platforms by 2030 (Walters 2017). Similarly, China’s 2017 ‘A Next-Generation Artificial Intelligence Development Plan’ views AI in geopolitically strategic terms, and it is pursuing a ‘military-civil fusion’ strategy to develop a first-mover advantage in AI to establish technological supremacy by 2030 (Allen and Kania 2017). In the US, following the National Security Commission Artificial Intelligence Act of 2018 (H.R.5356; see Baum 2018), AI is being militarized and weaponized by the Department of Defense, under the oversight of the NSCAI. The AI arms race is now a self-fulfilling prophecy (Scharre 2019). ASI-enabled warfare poses especial risks to geopolitical stability. Although Sotala and Yampolskiy’s (2015) survey focuses on ASI-generated catastrophic risks, citing Bostrom (2002), they acknowledge multiple risks from a sole ASI, like an AI-state, including the concentration of political power in controlling groups. Citing e.g., Brynjolfsson and McAfee (2011), they note that automation could lead to an ever-increasing transfer of power and wealth to the ASI’s owner. Citing, inter alia, Bostrom (2002) and Gubrud (1997), they also note that ASIs could be used to develop advanced weapons, plan military operations, and effect political takeovers (2015:3). Academic approaches to analysing the specific risk of an AI-state maintaining or establishing global domination are relatively novel. In 2014, Bostrom noted that a “severe race dynamic” between different teams developing ASI technology could cause shortcuts to safety and potentially “violent conflict”. Subsequently, Cave and ÓhÉigeartaigh (2018:37) described three dangers associated with an AI race for technological supremacy: (i) The dangers of an AI ‘race for technological advantage’ framing, regardless of whether the race is seriously pursued; (ii) The dangers of an AI ‘race for technological advantage’ framing and an actual AI race for technological advantage, regardless of whether the race is won; (iii) The dangers of an AI race for technological advantage being won. In response, the same authors recommend developing AI as a shared priority for global good, cooperating globally on AI as it is applied to increasingly safety–critical settings, and responsibly developing AI as part of a meaningful approach to public perception that decreases the likelihood or severity of a race-driven discourse. The obvious risk is that the political leaders of states engaged in an AI arms race may not heed this advice. This article focuses on constraining risks associated with Cave and ÓhÉigeartaigh’s (2018) third danger. It does not consider the philosophical implications of which nation–state might want to develop an ASI for offensive purposes. A sufficient literature already exists on recent nation–states that have sought to establish global domination through technological supremacy, for instance the British Empire (Tindley and Wodehouse 2016), to confirm an existential risk exists.

#### China pulling ahead of the US is a threat to global democracy.

Jai and Kroenig, 22 [Ash Jai is the Director for Democratic Order at the Scowcroft Strategy Initiative, Matthew Kroenig is the Deputy Director at the Scowcroft Center for Strategy and Security,6-13-2022, accessed on 7-10-2022, Atlantic Council, "Toward a Democratic Technology Alliance: An innovation edge that favors freedom", https://www.atlanticcouncil.org/in-depth-research-reports/report/toward-a-democratic-technology-alliance-an-innovation-edge-that-favors-freedom]/ISEE

Following World War II, the United States and its democratic allies established and defended a rules-based international system. This system was expanded and deepened after the end of the Cold War. Despite its shortcomings, it has proven unmatched in its ability to deliver peace, prosperity, and freedom to the United States and much of the world. The global order, however, is at an inflection point. It is being confronted by revisionist autocratic powers — China and Russia — and, at the same time, contending with a range of other challenges, from emerging and disruptive technologies to climate change to a lack of confidence in open-market democracy. The rules-based system has been successful in ways that its founders could not have imagined. But, as the authors of this report have set forth in a series of related publications, this system must be revitalized and adapted for a new era. Inclusive institutions, including the United Nations (UN), have been limited in their effectiveness, in part because of obstruction by autocracies that systematically violate key tenants of the rules-based system. New institutions are needed that bring together powerful and likeminded democracies – those that are willing to play by certain rules and use their collective influence to positively shape the future of the system. Such an approach is particularly necessary to address the challenges of emerging technologies. The world is experiencing a Fourth Industrial Revolution (4IR). An array of new technologies are being simultaneously developed and advanced, such as artificial intelligence (AI), quantum computing, synthetic biology, additive manufacturing, fintech, and robotics. As with previous advances, these new technologies off er great promise but also threaten serious downside risks. Fire can fuel stoves and keep people warm, but it can also be used to torch villages. Similarly, AI algorithms can be employed to run efficient smart cities of the future, but can also guide lethal and destructive autonomous weapons systems. The central question is how can the United States and its allies harness these advanced technologies for good while successfully managing their potential dangers? Among the greatest challenges in the area of technology are those posed by China. As it acts to challenge the rules based international system, Beijing is pursuing a systematic effort to win the race for advanced technologies, and it appears to be leading in several key areas. China has invested heavily in research and development in advanced technologies, from AI to quantum computing to hypersonic missiles, while also gaining advantages through unfair practices, including the widespread theft of intellectual property (IP). China’s increasing capabilities in the technology realm pose significant risks for the United States and its democratic allies and partners. These risks are evident across three main areas: defense and national security, economics, and values. Beijing is using its increasingly advanced technological capabilities to develop more sophisticated weapons systems. China’s leadership in advanced technologies could help fuel its economic growth and render much of the world dependent on it for critical technologies. Beijing is also employing new technologies in ways that are inconsistent with democratic norms, such as facial recognition technology to assert greater surveillance of its citizens, and is exporting these technologies to other autocracies. To be sure, not every aspect of China’s role in developing advanced technology is cause for concern. Efforts by Chinese scholars to develop AI for medical diagnostics, for example, could constructively advance scientific knowledge and provide health benefits for people around the world. The challenges posed by China and other autocracies, including Russia, stem from their disregard of international norms and systematic attempts to undermine key elements of the rules-based order. The nation or group of nations that are first to develop and harness the technologies of the 4IR will enjoy a sustained economic, military, and geopolitical advantage. The first three industrial revolutions originated in the West and helped propel democracies to a position of global leadership that has lasted for several centuries. If leading democracies are able to maintain their technological edge, they will be well-positioned to sustain their geopolitical, economic, and military advantages and uphold the rules-based international system. If, on the other hand, the Chinese Communist Party (CCP) succeeds in deploying advanced technologies ahead of the democratic world, it will be in a much stronger position to advance a China-centric system that is more consistent with its autocratic values. Indeed, the strategic competition between democracy and autocracy may ultimately be decided in the technological domain. For the United States to prevail in this competition, it must successfully harness the technologies of the Fourth Industrial Revolution. But to compete effectively, the United States cannot act alone. It must work closely with democratic allies and partners to leverage shared capabilities and resources, and implement joint strategies and policies that are strategically aligned. Several efforts have been initiated to help strengthen democratic cooperation on the technologies of the 4IR, including through the G7, the Quad, and the US-EU Trade and Technology Council. However, while valuable, these efforts have been limited in geographic and technological scope. What is missing is an integrated framework for technology cooperation that brings together leading democracies to advance a holistic, coherent, and effective set of strategies across a range of domains.

#### Strength of U.S democracy solves extinction.

Daniel Twining 21 (Daniel Twining is the president of the International Republican Institute, 10/10/21, accessed 1/3/21, “America must double down on democracy”, https://thehill.com/opinion/campaign/575693-america-must-double-down-on-democracy)AGabay

The hard truth is that a world that is less free is one that is less secure, stable and prosperous. The greatest dangers to the American way of life emanate from **hostile autocracies**. There are no quick fixes, but the best antidotes to the challenges of great-power **conflict**, **terrorism** and **mass migration** of desperate refugees lie in the building of inclusive **democratic** **institutions** — and working with allied democracies to sustain the free and open order that China, in particular, wishes to replace with a world that’s safe for autocracy. The conventional wisdom that authoritarianism has popular momentum is wrong. No one anywhere is taking to the street to demand more corrupt governance, the adoption of one-man rule, a stronger surveillance state, or greater intervention by malign foreign powers. Democratic freedoms are unquestionably under assault in many nations. Autocrats are aggressive precisely because of the growing demands for change in their more modern, connected societies — and the rising risk that middle classes in nations such as China and Russia will not be willing forever to forfeit political rights for prosperity. American retrenchment and isolationism compound the danger. It would be nice to live in a world where failed states and dictatorships were a problem for someone else to worry about. But rather than producing stability, Western retreat only **emboldens** autocrats in ways that amplify dangers to American national security. We know that violent extremism flourishes under state failure and dictatorship. Broken states become breeding grounds for extremist groups because they leave vacuums that terrorists are only too happy to fill. In nations without democratic accountability, citizens become drawn to the only forms of expression available to them, which are often violent and extreme. The good news is that we have billions of allies around the world: citizens on every continent chafing for greater freedom and dignity. They do not want U.S. military-led nation-building. They want peaceful support for their independent efforts to create democratic space in systems distorted by overweening government control, dangerous governance gaps and foreign malign influence. The free world cannot be neutral in the face of autocracy’s resurgence. Rather, it should play to its strengths. The appeal of democratic opportunity is a strategic asset for the United States — despite our own shortcomings — because people around the world similarly aspire to live in societies that guarantee justice, rights and dignity. America’s closest allies are democracies. Democracies don’t **fight** **each** **other**, export violent **extremism**, or produce the conflicts that drive mass migration. Democracies are better partners in **fighting** **terrorism**, human trafficking and poverty, as well as establishing reliable trading relationships. Open societies incubate the technologies that will help solve the world’s most pressing problems, including **climate change**. Citizens can hold leaders accountable when they fall short, and democratic institutions are stronger than any man — as America itself witnessed after the assault on the U.S. Capitol on Jan. 6.

#### Loss outweighs extinction.

Di Minardi, 20 (Di Minardi, Communications Officer at School of Economics, School of History & Sociology at Georgia Tech, 10-15-2020, accessed on 4-1-2022, BBC Future, “The grim fate that could be ‘worse than extinction’”, https://www.bbc.com/future/article/20201014-totalitarian-world-in-chains-artificial-intelligence, HBisevac)

Researchers at the Center on Long-Term Risk, a non-profit research institute in London, have expanded upon x-risks with the even-more-chilling prospect of suffering risks. These “s-risks” are defined as “**suffering** on an **astronomical scale**, vastly **exceeding** allsuffering that has existed on Earth so far.” In these scenarios, life continues for billions of people, but the quality is **so low** and the outlook so bleak that dying out would be **preferable**. In short: a future with negative value is worse than one with **no value at all**. This is where the “world in chains” scenario comes in. If a **malevolent** group or **government** suddenly gained world-dominating power **through technology**, and there was nothing to stand in its way, it could lead to an **extended period** of **abject suffering** and **subjugation**. A 2017 report on existential risks from the Global Priorities Project, in conjunction with FHI and the Ministry for Foreign Affairs of Finland, warned that “a long future under a particularly brutal global totalitarian state could arguably be worse than **complete** extinction”. Though global totalitarianism is still a niche topic of study, researchers in the field of existential risk are increasingly turning their attention to its most likely cause: artificial intelligence. In his “singleton hypothesis”, Nick Bostrom, director at Oxford’s FHI, has explained how a global government could form with AI or other powerful technologies – and why it might be impossible to overthrow. He writes that a world with “a single decision-making agency at the highest level” could occur if that agency “obtains a decisive lead through a technological breakthrough in **a**rtificial **i**ntelligence or molecular **nanotechnology**”. Once in charge, it would control advances in technology that **prevent internal challenges**, like surveillance or autonomous weapons, and, with this monopoly, remain **perpetually stable**. If the singleton is totalitarian, **life would be bleak**. Even in the countries with the strictest regimes, news leaks in and out from other countries and people can escape. A global totalitarian rule would **eliminate** even these **small seeds of hope**. To be **worse than extinction**, “that would mean we feel absolutely no freedom, **no privacy**, **no** **hope** of **escaping**, **no agency** to control our lives at all", says Tucker Davey, a writer at the Future of Life Institute in Massachusetts, which focuses on existential risk research. “In totalitarian regimes of the past, [there was] so much paranoia and psychological suffering because you just have no idea if you're going to get killed for saying the wrong thing,” he continues. “And now imagine that there's not even a question, every single thing you say is being reported and being analysed.” “We may not yet have the technologies to do this,” Ord said in a recent interview, “but it looks like the kinds of technologies we’re developing make that easier and easier. And it seems plausible that this may become possible at some time in the next 100 years.” Though life under a global totalitarian government is still an unlikely and far-future scenario, AI is already **enabling** authoritarianism in some countries and strengthening infrastructure that could be seized by an opportunistic despot in others. “We've seen sort of a reckoning with the shift from very utopian visions of what technology might bring to much more sobering realities that are, in some respects, already quite dystopian,” says Elsa Kania, an adjunct senior fellow at the Center for New American Security, a bipartisan non-profit that develops national security and defence policies. In the past, surveillance required hundreds of thousands of people – one in every 100 citizens in East Germany was an informant – but now it can be done by **technology**. In the United States, the National Security Agency (NSA) collected hundreds of millions of American call and text records before they stopped domestic surveillance in 2019, and there are an estimated four to six million CCTV cameras across the United Kingdom. Eighteen of the 20 most surveilled cities in the world are in China, but London is the third. The difference between them lies less in the tech that the countries employ and more in how they use it.

### Plan

#### The United States federal government should substantially increase security cooperation with the North Atlantic Treaty Organization through increasing intellectual property protection in the area of Artificial Intelligence.

### ADV---Emerging Tech

#### Current IP law within NATO is creating a jigsaw of different policies.

**Machi, 21** [Vivienne Machi is a reporter based in Stuttgart, Germany, contributing to Defense News' European coverage, 4-14-2021, accessed on 6-19-2022, C4ISRNet, "Cloudy vision: Can NATO’s new deployable combat system focus the field?", https://www.c4isrnet.com/battlefield-tech/it-networks/2021/04/14/cloudy-vision-can-natos-new-deployable-combat-system-focus-the-field/]/ISEE

STUTTGART, Germany — NATO is on a time crunch to develop new cloud technologies to help set interoperability standards for its members’ own nascent computing infrastructures. One of NATO’s core duties has long been to establish technology standards and ensure interoperability across its member nations. Traditionally, that manifested in areas such as radio frequencies or data protocols. But with recent advances in cloud computing and storage in the private sector, the alliance also needs to move quickly to ensure standardization in that technological domain. NATO members France, German and the United States began fielding their own strategies and directives for using artificial intelligence. Cloud technologies will enable AI systems, and achieving results in cloud platforms “can help accelerate AI development and use,” said Erica Pepe, a senior coordinator for research and a conflict, security and development analyst at the International Institute for Security Studies in London, England. “Member nations are developing their own artificial intelligence strategies, and NATO plays an important role in establishing interoperability standards. In this context, showing results quickly is important for NATO to give a common direction,” Pepe said. The field is already becoming ever cloudier, with countries setting up their own cloud-enabled technology hubs and joint-European programs developing separate combat-driven systems, such as the Franco-German-Spanish Future Combat Air System program. Observers say these systems will need to be interoperable if they are to provide a full range of capabilities, and they see NATO as the natural lead to develop common standards across its members’ individual efforts. NATO is well aware of its need to embrace cloud technologies and move ahead on tangible efforts — defense leaders were heralding its importance for in-theater operations back in 2015. Since then, the alliance has invested in multiple cloud-enabled technologies — much of which remained in research and testing phases — and has begun developing policies and strategies to define NATO’s stake in this technology. “We already have a cloud-first strategy in NATO. Now we need to live it and adopt it,” NATO Communications and Information Agency General Manager Kevin Scheid said at the alliance’s June 2020 virtual discussion on cloud computing, as reported by Mönch Publishing Group. “It’s time to adopt and stop admiring the problem.” One program under the microscope is NATO’s Firefly effort to field NCI Agency’s first theater-level, deployable defense cloud capability. The system will enable troops working under the NATO flag to receive, analyze and transmit data in real time among static headquarters and across operational theaters. It will build upon and complement the alliance’s deployable communication and information systems, and provide a suite of command-and-control services in fewer, lighter hardware boxes. French company Thales was selected in late 2020 to develop the Firefly system, and the team is expected to complete the design phase as well as perform factory testing this year, with production to begin in 2022 and finish in 2023. The contract includes 42 million euros ($49 million) for up to eight expected systems, but no funds will be allocated until the completion of the preliminary design review, per the alliance’s NCI Agency. The goal of Firefly is to bring “new modern technologies” to “the edge of our networks, in hostile environments,” said Antonio Calderon, acting chief technology officer at the agency. Thales is performing the majority of the work in-house, but will use “best-of-breed solutions” from the commercial sector for features such as cloud storage and firewalls, said Jean-François Connan, the company’s sales director for institutions, network infrastructure and group strategic alliances. While NATO may have recognized the benefit of such a system years ago, the cloud technology itself had to mature enough to make a system like Firefly a reality — and to convince government customers that cloud solutions are indeed viable. That confluence only happened over the past two or so years, Connan noted. “Cloud providers have been offering solutions that today are satisfying more of the criteria of the customer: scalability, sustainability, security and, of course, price,” he said. Time is of the essence to field this system before the technology becomes obsolete and requirements must be reset. Connan noted that the COVID-19 pandemic impacted Firefly’s schedule for contract negotiations. “We had to reconsider and reevaluate, [and] the technical solutions had to be refreshed to be up to date.” It is crucial for NATO to have a cloud-based system in the near term to ensure operators have secure and rapid access to information, Pepe noted. “It is important to show that the technological edge is still kept within the alliance,” she said. Firefly’s all-in-one system architecture, which includes application management, IT networks and security, represents a “holistic” approach to NATO’s deployable C2 assets, said Lauren Speranza, director of trans-Atlantic Defense and Security at the Center for European Policy Analysis in Washington. The Firefly program is “exactly the type of approach NATO should be moving toward — away from having different platforms and [toward] building an overarching system-of-systems approach that we hear so much about,” she added. But as member nations and other stakeholders develop separate cloud solutions, the key for NATO is ensuring these systems can communicate and interface among themselves. “Even though NATO has adopted [a system] that should work across all of the nations, if there are other capabilities out there at use in the national context, we still have limited interoperability,” Speranza said. “So that, I think, is going to be the challenge going forward.” NATO will need to develop more rigid guidelines and standards for cloud solutions as well as ensure those guidelines resolve the inevitable disagreements related to intellectual property sharing and data sharing between member nations, she noted. “As we get into more dual-use technologies, like the cloud, there’s going to be a whole bunch of regulatory and governance issues [related to] how we actually gather and store and share the data that’s needed to power these software systems,” Speranza said. For Thales’ Connan, interoperability and open standards are part and parcel with working on NATO programs. “When you work with NATO, in terms of IP [intellectual property], it has to be very open and it has to be as standard as possible,” he said. “For me and for my company, the point is to make sure this solution will be the cornerstone of the coalition. I don’t want that at the end of the day we have a jigsaw [of systems].”

#### Current IP will fail to incentivize AI development.

Boyd, 17 [Toby Boyd is an Associate in the Intellectual Property group of the London office of Bird & Bird LLP, 6-18-2017, accessed on 7-10-2022, IPWatchdog.com | Patents & Patent Law, "How Artificial Intelligence is set to disrupt our legal framework for Intellectual Property rights - IPWatchdog.com | Patents & Patent Law", https://www.ipwatchdog.com/2017/06/18/artificial-intelligence-disrupt-legal-framework-intellectual-property-rights/id=84319/]/ISEE

The Development of AI systems When developing AI systems, all the usual IP issues associated with developing software products come into play, e.g. defining who will own the IP in the product (and any subsequent improvements), and who else has a right to use these. But AI systems also come with additional IP challenges. Ownership of AI systems AI systems will contain large sections of code which has been generated automatically, as a result of the system’s training. This differs from a traditional software development situation, where every line of code is attributable to a human author. So those parties entering agreements to develop AI systems need to think about who will own the IP rights in the trained system and how they will be licensed. Existing models based on who wrote the relevant section of code may fall down in certain situations. Training the AI System Developing an AI system generally involves training it using large datasets, so the system can continuously improve its decision-making abilities. However, it’s important to consider who owns the IP in the datasets which are used to train the system. One common misconception is that data which is available for free online can be used for any purpose. But this generally isn’t the case; website terms and conditions will often state that data cannot be used for commercial purposes, and using data without permission could also be a breach of third party copyright or database rights. In fact, using data without permission could endanger the future commercialisation of the system, at least until an alternative non-infringing data source is found.

#### Increasing a global coalition generates the innovation capacity to solve for climate.

Quinn, 22 [Gene Quinn is a patent attorney and a leading commentator on patent law and innovation policy, 7-7-2022, accessed on 7-10-2022, IPWatchdog.com | Patents & Patent Law, "The Push for Clean Energy Ignores Economic and Innovation Realities", https://www.ipwatchdog.com/2022/07/07/push-clean-energy-ignores-economic-u-s-innovation-realities/id=150080/]/ISEE

During the last Presidential campaign, then candidate Biden famously promised to put an end to fossil fuels. True to his commitment, President Biden has attempted to make the oil and gas industry less attractive to both corporations and investors. From canceling the Keystone pipeline, to canceling oil and gas leases in Alaska and the Gulf of Mexico, to freezing new oil leases on federal lands, efforts to minimize domestic production of fossil fuel in America have been enormously successful. The Energy Problem For better or worse, policy choices are being made that are intentionally deflating the supply of domestic oil and gas, which causes inflating prices. Of course, many disagree and want to blame Russia for most everything, and while it is an embarrassment that Vladimir Putin’s unprovoked atrocities are not cause for unanimous international discipline, Russia’s invasion has not removed oil from the worldwide market. In fact, Russia continues to sell oil to Asia despite sanctions. According to Bloomberg the sales of Russian oil are at steep discounts, which should be keeping the cost of this worldwide commodity artificially low, since Asian countries buying cheap oil from Russia do not need to compete to buy oil elsewhere. The energy problem is two-fold. First, worldwide supply of oil has decreased at a time economies are coming out of the pandemic, and demand for energy is increasing. Second, clean energy solutions are simply not able to provide an answer to the demands of a 21st century economy. According to the American Fuel & Petrochemical Manufacturers (AFPM), in 2020, the United States had 135 refineries with the capacity to refine 19 million barrels of oil per day. Today, there are 128 refineries with capacity to refine 17.9 million barrels of oil per day. Meanwhile, as the United States lost refining capacity of 1.1 million barrels per day, another 2.2 million barrels per day of refining capacity was lost worldwide. Political and financial pressure from investors to move away from fossil fuels is cited as the reason for the decrease in production, not the drop in consumption during the COVID-19 pandemic. The shift away from fossil fuel to alternative energy was well underway before the pandemic, causing oil companies to transition away from refining, and focusing on an alternative energy future. And recently, Chevron CEO Mike Wirth told Motley Fool that he doesn’t think the United States will ever build another refinery given the lead time, and investment is simply not economically practical. “You’re looking at committing capital 10 years out, that will need decades to offer a return for shareholders, in a policy environment where governments around the world are saying, ‘We don’t want these products to be used in the future.'” So, given the shift toward clean energy and away from fossil fuels, investment in time and money to build new refining capacity just doesn’t make financial sense. This artificial restriction of fossil fuels is for the most laudable of goals, but the justification doesn’t change basic economic principles, or the science of extracting clean power from nature. A restricted supply of a coveted commodity causes prices to increase. And recent stabilization of gas prices merely means that we have finally reached the point where people are behaving differently, which impacts demand, thus impacting price, and suggests headwinds for the economy. A Very Fine Mess: Clean Energy is Not Ready For now, at least, the die has been cast in America. Russia is selling their oil into China and India, and reports suggest that European countries are making the choice to return to coal and build more nuclear power plants. Meanwhile, rather than produce more domestic oil and gas, President Biden will ask Saudi Arabia to produce more fossil fuels and then ship them to America, which seems to defeat the environmental spirit, if not the fundamental purpose behind the elimination of fossil fuels in the first place. All of this is a very fine mess, really. Against this sad, bizarre backdrop, American families are hurting, and there is really no reason to suspect an end in sight. It should be particularly telling that European countries, which have long been on the leading edge of environmental activism, are returning to coal and nuclear options. Why? Clean energy is simply not ready to replace the power requirements for a 21st century society—it is that simple. “No country has been held hostage to access to the sun; no country has been hostage to the wind,” U.S. Energy Secretary Jennifer Granholm has become fond of saying, as a rationale for moving with all due speed to a clean energy future. The problem is, Granholm is precisely wrong—on the science. While solar and wind energy do not hold countries hostage quite like Vladimir Putin holds Europe hostage through dependency on fossil fuel, clean energy is extraordinarily fickle. Solar energy cannot work as a reliable solution on any level without predictable and lengthy access to the sun, and the wind does not always blow. Because of the vagaries in solar and wind energy, coupled with the extreme limitations on battery technology, it is simply not possible to collect appropriate volumes of alternative forms of energy when the sun is shining, and the wind is blowing for use when the sun is not shining, and the wind is not blowing. And this is not opinion, it is science. Either multiple paradigms must shift in multiple technology sectors in order make alternative, clean energy a viable solution to replace fossil fuels, or we need generations of progress at the current pace. Wishing this scientific and technological reality to be untrue and hoping for a magic wand politicians can wave will not eliminate brown outs and black outs and usurious energy prices in the meantime. The Patent Problem And if the Biden Administration does want an alternative energy future, it better figure out how to fix a broken American patent system where virtually nothing is patent eligible, and it better also figure out how to keep the United Nations and developing countries from stealing proprietary rights of innovators. Innovators need funding and you simply cannot invest in what others can take. If you cannot recover sunk costs and turn a profit, investors will turn to other, safer investments that provide acceptable returns on their investment without the risk and political uncertainties presently found in funding the most important innovations. Witness what is developing before our eyes not even months after the TRIPS waiver was finalized relating to COVID-19 vaccine technologies. On the heels of the Biden Administration siding with developing nations in their effort to appropriate vaccine technology, UN Secretary-General Antonio Guterres is calling for all intellectual property on clean energy technologies to be busted, and the innovations handed over to developing nations for free. Guterres explained: [R]enewable energy technologies, such as battery storage, must be treated as essential and freely-available global public goods. Removing obstacles to knowledge sharing and technological transfer – including intellectual property constraints — is crucial for a rapid and fair renewable energy transition. Storing renewable electricity is often cited as the greatest barrier to the clean energy transition. I am therefore calling for a global coalition on battery storage to fast-track innovation and deployment – a coalition led and driven by governments, bringing together tech companies, manufacturers, and financiers. Experts predicted that environmental technologies would be next in line for IP waiver if developing nations convinced the world to give up IP protections for vaccines. And how could environmental, clean energy technologies not be on the chopping block given the precedent that has been set? If a crisis can be so bad that intellectual property only gets in the way of the solution, well, it is hard to imagine that genie ever being put back in the bottle. With These Kind of Incentives, We’re Sunk Gas prices are high, fossil fuel production is down, clean energy technology is many years—likely decades—away from being a viable solution. If that wasn’t bad enough, the disincentivization of clean energy investors has begun. As if it wasn’t going to be hard enough to extract sufficient sums of energy out of solar and wind, and to advance battery technology by leaps and bounds just because politicians demand it. Now it has to happen while the world tells innovators and those who fund innovation that they are evil and patents kill. In the face of everything that is happening worldwide, the United States should return to a strong pro-innovator intellectual property stance on the world stage, incentivize energy companies to increase supplies of fossil fuels, and do everything possible to incentivize clean energy innovation, realizing the latter is a long-term goal for which arbitrary deadlines are meaningless. What is likely to happen? The United States will likely muddle the intellectual property issues by continuing to say little and then agreeing to some waiver, continue to pursue policies that will give oil companies and investors every reason to decrease fossil fuel capacity, and wonder why clean energy technology doesn’t fuel the planet with zero carbon emissions by their arbitrary deadlines. Sounds about right, doesn’t it?

#### Warming causes extinction.

Dr. Yew-Kwang Ng 19, Winsemius Professor of Economics at Nanyang Technological University, Fellow of the Academy of Social Sciences in Australia and Member of Advisory Board at the Global Priorities Institute at Oxford University, PhD in Economics from Sydney University, “Keynote: Global Extinction and Animal Welfare: Two Priorities for Effective Altruism”, Global Policy, Volume 10, Number 2, May 2019, pp. 258–266

Catastrophic climate change

Though by no means certain, CCC causing global extinction is possible due to interrelated factors of non-linearity, cascading effects, positive feedbacks, multiplicative factors, critical thresholds and tipping points (e.g. Barnosky and Hadly, 2016; Belaia et al., 2017; Buldyrev et al., 2010; Grainger, 2017; Hansen and Sato, 2012; IPCC 2014; Kareiva and Carranza, 2018; Osmond and Klausmeier, 2017; Rothman, 2017; Schuur et al., 2015; Sims and Finnoff, 2016; Van Aalst, 2006).7

A possibly imminent tipping point could be in the form of ‘an abrupt ice sheet collapse [that] could cause a rapid sea level rise’ (Baum et al., 2011, p. 399). There are many avenues for positive feedback in global warming, including:

• the replacement of an ice sea by a liquid ocean surface from melting reduces the reflection and increases the absorption of sunlight, leading to faster warming;

• the drying of forests from warming increases forest fires and the release of more carbon; and

• higher ocean temperatures may lead to the release of methane trapped under the ocean floor, producing runaway global warming.

Though there are also avenues for negative feedback, the scientific consensus is for an overall net positive feedback (Roe and Baker, 2007). Thus, the Global Challenges Foundation (2017, p. 25) concludes, ‘The world is currently completely unprepared to envisage, and even less deal with, the consequences of CCC’.

The threat of sea-level rising from global warming is well known, but there are also other likely and more imminent threats to the survivability of mankind and other living things. For example, Sherwood and Huber (2010) emphasize the adaptability limit to climate change due to heat stress from high environmental wet-bulb temperature. They show that ‘even modest global warming could ... expose large fractions of the [world] population to unprecedented heat stress’ p. 9552 and that with substantial global warming, ‘the area of land rendered uninhabitable by heat stress would dwarf that affected by rising sea level’ p. 9555, making extinction much more likely and the relatively moderate damages estimated by most integrated assessment models unreliably low.

While imminent extinction is very unlikely and may not come for a long time even under business as usual, the main point is that we cannot rule it out. Annan and Hargreaves (2011, pp. 434–435) may be right that there is ‘an upper 95 per cent probability limit for S [temperature increase] ... to lie close to 4°C, and certainly well below 6°C’. However, probabilities of 5 per cent, 0.5 per cent, 0.05 per cent or even 0.005 per cent of excessive warming and the resulting extinction probabilities cannot be ruled out and are unacceptable. Even if there is only a 1 per cent probability that there is a time bomb in the airplane, you probably want to change your flight. Extinction of the whole world is more important to avoid by literally a trillion times.

#### AI is key to prevent biodiversity loss.

Teksun, 21 [Teksun an innovative tech company, 8-6-2021, accessed on 7-16-2022, IoT | AI | Embedded Product Development Company, "The Far & Wide of IoT Gateways", https://teksun.com/blog/how-iot-and-ai-can-help-save-the-planet/]/ISEE

Leveraging IoT and AI for species security Numerous animal species have already been extinct or are on the verge of extinction. This is a large difficulty moving the bio-diversity of the planetoid. IoT and AI can be applied to analyze animal behavioral patterns, such as movement and feeding practices. AI technologies like computer vision allow the monitoring of these species intraoperative. Advanced AI and vision methods assist in detecting animals in images from cameras set to track and study animal actions. A US-based company practices computer vision to see footprints of rhinos, cheetahs, and other threatened species to know, track, and manage events that scare them. AI solutions can assist guard vast jungle areas by controlling them using AI-enabled drones. The data obtained can be utilized to map the location and monitor variations. Species exposure, forest coverage range, and poaching routes can be traced using AI-enabled systems. The main area in which IoT and AI can be used is to hinder the poaching of creatures by seeing found poaching paths. Cameras or regular motion sensors connected to a network can assist in taking down poaching actions significantly.

#### Losing biod causes extinction. Now is key.

**Watts, 18** [Jonathan Watts, 11-6-2018, accessed on 7-16-2022, the Guardian, "Stop biodiversity loss or we could face our own extinction, warns UN", https://www.theguardian.com/environment/2018/nov/03/stop-biodiversity-loss-or-we-could-face-our-own-extinction-warns-un#:~:text=Deforestation%2C%20poaching%2C%20industrial%20farming%20and,how%20we%20can%20fight%20back.]/ISEE

The world must thrash out a new deal for nature in the next two years or humanity could be the first species to document our own extinction, warns the United Nation’s biodiversity chief. Ahead of a key international conference to discuss the collapse of ecosystems, Cristiana Pașca Palmer said people in all countries need to put pressure on their governments to draw up ambitious global targets by 2020 to protect the insects, birds, plants and mammals that are vital for global food production, clean water and carbon sequestration. “The loss of biodiversity is a silent killer,” she told the Guardian. “It’s different from climate change, where people feel the impact in everyday life. With biodiversity, it is not so clear but by the time you feel what is happening, it may be too late.” Pașca Palmer is executive secretary of the UN Convention on Biological Diversity – the world body responsible for maintaining the natural life support systems on which humanity depends. Its members – 195 states and the EU – will meet in Sharm el Sheikh, Egypt, this month to start discussions on a new framework for managing the world’s ecosystems and wildlife. This will kick off two years of frenetic negotiations, which Pașca Palmer hopes will culminate in an ambitious new global deal at the next conference in Beijing in 2020. The loss of biodiversity is a silent killer. Cristiana Pașca Palmer Conservationists are desperate for a biodiversity accord that will carry the same weight as the Paris climate agreement. But so far, this subject has received miserably little attention even though many scientists say it poses at least an equal threat to humanity. The last two major biodiversity agreements – in 2002 and 2010 – have failed to stem the worst loss of life on Earth since the demise of the dinosaurs. Eight years ago, under the Aichi Biodiversity Targets, nations promised to at least halve the loss of natural habitats, ensure sustainable fishing in all waters, and expand nature reserves from 10% to 17% of the world’s land by 2020. But many nations have fallen behind, and those that have created more protected areas have done little to police them. “Paper reserves” can now be found from Brazil to China. The issue is also low on the political agenda. Compared to climate summits, few heads of state attend biodiversity talks. Even before Donald Trump, the US refused to ratify the treaty and only sends an observer. Along with the Vatican, it is the only UN state not to participate. Pașca Palmer says there are glimmers of hope. Several species in Africa and Asia have recovered (though most are in decline) and forest cover in Asia has increased by 2.5% (though it has decreased elsewhere at a faster rate). Marine protected areas have also widened. But overall, she says, the picture is worrying. The already high rates of biodiversity loss from habitat destruction, chemical pollution and invasive species will accelerate in the coming 30 years as a result of climate change and growing human populations. By 2050, Africa is expected to lose 50% of its birds and mammals, and Asian fisheries to completely collapse. The loss of plants and sea life will reduce the Earth’s ability to absorb carbon, creating a vicious cycle. “The numbers are staggering,” says the former Romanian environment minister. “I hope we aren’t the first species to document our own extinction.” Despite the weak government response to such an existential threat, she said her optimism about what she called “the infrastructure of life” was undimmed. Smoldering Pastureland Cleared For Cattle From The Amazon Rain Forest.<br>ENVGALLERY Smoldering Pastureland Cleared For Cattle From The Amazon Rain Forest. Rondonia State, Brazil. (Photo by Michael Nichols/National Geographic/Getty Images) Humanity has wiped out 60% of animal populations since 1970, report finds One cause for hope was a convergence of scientific concerns and growing interest from the business community. Last month, the UN’s top climate and biodiversity institutions and scientists held their first joint meeting. They found that nature-based solutions – such as forest protection, tree planting, land restoration and soil management – could provide up to a third of the carbon absorption needed to keep global warming within the Paris agreement parameters. In future the two UN arms of climate and biodiversity should issue joint assessments. She also noted that although politics in some countries were moving in the wrong direction, there were also positive developments such as French president, Emmanuel Macron, recently being the first world leader to note that the climate issue cannot be solved without a halt in biodiversity loss. This will be on the agenda of the next G7 summit in France. “Things are moving. There is a lot of goodwill,” she said. “We should be aware of the dangers but not paralysed by inaction. It’s still in our hands but the window for action is narrowing. We need higher levels of political and citizen will to support nature.”

#### Tech innovation is key to get off the rock.

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Why Mining? **Technological innovation**—primarily brought about by **commercial players** such as Elon Musk[2] and Jeff Bezos[3]—is **changing the landscape** of space exploration. **Leading the way** in this new-era race are the **startups** including Planetary Resources, Deep Space Industries, Ispace, and Kleos Space.[vii] Research into the feasibility of human and robotic missions to asteroids is being conducted by both governmental organisations, like NASA and JAXA (Japan Aerospace Exploration Agency), as well as private companies such as Planetary Resources.[viii] However, for realising affordable space travel and space industrialisation, it is **essential** to find **extraterrestrial materials** such as metals, minerals and water that do not have to be transported from Earth. Thus, the first objective in carrying out asteroid mining activity is to obtain elements that are critical for basic sustenance on Earth. It has been identified that the asteroid belt in our solar system contains eight-percent metal-rich (M type) asteroids and 75-percent volatile-rich carbonaceous (C type) asteroids.[ix] The second incentive for celestial mining companies is to haul precious minerals and cargo raw materials to Earth to fuel its fast depleting resources. This would significantly increase the mining company’s valuation and greatly impact the global economy. According to a 2012 Reuters interview with Planetary Resources, a 30-meter-long (98-foot) asteroid can hold platinum worth somewhere from US$25 billion to US $50 billion.[x] These metals are highly useful and valuable, both on Earth and in space.[xi] Third, asteroids give humans the potential to create tools in space, since iron, nickel and cobalt are in abundance.[xii] Chris Lewicki, Planetary Resources CEO, has said, “Using 3D printing technology one can grab material off asteroids and 3D print something that never has to be on a rocket. Tools, machines and even habitats can then be built off Earth, reducing the cost of exploration even further.[xiii] Fourth, resource extraction is also becoming a focus for many Middle Eastern nations.[xiv] The Middle Eastern oil states, such as Saudi Arabia and the United Arab Emirates are investing heavily in this industry as they are looking at space as a way to diversify out of the earthly benefits of fossil fuel.[xv] Fifth, countries such as India and China are looking to mine the Moon for extracting Helium-3, which is considered a clean and efficient form of energy. It is thought that this isotope could provide safer nuclear energy in a fusion reactor, since it is not radioactive and would not produce dangerous waste products.[xvi] Finally, the water available in outer space could be used to make rocket propellants. According to scientists, since water is abundant in outer space, in some or the other form, it could be extracted and electrolysed to derive hydrogen and oxygen, the key ingredients of rocket fuel.[xvii] Thus, instead of carrying one’s own fuel all the way, asteroids could serve as extraterrestrial/orbital “gas stations” for fuelling future deep space missions. This would simultaneously make space travel more cost-effective and productive. Such ventures are also seen to be intrinsic to further science and discovery, in addition to revolutionising commercial development in outer space. The mining of asteroids could also provide a near-infinite supply of the precious resources for Earth to use. [xviii]

#### Getting off the rock is possible --- extinction guaranteed otherwise

Everett 16 [Sean, CEO of Prome Biological Intelligence, a global biotechnology company, editor of Medium’s news outlet dedicated to space colonialization titled “The Mission”, BS Mathematics & Actuarial Science, MBA from UChicago, 2016, “Humanity’s Extinction Event Is Coming” https://medium.com/the-mission/humanitys-extinction-event-is-coming-c0f84f1803f]

But the reality is that an asteroid impact, a change in our magnetic field, or the rising temperature of Earth’s climate are all events that we currently cannot escape. There is no back-up plan. We are, for better or worse, tied to the fate of this planet. As history has shown, that’s not a good fate to be tied to. In fact on September 7, 2016 a 30-foot asteroid flew between the Earth and the Moon. Our most powerful instruments only detected it with two days notice. Two days. If the asteroid was only 1000-foot wide, it would destroy all human life and we’d have no back-up to get out of it. Even the White House is worried about it. Five, yes five, major extinction events have occurred on our planet that we know about. We’re due for another. And when that happens, what’s our alternative? You can’t move to another house. You can’t buy survival, even with a billion dollars in the bank. The only way out, is up. We must find a way to become multi-planetary if we want to save humanity, your family, and yes, even yourself. Only this can restore the honor we seemed to have lost from the brave days of the 60s, while also ensuring our survival. It’s for the species, folks. And as a species, we have not allowed ourselves the opportunity to blast off for the stars. Only the space race in the 60s when we were afraid enough of a self-inflicted global extinction event (read: nuclear) that we put forth the funding required to launch into orbit and onto our moon. We didn’t have calculators back then, and now we have supercomputers in our pocket, but no one is allowed out of our atmosphere, save for a few communication and spy satellites. Doesn’t that make you mad? It’s not some oppressive government that tells us no. It’s us. We pay our taxes. We elect leaders. Those leaders choose Defense as the primary budget line item, but forget about defending against the forthcoming apocalypse. Funding for NASA in the United States has decreased from 4% of the national budget in the 60s to about 0.5% from 2010 onwards. That’s just the money side. But in order to move past this threshold from our home planet to space and then onto other planets, we need to do two things: Travel there. Survive. Luckily, we can simplify the problem of passing this barrier by sending machines in our place. Like TARS from Interstellar, they can go places humans cannot and explore the environment for habitability and resources, even in particularly hostile conditions. Maybe not black hole hostile, but definitely Mars hostile, as the Curiosity Rover has shown. Only now, with a few bold, private startups are we beginning to see a re-emergence of the space industry. We are about to pass a few very important tests that allow us to explore and visit the cosmos. The first is launching physical things into space. This is the catalyst that will jump start a new space race. Prices of sending cargo are falling dramatically, down to nearly $500 per pound of payload with SpaceX’s Falcon 9 heavy re-usable rocket. Note that the re-usable part is key. We can’t throw away our “space car” every time we Uber it. And once that becomes standard and cost-optimized we might be able to get that down to $10 per pound. Imagine what could happen when it costs the same amount to ship something across town as it does into space. The second, and this is just as important, is the wave of autonomous machines. Tesla has popularized the notion of self-driving cars. SpaceX lands their rocket onto a small barge in the ocean autonomously. Companies are buying startups in the space. Self-driving will be our gift, our talisman, on the quest to save the species by becoming multi-planetary. II. Shipping Ourselves to Space The graph below is from the Founders Fund manifesto, showing the decreasing cost of launching something into space. It begins with the 1960s US-versus-Russia space race and extends to the present day SpaceX-versus-Blue Origin reusable rocket race. The cheapest method we have today is SpaceX’s Falcon series rockets. With the Falcon 9 Heavy, it’s predicted launching cargo into space will be cheaper than ever before, at $750 per pound of payload delivered to low earth orbit (LOE)on an expendable rocket. You have to note here, however, that these statistics are as cheap as possible. It costs more to deliver payload on a non-reusable rocket, and on something that’s further out than LEO, like geosynchronous orbit, or to Mars. For example, based on SpaceX’s published pricing, it would be at least 4x more expensive to deliver far less cargo to Mars. So what happens when we reduce that cost to $10 per pound? Namely, an explosion of startups, much like iOS. Instead of pushing to production for your continuously deployed web and mobile app, we will see future developers push to production by deploying physical things into space. “STAGE” takes on an entirely new meaning for software developers when it means your automated regression tests fail, it could blow up a rocket and hurt people on board. That’s why SpaceX and Blue Origins exist. To make this continuous-deployment-to-space process as cheap and fast as possible. By Elon’s calculations, every 15 minutes. III. Self-Driving Space Explorers The most successful products for space, at least in the beginning, will make money by pushing this stuff into orbit. Things like science experiments and new 3D printers. A company called Made in Space creates a number of these products, including the empty box you see below used for sending things up with Blue Origin. The box shown in gray is a specialized 3D printer that works in zero gravity. Remember how most 3D printers work. It squeezes out a single layer of liquid ooze, and then another, over and over again until it builds up enough vertically that it creates an object. This can be simple plastic or more esoteroic metals. But when you’re “dripping” something, held down in place by gravity, the entire process has to be re-imagined for space. Things in zero-G would just float away. Enter these chaps. There’s also the very real need for oxygen, food, water, and shelter from the harsh elements. Funny how we will end up recreating Maslow’s Heirarchy in every new voyage or planetoid we want to colonize. And space mining is off to the races with the recent announcement of Deep Space Industry’s Prospector-1: Their vision is to extract water from asteroids and use the chemical components to hydrate us, but also as oxygen (breathing) and hydrogen (fuel). To do that, you have to identify candidate asteroids, physically get to them, land and attach, and then do surveying, prospecting, and extraction. In short, you’re going to need some level of self-driving capabilities to make this happen. And wouldn’t it be nice if it “just worked” right out of the box. Unfortunately, in space you don’t have fleets of these space craft, millions of miles of training data, maps, or an internet connection to the cloud so how the heck are deep learning algorithms going to work? I don’t think they will. And that’s what I believe we need a better approach

#### Space colonization solves extinction.

Konrad Szocik 17. \*Department of Philosophy and Cognitive Science, University of Information Technology and Management in Rzeszow, Poland. \*\*Tomasz Wójtowicz, Institute of Security and Civic Education, Pedagogical University in Cracow, Poland. \*\*\*Leszek Baran, Chair of Internal Security, University of Information Technology and Management in Rzeszow, Poland. "War or peace? The possible scenarios of colonising Mars". Space Policy, Vol. 42. November 2017. https://www.sciencedirect.com/science/article/pii/S0265964617300371

The main benefit that could be provided by colonisation of Mars would be an opportunity to save the life of humanity when it is life on Earth will be endangered. It seems that the greatest possible source of dangers is the humanity itself, but beside it, the another greatest danger is probably the asteroid impact. To provide survival of humanity, the easier and the less costly project, as Impey points out, can be an attempt to reduce threats on Earth, and taking more care for proper conditions for human survival on Earth [12]. If we treat the idea of Mars colonisation as an alternative for an opportunity of survival of humanity, the mentioned running out resources are only one of possible threats for maintaining life on Earth. If we take into account such possible threats, it is worth considering Mars as perhaps the unique solution for further survival of humanity. Among possible threats on Earth we can enumerate such of them like nuclear war, environmental catastrophes, incurable epidemic, asteroid impact, or uncontrolled development of artificial intelligence that could be deleterious for humanity [12]. Of course, the concept of the human outer space colony as a way to solve human life could be applied probably only to some small part of the entire humanity, for instance, for these ones who survived one of the mentioned catastrophes. Consequently, the current work on preparation of the manned mission to Mars can be treated as a work to provide the future further living of the human species whose further existence on Earth in the next several hundred or several thousand years can be really endangered.

#### Optimizing IPR for innovation encompasses AND outweighs all existential risks.

Dylan Matthews 18. Co-founder of Vox, citing Nick Beckstead @ Rutgers University. 10-26-2018. "How to help people millions of years from now." Vox. https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the odds that we have enough trained scientists to come up with the breakthroughs we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.\*

#### Interoperable intellectual property is crucial to maintain tech innovation.

Shivakumar, 22 [Sujai Shivakumar is the director and senior fellow of the Renewing American Innovation (RAI) Project at the Center for Strategic and International Studies (CSIS). E, 3-3-2022, accessed on 7-4-2022, Csis, "Securing Intellectual Property for Innovation and National Security", https://www.csis.org/analysis/securing-intellectual-property-innovation-and-national-security]/ISEE

The United States is engaged in a global competition for innovation, with critical implications for the nation’s continued technological leadership, competitiveness, and security. To win, the United States will need to leverage its advantages at home, including its robust intellectual property (IP) rights system and the innovative zeal of its entrepreneurs. It should also look abroad—setting the pace for scientific cooperation with allies and strategic partners, as well as developing shared international technical standards through the contributions of experts from around the globe. Most pressingly, the United States should not adopt policies that weaken protection of U.S.-owned patents—which would both disincentivize innovation in the United States and support Chinese efforts to dominate critical standards and other advanced technologies. Yet a recent proposal of the Antitrust Division of the U.S. Department of Justice (DOJ) does just that. Launched as a consultation, its Draft Policy Statement on Licensing Negotiations and Remedies for Standards-Essential Patents Subject to F/RAND Commitments is promoted as an effort to encourage good-faith licensing negotiations and to address the scope of remedies available to patent owners who have agreed to license their essential technologies on fair, reasonable, and non-discriminatory (F/RAND) terms. While this draft policy seems like an innocuous administrative change, it has the potential to do significant damage to the United States’ innovation engine and, by extension, to its national security. The United States should not adopt policies that weaken protection of U.S.-owned patents—which would both disincentivize innovation in the United States and support Chinese efforts to dominate critical standards and other advanced technologies. In an unprecedented show of solidarity over what appears to be a technical issue of DOJ policy on standards and patents, a distinguished bipartisan group of former defense, national security, patent, and standards leaders has come out in opposition to this proposed policy change. They point out that it would diminish U.S. leadership by weakening protections for standard-essential patents (SEPs), arguing further that the proposal would instead aid China in its race to dominate advanced technologies vital to U.S. national security, such as artificial intelligence (AI), fifth-generation (5G) networks, and quantum computing. Innovation and National Security The U.S. innovation system—a network of capabilities, rules, and policies supporting research, development, and commercialization of new technologies—is a national strategic asset. Since the founding of the republic, the innovation economy has served as the basis for U.S. competitive and strategic advantage, a finding affirmed in the October 2021 White House National Strategic Overview for Research and Development Infrastructure. This innovation system is anchored by a robust framework of rules governing standards and IP protection. Standards set the pace for innovation, providing shared platforms for industry participants to work together to bring new technological solutions to the marketplace. Standards also promote interoperability and safety, giving consumers more and better choices. Moreover, secure property rights encourage smaller firms and individual inventors to share their new ideas and collaborate with others without the risk of theft. For this reason, the community of small inventors, universities, startups, and entrepreneurs has repeatedly spoken about the importance of secure property rights in providing them a path to market entry. Importantly, patents are not a “monopoly” in the market sense—they are a temporary period of exclusivity for a particular solution granted in exchange for disclosing that solution and eventually giving it up as a public good. The patent system for inventions creates, among other things, the rents that spur risk-taking and encourage entrepreneurship. The 2021 Draft Policy Statement would weaken this system, hurting U.S. risk-taking, innovation, and (subsequently) leadership in global technology standards, and is therefore concerning. Standard-Essential Patents The harm from the 2021 Draft Policy Statement comes from its proposed change to the terms of licensing negotiations and remedies for SEPs. An SEP is a patent that can be properly mapped onto a consensus industry standard, such that a product that conforms to that standard would infringe the patent unless a license has been granted. SEPs and their licensing are common in the mobile-wireless and telecommunications industry, a sector that is highly standardized due mainly to the need for interoperability between mobile devices. SEPs are also increasingly important in other internet-of-things (IoT) systems, as well as connected cars, autonomous vehicles, artificial intelligence, and many other emerging and critical technologies. Realizing the value of an SEP necessitates cooperation between the owner and implementer of the patent. However, owners and implementers can try to take advantage of each other in some situations. Epstein and Noroozi distinguish between “patent holdup” and “patent holdout” in these terms: In general, by “patent holdup” we mean the theoretical claim that innovators of standard–essential patents attempt to extract excessively large royalties from implementers after those implementers have committed to a particular technological standard that requires the use of the patent(s) in question—that is, a standard that renders the patent(s) “essential.” . . . By “patent holdout” we mean the converse problem—that an implementer refuses to negotiate in good faith with an innovator for a license to valid patent(s) that the implementer infringes, and instead forces the innovator to either undertake significant litigation costs and time delays to extract a licensing payment through a court order, or else to simply drop the matter because the licensing game is no longer worth the candle. To overcome these challenges to collective action, particularly given the complexity of standards and patents that go into advanced devices, owners of SEPs often make a commitment to offer licenses on F/RAND terms. Over the past 10 years, there has been mounting evidence of patent holdout, seen (for example) in the cases of Huawei in the United Kingdom and Germany, Haier in Germany, Wiko in the Netherlands, LG in the United States, and many more. It is therefore important that the policies determining SEP–F/RAND disputes maintain a balance between the interests and incentives of innovators and implementers. (Over the same period, there has been little if any evidence of holdup as a matter of concern.)

# 2AC

## Case

### 2AC---General---Inherency

#### Intellectual property stemming from the DOD needs to be overhauled.

**McGinn, 21** [Jerry McGinn is the Executive Director of the Center for Government Contracting in the School of Business at George Mason University (GMU)., 8-13-2021, accessed on 7-16-2022, Breaking Defense, "IP And Security: Two Thorny Challenges On The Innovation Journey - Breaking Defense", https://breakingdefense.com/2021/08/ip-and-security-two-thorny-challenges-on-the-innovation-journey/]/ISEE

OPINION: When Secretary of Defense Lloyd Austin signed the Department’s strategy for Joint All-Domain Command and Control, it officially kicked off a push towards open architectures, information sharing, and connected systems across the battlespace. But the capabilities to execute these concepts are often commercial, software-heavy, and do not fall neatly into existing budgeting processes. That is why DoD is piloting a software acquisition pathway and why the Senate has included a provision establishing a Commission on defense budget reform in its version of this year’s National Defense Authorization Act. These efforts are important and needed, but there are two thorny issues that need to be effectively addressed on this innovation journey: intellectual property (IP) and security. Both issues have seen increased attention in the past few years, but they are starting to go a bit sideways. Some recent requirements in DoD competitions for unlimited IP rights have raised major concerns with potential bidders while the department’s Cybersecurity Maturation Model Certification (CMMC) initiative has struggled to achieve its desired objective to date. Fortunately, there is a real opportunity in the coming months for DoD to focus on IP and security to help get us to a place that fosters continued innovation without losing our technological edge to China. IP has always been key to US military strength, but it has taken on a heightened role in today’s digital age with its focus on high-end commercial technology. The DoD focus on innovation has been a major theme spanning three administrations, with robust efforts to spur new entrants and new approaches to national security challenges in areas such as artificial intelligence, autonomy, and unmanned systems. As part of these efforts, DoD has begun to rethink its approach to IP. DoD signed out a relatively little-noticed IP policy in late 2019 that seeks to rebalance its approach to IP in acquisition. The essence of the policy is to seek “early and effective understanding, planning, and communications between the US Government and industry” on IP. The department is currently preparing to launch pilot efforts and is seeking industry input to implement this approach. Industry has watched these developments with great interest — and real concern — because IP is the lifeblood of their business strategy. Both high-tech non-traditionals as well as more traditional defense firms invest significant resources on IP to help maintain their competitive edge in the marketplace. Achieving a balance that enables DoD to effectively manage emerging capabilities without disincentivizing industry is a tricky balance that needs careful attention, as my colleagues James Hasik and Eric Lofgren have also noted. The competing IP needs for both government and industry are equally valid, but if DoD pushes more for unlimited data rights, for example, some companies may exit. One potential area for practical application is negotiating IP and data rights to create mutually beneficial license rights; finding an appropriate place in the acquisition process to have this negotiation will be a central focus in this discussion. Security is similarly critical to all innovation efforts. The recently unsealed Department of Justice indictments of several Chinese individuals raise major concerns. The indictments accuse four Chinese citizens of major IP theft and other crimes between 2011-2018, targeting US government facilities, companies, and universities looking for defense, biopharmaceutical, and other technologies. In particular, the large number of academic institutions targeted shows the risks facing US universities that support DoD. These threats also underscore the importance of ensuring that critical DoD suppliers are secure and reliable. The question, of course, is what to do about it. The administration is rethinking its approach to CMMC, which is good, but that is only part of the solution. Some government entities are looking to bring more capabilities such as software development “in house,” but as the Solarwinds cyber attack demonstrated, that approach entails significant risks as well. Supply chain visibility, underscored in the recent report of the House Armed Services Committee Defense Critical Supply Chain Task Force, is one area for attention. Developing a repeatable approach to examine defense supply chains by technology area, for instance, could help the department identify adversary threat vectors on a more proactive basis. The just-announced government and industry collaborative established by the Cybersecurity and Infrastructure Security Agency is another model for the department to consider. The challenges of IP and security are central to military innovation and there are no easy solutions. The best way forward is to be clear eyed about the risks and opportunities and tackle these thorny challenges head on. Government and industry need to maintain a robust dialogue and keep information flowing in both directions throughout this critical juncture on our innovation journey. There is a real opportunity for the still arriving DoD leadership to chart a path for success in IP and security for this era of renewed great power competition. Jerry McGinn is executive director of the Center for Government Contracting at George Mason University and a former Pentagon official. Success can only be achieved by finding common ground between the US government’s desire for MOSA and industry’s incentive to modify its current business cases. Success can only be achieved by finding common ground between the US government’s desire for MOSA and industry’s incentive to modify its current business cases. “The question I would have is as we move along is how do we gain a bit more efficiency at times, and I’m not…for more bureaucracy, but we kind of have raindrops of software factories out there,” Ed Wilson said. “Not all are created equal. There’s more success stories than others.”

#### The DOD needs clarification on IP.

**Lopez, 22** [C. Todd Lopez is a DOD writer, 3-3-2022, accessed on 7-17-2022, U.S. Department of Defense, "Addressing DOD", https://www.defense.gov/News/News-Stories/Article/Article/2953893/addressing-dods-tech-focus-areas-requires-new-approaches/]/ISEE

Earlier this year, the Defense Department's chief technology officer, Heidi Shyu, released a list of 14 technology areas deemed most critical for investment, including biotechnology, advanced materials, trusted artificial intelligence and microelectronics. A handful of products related to those focus areas — such as hypersonics and directed energy weapons — are almost exclusively military-related, but the majority are already being developed for the commercial market by private companies that may not have done business with the federal government. Those innovations include next-generation wireless communications, microelectronics, and human-machine interfaces. For DOD to have its needs addressed by the private sector with or without DOD involvement, the department will need to do a better job of engaging with those companies. DOD's Defense Innovation Unit is one segment of the government already on board with locating companies involved in the development of critical technologies and helping them become suppliers. "We're really trying to look at what all of the innovative companies are doing around the country ... because most of what we need to do to modernize the Defense Department is led by industry now; it's commercial technologies," Mike Brown, director of the DIU, said during a discussion Wednesday at George Mason University's Center for Government Contracting in Northern Virginia. "We have to be harnessing what the private industry is doing if we're going to be giving our warfighters the capability that they need," Brown said. DIU, Brown said, has been working to accelerate adoption of commercial technology using "other transaction authority," which is different from classic procurement contracts and is instead used for things like research or prototyping. The approach DIU uses is called "commercial solutions open," and Brown said this includes things like agile work statements, modular contracts and working at commercial speeds. "We don't start with requirements, which often dictates how the department might start to bring in a new capability — a process that's well-honed if you're going to build a new aircraft or tank," Brown said. "If you're going to look at commercial technology, you don't need to start with requirements. The commercial market has already built that." When DIU was looking at counterdrone technologies, Brown said, it didn't need to specify requirements because the commercial market had already developed things DOD could use. With modular contracts, he said, comes the flexibility to bring in different vendors and have them work together and go from a successful prototyping effort directly into production. Finally, modular contracts can limit the challenging requirements for intellectual property that might delay the transition of a capability from the private sector into warfighter hands, he said. "We're trying to get companies on contract in 60 to 90 days, in commercial terms — that means no onerous IP [intellectual property] requirements for companies that we work with," Brown said. Budgeting is also an issue, Brown said. Traditional budgeting requires planning as much as two years in advance before dollars can be spent. "That's not the agile process we need to compete with China in technology," he said. "We need to be able to move not the whole $750 billion defense budget, but we need some flexibility at the edges to respond to emerging threats and plug in new commercial technology solutions that address those threats. The Commission on Planning, Programming, Budgeting, and Execution Reform, as directed in the 2022 National Defense Authorization Act, is looking now at better solutions to budgeting so that the department can be more agile in the technology it procures. That’s something Brown said he's glad to see. Choose which Defense.gov products you want delivered to your inbox. The Department of Defense provides the military forces needed to deter war and ensure our nation's security.

### 2AC---Geopolitics---Internal---Heg/Democracy

#### Tech Diplomacy is crucial for US leadership and democracy.

**Wince-Smith, 21** [Deborah Wince-Smith is the President & CEO of the Council on Competitiveness, a national leadership organization, 8-24-2021, accessed on 7-16-2022, Forbes, "Tech Diplomacy Needed Now More Than Ever", https://www.forbes.com/sites/deborahwince-smith/2021/08/24/tech-diplomacy-needed-now-more-than-ever/?sh=639d609068a2]/ISEE

As new competitive realities emerged in the 1980s and 1990s, I noticed technology policy percolating higher and higher on the list of U.S. international priorities. During this period, as head of international affairs at the White House Office of Science and Technology Policy and later as the nation’s first Assistant Secretary for Technology Policy, I was front and center of the debates to elevate tech policy to the highest levels of the U.S. government. I witnessed firsthand the growing concerns about the protection of U.S. intellectual property rights abroad and foreign participation in U.S. R&D programs without reciprocal access for U.S. firms. This transformed global competitiveness landscape is, in part, what inspired the creation of the Council on Competitiveness, of which I am president and CEO. Today, I am encouraged by a renewed vision for American global technology diplomacy recently laid out by Secretary of State Antony Blinken. His vision represents a return to a more comprehensive, strategic approach to the opportunities and challenges technology affords us. At the National Security Commission on Artificial Intelligence’s Global Emerging Technology Summit in July, Blinken shared his experience at the heart of this reinvigorated approach linking technology and diplomacy: “…I needed scientists and technologists in the room just to tell me whether I needed scientists and technologists in the room to help identify the problems and help identify some of the solutions. And I became more and more convinced that virtually everything on our agenda has some tech or science or innovative component to the solution.” As Charles Holiday, Chairman Emeritus of the Council on Competitiveness and Chairman of Global Federation of Competitiveness Councils, told me, “Secretary Blinken is on target with his comments about democracies having to pass the tech test together.” Blinken characterized the ever-growing infusion of science and technology in the international sphere and echoed the need to build technology into “nearly all of our diplomatic engagements — tech by tech, issue by issue.” Technological strength is now the prime determinant of economic, political and military power, and China and others have risen as formidable competitors to the U.S. As a result, and to continue building off the foundation laid at the end of the last century and into the new one, Blinken’s call for the U.S. to “shape the strategic tech landscape, not just react to it” is more vital than ever. Threats Abroad China is the driving dynamo of this 21st-century challenge. The country is increasing its power in international institutions that oversee global science and technology policies, as well as making a major push to influence to its advantage international standards for next generation technology. Additionally, China’s Belt and Road Initiative (BRI) is a major platform for advancing its geo-political ambitions, including control over critical global supply chains, global trade, and data flows. In fact, the President of the Chinese Academy of Science has stated that science, technology, and innovation are core to the BRI’s objectives. These are all part of China’s quest for global technology leadership. China’s expansion of its reach through technology agreements, research centers and alliances in numerous countries across four continents cannot be overlooked either. This is being accomplished with investments and exchanges across Asia, Eastern and Central Europe, Africa and Latin America in a wide range of technological areas, such as telecommunications, artificial intelligence, surveillance, clean energy, robotics and smart city innovations. Unlike what we faced in the 1980s, today’s competition is not limited to a single, or even just a few players. Competitiveness in the third decade of the 21s century is truly global in scale and scope, including from long-held allies. For example, the European Union’s sweeping General Data Protection Regulation has already caused U.S. companies to exit the European market. Other U.S. companies have been heavily fined, most recently Amazon was slapped with a record $887 million fine; more U.S. firms are surely in the crosshairs, as other countries ignore these rules. The EU is also working to set global standards for artificial intelligence — which will have vast economic, social, and ethical implications — and recently released proposed AI rules for the continent. Additionally, there is growing global debate on the regulation of large technology firms, which are veiled efforts largely aimed at U.S. As Admiral James G. Foggo, former Commander, US Naval Forces Europe & Africa, recently told me,“Such policy stifles rather than enhances innovation, while international institutions turn a blind eye to other competitors who engage in activities like state-sponsored piracy of intellectual property.” Competing in the Next Economy Last December, prompted by the current state of the global innovation playing field, the Council on Competitiveness released its Competing in the Next Economy report. In this report, we make the case for the U.S. to place technology statecraft at the forefront of its economic and national security strategy. This includes joining the global battle in setting the frameworks for international standards and regulations for emerging technologies and the digital economy; evaluating foreign investments in the U.S.; and engaging with international institutions regarding the flows of goods, services, and data. The report also recommends establishing an International Science, Technology, and Innovation Corps to increase science and technology expertise across government personnel engaged in diplomacy, trade negotiations and promoting U.S. products and services overseas. Blinken’s outline for the Biden administration’s approach aligns with the report and its goals, placing the U.S. front and center in critical international scientific institutions and global R&D collaborations. He recognizes the importance of integrating science and technology into our core diplomatic and foreign service capability, especially as many government professionals confronting these issues in the international arena are not brought up on these disciplines. “We need to do a better job bringing that knowledge, that expertise, that focus into the department and to everything we do,” he said. Science and technology are more than just taking centerstage in the international arena; technology revolutions are transforming the global economy and societies around the world. Being on the forefront of global science and technology policy — whether through investment, expertise, or innovation itself — is crucial for the U.S. to remain at the top competitively, especially against foes with interests outside those of the international community. Secretary Blinken gets it right when he concluded, “Nothing is more consequential to our competitiveness, to our security and, ultimately, to our democracy” than ensuring our position as a scientific and technological leader.

### 2AC---Geopolitics---Impact---Democracy

#### Backsliding leads to nuclear war and threat-multiplication

Kendall-Taylor 19, Senior Fellow and Director of the Transatlantic Security Program at the Center for a New American Security (CNAS) (Andrea, February 26th, “Autocracy’s Advance and Democracy’s Decline: National Security Implications of the Rise of Authoritarianism Around the World”, <https://www.cnas.org/publications/congressional-testimony/testimony-before-the-house-permanent-select-committee-on-intelligence-1>, accessed 7/21/19)

The growing prevalence of personalized autocracies is cause for concern because they tend to produce the worst outcomes of any type of political regime: they tend to produce the most risky and aggressive foreign policies; the most likely to invest in nuclear weapons;7 the most likely to fight wars against democracies;8 and the most likely to initiate interstate conflicts.9 As the adventurism of Iraq’s Saddam Hussein, Uganda’s Idi Amin, and North Korea’s Kim Jong-un suggests, a lack of accountability often translates into an ability to take risks that other dictatorial systems simply cannot afford.

Russia underscores the link between rising personalism and aggression. Although Putin’s actions in Crimea and Syria were designed to advance a number of key Russian goals, it is also likely that Putin’s lack of domestic constraints increased the level of risk he was willing to accept in pursuit of those goals. Putin’s tight control over the media ensures that the public receives only the official narrative of foreign events. Limited access to outside information makes it difficult for Russians to access unbiased accounts of the goings-on in the rest of the world and gauge Putin’s success in the foreign policy arena. Putin’s elimination of competing voices within his regime further ensures that he faces minimal accountability for his foreign policy actions.

Politics in China show many of these same trends. Xi’s increasingly aggressive posture in the South China Sea has occurred alongside the rising personalization of the political system. Xi has amassed substantial personal power since coming to office in 2012 and continues to roll back the norms of the post-Mao collective leadership system. If Xi further consolidates control and limits accountability—particularly over military and foreign policy bodies—research suggests that he, too, could feel free to further escalate his aggressive rhetoric and actions in the South China Sea.

Not only do personalist dictatorships pursue aggressive foreign policies—they are also often difficult and unpredictable partners. Research underscores that, thanks to limited constraints on decisionmaking, personalist leaders generally have the latitude to change their minds on a whim, producing volatile and erratic policies.10 Moreover, personalist leaders—think Putin, Bolivian President Evo Morales, and Venezuelan President Nicolás Maduro—are among those autocrats who are most suspicious of U.S. intentions and who see the creation of an external enemy as an effective means of boosting public support. Anti-U.S. rhetoric, therefore, is most pronounced in personalist settings.

### 2AC---Geopolitics---Impact---Democracy---DPT True

#### DPT’s true---there’s a clear dyadic peace and a lower risk of war across the board.

Hegre et al. 18 (Havard; Professor Department of Peace and Conflict Research Uppsala University; Michael Bernhard; Miriam Ehrlich Chair in Political Science Department of Political Science University of Florida; Jan Teorell; Professor of Political Science Department of Political Science Lund University; *Reassessing the Democratic Peace: A Novel Test Based on the Varieties of Democracy Data*; <https://gupea.ub.gu.se/bitstream/2077/56045/1/gupea_2077_56045_1.pdf>)

We estimated two sets of models for all pairs of states for every year over the 1900–2010 period with the democratic peace hypothesis represented as the democracy score(s) of the stronger country, that of the weaker country, the interaction of these two, and several control variables. In the first set of models, we entered the five indicators of constraint one by one along with our control variables. Figure 3 summarizes the results from these models. Complete estimation results in table form with all control variables are found in Appendix Table A-1. The first model (called ‘Electoral accountability’) enters the three terms based on the electoral accountability index along with control variables. The estimates from this model are printed in green color at the top of the figure. The points represent the estimates and the whiskers their estimated 95% confidence interval. The two main terms are both positive, although that for the weaker country is not statistically significant. The interaction between the index values for the two countries in the dyad, on the other hand, is negative and highly significant – when both countries score highly in terms of electoral accountability, the risk of fatal dispute is much lower than if either have low scores. In line with expectations, we show in Appendix Table A-3 that the effect of electoral democracy is driven by the “Schumpeterian” core dimensions tapping into contestation – whereas suffrage does not play an independent role in promoting peace. The second model enters the ‘Legislative constraints’ index terms. Again, the interaction term is negative and significant, whereas the main terms are positive and significant. Similar patterns are observed for the other three individual indicators. Figure 4 shows that the net effect for each of these indicators is consistent with the democratic peace. In the left panels, the dashed line plots the estimated log odds of a MID when the weaker country j is at the mean of the index, as a function of the score for the stronger country (along the x-axis). The metric for the y-axis is log odds relative to the case where both countries have scores of 0 for the index. The dotted and solid lines show the same when the index is one standard deviation below or above the mean.19 The graph on the right plots the marginal effect of this relationship – it shows the change in the estimated probability of a fatal dispute when comparing a pair of countries where the weaker country has a value for the index one standard deviation below the mean and one standard 22 deviation above, respectively, as a function of the index for the stronger country. Both these graphs show a clear dyadic democratic peace in terms of all our indices of constraint – a more democratic weaker country means a clearly lower risk of fatal MID if the stronger country is relatively democratic.20 All of our individual indicators of constraint reflect the democratic peace when entered on their own. Given the high correlation between them, however, each of them may serve as a proxy for one of the other. We investigate which of them are relatively most important along two routes.

### 2AC---Emerging Tech---IP Works---Disease

#### IP is the only thing to generate pharmaceutical incentives to solve diseases.

**Gavish, 21** [Omer Gavish is a Partner and Pharmaceutical & Life Sciences Leader at PwC, Date Last Modified 10/24/21, accessed on 7-16-2022, No publication, "", pwc.com/il/en/pharmaceuticals/intellectual-property-protection.html]/ISEE

Intellectual property (IP) is a pharmaceutical or biotech company’s most valuable resource, and its protection is a key to that company’s future success. Recent challenges over patents for HIV drugs has reminded the industry that progress is still needed in balancing the opposing forces of innovation through protection of IP rights, versus the provision of affordable drugs for the developing world. Pharmaceuticals companies must face the daily challenge of creating value through the exploitation of IP rights, but avoiding considerable reputational harm. This situation was well illustrated in South Africa during the late 1990s when the balance between IP protection and the urgent needs of patients were not aligned. Since then, companies have become more aware of the potential damage that can be caused by too strict an interpretation of IP rights. Working in collaboration with national governments, trans-national organisations such as the WHO, and non-governmental organisations such as the Bill and Melinda Gates Foundation, pharmaceuticals companies have begun to find ways through the minefield of IP protection in less developed countries, and most now have donation schemes for drugs to treat diseases such as leprosy and HIV. In relatively strong emerging markets such as China and India though, additional issues prevail. Multinational pharmaceuticals companies require and expect IP rights to be strictly enforced in countries where there are countless local manufacturers with the ability to produce cheap counterfeit copies of patented drugs, which often find their way back to western markets. At the same time, the implementation and enforcement of IP laws in India and China is improving. Combined with the ability to leverage lower cost expertise, on the whole, these countries are still very much an opportunity rather than a threat. Nevertheless, companies need to be aware of and able to manage the considerable risks of doing business there. Closer to home, drug patents are coming under increased attack from generics companies who believe they have identified a weakness in the IP protecting a product. For instance, in 2004 a major ulcer treatment drug was the subject of a patent challenge in the US by a generic manufacturer just three years after its launch. With the generics industry consolidating and becoming more aggressive, pharmaceutical companies are facing more rigorous and frequent challenges to their intellectual property monopolies and growing pressure internally to bring the realisation of value in R&D forward, without compromising standards or regulatory compliance.

### 2AC---Emerging Tech---IP Works---General

#### Strong IP is pivotal to global innovation.

Ezell and Cory, 19 [Stephen Ezell is vice president for global innovation policy at the Information Technology and Innovation Foundation (ITIF) and director of ITIF’s Center for Life Sciences Innovation, and Nigel Cory is an associate director covering trade policy at the Information Technology and Innovation Foundation., 4-25-2019, accessed on 7-16-2022, Itif, "The Way Forward for Intellectual Property Internationally", https://itif.org/publications/2019/04/25/way-forward-intellectual-property-internationally/]/ISEE

Just as post-World War II trade agreements aimed at facilitating access to foreign markets for physical goods in a deliberate effort to maximize the gains from comparative and competitive advantage, so would the approach outlined in this paper seek to do this for services and knowledge-based goods, but with the aim of maximizing innovation. However, there is nothing inevitable about the process of countries pursuing ever-closer economic integration or working to address modern barriers to trade and innovation. Policymakers face a similar challenge in deciding what policies they should enact to give their workers and firms the best opportunity to thrive. IP-based innovation should be a key focal point in the process. As part of this, countries need to recognize that they can support their own ability to innovate and compete in new technology without undermining the ability of others to successfully compete and contribute to the world’s overall ability to drive innovation. These goals are not mutually exclusive. Furthermore, as it relates to the traditional dichotomy that still permeates the ideological opposition to intellectual property at the international level, it is not about “North vs. South” anymore, it is about whether one lives in a country whose policymakers understand that stronger intellectual property rights are beneficial for innovation and economic growth. Recognizing this, countries need to adjust their traditional pursuit of economic policy, including intellectual property, at the international level, and pursue a new approach, as the costs of the status quo (in terms of the rules set by TRIPS) and stasis (in terms of new rules and debates) will only continue to rise as the gap between these rules and modern technology and business practices grows. The ideas outlined in this report make the case for the world’s top innovators to lead the charge in shaping a new agenda, and explain how they can achieve this. The ideas are based on some degree of continuity with current trade policies and institutions, and to a degree on new ones. At its heart, the strategy recognizes that leading countries need to take charge in order to break through the stalemate at the multilateral level, and to not allow opponents’ ideological anchoring to hold back efforts to build an international framework for intellectual property that better supports global innovation.

#### Patents are correlated with innovation.

**Phelps, 15** [Marshall Phelps is a Forbes contributor,9/16/15, accessed on 7-18-2022, Forbes, "Do Patents Really Promote Innovation? A Response To The Economist", forbes.com/sites/marshallphelps/2015/09/16/do-patents-really-promote-innovation-a-response-to-the-economist/?sh=4cb816751921]/ISEE

Last month, the venerable Economist newspaper published an editorial decrying the state of the patent system. They rightly condemned the “parasitic ecology of trolls” that has bruised the patent system in recent years. But then the Economist went much further, claiming that while “today’s patent regime operates in the name of progress, instead it sets innovation back.” This is hardly surprising for a publication that throughout the 19th century openly called for the abolition of the patent system. They did so, mind you, even as the patented inventions of Matthias Baldwin, Samuel Morse, Alexander Graham Bell, and Thomas Edison were unleashing the railroad, telegraph, telephone, and electrical power industries and transforming the face of human society. But no matter, let’s take the Economist’s central claim at face value — that patents “set innovation back” rather than promote it — and see if it holds up to scrutiny. Let’s start with the basics: What causes innovation in the first place? Economists have repeatedly demonstrated that inventors are driven primarily by the expectation of profiting from owning the rights to their inventions. Zorina Khan of Bowdoin College, whose 2005 classic The Democratization of Invention: Patents and Copyrights in American Economic Development was awarded the prestigious Alice Hanson Jones Prize for outstanding work in economic history, observed that “Ordinary people [are] stimulated by higher perceived returns or demand-side incentives to make long-term commitments to inventive activity.” She also found that “their patterns of patenting were procyclical [and] responded to expected profit opportunities.” Along with her colleague the late Kenneth Sokoloff of UCLA, Professor Khan then summarized the role of patents in helping U.S. startup businesses grow the economy from an agrarian backwater into the most powerful industrial economy on the face of the earth: The U.S. patent system had a powerful impact on the patterns of inventive activity. Its provision of broad access to property rights on new inventions, coupled with the requirement of public disclosure, was extremely effective at stimulating the growth of a market for technology and promoting technological change [emphasis added]. Then, as now, the American formula for success was simple: Startups + patents = jobs and economic growth! Over the last 50 years, economists have found that patents continue to foster ex ante innovation — meaning, they induce people to invent because of the prospect of profiting from those inventions. The work of economists such as Arrow (1962), Griliches (1963), Schmookler (1966), Kitch (1977), Reinganum (1981), Klemperer (1990), Romer (1990), Giulbert and Shapiro (1990), Grossman and Helpman (1991), Scotchmer (1999), and Gallini (2002) on this issue is mostly available for free online at the Social Science Research Network. One especially interesting 2007 study by Arora, Ceccagnoli, and Cowen entitled "R&D and the Patent Premium" found that "the patent premium for innovations that were patented is substantial. Firms earn on average a 50% premium over the no patenting case, ranging from 60% in the health related industries to about 40% in electronics.” Sure, one should be cautious about academic research, especially given the old joke about how an economist opens a can of soup. (Answer: assume a can opener.) But real-world economics clearly confirms the research findings. Consider, for example, that the biggest job-creating new industries of the last 60 years — semiconductors (consumer electronics), PCs, software, biotech, mobile telephony, and Internet e-commerce — were all launched and grew strong on the basis of patented inventions created by startup businesses. As the CEO of Juno Therapeutics, Hans Bishop, and ARCH Venture Partners co-founder Bob Nelson recently wrote in Forbes: “Let us be clear: investments in the biotech industry are based entirely on patents. Without strong patents, we cannot raise money to find cures for disease.” Moreover, the evidence that patents foster innovation is not confined to the U.S., nor is it limited only to developed countries. In 2008, a study by the Organization for Economic Co-operation and Development (OECD) found that “stronger levels of patent protection are positively and significantly associated with inflows of high-tech product [and] expenditures on R&D.” And in another study that attracted wide attention, Shih-Tse Lo of Concordia University in Montreal found that the 1986 reforms strengthening the Taiwanese patent system “stimulated additional inventive activity, especially in industries where patent protection is generally regarded as an effective strategy for extracting returns, and in industries which are more R&D intensive. The reforms also seemed to induce additional foreign direct investment in Taiwan.” Interestingly, the evidence also shows that rather than hindering knowledge sharing, as the Economist claims, patents actually promote it. Acemoglu, Bimpikis, and Ozdaglar (2008) observed that “patents improve the allocation of resources by encouraging rapid experimentation and efficient ex-post transfer of knowledge across firms.” Indeed, it turns out that the patent system is one of the most effective tools for knowledge-sharing and technology transfer ever devised. A 2006 study by French economists Francois Leveque and Yann Meniere found that 88 percent of U.S., European, and Japanese businesses said they actually rely upon the information disclosed in patents to keep up with technology advances and direct their own R&D efforts. This is hardly a new phenomenon. The 19th century inventor Elias E. Reis reported that when he read about an 1886 patent issued to Elihu Thomson for a new method of electric welding, “there immediately opened up to my mind a field of new applications to which I saw I could apply my system of producing heat in large quantities.” Thomas Edison was known to frequent the patent office in order to study other inventors’ patents and hopefully spark ideas of his own. As for Edison himself, a 2013 study found that rather than blocking further invention, his seminal 1880 incandescent lamp patent (No. 223,898) actually “stimulated downstream development work” that resulted in “new technologies of commercial significance [including] the Tesla coil, hermetically sealed connectors, chemical vapor deposition process, tungsten lamp filaments and phosphorescent lighting that led to today’s fluorescent lamps.” A simple thought experiment suggests why this is so. As UCLA’s Sokoloff and Yale’s Naomi Lamoreaux observed in a 1997 paper, “The very act of establishing exclusive property rights in invention not only protected patentees but also promoted the diffusion of information about technology. To see why, imagine a world in which there was no patent system to guarantee inventors property rights to their discoveries. In such a world, inventors would have every incentive to be secretive and guard jealously their discoveries from competitors [because those discoveries] could, of course, be copied with impunity. This is the world of trade secrets. “By contrast,” the authors noted, “in a world where property rights in invention were protected, the situation would be very different. Inventors would now feel free to promote their discoveries as widely as possible so as to maximize returns either from commercializing their ideas themselves or from [licensing] rights to the idea to others. The protections offered by the patent system would thus be an important stimulus to the exchange of technological information in and of themselves. Moreover, it is likely that the cross-fertilization that resulted from these information flows would be a potent stimulus to technological change.” In the real world, one need only look at the smartphone industry to see the truth in that thought experiment. Does anyone believe that global smartphone use would have experienced such extraordinarily rapid growth under a trade secret regime? Impossible. Only a strong patent system enabling the licensing and cross-licensing of proprietary technology across four very disparate industries —telephony, electronics, computing and software — could have produced the hugely successful smartphone industry that we enjoy today. The response of some critics to all this evidence is, “Yes, but you can’t prove causation.” And it’s true, one cannot prove theoretically that the patent system by itself causes higher rates of innovation and economic growth. That’s because the exogenous factors — the dynamism of markets, the efficacy of legal and governmental institutions, the availability of capital, and the role of countless other factors — are far too complex and interdependent to isolate causation to patents alone. It’s like trying to pinpoint ultimate causation in the weather. It can’t be done. But by the same token, one also cannot prove that free market capitalism — isolated from all the legal, educational, economic, governmental and cultural institutions that surround it in any country — causes more economic growth than a government-run socialist economy. Yet we all know without a doubt from real-world experience — including the fact that 74 years of socialism in the Soviet Union failed to produce even a decent refrigerator — that free markets are strongly correlated with greater economic prosperity. The same is true of the patent system: on balance and over the long term, patents are strongly correlated with increased innovation, knowledge sharing, and economic growth. I’m all for stopping the patent trolls who pillage innocent businesses rather than create anything useful. But if we want America to keep inventing the future, we’d better keep patenting.

### 2AC---Emerging Tech---IP Works---Warming

#### IP is the lynchpin of sustainable innovation.

**Krul, 20** [Ruben Krul has a Bachelor’s degree in Law and Economics and his master’s degree in International Political Economy at Radboud University, July 2020, accessed on 7-16-2022, Theses.ubn.ru, "Intellectual Property and the Environment: an Unused Opportunity", https://theses.ubn.ru.nl/bitstream/handle/123456789/10418/Krul%2C\_Ruben\_1.pdf?sequence=1]/ISEE

The goal of this research was to explore the relationship between IPRs and sustainable innovation, thereby being the first study to explore this relationship using an econometric model. This relationship is explored by using two main roles of IP, namely the incentivizing role of IP and the role of IP in technology diffusion. A panel data analysis was performed in order to gain more insights in this relationship. IP was measured by two slightly different indexes: the Ginarte and Park index, which is solely focused in patents, and the Global Competitiveness Report index, which is a more general IP index that includes other IP rights too, such as design rights and copyrights. Based on the literature, hypothesis 1a stated that the IP system incentivizes sustainable innovation, because it does so for general innovation. This hypothesis cannot be confirmed for the general IP index, since the statistical analysis shows mixed results, with sometimes a positive and sometimes a negative coefficient, which is also not in all cases significant. However, an inverted U-curve relationship seems to exist, meaning that up to a certain threshold, the IP system does stimulate sustainable innovation. On the other hand, patent laws seems to be stimulating sustainable innovation, because they show a positive and often significant relationship, although this assessment is based on a limited amount of observations, and this conclusion must thus be drawn carefully. However, based on the results of this study, for patent laws, the first hypothesis can be confirmed. This difference between the indexes comes from the fact that the patent-index is solely focused on patents, which are the ‘ultimate’ drivers of innovation, while the general IP index also includes other rights that might mitigate the overall impact of IP compared to the patent-index. The results also suggest that this IPRs are not negligible in the process of sustainable innovation, as the relative value of the general IP indexes is average compared to the other variables, and even high for the patent index. Hypothesis 2a stated that the IP system is not yet designed to promote sustainable innovation, because there are hardly any factors within this system that are focussed specifically on environmental technologies. This hypothesis was tested using a green patent-policy variable, showing mostly negative outcomes. The results indicate that this subhypothesis can be confirmed as there was no significant relationship. The second hypothesis focused on the second role of IP, and stated that IPRs are an enabling factor in the diffusion of sustaianble innovations. This hypothesis can not be confirmed for patent diffusion. The results of the analysis on the green patent diffusion-database showed mixed results, although most results were negative and insignificant. The negative value could be an indication that stricter patent laws also have more expensive and time-consuming application procedures, meaning that it is less attractive to a lot patent holders. A positive note is that relative to the other variables, IP is really important, which means that a change in the IP system should lead to a lot more patent diffusion. However, the results for this relationship slightly differ when looking at technology trade. A positive, but insignficant relationship exists between IP and sustainable technology diffusion, although the relationship between patent laws and sustainable technology diffusion seems to be more significant. However, as these results indicate, this hypothesis can also not be confirmed. The conclusion of this study is thus that IPRs are not contributing (yet) to to the development and spread of sustainable innovation. The main hypotheses are rejected, meaning that there is not a signficiant role yet for IP in sustainable innovation. As pointed out earlier, the IP system is currently still only focused on general innovation and has no or too little characteristics that stimulate the development and diffusion of sustainable innovation. This has to change, considering climate change is one of the biggest challenges in current times. An example of a policy could be an easier and cheaper application process 51 for green patents. Moreover IP seems to be an important factor in climate change, because IP seems to be important in all analyses that are performed. So changing the IP system would be of great importance in fighting the environmental problems. It is thus recommended to focus more on the IP system as an environmental policy tool, as it will make a difference.

### 2AC---Emerging Tech---Impact---Biod

#### Biodiversity loss causes extinction.

**Yule and Fournier, 13** [Jeffrey V. Yule works for Utah Tech University, Robert J. Fournier works for University of California, Berkeley , June 2013, accessed on 7-16-2022, Researchgate, "Biodiversity, Extinction, and Humanity's Future: The Ecological and Evolutionary Consequences of Human Population and Resource Use", https://www.researchgate.net/publication/275100679\_Biodiversity\_Extinction\_and\_Humanity's\_Future\_The\_Ecological\_and\_Evolutionary\_Consequences\_of\_Human\_Population\_and\_Resource\_Use]/ISEE

We have assumed that humanity’s future will unfold in a way that avoids any of a number of global disasters for Homo sapiens sapiens. An equally reasonable but less optimistic assessment could take exception to that position. A variety of things could go badly wrong for humanity. Global human N may not stabilize at or below where it stands now without being pushed there by some form(s) of crisis that result from humans exceeding global K. As a result, anthropogenic factors from the intentionally harmful (e.g., warfare) to the unintentionally disastrous (e.g., agricultural practices leading to topsoil erosion and desertification) could occur singly or in conjunction with one another, with a variety of natural disasters (e.g., volcanic eruptions, earthquakes), and with disasters that straddle the boundary of natural and anthropogenic, the sorts of scenarios that otherwise could have been avoided or their impacts lessened with more forethought (e.g., outbreaks of infectious disease that move easily through dense human population centers and cannot be readily treated due to pathogen drug resistance). Although we cannot rule out such eventualities, speculation about the future of humanity is inherently more interesting if it proceeds on the assumption that the species will be at least moderately successful beyond the short- to medium-term. However, it may not, and the potential failure of our species has considerable biological implications. From an ecological or evolutionary perspective, few events are good or bad in absolute terms: they simply favor different organisms. So while we would view a precipitous drop in human N, perhaps even human extinction, as bad news, a more objective position would see it as bad news only for one particular primate and the minority of species (e.g., cockroaches, Norway rats) that thrive in the environments we maintain and the pathogens and parasites that rely on us for food and habitat. In areas where humans are partially excluded (e.g., demilitarized zones such as the one between North and South Korea), wildlife thrives [35]. The same would be true if humans were absent from much—or, indeed, all—of the world. Some of the richest speculations about future vertebrate evolution extend the time scale over which humans are absent to cover millions of years [36]. By and large, however, we consider a short-term perspective much more manageable. In some respects, the human future will be very different from the human past. Regardless of whether human N and per capita resource use decrease sooner or later, future generations will see less wildlife than their ancestors. Organisms across a wide range of taxa, most visibly large mammals but also birds and amphibians, will become extinct due mainly to multiple stresses caused by human actions. For now, the full ecological and evolutionary consequences of these extinctions remain unknown, although the greater the magnitude of extinctions, the higher the likelihood that they will negatively impact human life. Future humans will inhabit a world in which some niches are liable to be left vacant until new organisms arise to fill them. What these species will be, how they will function in the communities they occupy, and what ecosystem services they will directly or indirectly provide or facilitate will depend on the magnitude of human impacts. At all time scales, species assemblages and associations characteristic of particular communities today will likely change. How much will depend on the pace at which human population growth and resource use change.

### 2AC---Emerging Tech---Impact---Disease

#### **Disease causes extinction.**

Supriya, 21 [Lakshmi Supriya,, Lakshmi Supriya got her BS in Industrial Chemistry from IIT Kharagpur (India) and a Ph.D. in Polymer Science and Engineering from Virginia Tech (USA).4-19-2021, "Humans versus viruses," News-Medical.net, https://www.news-medical.net/news/20210419/Humans-versus-viruses-Can-we-avoid-extinction-in-near-future.aspx]/ISEE

Emerging pathogens Although we are made up of human cells, we have almost ten times that of bacteria just in our guts and more on our skin. These microbes not only affect locally but also affect the entire body. There is a balance between the good and bad bacteria, and any change in the environment may cause this balance to shift, especially on the skin, the consequences of which are unknown. Although most bacteria on and inside of us are harmless, gut bacteria can also have viruses. If viruses don’t kill the bacteria immediately, they can incorporate into the bacterial genome and stay latent for a long time until reactivation by environmental factors, when they can become pathogenic. They can also escape from the gut and enter other organs or the bloodstream. Bacteria can then use these viruses to kill other bacteria or help them evolve to more virulent strains. An example of the evolution of pathogens is the cause of the current pandemic, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Several mutations are now known that make the virus more infectious and resistant to immune responses, and strengthening its to enter cells via surface receptors. The brain There is evidence that the SARS-CoV-2 can also affect the brain. The virus may enter the brain via the olfactory tract or through the angiotensin-converting enzyme 2 (ACE2) pathway. Viruses can also affect our senses, such as a loss of smell and taste, and there could be other so far unkown neurological effects. The loss of smell seen in COVID-19 could be a new viral syndrome specific to this disease. Many books and movies have described pandemics caused by pathogens that wipe out large populations and cause severe diseases. In the essay, the author provides a hypothetical scenario where a gut bacteria suddenly starts producing viral proteins. Some virions spread through the body and get transmitted through the human population. After a few months, the virus started causing blindness, and within a year, large populations lost their vision. Pandemics can cause other diseases that can threaten humanity’s entire existence. The COVID-19 pandemic brought this possibility to the forefront. If we continue disturbing the equilibrium between us and the environment, we don’t know what the consequences may be and the next pandemic could lead us to extinction.

### 2AC---Emerging Tech---Impact---Warming

#### Climate change causes extinction.

**Weston, 21** [Phoebe Weston is a science and environment journalist, 1-13-2021, accessed on 7-16-2022, the Guardian, "Top scientists warn of 'ghastly future of mass extinction' and climate disruption", [https://www.theguardian.com/environment/2021/jan/13/top-scientists-warn-of-ghastly-future-of-mass-extinction-and-climate-disruption-aoe]/ISEE](https://www.theguardian.com/environment/2021/jan/13/top-scientists-warn-of-ghastly-future-of-mass-extinction-and-climate-disruption-aoe%5d/ISEE)

The planet is facing a “ghastly future of mass extinction, declining health and climate-disruption upheavals” that threaten human survival because of ignorance and inaction, according to an international group of scientists, who warn people still haven’t grasped the urgency of the biodiversity and climate crises. The 17 experts, including Prof Paul Ehrlich from Stanford University, author of The Population Bomb, and scientists from Mexico, Australia and the US, say the planet is in a much worse state than most people – even scientists – understood. “The scale of the threats to the biosphere and all its lifeforms – including humanity – is in fact so great that it is difficult to grasp for even well-informed experts,” they write in a report in Frontiers in Conservation Science which references more than 150 studies detailing the world’s major environmental challenges. The delay between destruction of the natural world and the impacts of these actions means people do not recognise how vast the problem is, the paper argues. “[The] mainstream is having difficulty grasping the magnitude of this loss, despite the steady erosion of the fabric of human civilisation.” The report warns that climate-induced mass migrations, more pandemics and conflicts over resources will be inevitable unless urgent action is taken. “Ours is not a call to surrender – we aim to provide leaders with a realistic ‘cold shower’ of the state of the planet that is essential for planning to avoid a ghastly future,” it adds. Dealing with the enormity of the problem requires far-reaching changes to global capitalism, education and equality, the paper says. These include abolishing the idea of perpetual economic growth, properly pricing environmental externalities, stopping the use of fossil fuels, reining in corporate lobbying, and empowering women, the researchers argue. The report comes months after the world failed to meet a single UN Aichi biodiversity target, created to stem the destruction of the natural world, the second consecutive time governments have failed to meet their 10-year biodiversity goals. This week a coalition of more than 50 countries pledged to protect almost a third of the planet by 2030. A coral reef dominated by algae in Seychelles A coral reef dominated by algae in Seychelles ... the climate crisis is changing the composition of ecosystems. Photograph: Nick Graham/Lancaster University/PA An estimated one million species are at risk of extinction, many within decades, according to a recent UN report. “Environmental deterioration is infinitely more threatening to civilisation than Trumpism or Covid-19,” Ehrlich told the Guardian. In The Population Bomb, published in 1968, Ehrlich warned of imminent population explosion and hundreds of millions of people starving to death. Although he has acknowledged some timings were wrong, he has said he stands by its fundamental message that population growth and high levels of consumption by wealthy nations is driving destruction. He told the Guardian: “Growthmania is the fatal disease of civilisation - it must be replaced by campaigns that make equity and well-being society’s goals - not consuming more junk.” Large populations and their continued growth drive soil degradation and biodiversity loss, the new paper warns. “More people means that more synthetic compounds and dangerous throwaway plastics are manufactured, many of which add to the growing toxification of the Earth. It also increases the chances of pandemics that fuel ever-more desperate hunts for scarce resources.” Biologists fear hundreds of thousands of birds may have died on their migration through the state of New Mexico because they were unable to find food. Mass die-off of birds in south-western US 'caused by starvation' Read more The effects of the climate emergency are more evident than biodiversity loss, but still, society is failing to cut emissions, the paper argues. If people understood the magnitude of the crises, changes in politics and policies could match the gravity of the threat. “Our main point is that once you realise the scale and imminence of the problem, it becomes clear that we need much more than individual actions like using less plastic, eating less meat, or flying less. Our point is that we need big systematic changes and fast,” Professor Daniel Blumstein from the University of California Los Angeles, who helped write the paper, told the Guardian. The paper cites a number of key reports published in the past few years including: The World Economic Forum report in 2020, which named biodiversity loss as one of the top threats to the global economy. The 2019 IPBES Global Assessment report which said 70% of the planet had been altered by humans. The 2020 WWF Living Planet report, which said the average population size of vertebrates had declined by 68% in the past five decades. A 2018 Intergovernmental Panel on Climate Change report which said that humanity had already exceeded global warming of 1C above pre-industrial levels and is set to reach 1.5C warming between 2030 and 2052.

### 2AC---Emerging Tech---Impact---Space Col

#### Every delay kills trillions of humans.

Bostrom 3 [Nick, Winner of the 2010 Eugene R. Bostrom Award for the Pursuit of Human Advancement (awarded by Seth Gannon; read Bostrom’s acceptance essay, linked on Bostrom’s CV when you get a chance), other lesser quals include Professor of Philosophy, Yale University, Director of the Future of Humanity Institute at Oxford University, “Astronomical Waste: The Opportunity Cost of Delayed Technological Development,” 2003, Utilitas Vol. 15, No. 3, pp. 308-314, [**http://www.nickbostrom.com/astronomical/waste.html**](http://www.nickbostrom.com/astronomical/waste.html)]

As I write these words, suns are illuminating and heating empty rooms, unused energy is being flushed down black holes, and our great common endowment of negentropy is being irreversibly degraded into entropy on a cosmic scale. These are resources that an advanced civilization could have used to create value-structures, such as sentient beings living worthwhile lives. The rate of this loss boggles the mind. One recent paper speculates, using loose theoretical considerations based on the rate of increase of entropy, that the loss of potential human lives in our own galactic supercluster is at least ~10^46 per century of delayed colonization.[1] This estimate assumes that all the lost entropy could have been used for productive purposes, although no currently known technological mechanisms are even remotely capable of doing that. Since the estimate is meant to be a lower bound, this radically unconservative assumption is undesirable. We can, however, get a lower bound more straightforwardly by simply counting the number or stars in our galactic supercluster and multiplying this number with the amount of computing power that the resources of each star could be used to generate using technologies for whose feasibility a strong case has already been made. We can then divide this total with the estimated amount of computing power needed to simulate one human life. As a rough approximation, let us say the Virgo Supercluster contains 10^13 stars. One estimate of the computing power extractable from a star and with an associated planet-sized computational structure, using advanced molecular nanotechnology[2], is 10^42 operations per second.[3] A typical estimate of the human brain’s processing power is roughly 10^17 operations per second or less.[4] Not much more seems to be needed to simulate the relevant parts of the environment in sufficient detail to enable the simulated minds to have experiences indistinguishable from typical current human experiences.[5] Given these estimates, it follows that the potential for approximately 10^38 human lives is lost every century that colonization of our local supercluster is delayed; or equivalently, about 10^31 potential human lives per second. While this estimate is conservative in that it assumes only computational mechanisms whose implementation has been at least outlined in the literature, it is useful to have an even more conservative estimate that does not assume a non-biological instantiation of the potential persons. Suppose that about 10^10 biological humans could be sustained around an average star. Then the Virgo Supercluster could contain 10^23 biological humans. This corresponds to a loss of potential equal to about 10^14 potential human lives per second of delayed colonization. What matters for present purposes is not the exact numbers but the fact that they are huge. Even with the most conservative estimate, assuming a biological implementation of all persons, the potential for one hundred trillion potential human beings is lost for every second of postponement of colonization of our supercluster.[6]

#### Space col or exploration is inevitable.

**Cirkovic, 19** [Milan M. Cirkovic is a Serbian astronomer, astrophysicist, philosopher and science book author., 2019, accessed on 7/16/22, Futures Volume 105, "Space colonization remains the only long-term option for humanity: A reply to Torres", http://philsci-archive.pitt.edu/15207/1/SpaceColonization\_v4.pdf]/ISEE

One problem with the ‘no contamination’ policy is that a tacit dichotomy between exploration and colonization has not been acknowledged. However, we believe it is time to clearly differentiate society's intention to either (i) continue exploration or (ii) commit to extraterrestrial colonization (while still exploring). In the present context, we assert that humanity in genere stands at a precipice where people can rationally debate whether the initial ‘exploration’ phase of space travel in this solar system will soon culminate, and can be superseded by deliberate efforts at extraterrestrial colonization with its full implications. This rubicon should be clearly demarcated at both societal and scientific levels. For example, the lack of any discovery or evidence of life from any of the past 70+ space missions and probes which have left Earth's orbit points to only one unique presence of life in our immediate solar system.

### 2AC---Emerging Tech---AT: Space Col Bad---Aliens

#### If they exist, alien interaction is inevitable regardless of the plan.

**Cirkovic, 19** [Milan M. Cirkovic is a Serbian astronomer, astrophysicist, philosopher and science book author., 2019, accessed on 7/16/22, Futures Volume 105, "Space colonization remains the only long-term option for humanity: A reply to Torres", http://philsci-archive.pitt.edu/15207/1/SpaceColonization\_v4.pdf]/ISEE

Torres’s argument fails to mention the possibility of extraterrestrial life and especially extraterrestrial intelligent life; in this he is quite similar to many other philosophers discussing the future of humanity (e.g., Kahane 2014; Klee 2017). This is important in two different respects. The first is that by relinquishing space colonization, humans obviously leave all available cosmological resources to other intelligent species. (Of course, some of them might be swayed by arguments of extraterrestrial Torresanalogs and relinquish space colonization, but there is no guarantee that all of them will do so, esp. since – as shown above – the arguments are not that persuasive!) This will enable dramatic expansion of an alien colonizing species, which will fill the universe with their own values, entirely different from human/posthuman values. This might or might not be desirable – depending on the character of alien values – but in any case, it would not be particularly appealing from the narrow human perspective. Those averse to s-risks should clearly be against this scenario, since there are no guarantees that aliens would not be more efficient than humans in inflicting suffering onto themselves and others. The second part of the story is harsher. Ironically, if Torres were right that space colonization would always lead to war between diverging factions, the situation would have been hopeless for humanity, 9 Was King George justified in denying those pesky New England colonists “representation rights”? And would he have been justified if he could somehow predict the suffering inflicted by such increase in diversity not only in the Revolutionary War, but also the war of 1812, etc.? 10 It is irrelevant for present purposes that a great deal of this argument could apply to Bostrom’s singleton as well. Moral aspects of singletons have not been sufficiently studied thus far; it is entirely conceivable that all singletons or all realistic singletons are repugnant in this sense as well. In any case, any conceivable risk of totalitarian usurpation of a future singleton is inherent in the argument that space colonization should be suppressed in order to prevent diversification of future (post)humanity. since one or another alien faction would have found it both expedient and easy to exterminate or enslave the Earth-bound humanity. By the very logic of Torres’s narrative about hyperweapons, the Earth would remain an easy target for any interstellar colonizing faction (and there is no reason to assume that aggressive factions would limit their aggression to their phylogenetic relatives). Thus, Torres’s argument is actually self-defeating in the presence of extraterrestrial intelligence – acquiescing to it would directly contribute to the ultimate harm. Perhaps a skeptic wants to believe (as a kind of anti-agent Moulder, of the X-Files’ fame) that extraterrestrial intelligence is non-existent or vanishingly rare? To begin with, it would be strange to bet the long-term future of humanity on such a technical astrobiological issue, on which we can exert no influence whatsoever. Extraterrestrial life either exists or it does not, irrespectively of any amount of our ethical or political hand-wringing. So, lacking specific information for one or the other, we should certainly make strategies for both options. Further, the advances of astrobiology over the last quarter century offer many reasons for cautious belief in the conclusion that life and intelligence are reasonably abundant in astrophysically and astrochemically permissible ecosystems. Some of the arguments to that effect are summarized in Ćirković (2012).11 Even if, by some quirk of astrobiological evolution, humanity is the first intelligent species to arise in the Milky Way (as, for instance, per the well-known argument of Carter 1983, 2008), following Torres’s advice and relinquishing space colonization will simply ensure that the second, third, or 275th intelligent species to evolve will indeed colonize the Galaxy instead of humans. If, on the other hand, Torres is wrong and it is possible to colonize the Galaxy in a peaceful and prosperous manner, humanity might survive on Earth in a kind of zoo or preserve, surrounded by friendly and considerate interstellar aliens – but obviously failing to realize its creative potential (which would also count as an existential catastrophe in Bostrom’s taxonomy).12 There is simply no way out of that quandary, unless one is a creationist who believes that humanity originated by Divine supernatural act and there is exactly zero probability of abiogenesis/noogenesis occurring elsewhere. In general, no naturalistic utilitarian calculus of various scenarios for the future of humanity could be complete if it does not take extraterrestrial intelligence into account. A basic tenet of most space exploration has been to sterilize all spacecrafts in order to avoid potential contamination of space from Earth. A relevant incident occurred as a public faux pas in July 2017. The US Vice President was touring the Kennedy Space Center, and passed some equipment destined for space travel. A sign said ‘Critical space flight hardware—Do not touch’, but he accidentally did just that while on television. This story links to our essay's primary theme and the tacit message of the signage: ‘Do not touch to avoid contamination’. To the contrary, we suggest that it is now time to rethink this ‘contamination’ policy, including plans and protocols to track accidental introduction and, in parallel, developing a protocol for 'controlled colonizing' of another planetary body, if this is decided to be humanity's long-term goal. Our message in this paper intends to convince that substituting the more forward-looking term microbial ‘introductions or release’ into space would be more realistic than using the negative term ‘contamination’. Also, the current planetary protection policy is not consistent with future plans to ultimately colonize space.

### 2AC---Emerging Tech---AT: Space Col Bad---Contamination

#### Space microbes good!

Lopez et al., 19 [Jose V Lopez works for Halmos the College of Natural Sciences and Oceanography, Raquel S Peixoto works for the Halmos College of Natural Sciences and Oceanography, Alexandre S Rosado works for the Institute of Microbiology, Federal University of Rio de Janeiro, 8-22-2019, accessed on 7-16-2022, Oxford University Press, "Inevitable future: space colonization beyond Earth with microbes first", https://academic.oup.com/femsec/article/95/10/fiz127/5553461]/ISEE

If we assume humanity intends to eventually colonize parts of our solar system, then the ‘contamination’ of these new areas with terrestrial microorganisms, by our expeditions, will also be inevitable and possibly desirable. In this context, we should begin to systematically discard ‘contamination’ terminology and instead determine the criteria for ‘selecting’ which microbes to be introduced as pioneering colonists on a Martian or extraterrestrial landscape. Recent microbiology research has provided insights to determine the correct criteria. An important primary need is the generation of habitable atmosphere with decreased CO2 and more oxygen, which some microbes can produce. Thereafter, another benefit would be to support growth of sustainable food supplies through symbiosis—e.g. nitrogen or carbon fixation to generate organic materials—and other ‘agriculture-beneficial’ mechanisms, to be further explored. Beneficial mechanisms and the efficiency of the use of probiotics or environmental probiotics have been well described and/or proposed for different organisms, such as plants, humans (Lax, Nagler and Gilbert 2015), fishes (Dawooda and Koshio 2016) and corals (Peixoto et al. 2017). What microbes accomplish on Earth can benefit human colonization of Mars or other planets.

#### OST checks harmful microbes.

Lopez et al., 19 [Jose V Lopez works for Halmos the College of Natural Sciences and Oceanography, Raquel S Peixoto works for the Halmos College of Natural Sciences and Oceanography, Alexandre S Rosado works for the Institute of Microbiology, Federal University of Rio de Janeiro, 8-22-2019, accessed on 7-16-2022, Oxford University Press, "Inevitable future: space colonization beyond Earth with microbes first", https://academic.oup.com/femsec/article/95/10/fiz127/5553461]/ISEE

International space microbial policy started with the 1967 United Nations Outer Space Treaty (OST), and especially Article IX, which has this statement (Rummel and Billings 2004)—‘States shall pursue studies of outer space, including the moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination…’ This mandate is further elaborated upon in the Committee for Space Research's (COSPAR) Planetary Protection Guidelines (http://w.astro.berkeley.edu/∼kalas/ethics/documents/environment/COSPAR%20Planetary%20Protection%20Policy.pdf; COSPAR 2003). A major tenet of these guidelines includes, 'COSPAR maintains and promulgates planetary protection policy for the reference of spacefaring nations, both as an international standard on procedures to avoid organic-constituent and biological contamination in space exploration, and to provide accepted guidelines in this area to guide compliance with the wording of this UN Space Treaty and other relevant international agreements.' These conservative guidelines comprise a well-intentioned set of actions meant to avoid unintentional contamination of extraterrestrial habitats during the exploratory phase of the solar system with earthly organisms (e.g. microbes). This planetary protection policy was a noble and logical tact, since space exploration in the last century was pushing quickly for new boundaries of the unknown, and discovery of a new life form would probably be very different from that of Earth (Kminek and Rummel 2015). Humanity had to verify that no extraterrestrial life existed prior to human contact. Current COSPAR policy remains fairly consistent with these early tenets, and wisely states that policy should enable exploration and use of the solar system, not prohibit it (https://cosparhq.cnes.fr/scientific-structure/ppp).

### 2AC---Emerging Tech---AT: Space Col Bad---Evolution

#### This argument is problematic at best---diversity and evolution is inevitable.

**Cirkovic, 19** [Milan M. Cirkovic is a Serbian astronomer, astrophysicist, philosopher and science book author., 2019, accessed on 7/16/22, Futures Volume 105, "Space colonization remains the only long-term option for humanity: A reply to Torres", http://philsci-archive.pitt.edu/15207/1/SpaceColonization\_v4.pdf]/ISEE

Most treatments of postbiological evolution, including ones of Kurzweil (1999, 2005), Moravec (2000), Smart (2012) and others suggest that postbiological evolution will open new design spaces and lead to unprecedented diversification of future (post)humanity. Traditionally, that has been regarded as a merit rather than a demerit of postbiological evolution. Most of the phenomena alleged to be risky by Torres, such as “cognitive-emotional diversification”, “the lack of common ontological ground”, “phylogenetic diversity” are not only feasible, but rather highly likely to occur without space colonization either. Even inflicting “eternal punishment” has been conceived and discussed on web fora without any reference to space travel and colonization. All this betrays strong conservatism regarding possible and plausible progress in the social domain: the assumption that improved and more peaceful forms of social organization will not emerge in the future (even cosmologically distant one). In other words, space colonization is rather peripheral here. In its core, Torres’s argument implies an argument against diversity as such and whether such diversity is achieved on Earth or in the near-Earth space or on Mars or in another galaxy is of secondary importance.8 And of course, if we once accept that future diversity on Earth will be much higher than anything encountered so far in the course of biological evolution, the size and nature of planetary ecosystem make the conflict much more feasible – and hence likelier for rational actors capable of modeling and prediction to achieve their aims – than in the cosmic case. Aggressive actors, if they emerge in the first place (and as per Section 2, I find it unlikely), will have it much easier time in getting to their opponents on Earth, than at distances measured in kiloparsecs. Therefore, diversity and possibility of divergent evolution need to be suppressed (if necessary, by brute force of Hobbesian “Leviathan”) here and everywhere. It is hard to understate the repugnant nature of this conclusion. The whole tradition of liberalism and the Enlightenment is based on assumption that free choice, as a source of all diversity, is of an intrinsic value. In the historical record, the greatest evils inflicted by humans on themselves and their surroundings have not been caused by diversity, but by the exactly opposite tendencies: suppression of diversity and forceful imposition of uniformity. Hence wars of religion, genocides and inquisitions, the Holocaust, Stalinist and Maoist purges, “the killing fields” of Cambodia and other monstrosities of human history. The idea that all this (and immense other) violence is created by diversity, rather than by attempts to impose uniformity, is tantamount to the infamous anti-Semitic meme that only countries and populations which are already Judenfrei are free of antisemitism. In fact, the suppression of diversity occurred exactly through the immoral violence of Hobbesian “Leviathan” which Torres – incomprehensibly and repugnantly – regards as desirable and dubs the consequences “the minor cost of some civilizational freedoms” (p. 79). A very unfortunate consequence is the authoritarian manner in which Torres treats human/posthuman rights. Among many, one rather poignant example is the sentence which starts with “If ‘morphological freedom’ is granted to martian citizens…” (p. 82) which betrays authoritarian bias – freedoms are not granted, they either are rights or not. If they are rights, then their suppression or revocation is immoral, pure and simple. And it makes Torres’s later concern about “the formidable question of what central decision-making body would decide which updates to make” (p. 83) a bit hypocritical. If Pyramids were built by slaves, the undertaking would be immoral, since slavery is inherently immoral; oh, but the Pharaoh could perhaps revoke some freedoms, appropriate for the time, for some “Leviathanic higher purpose”, couldn’t he? Even on skeptical (non-radical!) negative utilitarianism, it is at best unproven that such suppression of diversity would not in itself bring about greater suffering than the diversity itself could bring about. To those of us who regard suppression of personal freedoms – including the essential freedom to diversify – as comparable to, or even worse than, personal extinction, the implications of Torres’s argumentation are positively threatening; or at least they would have been, if other parts of the argument were more persuasive.

### 2AC---Emerging Tech---AT: Space Col Bad---War

#### The tech doesn’t exist to destroy galaxies.

**Cirkovic, 19** [Milan M. Cirkovic is a Serbian astronomer, astrophysicist, philosopher and science book author., 2019, accessed on 7/16/22, Futures Volume 105, "Space colonization remains the only long-term option for humanity: A reply to Torres", http://philsci-archive.pitt.edu/15207/1/SpaceColonization\_v4.pdf]/ISEE

Torres’s arguments often rely on conflation of what can be dubbed “reasonable” and “unreasonable” speculation. For example, to assume that (post)humans will one day colonize and perhaps terraform Mars is a reasonable speculation; to assume that (post)humans will one day develop “weapons that could destroy entire galaxies” (p. 82) is an unreasonable speculation. There are no indications whatsoever that the latter is physically possible. For instance, the binding energy of the stellar subsystem of the Milky Way is about –6  1050 J; if “destruction of the Galaxy” means unbinding all its stars, this would imply the hyperweapon capable of releasing at least that much energy, equivalent to completely converting more than 3,000 Solar-mass stars into usable energy (as per E = mc2 ).3 This is significantly more than the output of the most energetic known natural processes, including supernovae, gamma-ray bursts, and the most violent QSOs; even more importantly, we cannot envision – if our current astrophysics is correct and there is no bulk antimatter anywhere in the universe – the kind of energy-releasing process necessary for this task. Even if our distant posthuman descendants manage to discover and control such a process, the timescale for such a destruction would of necessity be measured in multiples of 107 or 108 years, which sounds a bit unreasonable in the tactical sense. And even if a military operation spanning 100,000,000 years or so could be palatable to a hypothetical future immortals, its efficiency would be doubtful, since not only would the adversary have enough time to prepare, but the unbinding might not automatically mean the destruction of adversary’s material and industrial capacities. (And similar objections could be posed to other construals of “destruction”, e.g., attempting to collapse all baryonic matter into the central supermassive black hole.)

#### We are just colonizing our solar system not every single one.

**Cirkovic, 19** [Milan M. Cirkovic is a Serbian astronomer, astrophysicist, philosopher and science book author., 2019, accessed on 7/16/22, Futures Volume 105, "Space colonization remains the only long-term option for humanity: A reply to Torres", http://philsci-archive.pitt.edu/15207/1/SpaceColonization\_v4.pdf]/ISEE

Which leads us to further examples of conflation. Torres fails to clearly distinguish between different kinds of space colonization which correspond to astrophysical distribution of resources. Colonization of our Solar System is one such kind, interstellar colonization within the disk of the Milky Way another, and the intergalactic colonization suggested by Armstrong and Sandberg yet a third one. Neither motivations, not technologies, nor timescales, nor cultural consequences of these kinds are the same, and it is highly misleading to treat them on the same footing. In particular, latency delays of the order of minutes and hours (the Solar System colonization) are rather trivial, those on the order of years or decades (interstellar colonization in Sun’s Galactic vicinity) are comparable to those of ancient empires, esp. when human/posthuman life extension is taken into account. Only larger latencies, on the order of millennia (Kardashev Type 3 Galactic civilization) or millions of years or more (intergalactic colonization) are those which imply at least some of the consequences Torres ascribes to all kinds of space colonization. In the sense that colonization of the Solar System is a necessary precondition for almost any other colonization-related endeavor, we would expect that arguments claiming to overturn the standard way of thinking apply in the strongest to this kind of colonization. However, it is exactly the opposite in Torres’s account. By far the most problematic aspects of space colonization apply to the nebulous distant future of galactic colonization; the suggestion that establishing a human colony on Mars would lead to speciation and deadly conflict – any more than what will anyway happen on Earth (see section 5 below) – is unsupported, counterintuitive, and, frankly, naïve.

### 2AC---Solvency---NATO Key

#### Info sharing is a necessity to deter theft.

Alleslev, 21 [Leona Alleslev, November 2021, accessed on 7-16-2022, Nato-pa, "SCIENCE AND TECHNOLOGY COMMITTEE (STC) DEFENCE INNOVATION Special Report", https://www.nato-pa.int/download-file?filename=/sites/default/files/2020-12/041%20STC%2020%20E%20rev.%202%20fin%20%20-%20REPORT%20-%20DEFENCE%20INNOVATION\_0.pdf]/ISEE

Another area where NATO Allies need to improve cooperation is the monitoring and mitigation of technology transfer and collaborative research activities. Near-peer countries but also criminal groups are increasingly engaged in Intellectual Property (IP) theft and extra-legal activities. Cooperation among NATO Allies and partners could include expanding information sharing mechanisms. In addition, close joint action of Allies and Partners to thwart IP and cyber espionage and, if necessary, sanction the perpetrators will be needed to protect our IP and defend critical infrastructure.

#### Emerging tech needs a NATO commission.

**NATO, 20** [North Atlantic Treaty Organization, 2020, accessed on 7-17-2022, Nato, "NATO ADVISORY GROUP ON EMERGING AND DISRUPTIVE TECHNOLOGIES-ANNUAL REPORT 2020", https://www.nato.int/nato\_static\_fl2014/assets/pdf/2021/3/pdf/210303-EDT-adv-grp-annual-report-2020.pdf]/ISEE

As a final ecosystem component NATO could consider the establishment of a NATO Investment Bank to fully support broad-scale EDT investment. As the financial hub for EDTs the Bank would fulfil numerous functions including financing innovative projects run by NAPTA using instruments such as subsidies, seed capital, grants or prizes. The Bank would possess its own values-based venture capital fund with a remit to invest in promising solutions, technology companies and start-ups across application domains. As such it would develop a portfolio of ownership spanning products and solutions, equity, and intellectual property and would be able to grant licences for commercialisation. Initial financial contributions to such a Bank would be made by Allies with an aspiration that in time it should be sustained by its investment returns. The Bank’s governance would include oversight by the NAC.

## DA

### 2AC---T/L---Thumper

#### IP strengthening is inevitable. Try or die to make it effective.

IPPO, 02 [Intellectual Property Policy Outline, 7-3-2002, accessed on 7-16-2022, Japan.kantei.go, "Intellectual Property Policy Outline", https://japan.kantei.go.jp/policy/titeki/kettei/020703taikou\_e.html]/ISEE

Although strengthening intellectual property is inevitable in the information age, and as a nation we should make efforts toward this goal, the strengthening of rights also brings with it adverse effects such as obstacles to the principle of competition due to monopoly, the abuse of dominant bargaining position and the conflict between intellectual property and the basic values granted in modern society such as the freedom of expression. Such adverse effects resulting from efforts to strengthen intellectual property rights must be eliminated. Laws such as the Anti-trust Law focus on elimination of obstacles to competition and must be strengthened. In the United States, the Antitrust Law is also strictly applied to intellectual property monopoly. Such application engenders competition and leads to the development of new industry. Japan too must find a balance and take the appropriate responses. Intellectual property law permits the utilization of information in a monopolistic fashion. Such monopolization, however, may conflict with basic values of modern society such as academic freedom and freedom of expression. In carrying out necessary adjustments to the system of intellectual property, we must pay attention to these basic values and strike a balance between protection of intellectual property rights and basic freedoms on Japanese society. Furthermore, we must not forget that universities should respond to expectations for the creation and exploitation of intellectual property in addition to carrying out instruction and basic research.

### 2AC---AT: DOD Tradeoff

#### The plan only requires experts and consolidation.

Serbu and Maucione, 21 [Jared Serbu has been covering the Defense Department since 2010 which included investigating DoD’s shrinking footprint and the Goldwater-Nichols Act. Jared hosts On DoD, a weekly interview program with DoD officials, and Scott Maucione is a defense reporter for Federal News Network with a B.A. in journalism and political science from the University of Maryland, Master’s from American University in applied politics, 12/6/21, accessed on 7-16-2022, Federal News Network, "Despite long struggle over intellectual property, DoD still lacks bench of IP experts", https://federalnewsnetwork.com/dod-reporters-notebook-jared-serbu/2021/12/despite-long-struggle-over-intellectual-property-dod-still-lacks-bench-of-ip-experts/]/ISEE

The Defense Department’s efforts to clear up intellectual property issues through Congressionally-mandated programs have made some progress, but the department has not solidified one of the core groups in charge of improving IP policy, according to a new report from the Government Accountability Office. IP has been a burr in the sock of the Defense Department for years, especially now that the Pentagon is relying more heavily on the innovation of private industry than its own in-house research. As DoD has struggled to find the right balance between assuming IP from companies and letting business retain proprietary information, Congress — for the last five or so years — has taken steps to clear some of the muck. “You really need people with the right skills and right knowledge about intellectual property; what they’re going to need in the future to be [able] to project,” Timothy DiNapoli, director of contracting and national security acquisitions at GAO, told Federal News Network. “What kind of data will we need five, 10, 15 years from now, how do we negotiate that type of data rights? How do we identify it? Those are things that are much longer term and probably much more challenging to do.” Congress asked DoD to set up an IP Cadre to “ensure a consistent, strategic, and highly knowledgeable approach to acquiring or licensing intellectual property by providing expert advice, assistance, and resources to the acquisition workforce on intellectual property matters, including acquiring or licensing intellectual property,” according to the 2018 defense authorization act report. Lawmakers envisioned the experts being assigned to a program office or acquisition command to advise and assist on IP matters. DiNapoli said DoD has put out policy to address these IP concerns and create the cadre, but the depth is not there yet. “It’s a good start, but there’s a lot more that needs to be done out in the field to make sure that we’re doing a better job of defining requirements, negotiating to meet those requirements, and then ensuring that we actually obtained and track the data so that we know what we have,” he said. DoD has funding for only five positions through 2023 for the cadre; the temporality of the jobs are a disincentive to hiring the long-term experts DoD needs, GAO said. So far, DoD has allocated nearly $5 million for the cadre in 2020 and 2021. “While DoD has developed a conceptual framework intended to guide its operations, we found that the department has not yet detailed how the IP Cadre will meet its broad responsibilities or determined whether it has the capacity to do so,” the report states. There are also issues in the organization of the cadre as well. “The members of the IP Cadre expect to tap into a larger pool of IP experts across DoD to support program offices by helping them develop IP strategies and negotiate with contractors, among other things,” the report states. “However, DoD has not yet detailed how the Director of the IP Cadre and the DoD will work with these other experts.” DiNapoli’s team found that DoD lacks expertise in two areas as well: IP valuation and financial analysis. DoD is currently undertaking a pilot project to study valuation strategies. “The pilot program will study valuation strategies used by one major Army weapon system and three smaller Navy programs to identify practices that can be shared across DoD and incorporated into department-wide guidance,” the GAO authors wrote. Outside of the cadre, GAO found DoD’s current instruction on IP to be lacking. “While the IP instruction emphasizes the importance of acquiring and licensing IP early in the acquisition process, officials from the IP Cadre and military departments stated that the instruction and department-wide guidance do not address DoD’s ability to acquire detailed manufacturing or process data,” the GAO authors wrote. DiNapoli’s team gave DoD four recommendations. It suggested a planned guidebook on IP to clarify how DoD personnel can pursue detailed manufacturing or process data. The team said DoD needs to better coordinate staffing and funding and ensure DoD collaborates with the Defense Acquisition University on IP tasks between 2023 and 2025. Finally, the team recommended developing guidance to help component heads identify personnel in key career fields who would most benefit from IP training. — SM

#### Outsourcing is key to DOD efficiency.

Croink, 20 [Terry Moon Croink is a writer for the DOD, 8/7/20, accessed on 7-16-2022, No publication, "DOD Innovation Speed Must Increase to Modernize", defense.gov/News/News-Stories/Article/Article/2305705/dod-innovation-speed-must-increase-to-modernize/]/ISEE

Speaking on a panel at the Aspen Security Forum in Aspen, Colorado yesterday, Michael Brown said while the 5-year-old DIU has been successful since former Defense Secretary Ash Carter stood it up in 2015, more needs to be done. DIU is a DOD organization Carter founded to help the U.S. military make faster use of emerging commercial technologies. "I feel like we're just scratching the surface," Brown said, while adding that DIU has accomplished a lot in five years. "We probably influence about $500 million worth of defense procurement. Big number in absolute terms, but … what defense buys is probably [up to] $400 billion a year. Depending on the year, we're a small drop in that bucket." Employee shows a 3-D printed headband. To energize the flow of commercial technology into the Pentagon — the purpose of DIU — DOD needs to do a lot of things to make it easier for successful entrepreneurs who have the creativity, and vision and initiative to be successful with DOD, he said. "But we've got to increase the scale of this effort because [of] the game-changing technologies that we face in competition with China, where we need to make investments: artificial intelligence, cyber autonomous systems, biotechnology — the list goes on," Brown said. DIU is ready to pick up the challenge, he added, but it needs to happen across the country to really take advantage of the innovations, he said. "We're not moving in government at an agile pace that reflects the nature of the competition. It's about speed," the DIU director said. "When we have successful prototypes that we've done, it's difficult for the budgeting process to catch up and the services to catch up." Many of the technologies that DIU wants to prototype are not developed yet, he said, adding, "We need to be quick on our feet to be able to prototype, test in military application, and then have a rapid uptake to get those vendors into production." Blackhawk flies over Fort McCoy, Wisc. We have to change what is now about a two-year process, he said, if we want to have the flexibility to incorporate the most innovative technology. "That could happen with bigger budgets that are focused on innovation; it can happen by trying to speed up that process," Brown noted. DOD now has the variety of authorities to tailor the contracting instrument to what we're buying, he said. "But the speed is now all about the budgeting process. And that requires work with Congress." "We have to develop a relationship that involves trust so that there is more budget flexibility," he added. To move faster, DOD must categorically reject that two years is required to agree on the war-fighting concept and get Congress to approve it, Brown said, adding, "That's too slow in a competition with China." National Guard members conduct a demonstration. In addition to speeding up the budget process, "[We] need to be bolder in terms of our experimentation," Brown said. "The world is moving way too fast in the technologies that are commercial ... In the commercial world, we really can't wait for that, or we're going to be behind in terms of what we're delivering to warfighters." DOD must be given more flexibility to experiment, and then use the commercial sector where it can inspire much more competition and let the taxpayer dollars stretch further, Brown said. "This is going to be a bright spot in an environment where the defense budgets are flattening," he added.

### 2AC---AT: Politics

#### DACA thumps the link.

---Defending American Courts Act

**Tills, 22** [Thom Tills is the North Carolina Senator, 3-10-2022, accessed on 7-16-2022, Thom Tillis, U.S. Senator for North Carolina, "Tillis, Coons, Cotton, Hirono, and Scott Introduce Bipartisan Bill to Prevent the Chinese Communist Party from Stealing American Intellectual Property", https://www.tillis.senate.gov/2022/3/tillis-coons-cotton-hirono-and-scott-introduce-bipartisan-bill-to-prevent-the-chinese-communist-party-from-stealing-american-intellectual-property]/ISEE

WASHINGTON, D.C. – U.S. Senators Thom Tillis (R-NC), Chris Coons (D-DE), Tom Cotton (R-AR), Mazie Hirono (D-HI), and Rick Scott (R-FL) recently introduced bipartisan legislation to prevent China from stealing intellectual property from American companies through their corrupt court system. For years, China has knowingly engaged in the ongoing theft of U.S. patents, copyrights, and trade secrets. Now, China seeks to bar the ability to litigate patent rights within the United States. Recently, Chinese courts have increasingly issued so-called “anti-suit injunctions,” which limit the ability of American companies to file or maintain claims related to patent infringement in U.S. courts or the International Trade Commission. The Defending American Courts Act would impose meaningful disincentives for bad actors seeking to enforce such a foreign anti-suit injunction in the United States. It prohibits these bad actors from seeking review of the relevant patent at the Patent Trial and Appeal Board, and if they are found to have infringed the patent, the bill requires certain presumptions that make enhanced damages and attorney fees more likely. It would also require the U.S. Patent and Trademark Office to perform a study of the harms resulting from these anti-suit injunctions. “The Chinese Communist Party’s attempt to make Chinese courts the world arbiter of intellectual property must be stopped. Their attempt has one goal in mind: to steal U.S. inventions and technology. The use of so-called ‘anti-suit’ injunctions is an insult to American companies and the rule of law,” said Senator Tillis. “American companies have every right to challenge patent infringement from Chinese companies, and any effort by the Chinese courts to invalidate these challenges hurts American companies and workers. I am proud to introduce this bipartisan legislation to protect American innovation and the sovereignty of our court system.” “American innovation, and a strong IP system to support it, are vital to advancing our economic and national security interests,” said Senator Coons. “The broad ‘anti-suit injunctions’ being issued by foreign powers harm U.S. companies, innovation, and the rule of law. The Defending American Courts Act will help protect critical patent rights and the sovereignty of U.S. tribunals, and I’m glad to partner with a bipartisan group of my colleagues to introduce this important bill.” “We shouldn’t allow the Chinese Communist Party to use its corrupt courts to excuse the theft of American intellectual property,” said Senator Cotton. “Our bill will help protect U.S. innovation from these lawless “anti-suit injunctions”—a naked attempt to steal American IP.” “The U.S. patent system has long been the engine that drives American leadership in innovation. But that system is under attack. Foreign courts are using so-called ‘anti-suit injunctions’ to strip American courts of their rightful power to enforce U.S. patents,” Senator Hirono said. “The Defending American Courts Act would reclaim the jurisdiction of American courts by introducing strong disincentives for any person that seeks to enforce a foreign anti-suit injunction. In this way, U.S. patent holders can be confident that a U.S. court will rule on their U.S. patents.” “We know Communist China steals American technology and takes our trade secrets. If Chinese companies act in bad faith, they should be punished,” said Senator Rick Scott. “I’m proud to join my colleagues to introduce this legislation which will strengthen intellectual property protections in American courts and penalize foreign companies that try to shield themselves after hurting American innovators.”

#### IP is bipartisan.

**Melham, 21** [Bruce Mehlman served as assistant secretary of commerce for technology policy and co-founded the DC-based Internet Innovation Alliance, 09/10/21, accessed on 7-16-2022, The Hill, "Bipartisan wins are there for the taking", https://thehill.com/opinion/campaign/571689-bipartisan-wins-are-there-for-the-taking/]/ISEE

Reports of the death of bipartisanship in Washington are greatly exaggerated. From making drinking water safer to improving surface transportation to declaring Juneteenth a federal holiday, lawmakers from both parties continue to collaborate on important policy challenges, large and small. These successes do not mean legislative deal-making is easy, of course. A frustratingly large number of issues in desperate need of action remain mired in partisan posturing, stuck in social media quicksand or sacrificed for fundraising fodder. Yet, below the radar of the angertainment industry’s outrage machine, diligent work and cooperation persist. Three areas in particular seem especially ripe for deal-making in Congress, the ABC’s of bipartisanship: Not surprisingly, these three issues are connected. After a global pandemic in which the digitized thrived and the disconnected failed, when dominant companies extended their influence and geopolitical imbalances in our supply chain highlighted unacceptable risks, lawmakers all agree that digital connectivity is critical to how we work, live, play and learn. Policymakers now turn to the questions of how to make the internet better, more resilient, ubiquitous and competitive. Bipartisan proposals are on offer, with lawmakers working to find compromises across the aisle on each of the ABCs. Antitrust Many observers worry about the state of online competition and undue impact of a few data-dominant players. Such concerns are not without justification. Several of the most ubiquitous platforms now exceed trillion-dollar market caps on the strengths of their value, creativity — and dominance. In response, regulators around the states and around the world are pushing back with ideas to enhance consumer protection (e.g., privacy) and ensure fairer competition. Several bills now before Congress explore the state of market competition, reassessing whether antitrust laws born in the industrial Gilded Age still fit our information era. Almost all of these proposals start with bipartisan sponsorship (if not always majority support), with divisions emerging along economic worldviews more than team red versus team blue. It is telling that President Biden’s pick to chair the Federal Trade Commission, Lina Khan, received 69 votes in support, more than seven of the 15 Cabinet nominees voted on by the Senate to-date. Broadband infrastructure So far this Congress, lawmakers have introduced more than 170 pieces of legislation specifically calling-out support for broadband. All agree on the “problem” — persistent digital divides, both in terms of availability and adoption, based on income, geography or education exacerbate inequality and reduce societal resilience. Most policymakers agree on the set of solutions, at least broadly: support build-out to areas where market forces alone have not incentivized deployment and subsidize lower-income consumers for whom the monthly cost of connectivity competes with housing, health care or subsistence. Of course, differences emerge among lawmakers of different ideologies and geographies, with some emphasizing access and others preferencing affordability, some urging greater government control and others demanding less regulation. But room exists for constructive compromise, especially if Congress follows the core principles that powered three decades of American global broadband policy leadership: technology neutrality (avoid picking winners and losers); private sector leadership (trust competitive markets to innovate faster and operate more efficiently than government entities); and bipartisanship (the Telecom Act of 1996 passed with 91 votes in the Senate and 414 in the House). China After decades of bipartisan support for “constructive engagement” with China, Washington policymakers increasingly believe policies of cooperative accommodation failed to induce desired results. Admitting China into the WTO did not catalyze the promised economic, social and political liberalization, with the bilateral relationship growing more fraught for American workers, businesses and regional allies. A new bipartisan consensus emerged, marrying more direct confrontation (over trade, cyber, IP protection, market access, human rights) with more aggressive efforts to improve America’s competitive capabilities. A large, bipartisan Senate majority recently passed legislation to advance the latter, critically including $52 billion for domestic semiconductor manufacturing and $1.5 billion to accelerate deployment of open-RAN 5G networks. The partisanship that so often paralyzes us has many causes and overcoming it will take significant reforms, most especially to our political processes. But most members of Congress ran for the right reasons. They share the public’s frustration with the hyper-partisanship pervading too much of our modern society. And they want to get things done to improve the lives of their constituents. Opportunities for progress exist, starting with the ABCs. Bruce Mehlman served as assistant secretary of commerce for technology policy and co-founded the DC-based Internet Innovation Alliance (IIA).

### 2AC---AT: Turkish Politics

#### Turkish companies love IP.

**Rosati, 18** [Eleonora Rosati is Professor of Intellectual Property Law and Director of the Institute for Intellectual Property and Market Law (IFIM) at Stockholm University,, 7-23-2018, accessed on 7-16-2022, A picture containing text, clipart

Description automatically generatedThe IPKat, "Turkish PTO sets up company to commercialize IP rights and provide consultancy", [https://ipkitten.blogspot.com/2018/07/turkish-pto-sets-up-company-to.html]/ISEE](https://ipkitten.blogspot.com/2018/07/turkish-pto-sets-up-company-to.html%5d/ISEE)

Government using taxpayer money to compete with tax paying companies. A subsidiary of the Turkish PTO is going to "provide consultancy services for, and execute the processes within the scope of registration of the rights in the register and their protection" as well as "purchase, either directly or by transfer, licenses, privileges, trademarks, designs and operating rights at home and abroad, and register them in its own name, use them, acquire these and similar rights by entering into agreements, and sell the same"?! How does that not raise a whole number of conflicts of interest?! The Turkish patent attorneys protested last week in Ankara against the creation of this entity through their various associations or IP NGOs like AIPPI, FICPI, LES, epi, pem , TOBB One could not find a better example of conflict of interests, but in the present Turkey nothing is astonishing. Those protesting have to be careful otherwise they might be thrown into prison as Gülenists. Poor Turkey!

## CP

### 2AC---AT: ADV CP---R&D

#### R&D doesn’t solve innovation.

Mazzucato, 13 (Mariana Mazzucato, Professor in the Economics of Innovation and Public Value and Director of the Institute for Innovation and Public Purpose at University College London, 2013, accessed on 3-23-2022, Anthem Other Canon Economics, “The Entrepreneurial State: Debunking Public vs. Private Sector Myths”, Anthem Press, pg. 37-45, HBisevac)

The literature on the economics of innovation, from different camps, has often **assumed** a direct causal link between **R&D and innovation**, and between innovation and economic growth. Yet, surprisingly, there are **very few studies** which prove that innovation carried out by large or small firms actually increases their growth performance — the macro models on innovation and growth do not seem to have strong empirical ‘micro foundations’.34 Some company level studies have found a positive impact of innovation on growth35 while others no significant impact.36 And some studies have found even a negative impact of R&D on growth, which is not surprising: if the firms in the sample don’t have the complementary characteristics needed, **R&D becomes only a cost**.37 It is thus fundamental to identify the company specific conditions that must be present to allow spending on innovation to affect growth. These conditions will no doubt differ between sectors. Demirel and Mazzucato, for example, find that in the pharmaceutical industry, only those firms that patent five years in a row (the ‘persistent’ patenters) and which engage in alliances achieve **any growth** from their R&D spending.38 Innovation policies in this sector must thus target not only R&D but also attributes of firms. Coad and Rao found that only the fastest growing firms reap benefits from their R&D spending (the top 6 per cent identified in Nesta’s report ‘The vital 6 per cent’).39 And Mazzucato and Parris find that this result, of the importance of high growth firms, only holds in specific periods of the industry life-cycle when competition is particularly fierce.40 Myth-busting 2: Small is not necessarily beautiful This finding that the impact of innovation on growth is indeed different for different types of firms has important implications for the commonly held assumption that ‘small firms’ matter (for growth, for innovation), and hence for the many different policies that target SMEs. The hype around small firms arises mainly from the confusion between size and growth. The most robust evidence is not on the role of small firms in the economy but the role of young high growth firms. Nesta, for example, claims that the most important firms for UK growth have been the small number of fast growing businesses that between 2002 and 2008 generated the highest amount of employment growth in the UK.41 And while many high growth firms are small, many small firms are not high growth. The bursts of fast growth that promote innovation and create employment are often staged by firms that have existed for several years and grown incrementally until they reach a take-off stage. This is a major problem since so many government policies aim to target tax breaks and benefits to SMEs, with the aim of making the economy more innovative and productive. Although there is much talk about small firms creating jobs,42 this is just a myth because while by definition small firms will cause jobs to increase, in fact many small firms also destroy a large number of jobs when they go out of business. Haltiwanger, Jarmin and Miranda find that there is indeed no systematic relationship between firm size and growth.43 Most of the effect is from age: young firms (and business start-ups) contribute substantially to both gross and net job creation. Productivity should be the focus, and small firms are indeed often less productive than large firms. Recent evidence has suggested that some economies that have favoured small firms, such as India, have in fact been punished. Hsieh and Klenow, for example, suggest that 40–60 per cent of the total factor productivity (TFP) difference between India and the USA is due to misallocation of output to too many small and low productivity SMEs in India.44 As most small start-up firms fail, or are incapable of growing beyond the sole owner-operator, targeting assistance to them through grants, soft loans or tax breaks will necessarily involve a high degree of waste. Bloom and Van Reenan argue that small firms are less productive than large ones because they are less well managed, and subject to provincial family favouritism.45 Furthermore, small firms have lower average wages, fewer skilled workers, less training, fewer fringe benefits and are more likely to go bankrupt. They argue that the UK has many family firms and a poor record of management in comparison with other countries such as the USA and Germany.46 Among other reasons, this is related to the fact that the tax system is distorted to give inheritance tax breaks to family firms. Some have interpreted the result that it is high growth rather than size that matters to mean that the best that governments can do is to provide the conditions for growth innovation. Bloom and Van Reenan argue that instead of having tax breaks and benefits target SMEs, the best way to support small firms is to ‘ensure a level playing field by removing entry barriers to firms of all sizes, reducing barriers to growth, enforcing competition policy and strongly resisting the lobbying efforts of larger firms and their agents’.47 But as we will see in chapters 3 and 5, often the most innovative firms are precisely those that have benefitted the most from direct public investments of different types, making the case much more complex. Myth-busting 3: Venture capital is not so risk-loving If the role of small firms and R&D is overstated by policy makers, a similar hype exists in relation to the potential for venture capital to create growth, particularly in knowledgebased sectors where capital intensity and technological complexity are high. Venture capital is a type of private equity capital focused on early-stage, high-potential, growth companies. The funding tends to come either as seed funding or as later growth funding where the objective is to earn a high return after the IPO of the company or sale. Venture capital fills a void of funding for new firms, which often have trouble gaining credit from traditional financial institutions such as banks and thus often have to rely on other sorts of funding such as ‘business angels’ (including family and friends), venture capital and private equity. Such alternative funding is most important for new knowledge-based firms trying to enter existing sectors or new firms trying to form a new sector. Risk capital is so scarce in the seed stage because there is a much higher degree of risk in this early phase, when the technological and demand conditions are completely uncertain. The falling risk in the different phases falls dramatically with the seed financing occurring when there is the most uncertainty about the potential of the new idea (table 1). Figure 2 shows the usual place that it is assumed that venture capital will enter the stage of the invention-innovation process. In reality the real picture is much more non-linear and full of feedback loops. And **many firms die** during the **transition** between a **new scientific** or **engineering discovery** and its successful commercial transformation and application. Thus the third phase shown in figure 2 of commercial viability is often referred to as the valley of death. Figure 2 does not illustrate how time after time it has been public rather than privately funded venture capital that has taken the most risks. In the USA, government programmes such as the Small Business Innovation Research (SBIR) programme and the Advanced Technology Program (ATP) in the US Dept of Commerce have provided 20–25 per cent of total funding for early stage technology firms. Thus government has played a leading role not only in the early stage research illustrated in figure 2, but also in the commercial viability stage. Auerswald and Branscomb claim that government funding for early stage technology firms is equal to the total investments of ‘business angels’ and about two to eight times the amount invested by private venture capital.50 Venture capital funds tend to be concentrated in areas of high potential growth, low technological complexity and low capital investment since the latter raises the cost significantly. Since there are so many failures in the high risk area, venture capital funds tend to have a portfolio of different investments with only the tails earning high returns—a very skewed distribution. Although most venture capital funds are usually structured to have a life of ten years, because of the management fees and the bonuses earned for high returns, venture capital funds tend to prefer to exit much earlier than ten years, in order to establish a track record and raise a followon fund. This creates a situation whereby venture capital funds therefore have a **bias** towards investing in projects where the **commercial viability** is established within a three to five year period.51 Although this is sometimes possible (eg Google) it is often not. And surely, in the case of an emerging sector like biotech or green tech today, where the underlying knowledge base is still in its early exploratory phase, such a short term bias is damaging to the scientific exploration process, which requires longer time horizons and more willingness to risk failure. The role of US venture capital that worked was to provide not only committed finance, but also managerial expertise and ensure the building of a viable organisation.52 The problem has been not only the lack of venture capital investment in the most needed early seed stage, but also its objectives in the process. This has been strongly evidenced in the biotech industry where an increasing number of researchers have criticised the model of venture capital in science, indicating that significant investor speculation has a detrimental effect on the underlying innovation.53 The fact that so many venture-capital-backed biotech companies end up producing nothing, yet make millions for the venture capital firms that sell them on the public market, is highly problematic for the role of venture capital in the development of science and its effect on the growth process. The increased presence of patenting and venture capital is not the right one for allowing risky and long term innovations to come about. Pisano in fact claimed that the stock market was never designed to deal with the governance challenges of R&D entities.54 Mirowski describes the venture-capital–biotech model as: commercialized scientific research in the absence of any product lines, heavily dependent upon early-stage venture capital and a later IPO launch, deriving from or displacing academic research, with mergers and acquisitions as the most common terminal state, pitched to facilitate the outsourcing of R&D from large corporations bent upon shedding their previous in-house capacity.55 The problem with the model has been that the ‘progressive commercialisation of science’ seems to be unproductive, with few products, and damage to long-run scientific discoveries and findings over time. Myth-busting 4: A patent doesn’t necessarily mean progress A similar misunderstanding exists in relation to the role of patents in innovation and economic growth. For example, when policy makers look at the number of patents in the pharmaceutical industry, they presume it is one of the most innovative private sectors in the world. This rise in patents does not however reflect a rise in innovation, but a change in patent laws and a rise in the strategic reasons why patents are being used. This has caused their importance to be greatly hyped up—mythologised. The exponential rise in patents, and the increasing lack of relationship this rise has had with actual ‘innovation’ (eg new products and processes), has occurred for various reasons. First, the types of inventions that can be patented has widened to include publicly funded research, upstream research tools (rather than only final products and processes) and even ‘discoveries’ (rather than only inventions) of existing matter such as genes. The 1980 Bayh-Dole Act, which allowed publicly funded research to be patented rather than remain in the public domain, encouraged the emergence of the biotechnology industry as most of the new biotech companies were new spin-offs from university labs with heavy state funding. Furthermore, the fact that venture capital often uses patents to signal which companies to invest in means that patents have increased in their strategic value to companies that need to attract financing. All these factors have caused the number of patents to rise, with most of them being of little worth (eg very few citations received from other patents) and without resulting in a high number of innovations, eg new drugs in pharma (figure 5).

Chart, line chart

Description automatically generated

Economists measure productivity by comparing the amount of input into production with the amount of output that emerges. In this sense the large pharmaceutical companies have been fairly unproductive over the last few years in the production of innovations. As figure 5 shows there has been an **exponential rise** in R&D spending by members of the Pharmaceutical Research and Manufacturers of America (PhRMA) with **no** corresponding increase in the number of **new drugs**, commonly known as new molecular entities (NMEs). Figure 6 shows that this also holds for patenting: while the number of patents has skyrocketed since the Bayh-Dole Act (1980) allowed publicly funded research to be patented, most of these patents are of little value. When patents are weighted by the amount of citations they receive (the common indicator of ‘important’ patents), the figure is relatively flat—there are few important patents. Between 1993 and 2004, of the 1,072 drugs approved by the FDA, only 357 were NMEs rather than just variations of existing ‘me too’ drugs. The number of important ‘priority’ new drugs is even more worrying: only 146 of these had priority rating (NME with P rating). In figure 7 we see that only 14 per cent were seen as important new drugs. For the sake of the argument being made in this pamphlet, what is important is that 75 per cent of the NMEs trace their research not to private companies but to National Institutes of Health (NIH), publicly funded labs in the USA or other public labs across the globe, such as the MRC in the UK. So while the state-funded labs have invested in the most risky phase, the big pharmaceutical companies have preferred to invest in the less risky variations of existing drugs (a drug that simply has a different dosage than a previous version of the same drug). All a far cry, for example, from the recent quote by UK based GlaxoSmithKline 76 CEO Andrew Witty: ‘The pharmaceutical industry is hugely innovative... If governments work to support, not stifle, innovation, the industry will deliver the next era of revolutionary medicine**.’** 7 \*\*\*\*CAPTION ENDS Thus directing too much attention to patents, rather than to specific types of patents, such as those that have high citations, risks wasting much money (as argued below for the patent box case). Researchers have argued that many of the recent trends in patents, such as the increase in upstream patents (eg patenting of ‘research tools’), has caused the rate of innovation to fall rather than increase as it blocks the ability of science to move forwards in an open exploratory way.56 The effect has been especially deleterious to the ability of scientists in the developing world to repeat experiments carried out in the developed world, before undertaking their own developments on those experiments, thus hurting their ability to ‘catch up’.57 Notwithstanding the fact that most patents are of little value, and the controversial role that patents play in innovation dynamics, the UK Government insists that patents have a strong link to ongoing high-tech R&D and must thus be incentivised in order for the UK to have innovation-led growth. Thus in October 2010 Osborne announced a patent box policy, due to begin in 2013, which would reduce the rate of corporation tax on the income derived from patents (to 10 per cent). This of course fits with the current government’s belief that investment and innovation can be easily nudged via taxes. The Institute for Fiscal Studies (IFS) has argued against this policy, claiming that the only effect it will have is to reduce government tax revenue (by a large amount) without affecting innovation. It is argued that R&D tax credits are enough to address the market failure issue around R&D, and that the patent box policy is instead poorly targeted at research, as the policy targets the income that results from patented technology, not the research itself (a similar claim we make around R&D tax credits when they are not subject to control). A recent report by the IFS claims: Once a patent is in place, a firm has a monopoly on the use of those ideas, and so can capture all of the returns and therefore faces the correct incentives to maximise the related income stream. In addition, to the extent that a Patent Box reduces the tax rate for activity that would have occurred in the absence of government intervention, the policy includes a large deadweight cost.58 Furthermore, the authors claim that the patent box policy will also add complexity to the tax system and require expensive policing to ensure that income and costs are being appropriately assigned to patents. They claim that the great uncertainty and time lags behind creating patentable technologies will counteract the incentives, and since international collaborations are increasingly common, there is no guarantee that the extra research that is incentivised will be conducted in the UK.59 This chapter shows that many of the assumptions that underlie growth policy should not necessarily be taken for granted. Over the last decade or so, policy makers searching for proxies for economic growth have alighted on things they can measure such as R&D spend, patents, venture capital activity, and the number of small firms that are assumed to be important for growth. We have attempted to demystify these assumptions and now turn to the largest myth of all: the limited role for government in producing entrepreneurship, innovation and growth.

### 2AC---AT: DOS CP

#### DOD is the branch that engages with the defense industrial base. DOS action does not send the same signal.

**Peters, 22** [Heidi M. Peters is an Analyst in U.S. Defense Acquisition Policy, April 22, 2022, accessed on 7-6-2022, Congressional Research Service, "Intellectual Property and Technical Data in DOD Acquisitions", https://crsreports.congress.gov/product/pdf/IF/IF12083]/ISEE

The Department of Defense (DOD) relies extensively on the organizations that comprise the defense industrial base (DIB). These entities provide the products and services that enable DOD’s business operations and warfighting capabilities. In some situations, DOD must also consider the need to obtain intellectual property (IP) and technical data rights in order to operate and maintain the capabilities it acquires. IP rights have grown in importance to DOD as U.S. defense research and development (R&D) spending as a share of global R&D spending has declined—and IP rights are also increasingly important to DIB entities who rely on their portfolios of developed IP to generate profits from their R&D investments. Observers such as the Government Accountability Office (GAO) have said that DOD has not always been consistent in its acquisition and licensing of IP developed at private expense in the past, resulting in “reduced mission readiness and surging sustainment costs” in some instances. In recognition of these trends, Congress has directed DOD to take a number of actions to improve policies and processes for how DOD acquires IP.

#### Jurisdiction is the DOD.

NSI, 20 [The National Security Institute is a leading national security and foreign policy think tank and academic center housed within George Mason University’s Antonin Scalia Law School---the report was written through a survey of experts in the field, 2020, accessed on 7-6-2022, "THE U.S. DEFENSE INDUSTRIAL BASE: CAN IT COMPETE IN THE NEXT CENTURY?", https://nationalsecurity.gmu.edu/wp-content/uploads/2020/11/The-U.S.-Defense-Industrial-Base-Can-It-Compete-in-the-Next-Century.pdf]/ISEE

A significant majority of NSI and Duco experts surveyed - 78.4% - believed that it is in the long-term interest of DoD to **engage** in policy changes that will increase **competition** and **foster** a strong defense manufacturing base. A majority of experts surveyed (59.5%) also took the view that DoD ought to cut regulations and be willing to pay more to achieve these goals. Only 6.3% of respondents believed that DoD ought to maintain current cost-minimizing regulations if they lack the ability to sustain the current defense manufacturing base.

### 2AC---AT: EU CP

#### EU increases will undermine cohesion and create wild unpopularity.

**Erlanger, 19** [Steven Erlangers is the chief diplomatic correspondent in Europe for The New York Times,, 6-6-2019, accessed on 7-16-2022, The New York Times, "Europe Vows to Spend More on Defense, but U.S. Still Isn’t Happy", https://www.nytimes.com/2019/06/06/world/europe/us-defense-spending-nato.html]/ISEE

BRUSSELS — The United States and its European allies on Thursday commemorated the 75th anniversary of D-Day, which freed the Continent from tyranny. But at the same time, the two sides are squabbling bitterly over the future and funding of European defense. Washington has been pressing the European Union to spend more and do more for its own defense for well over a decade, with President Trump just the latest and loudest to do so. Now that the European Union is actually responding, with a defense fund and a project for military cooperation and development, the United States is criticizing how it’s being done and complaining that the moves could harm trans-Atlantic cooperation and prevent American companies from competing for potentially lucrative contracts. If anything, the spat is another reminder of the sour state of relations between the Trump administration and the European bloc and of the divisions on issues such as trade, climate change and Iran. The fact that a European plan to increase military spending — acceding to a demand from Mr. Trump — has degenerated into acrimony only emphasizes the split. European diplomats say the issue recently boiled over at a private meeting in Washington. A senior American diplomat, Michael J. Murphy, a top official at the Bureau of Europe and Eurasian Affairs, lectured European Union ambassadors about the United States’ unhappiness with proposed restrictions on third-country participation in European Union defense projects. Mr. Murphy warned that the European initiatives “could undermine trans-Atlantic security by duplicating NATO efforts and diverting valuable resources” and “make all of us less safe, Americans included.” Some countries, he said in remarks obtained by The Times, “are pursuing an industrial policy under the veneer of a security policy,” with a priority on supporting national defense industries and trying to cut out participation and competition by nonbloc countries like Canada, Norway, the United States — and importantly, after Brexit, Britain. European ambassadors who were there, members of the Political and Security Committee of the European Union, which deals with the bloc’s foreign and defense policy, said that the atmosphere was tense and that Mr. Murphy’s remarks did not leave time for discussion afterward. The envoys requested anonymity because they were not authorized to speak publicly about closed-doors meetings. “It was quite a tough presentation, which took some of the colleagues by surprise,” said one European ambassador who was there. “The substance was not especially new to us, but we were surprised by the tone and toughness.” There was a similar but less aggressive meeting at the Pentagon, the diplomats said, and there was more time there for conversation and discussion. The confrontation is centered on two new European military spending initiatives. For the first time, there will be a European Defense Fund, taken from the European Union budget for research and development, planned with a relatively modest start of 13 billion euros, or about $14.6 billion, over the 2021-27 budget. There is also a program called, in Brussels-speak, “permanent structured cooperation,” or Pesco, in which 25 of the 28 member states agreed to work on cooperative military projects. Small coalitions of member states are already proposing projects to build attack helicopters and armored infantry vehicles. But London and Washington have expressed concern that their defense contractors will be shut out of such projects, since the program specifies that third parties may only “exceptionally participate.” The current draft regulations, Mr. Murphy said, “risk delinking the North American and European defense sectors after decades of hard work to increase our integration” and “would only help our adversaries and create a new irritant in trans-Atlantic relations.” A number of Europeans find that language overblown and believe that, seeing as the Pentagon spends American taxpayer money on mostly American defense manufacturers, Europe should do the same. Increased military spending is a hot-button topic in Europe, especially with a widely disliked Mr. Trump pushing the issue, and European politicians need to show that such spending will produce jobs at home. “The Trump administration can’t have its cake and eat it, too,” said Stefano Stefanini, an Italian former ambassador to NATO and now a consultant in Brussels with Project Associates, a consulting firm. “If the U.S. rightly wants the Europeans to spend more for defense, the end must be more European capability to contribute to common security,’’ he added. ‘‘To do so, Europe needs to strengthen its industrial base, and one tool to do it are the initiatives undertaken by the E.U.” A senior State Department official, explaining the context for Mr. Murphy’s remarks, said that discussions and maneuvering were continuing. But the official, who requested anonymity to speak publicly about private talks, also complained that the Europeans had leaked to the news media a May 16 letter to Washington even before the Americans had received it. That letter was in response to a May 1 letter from two senior Defense and State Department officials raising concerns about third-party participation that was sent to the European foreign policy chief, Federica Mogherini. Officials in Washington also warn of a possible backlash in Congress if lawmakers deem that the European regulations are unfair. Gordon Sondland, the American ambassador to the European Union, said that deeper integration of military supply chains “is in the interests of both the U.S. and Europe, because it produces the best results for trans-Atlantic security.’’ ‘‘For this reason,’’ he added, ‘‘we want to avoid a situation where Congress or the administration could see a need to respond to anything that looks unilateral or protectionist.” For its part, the European Union is divided. Countries such as Poland and the Baltic States — Estonia, Latvia and Lithuania — are more worried about Russia and want to stay close to Washington. Other countries, such as the Netherlands and Sweden, are also sympathetic to American concerns and want to avoid a confrontation. But larger countries with significant defense industries or ambitions for European strategic autonomy, like France, Italy and Spain, are taking a tougher line. France and Spain have been particularly firm in trying to restrict third-country participation, with strict regulations to ban the transfer of intellectual property developed in European defense projects, including to American companies that have European subsidiaries. But all the European nations say that Pesco is intended to coordinate with NATO and to work on projects that fill alliance shortfalls or gaps, and they deny that the intention is to delink the European Union from the pact. With 22 of the bloc’s 28 members in NATO, European diplomats say, there is no reason for Washington to fear that an enhanced European defense sector would be allowed to damage the trans-Atlantic alliance, its military capabilities or its integration. In a study by Globsec, a security think tank, the authors, including Mr. Stefanini, concluded that Europeans should spend the 2 percent of gross domestic product on defense — as agreed by NATO — and move on. “Europeans need to spend more and better on defense and security,” the report says. “It will only be sustainable if the European defense industry is a beneficiary and if the E.U. industrial base is consolidated and strengthened.” American officials point to existing military cooperation, like on the F-35 fighter jet, a helicopter with the Italian firm Leonardo and the Marines’ use of Swedish-made rifles. Both sides argue about how much money each gives and gets. The Europeans maintain that the American military-industrial complex is so dominant, and the sums in the European defense fund so modest, that Washington should relax. Ms. Mogherini said, “At the moment, the E.U. is actually more open than the U.S. procurement market is for European Union companies and equipment.” Ursula von der Leyen, the German defense minister, said that the Europeans “are doing what our American friends have been demanding we do for years.” The regulations on third-party participation in the fund are essentially done, the Europeans say, though the Americans intend to keep pressing for changes. The regulations for Pesco are still being debated, with a decision probably slipping to July. “It’s not finished, and it’s up to us to raise these concerns,” the senior State Department official said. “We do support European defense initiatives, the idea that we don’t is simply untrue. But we have real concerns that it shouldn’t duplicate NATO and should be open to third-party states and not harm the way our military industries already work together.”

#### EU intellectual property protections are insufficient.

Stevens, 22 [Colin Stevens is the social copy manager for ING, 4/27/22, accessed on 7-18-2022, Eureporter, "Intellectual property is not fully protected in the EU", [https://www.eureporter.co/uncategorized/2022/04/27/intellectual-property-is-not-fully-protected-in-the-eu/]/ISEE](https://www.eureporter.co/uncategorized/2022/04/27/intellectual-property-is-not-fully-protected-in-the-eu/%5d/ISEE)

Intellectual property rights play a big role in a knowledge-based economy: they ensure that businesses and designers are able to profit from their creations. They also provide assurances to consumers in terms of quality and safety. But in a special report published today, the European Court of Auditors warns that the EU’s legal framework for protecting intellectual property is not as effective as it could be. Although the framework in place gives some guarantees, a number of shortcomings remain, in particular in the EU Designs Directive and the EU fees mechanism. The auditors also highlight that EU and national systems would benefit from being better aligned. Intellectual property rights (IPR) are crucial to the EU’s global competitiveness. IPR-intensive industries generate almost half (45 %) of the EU’s economic activity, worth €6.6 trillion, and provide nearly a third (29 %) of total EU employment. Each year, counterfeit products are estimated to lead to €83 billion in lost sales in the legitimate economy. If the problem of counterfeit products were tackled effectively, the EU economy would gain 400 000 jobs according to a recent estimate of the EU Intellectual Property Office (EUIPO). Counterfeit products also have considerable safety risks, as was recently illustrated during the COVID-19 pandemic. For these reasons, the European Commission, other EU bodies such as the EUIPO, and Member State authorities make considerable effort to ensure that intellectual property rights are respected throughout the EU single market. “Intellectual property rights are vital for the EU economy: they encourage innovation and investment, and discourage counterfeiting and its harmful effects”, said Ildikó Gáll-Pelcz, the ECA Member responsible for the audit. “But the current EU framework doesn’t give all intellectual property rights the protection they need. We hope that our recommendations will help the EU to increase that level of protection to the level that the single market requires.” The auditors note that legislative and support measures are in place to protect EU trademarks. But at the same time, they point out shortcomings in the EU Designs Directive, which should have equal effect throughout the EU. As it stands, the EU’s regulatory framework for designs is incomplete and outdated. As a result, national and EU systems are not aligned, allowing divergent practices between Member States during the application, examination, publication and registration processes, leading to legal uncertainty. In addition, the auditors draw attention to the lack of an EU-wide protection regime for all products. The EU’s geographical indication framework does not concern non-agricultural products, such as crafts and industrial designs, although some Member States have legislation in place to protect them. The auditors also question the EU’s fees mechanism, observing significant disparities between EU fees and those charged by the national authorities. They found that the EU’s intellectual property rights fees structure does not reflect real costs. While criteria exist for fixing fees at EU level, the auditors consider that there is no clear method for determining their structure and amount, resulting in an excessive level of fees that produces accumulated surpluses (over €300 million in EUIPO’s 2020 accounts). The auditors highlight that this is contrary to the principle of a balanced budget stipulated in EU law. Although an EU intellectual property rights enforcement framework is in place and generally works well, the auditors highlight some shortcomings in its implementation. In particular, the Intellectual Property Rights Enforcement Directive is not uniformly applied throughout the EU, so it fails to ensure a consistently high level of intellectual property protection in the internal market. Weaknesses and inconsistencies in customs controls in the Member States also adversely affect enforcement and the fight against counterfeits. The protection of intellectual property rights in the EU therefore varies according to the place of importation. The auditors also note that different practices exist within the EU for destroying counterfeit goods, which may lead counterfeiters to import their wares into the EU in places with less stringent controls and sanctions, the auditors warn. Background information The EU regulatory framework for intellectual property rights is based on EU regulations, directives and existing international intellectual property agreements. It is aimed at providing protection in all EU Member States by creating a single EU system consisting of EU and national intellectual property rights. Special report 06/2022, “EU intellectual property rights – Protection not fully waterproof”, is available on the ECA website (eca.europa.eu). In 2019, the ECA also published an Opinion concerning the proposed financial regulation of the EUIPO’s budget committee in which it called for a productive use of surplus money. The ECA presents its special reports to the European Parliament and the Council of the EU, as well as to other interested parties such as national parliaments, industry stakeholders and representatives of civil society. The vast majority of the recommendations made in the reports are put into practice.

### 2AC---AT: SPP CP

DOS CP answers cross apply.

#### Only the federal government has jurisdiction over patents.

Cornell Law, ND [Cornell Law School, No Date, accessed on 7-16-2022, LII / Legal Information Institute, "intellectual property", https://www.law.cornell.edu/wex/intellectual\_property#:~:text=Congress%20derives%20its%20power%20to,grounded%20in%20the%20Commerce%20Clause]/ISEE

The products of the human intellect that comprise the subject matter of intellectual property are typically characterized as non-rivalrous public goods. Essentially, this means that the same product may be used simultaneously by more than one person without diminishing the availability of that product for use by others. The law of intellectual property can be seen as analogous to the law of tangible property in that both consist of a bundle of rights conferred upon the property owner. However, the law of intellectual property is separate and distinct from the law of tangible property. Where the right of exclusive possession is at the core of the bundle of rights protecting real and personal property, land and chattels, the same can not be said of intellectual property. The law of intellectual property is commonly understood as providing an incentive to authors and inventors to produce works for the benefit of the public by regulating the public's use of such works in order to ensure that authors and inventors are compensated for their efforts. Congress derives its power to regulate patents and copyrights from the "intellectual property clause" of the Constitution. See U.S. Constitution, Article I, Section 8. Congress' power to regulate trademarks is constitutionally grounded in the Commerce Clause. The U.S. Patent and Trademark Office (PTO) is responsible for issuing and monitoring federally registered patents and trademarks. Although patents are exclusively governed by federal law, trademarks may also be regulated by State law. Copyrights are exclusively regulated by federal law and must be registered with the U.S. Copyright Office to be enforceable. Trade secrets are primarily regulated at the State level, and are traditionally subject to the laws of unfair competition.

### 2AC---AT: Turkey PIC

#### Turkey is key.

**Rozen, 20** [Miriam Rozen is a Staff Reporter at Financial Times, 6-18-2020, accessed on 7-14-2022, Financial Times, "EU chides China and others for IP breaches — again", https://www.ft.com/content/0d48a5dc-9362-11ea-899a-f62a20d54625]/ISEE

The world has changed dramatically since the European Commission issued its January report on the global challenges of protecting intellectual property. But it appeared to be business as usual for those on both sides of the law when it came to the barbed conclusions of a survey, which presented a litany of bad practice among many countries outside the trading bloc. The biennial report in effect delivers a scorecard on a list of the EU’s trading partners and how well or badly they are enforcing IP protection in their jurisdictions. In this year’s report, China again ranks as Europe’s “priority 1” worst offender, thanks to the scale and persistence of its policies, practices and negligence, which all thwart EU trademark and patent owners’ goals. China and its territory Hong Kong deliver more than 80 per cent of the counterfeit and pirated goods seized by EU customs authorities, according to the report. It also grants dubious patents, allows courts to invalidate patents of foreign companies and encourages “patent thickets”, dense groups of IP rights in certain fields, which hinder the task of patenting genuine innovation. In this environment, “Chinese companies widely use these technologies without paying adequate royalties,” the report states. Investors do not become aware of such problems until they confront them on a case-by-case basis While China had made some progress in improving protection of intellectual property rights, “serious concerns remain about the quality of granted invention patents”, in a country where patent applications are “growing exponentially”, the report adds. The scale of China’s trading relationship with European countries makes it a particular cause for concern. But aside from the detailed listing of China’s failures in the update, other countries also face criticism for widespread dereliction in upholding IP rights. India, Indonesia, Russia, Turkey and Ukraine are listed as “priority 2” countries where “serious systemic problems” in IP protection and enforcement in these countries are “causing significant harm to EU businesses”. Little or no progress has been made in addressing these concerns since the last report, it says. Nigeria and Saudi Arabia have been added to the list of “priority 3” countries — alongside Argentina, Brazil, Ecuador, Malaysia and Thailand — hurting European interests, though the scale of damage emanating from these countries is less than that caused by China and priority 2 states. The commission’s findings in part mirror the conclusions of other monitoring bodies such as the US Patent and Trademark Office, according to IP lawyers. The detailing of failures by China and other emerging economies in IP protection coincides with much broader clashes between the US and Beijing over their trading relationship. “I do think this is not something to be viewed in isolation, but really as part of a global trend towards the identification of IP rights as an important part of policy and trade,” says Arthur Artinian, a partner in the London office of K&L Gates. The report’s data is “important for people looking to do business and to expand their footprint, to understand, you know, the state of play”, he says. “It’s quite difficult to get this type of information and data in isolation, so having it done in this more structured way, both from the EU side and the US side is quite helpful,” he adds.

### 2AC---AT: UN CP

#### UN countries will not accept US IP reform.

Drahos, 03 [Peter Drahos is the Senior Lecturer in Law, ANU Law Faculty. This paper is based on a legal/sociological study of international business regulation being done in collaboration with John Braithwaite of the ANU. This research is being supported by the National Science Foundation, the American Bar Foundation and the Australian Research Council,7/10/03, accessed on 7-14-2022, Anu.edu, "", https://www.anu.edu.au/fellows/pdrahos/articles/pdfs/1996globallawreform.pdf]/ISEE

In preparation for its bilateral trade duels the US began to systematically expand the areas in which the linkage between intellectual property and trade appeared. The problem for the US was that in seeking to achieve its intellectual property objectives it was dealing with sovereign states which were entitled, under the existing international conventions, to fix lower rather than higher levels of protection for intellectual property. Furthermore, many of these states were not culturally predisposed to accept intellectual property or, alternatively, saw intellectual property as a form of recolonisation or economic imperialism. The US could not realistically expect to reform the international framework of intellectual property protection through the agency of WIPO, because in that forum it had only one vote and could always be expected to be outvoted by developing countries. Some form of coercion was needed if a global protectionist paradigm for US intellectual property interests was to have any chance of becoming a reality.

## K---Tool Kit

### 2AC---IP Research Good

#### Teaching about IP is good anything falls into the trap of oversimplification.

Rife et al, 11 [ Martine Courant Rife is a professor in the Writing department at Lansing Community College, Shaun Slattery teaches at DePaul University and the University of South Florida Polytechnic, and Dànielle Nicole DeVoss is the Interim Chairperson; William J. Beal Distinguished Professor at MSU, 8/14/11, accessed on 7-16-2022, Wac.colostate, "CH. 14 RESPONSE TO PART II— BEING RHETORICAL WHEN WE TEACH INTELLECTUAL PROPERTY AND FAIR USE",Copy(write): Intellectual Property in the Writing Classroom, https://wac.colostate.edu/docs/books/copywrite/chapter14.pdf]/ISEE

The Part II essays address this all-important distinction between sharing and stealing and offer strategies for helping student writers understand the difference, make smart decisions, and become wise and ethical users of others’ language—“language” defined broadly to include audio, video, and graphic, as well as textual language (speech and writing). These essays emphasize the importance of teaching intellectual property and fair use, and overall I could not agree with the authors more: We absolutely need to be teaching copyright issues as an integral part of all composition courses, but particularly in first-year composition. I agree with Ashley Hall, Kathie Gossett, and Elizabeth Vincelette that our focus as instructors should not be “lament[ing] ... the immoral and unconscionable actions of our students.” Rather, our focus should be on teaching the ethics and politics of copyright and on teaching students to be advocates of fair use as well as of copyright. So, we all agree, we should be teaching students about intellectual property. The tougher question, though, is the how question: How should we teach intellectual property and fair use accurately, responsibly, effectively? Thus far, we composition teachers haven’t done a very good job teaching copyright accurately. Both Janice Walker and Steve Westbrook point out that many textbooks and style guides in our field still misrepresent copyright issues and/or do an inadequate job of explaining their intricacies and nuances (e.g., Walker’s discussion of the 2009 MLA Handbook). TyAnna Herrington says that “misperceptions and inaccuracies regarding intellectual property law are both extreme and ubiquitous in this age of digital communication.” Alas, especially among composition teachers, it seems. Westbrook points to some confusions in our composition textbooks—including in some big-name, big-selling textbooks; textbooks often do not acknowledge that “the conditions for determining fair use are independent of documentation.” This is a key distinction, and one that our field has not fully addressed. Citing the authors of a work may satisfy the conditions for academic integrity, but that is not the same as satisfying the conditions for fair use. Westbrook suggests that composition teachers themselves need to understand these realms better than they do. Sometimes when we teach intellectual property and fair use, we slip into fallacies of oversimplification. One fallacy that Westbrook discusses errs on the side of excessive liberty—that is, the assumption that merely citing your sources is good enough. That fallacy confuses the realm of academic integrity and citation practices with the realm of copyright. But another fallacy exists in excessive constraint: The guideline that insists we should “always ask permission” is bad advice, too. As Westbrook says, “it oversimplifies the complexity” of how fair use operates and has the secondary effect of “obfuscat[ing] or even eras[ing] the concept of fair use.” “Always ask permission” is a bad guideline because it contributes to the erosion of the Fair Use doctrine—and this also can impede our First Amendment rights as well. Powerful interests have used the threat of copyright infringement as a way to block the exercise of free speech, as both Herrington and Westbrook discuss. Westbrook cites the example of how Diebold used the threat of copyright infringement to stifle journalistic information about the unreliability of Diebold voting machines. This is a great example, first, because it highlights the importance of protecting the Fair Use provision of U.S. Copyright Law as integral to First Amendment rights, but also because Judge Fogel’s decision in the case (Online Policy Group v. Diebold, Inc., 2004) models the kind of step-by-step reasoning that is fundamental for writers making a fair use determination. As Westbrook says, it is that form of reasoning and analysis we should be teaching in composition.

### 2AC---Liberal Property Rights Good

#### Liberal norms and institutions can be turned against the violence of white property relations despite their repressive history. Rejecting them wholesale dooms radical social change.

McCann and Lovell, 18—Gordon Hirabayashi Professor for the Advancement of Citizenship at the University of Washington AND professor of political science, department chair, and the Harry Bridges Endowed Chair in Labor Studies at the University of Washington (Michael and George, “Toward a Radical Politics of Rights: Lessons about Legal Leveraging and Its Limitations,” *From the Streets to the State: Changing the World by Taking Power*, Chapter 7, 139-141, dml)

In our aspirations for progressive change, engaging with the law is not a free choice among tactics. It is a necessity. Egalitarian activists are routinely forced into legal engagement by the omnipresence of law as a violent force imposing hierarchical order and harsh punitive constraints on oppressed populations. Although activists are often motivated by the quest for legal recognition of rights claims, offensively mobilizing law to support egalitarian struggles is only a small part of movement appeals to law. Defensive actions to evade law’s repressive force or to protect previous gains are often much more significant. In our view, there is surprisingly little rigorous theorizing about the different types of struggles on the terrain of law, the most useful indicators of effective legal action, and especially the measures of egalitarian or inclusionary change.1

Law is an enduring site for progressive democratic contestation. Although official law is often a tool of repression, legal norms and institutions can also be resources for egalitarian rights claims, and, at certain historical moments, even social transformation. No matter how radical one’s political aspirations, the necessarily long-run character of revolutionary social transformation requires a series of intermediate steps, including those on the terrain of law. As the British socialist E. P. Thompson (1975) asserts,

Most [people] have a strong sense of justice, at least with regard to their own interests. If the law is evidently partial and unjust, then it will mask nothing, legitimize nothing, contribute nothing to any class’s hegemony. The essential precondition for the effectiveness of law, in its function as ideology, is that it shall display an independence from gross manipulation and shall seem to be just. . . . The rhetoric and the rules of a society are something a great deal more than sham. In the same moment they may modify, in profound ways, the behavior of the powerful, and mystify the powerless. They may disguise the true realities of power, but, at the same time, they may curb that power and check its intrusions. . . . And it is often from within that very rhetoric that a radical critique of the practice of the society is developed. (436–39)

In this chapter, we describe legal mobilization as the articulation of a social interest, general policy, or a societal vision in terms of legal entitlement. As Frances Kahn Zemans (1983) famously put it, legal mobilization entails that “a desire or want . . . is translated into a demand as an assertion of one’s rights” (3). Since legal language is indeterminate and polyvalent, it is contestable. Dominant legal norms are incomplete and rife with tensions, and they adapt as the perceived interests of dominant groups respond to, or occasionally converge with, the demands of oppressed groups (Bell 1980). Although much legal contestation occurs between recognized rights-bearing subjects over the authoritative meaning of clashing liberal legal principles, legal mobilization also involves oppressed groups mobilizing liberal principles against illiberal, repressive modes of social control. These contests over ascribed race, gender, sexual, immigrant, and other marginalized identities often expand the rule of liberal legalism (Smith 1997; Orren 1992). More importantly, struggles by progressive activists can use the liberal principle of equal citizenship to counter the property- and contract-based principles of capitalism, thereby challenging unequal resource distribution and class exploitation (Brown 2003; Smith 1997). As Stuart Scheingold (1974) argues, “law cuts both ways,” both for and against egalitarian social justice (91; see also McCann 1994).

When, how, and to what degree legal discourse and institutions provide resources for oppressed groups depends largely on the mix of legal and especially extralegal factors in a given historical context. Our research devotes considerable attention to the changing features of the cultural and institutional terrain that delimit the possibilities and forms of contestation within and against law. Of course, fighting for control of legal institutions and principles does not guarantee radical social change. But succumbing to anti-legalism cedes control over the terms of institutional organization, instrumental rule, and regime legitimation to dominant forces propelling capitalism and other hierarchies.

We recognize that our approach is at odds with some important recent movements and their interpreters. Arguably, the Occupy movements in and beyond the United States expressed a notable disdain for legal rights claiming, litigation strategies, and general appeals to legal strategies (Almog and Barzilai 2014). This disenchantment with law, legal processes, and lawyers is understandable in the post-civil rights era and the immediate post-recession moment. Indeed, wariness about law is always sound. Moreover, Occupy did profoundly reorient the dominant agenda in many parts of the global North. It put “deficit and debt hawks” on the defense and elevated concerns about economic fairness and the political accountability of private financial managers. At the same time, Occupy espoused and enacted little in the way of institutional changes within government and capitalist society. By shedding any reliance on discourses of rights, Occupy arguably limited its use of important ideological resources in the neoliberal context (Brown 2003; Obando 2014).

It is noteworthy that many movements inspired by the Occupy movement— especially among low-wage workers and advocates for corporate accountability— have recovered and prominently invoked rights claims and legal resources. Indeed, there has been a recent convergence around rights-based claims by campaigns for a minimum wage and sick pay, for immigrant rights and support, for LBGTQ rights, for the Black Lives Matter movement, and for other progressive and radical causes in the United States. Their reliance on lawyers and litigation has varied widely, but none of these movements discount them as much as did the earlier Occupy movement. Furthermore, many grassroots struggles in both the global North and South—against apartheid; for indigenous people’s sovereignty; for socioeconomic entitlements to housing, health-care, education, and minimum income—also appeal to legal or human rights and rely in part on national or transnational courts (Haglund and Stryker 2015; Rodriguez-Garavito 2011).

#### Liberal international law and sovereignty reduce international violence.

Gill-Tiney, 22—Lecturer, Department of Politics and International Relations, University of Oxford (Patrick, “A Liberal Peace?: The Growth of Liberal Norms and the Decline of Interstate Violence,” Journal of Conflict Resolution, 2022, Vol. 66(3), 413–442, dml)

This article shows that liberal interpretations of sovereignty, which emphasize international law, interdependence, free trade, democracy and individual rights and freedoms, have become increasingly prevalent in UN Security Council resolutions since 1970. Given that two non-western states, Russia/Soviet Union and China, are permanent members, I argue that the content of these resolutions reflects broad consensus between major powers—both western and non-western—as how these norms should be interpreted. This is not the same as arguing that these states share preferences or interests, rather, substantial differences remain, largely along the cleavage between the United States, Britain and France on the one hand and China and Russia on the other (Einsiedel and Malone 2018, 156-58).1 Yet, the collective positions of these states have evolved over time, suggesting a shift in how sovereignty is understood. The dominant role that these states have in shaping the international order means that their collective understandings may be taken as representative of the normative structure of international society at any point in time, with the expectation that this impacts all states in the system.2

I argue that as liberal interpretations of these fundamental norms increase, the likelihood of a dispute participant resorting to violence decreases. Through content analysis of all UN Security Council resolutions between 1970 and 2014 I first create a measure of the strength of liberal interpretations of sovereignty. This is then utilized in quantitative analysis of dispute participants in the period to explain the variation in the level of violence employed. I find statistical and substantive support for my theory, showing empirically that the growth in liberal norm interpretations is negatively associated with the likelihood of a state resorting to violence in an interstate dispute.

This is not to argue that structural arguments are wrong, far from it, nor is it to reject the roles of conventional and nuclear capabilities in shaping interstate conflict behavior. Rather, state power does matter, that is why the collective interpretations of the permanent members of the UN Security Council are used to understand the system. Domestic veto players, intergovernmental enforcement mechanisms, and trade dependency all do shape the responses of policymakers during an interstate dispute. However, the intersubjective ideas they carry with them into disputes are also crucial to understand why some disputes escalate, and others do not.

This article contributes to our understanding of the role that ideas have in shaping interstate conflict in two ways. Firstly, I contribute to the large literature which has sought to understand the role which norms play in selecting for certain behaviors over others. Most of the work within this area has been qualitative and has either charted the development of specific bundles of norms over long periods (Keene 2012, 2013; Risse, Ropp, and Sikkink 1999; Sandholtz 2007) or focused on the life-cycle of specific norms (Eckstein 1988; Finnemore 2000; Finnemore and Sikkink 1998; Krook and True 2012; Nadelmann 1990; Sandholtz 2007; Sandholtz and Stiles 2008). I build upon these insights by arguing that the norm of sovereignty has been re-interpreted over time, and that the collective nature of reinterpretation means that it can be used to examine its impact in interstate conflict.

Secondly, this article provides an innovative means of exploring ideas in a quantitative framework. The quantitative interstate conflict literature has heavily favored structural and power-based explanations for actor behavior. This has come at the particular expense of norms. Whilst there is widespread acceptance that norms matter amongst these scholars, they have tended to set aside norm-based explanations given the difficulty of objective measurement. This difficulty revolves around the problem of having surety that multiple actors share an idea, that is, intersubjective understanding. The most obvious sources of data to assess this would be a survey of policymakers or the content of international legal documents. This first avenue is incredibly difficult to gain anything but anecdotal responses too. Policymakers are hard to get access to and may misrepresent their own thoughts and actions to show themselves in as best light as possible. Ensuring that any respondents have understood the survey in the same way is difficult given language differences, whilst response rates are likely to be so low as to prevent a non-random sample from being acquired, even if the potential pool of relevant participants is widened to include all senior politicians and bureaucrats, both incumbent and preceding.

Some of these problems are resolved by utilizing the texts of international legal documents. Given that these are generally carefully and cautiously written the researcher is more certain that the drafters actually share an understanding of the topic. Recent work by Allee and co-authors (Allee, Elsig, and Lugg 2017; Allee and Lugg 2016) have innovatively utilized content analysis of interstate trade deals to explore how much is replicated in subsequent deals, which sheds light on the relative power of the participants. This has certainly gained deeper understanding of the topic, but is not a suitable approach for this research questions for two reasons. Firstly, these deals are generally drafted by small numbers of states, that is, they may not be assumed to represent the preferences and interests of nonparties. Secondly, whilst interpretations are spelled out, these may be mechanistic rather than ideational, making it unclear what the broader normative position may be. This is made more acute by the drafting being down by bureaucrats and lawyers rather than policymakers themselves. Whilst some direction is no-doubt given by the latter, assuming a high level is problematic. Utilizing the content of UN Security Council resolutions addresses these problems because the documents may be assumed to be political, that is, though member states are represented by ambassadors, a high-level of involvement by their state governments is typical given the importance attached to security issues. Moreover, since the permanent membership is diverse in interests and preferences, and these members can veto unpalatable resolutions, they may be reasonably assumed to provide insight into intersubjective understandings.

Existing Explanations of Interstate Conflict and the Role of Norms

Two existing literatures are built on here, firstly, the broad democratic peace literature, including its offshoots and opponents, and secondly, scholarship on the evolution of international norms. The former literature initially focused upon regime type, and over time has been widened to include more fine-grained analyses of domestic political structures in any state (Bell and Quek 2018; Fearon 1994; Gries et al. 2020; Huth and Allee 2002; Tomz, Weeks, and Yarhi-Milo 2020; Weeks 2012; Weiss 2013; Weiss and Dafoe 2019). However, the approach in all of these works is to examine structures, that is, formal institutional constraints encountered by decision makers, rather than norms, that is, the role of shared principles, perceptions and expectations of behavior. The distinction between norms and structure is not rigid. This is most clearly seen in the term “institution” which is commonly used to mean both formal structures which limit the agency of decision makers, but also a set of norms, rules, and practices which govern a specific area. To clarify the distinction being made in this article, I adapt the nomenclature used by Reus-Smit (1999) who distinguishes between constitutional institutions, norms without which a society of states could not exist, and fundamental institutions, which facilitate cooperation. The former includes sovereignty, as well as the rights of self-determination and nonintervention, and the latter contractual international law and the organizations which enforce it (both internal and external to states). In this article, I term the former “norms” and the latter “structures.”

The democratic peace literature has spurred several offshoots, the most relevant of which are those which have argued that rather than regime type the “peace” is generated by economic factors including trade interdependency and level of development (Gartzke 2007; Hegre 2000; Kim 2014; Kinne 2012; McDonald 2009, 2010; Mousseau 2013; Schneider and Gleditsch 2010) or shared intergovernmental organization membership (Appel 2018; Kinne 2013a, 2013b; Prorok and Appel 2014). More general critiques have argued that any effect seen is due to the prior settlement of territorial disputes (Gibler 2012; Gibler and Tir 2014; Owsiak 2012), nuclear weapons (Waltz 1990), alliances (Kydd 2005), unipolarity (Monteiro 2014) or military power (Layne 1994; Rosato 2003) instead. With the exception of the latter critiques, this debate has broadly accepted the importance of norms (Doyle 1986; Moravcsik 1997; Owen 1994; Russett and Oneal 2001), especially as the “good” functioning of domestic and international structures, particularly veto players, requires political actors to have the right norms.

This relationship between norms and structures has been more closely addressed through the focus on contracts, that is, to hone in on specific economic norms and structures characterized as allowing an economic market to function “with extensive and regularized transactions among strangers that require an element of trust” (Mousseau and Xiongwei 2018, sec. Emergence Contractualist Peace). This literature argues that the relationship between peace and democracy is spurious, and rather, that both are explained by “contracturalist” norms and structures (Gelpi and Grieco 2008; Mousseau, Hegre, and O’Neal 2003), which builds upon the work of (Acemoglu and Robinson 2006; Dahl 1997; North, Wallis, and Weingast 2009). Yet, the literature still relies upon operationalizations which are essentially structural, that is, whilst recognizing the importance of norms, the empirical testing has fallen short.

A comparatively small subset of the literature has examined norms as an explanation for the democratic peace. For Deutsch (1957), though NATO is understood as a structure, a security community is more crucially formed around shared values (norms). Kahl argues that the basis of the democratic peace is collective identity rooted in liberal democracy interlinked by intergovernmental organizations (1998). For Risse, the influence of NATO allies upon the foreign policy of the United States demonstrates the importance of liberal norms, through a mechanism which relies upon the similarity of domestic political institutions in these liberal democracies and coalition-building (1995). Though valuable additions to the literature, and in Deutsch’s case systematic in its treatment of the subject, these works fail to tackle the question of whether the democratic peace is structural or norm based since the two are entwined throughout. The difficulty in conceptualizing, isolating and operationalizing norms is a clear problem. Broadly, it is hard to isolate a norm from either the structure in which it exists or from other norms for analysis. It is also a challenge to show that any norm is truly intersubjective in understanding or to measure its effect upon some outcome of interest. Yet, without attempts to do so we are left with a partial picture, particularly for those emphasizing the importance of structures—be these domestic or international—for reducing interstate conflict. In short, the existence of a domestic legislature, independent judiciary, or interstate treaties, is only relevant if the individuals which employ them do so appropriately. To understand this necessitates exploring the ideas in the heads of these individuals, and particularly, how these ideas are shared.

In contrast to the large, predominantly quantitative, literature which has examined the democratic peace and wider questions linking regime type to the onset, conduct and termination of interstate disputes and wars, the broader literature on interstate norms has tended to be qualitative and highly focused. This has resulted in detailed work on human rights (Risse, Ropp, and Sikkink 1999), humanitarian intervention (Wheeler 2000), and nuclear weapons (Rublee and Cohen 2018; Tannenwald 1999). There is no doubt that this has contributed to our understanding of interstate relations, yet the clear shortcoming is generalizability. That is, the specificity of these approaches, necessary to make any form of causal claim, is in a sense also the undoing.

In this article I focus on the reinterpretation of the sovereignty norm by powerful states. I argue that they have a dominant role in shaping the normative landscape of the international system by being tasked with the interpretation of norms and the maintenance of international society (Hurrell 2007; Wight 1978; Saunders 2006). Operationalizing this, I utilize UN Security Council resolutions as a means of assessing what the consensus position of the permanent members is. Content analysis is used to examine the normative framing of resolutions, allowing both an exploration of change over time, and quantitative measures of the relative strength of these ideas to be derived which can then be used in regression analysis.

The Constraining Effect of Liberal Interpretations of Sovereignty

Norms are dynamic, and undergo processes of evolution, creation and destruction. Change may occur gradually as actors shift their understandings towards an alternative, or suddenly through systemic, and thereby social, change. In international relations, the latter is tightly linked to sudden shifts in great power authority, which has typically occurred due to defeat and a subsequent realignment of international order. War, and its aftermath, can lead to substantial rearrangements of international order, meaning both a new distribution of power, but also a re-interpretation of international society. In examining change in understandings of sovereignty I term gradual change “evolution” and sudden change “tectonic.”

Interpretations of Sovereignty

The post-World War Two era allows examination of both evolutionary and tectonic change in understandings of sovereignty. Evolution occurs during relative peace, whilst tectonic change is part of major realignments of international order. The end of the Cold War, though non-violent certainly led to significant power shifts, resulting in a tectonic change. The pre- and post-Cold War eras are eras of evolution. Assessing rivalrous interpretation of norms is crucial to understanding these changes. I outline a divergence between traditional and liberal interpretations which are used to examine change in norms, and the effect upon international conflict.

Over the post-World War Two period two interpretations of sovereignty have existed, firstly, that emphasizing territorial sovereignty and non-interference in the domestic affairs of others, and secondly, that emphasizing international law, interdependence, free trade, democracy and individual rights and freedoms in international affairs. I term the former approach to sovereignty “traditional,” and the latter “liberal.” A liberal interpretation of sovereignty, therefore, is one which places emphasis upon the actions of states, particularly those between a government and its citizens. Sovereignty in this understanding implies not only the exercise of power over a territory and people (as in the traditional understanding), but also that there are limits to the exercise of power and duties to a people (Sandholtz and Stiles 2008, 287-88).3 This has been most clearly stated in the Responsibility to Protect doctrine. I examine the relative balance between these two interpretations over time, arguing that this balance alters how sovereignty is understood, and thereby is related to the likelihood of escalation in interstate disputes.

My expectation is that the relative balance between these two modes of interpretation has shifted over the post-World War Two period to favor a liberal interpretation. This does not mean that traditional interpretations are irrelevant, rather, that they have been de-emphasized in international discourse relative to the latter. A spectrum in which purely traditional and purely liberal interpretations mark the poles is conceived of as existing, with great powers occupying positions between the two. The effect that this shift toward a liberal interpretation of sovereignty has occurred on international conflict escalation is now examined.

Understandings of Sovereignty and Conflict Escalation

How understandings of sovereignty impact international disputes may be explored in terms of the conflict life-cycle, that is, why a dispute emerges, why violent conflict breaks out, and how the conflict ends, or in terms of participant conduct during war. Here, I examine the effect of change in the collective understanding of sovereignty upon escalation, meaning that I assume the prior existence of international disputes. Whilst the effect of norms upon the onset of disputes is an important question, very few disputes result in the use of violence, that is, though onset is a necessary condition for violence, it is far from sufficient. I examine escalation from a nonviolent dispute to a violent dispute—the use of armed force in international relations—because this is of greater substantive significance to state leaders and their citizens. Moreover, whilst reducing the likelihood of dispute onset would likely result in less international violence, the more normatively important question is how to avoid escalation, as this reduces the costs of war: human death and economic destruction.

This is not to trivialize dispute onset, and logically we might expect the growth of liberal understandings of sovereignty to also reduce onset rates as well as escalation likelihood. However, there are two reasons why we may doubt the substantive significance of this, firstly, dispute onset is a relatively low threshold, and secondly, onset is often triggered by events beyond the direct control of a state. To this first point, a dispute simply means that two or more actors disagree over something, oftentimes the behavior of the other side or the distribution of some good (for instance, territory). This article utilizes Militarized Interstate Disputes as the operationalization of dispute, and many disputes are comparatively minor events, with the threshold being that one of the two parties has a minimum level of militarization as part of the dispute (for example, the issuance of a deterrent, or compellent, threat). A focus on onset, therefore, would prevent observation of substantively more important actions, that is, the actual use of force against another. Secondly, many disputes begin due to accident and/or the decision making of low-level military commanders or political officials who are neither in the position to consider national interests nor strategic interactions. This means that onset may essentially be an apolitical decision which takes little or no account of the broader strategic landscape nor the structural and normative context. It is after onset, that is, when escalation is considered by policymakers, that the stakes are higher and when causal mechanisms common to this topic are most active.

Escalation then, is a political decision. In making the choice to escalate, or not, policymakers are impacted by a range of strategic factors, but crucially, are also constrained by norms. The use of force in international relations must be justified, and since 1945 the UN Charter specifies just two: self-defense and collective peace enforcement. To this, we might also add humanitarian intervention, though this remains contested. As a baseline, therefore, when faced with dispute onset, policymakers must justify their actions with reference to one of these reasons. Moreover, in making the decision to escalate, policymakers are also constrained by liberal values which emphasize diplomacy, cooperation, international law, international organizations, the rights of the individual, and to question the legitimacy of the march to war. Taken together, this slows the decision to escalate, since legal justification is needed, diplomacy is necessary, and potential economic and human costs understood, calculated and defended. A shift toward liberal interpretations thereby means a reduced probability of escalation to violence, tacitly assuming that the risk of a dispute arising in the first-place is unchanged. This leads me to my first hypothesis, which relates to the evolution mechanism of change:

Hypothesis 1: Given an international dispute, the risk of escalation decreases as liberal interpretations increase.

An alternative explanation is that any impact of normative change is actually a result of the end of the Cold War, that is, the redistribution of power between great powers, typically resulting from system-wide conflict results in qualitative differences in interpretations of fundamental norms between peace-periods. Whilst the end of the Cold War did not involve a system-wide war, it did mark the end of sustained rivalry between great powers. The pre- and post- periods can thereby be compared. Given the rivalry of the United States and Soviet Union during the Cold War, and the relative dominance of the United States post-Cold War, we might expect qualitative differences in conflict behavior to be observable in the two time periods, attributable, perhaps, to a greater emphasis upon liberal interpretations in the post-Cold War era. The dramatic change in the distribution of power triggered a significant change in the consensus surrounding interpretation of fundamental norms of international society. This leads me to my second hypothesis, which captures the tectonic change mechanism:

Hypothesis 2: The risk of dispute escalation decreases given a systemic increase in liberal interpretations of sovereignty attributable to the end of the Cold War.

Method

I use multiple logistic regression to estimate the effect of change in the normative landscape on the use of force by dispute participants. To address the underlying selection problem, that is, that dispute onset is non-random, I also estimate maximum likelihood and twostep Heckman selection models. Substantive significance from the logistic regression is then explored utilizing the observed values for predicted probabilities approach (Hanmer and Ozan Kalkan 2013). Standard errors are robust and clustered by year, where model specification allows (that is, not in the Heckman twostep model). This is to take account of the data structure since years differ by the number of Militarized Interstate Disputes (MIDs) which onset and the number of participants in these MIDs. Because the independent variables are annual values, the same value is given to all dispute participants in the same year. If standard errors were not clustered by year then there would be substantial withincluster correlation.

This paper models the hostility level of interstate disputes as a monadic phenomenon. Much of the literature on democratic peace theory utilizes a dyadic setup, either directed or undirected. I opt for a monadic structure for three reasons, firstly, because many of the theoretical explanations for the democratic peace are in essence, monadic explanations, with a dyadic version layered on top. For instance, the core claim of much of the literature is that democracy reduces the hostility of foreign policy, a monadic claim, because leaders are accountable to citizens who have a low tolerance for the costs or war, and because legislatures and a free and independent media provides greater scrutiny of policymaking, slowing the march to war. The dyadic version of this—the interaction of joint democracy—relies on the signals that these same processes provide to another actor. It is puzzling, therefore, that empirical findings have tended to show support for the latter, but not for the former. Secondly, the difficulty in finding empirical support for any monadic explanation means that a higher threshold is being set here by using a monadic approach. Thirdly, the argument I make, that liberal norms reduces the hostility level of interstate disputes, may have varying effects according to the regime type of dyads. However, that claim is not made here, rather I argue that these norms exist for all in international society, not for a subset, and that they act directly upon policymakers, not only when policymakers interact with their international counterparts.

#### Err AFF---liberalism is redeemable and an efficacious tool for change.

Mills, 21—former Distinguished Professor of Philosophy at The Graduate Center, City University of New York (Charles, interviewed by Daniel Steinmetz-Jenkins, “Charles Mills Thinks Liberalism Still Has a Chance,” <https://www.thenation.com/article/culture/charles-mills-thinks-theres-still-time-to-rescue-liberalism/>, dml)

CM: Liberalism is attractive on both principled and strategic grounds. You’re completely right, of course, about the failures of actual historical liberalism, which are manifest, indeed ubiquitous, all around us. But what is the source of these failures? If liberalism has never lived up to its ostensible principles and values, that goes no way in proving that the principles and values are themselves unattractive ones. The illuminating way to understand these violations of (ideal) liberal norms, I suggest in the book, is not as the consequence of an intrinsically self-undermining “illiberalizing” dynamic within liberalism but rather as a manifestation of the corrupting results of group power, whether of the privileged classes, men, or the dominant race, for liberal theory and practice. Hence the creation of a bourgeois, patriarchal, or racial liberalism (usually all three combined, of course).

But we can appeal to the idealized, non-group-restricted versions of liberal principles and values to critique the exclusionary versions—indeed, that is precisely what most American progressive social movements have historically done. Particularly at the present time of authoritarian ethnonationalism’s attack on liberal norms, it is all the more reason to affirm them. Moreover, liberalism as I understand it is certainly not committed to an opposition to socialism in the social democratic sense—arguably, that’s just left-liberalism. And any other variety of hypothetical socialism—market socialism, workers’ democracy—would presumably strive to sell itself by promising a deeper and more extensive realization of liberal values, not their abandonment. So I would claim that the socialist case can indeed be made within a liberal framework. It’s noteworthy that Rawls—surely a respectable liberal!—says explicitly in A Theory of Justice that his theory “includes no natural right of private property in the means of production.”

As for the strategic reasons: Liberalism (in the broad-spectrum sense that includes right-wing “classical” liberals) has uncontroversially been the dominant political ideology in US history, albeit in the restrictive incarnations just delineated. So in trying to win over a broad political audience rather than preach to the choir, as I presume progressives want to do, one immediately has the immense advantage of invoking the political ideology nominally endorsed by the majority. You don’t have to require them to first convert to Marxism or Foucauldian-ism or whatever; you can just say, “If you’re a good liberal, you should support this.” That doesn’t mean that you can’t get valuable insights from Marx or Foucault, of course, but they are ultimately going to have to be “translated” into a liberal framework.

And insofar as legal change will be crucial for progressive structural reform—necessary if not sufficient—need I make the obvious point that the American and broader Western juridical systems are founded on liberal principles and assumptions? The “Black radical liberalism” I am advocating will thus be able to engage directly with its conservative juristic opponents in a way that nonliberal political ideologies will not. The Republicans generally, and the Federalist Society specifically, are certainly in no doubt themselves about the importance of fighting for particular interpretations of the Constitution and the law, which is precisely why they set out years ago to gain control of the courts. Black rights, and nonwhite rights in general, will have to be advanced by liberal arguments and liberal jurisprudence in this liberal (in the broad sense) arena.

DSJ: In a retrospective 2015 forum devoted to The Racial Contract in the journal Politics, Groups, and Identities, you issued a response to your critics which you entitled “The Racial Contract revisited: still unbroken after all these years.” What do you see as remaining fundamentally unbroken, and given your commitment to liberalism, what, if anything, has changed? What gives you hope?

CM: What I saw as unbroken at the time was the continuing reality of unjust structural white domination and unjust structural white advantage, even in the final years of the Obama presidency. The racial contract can survive such changes of personnel in governing circles; what counts, as I’ve emphasized throughout, are the structures and institutions. And I should stress that liberalism is not, in my reading, committed to the optimistic Whig progressivism traditionally ascribed to it, especially when we need to think of it as predominantly a racialized liberalism historically.

In my 2015 response, I cited a statistic mentioned by New York Times columnist Charles Blow that a 2011 survey had revealed that a majority of white Americans saw themselves as the primary victims of racial discrimination. Not an encouraging figure! But even before the Floyd killing, and before last summer’s huge multiracial demonstrations, such white racial attitudes had shifted. So that is the kind of development that gives me hope, along with the potentiality for the huge wealth disparities of the “New Gilded Age” to create the objective basis for a transracial class alliance of the socially disadvantaged. But a nonzero chance of positive racial change, however small, is obviously going to be diminished even further if one adopts a political quietism predicated on assuming its hopelessness in advance.

### 2AC---Private Property Good

#### Legalism good. The law can challenge western individualization; the flaws of bounded property logic are reasons to expand it, not reject it.

Nash, 19—Professor of Gender, Sexuality, and Feminist Studies at Duke University (Jennifer, “love in the time of death,” *Black Feminism Reimagined: After Intersectionality*, Chapter 4, 121-126, dml)

This book began with substantial engagement with intersectionality’s origin stories, examining how the question of where the analytic came from, who coined it, and who deserves “credit” for its rise and circulation have come to predominate in black feminist scholarship. Curiously, though, none of these widely circulating origin stories contend with intersectionality’s connections to the juridical, or think deeply about intersectionality as a legal project. Though this book eschews simple origin stories that presume that intersectionality has a singular history, in this section, I advocate for remembering intersectionality’s connections to critical race theory, and thus its intimate relationship with remaking law. I invest in this project because intersectionality has been swept into a larger black feminist conversation that presumes the violence of the juridical, ignoring both intersectionality’s loving investment in the juridical and the juridical as a potential site of loving practice. Put differently, in this section, I emphasize intersectionality’s location in critical race theory, in Left legal projects, to move beyond the now knee-jerk Left (and black feminist) sense that radical and transgressive projects are necessarily antistate. In place of this now familiar political terrain, I seek to ask different questions: Is it simply collusion or “cruel optimism” for black feminists to seek engagement with the state?31 Can we imagine black feminist engagements with the state as taking forms other than seeking redress and demanding visibility? Are there ways to imagine black feminist legal engagement that circumvent the uncomfortable and problematic position of being “at home with the law”? How can black feminists reimagine law as a site for staging productive intimacies and enacting radical vulnerabilities?

In its juridical iteration, intersectionality emerged in a moment where critical race theorists offered analytical tools to upend prevailing fictions of law’s objectivity, to reveal the quotidian nature of racism and sexism, and to argue for fundamental transformations in legal pedagogy. Critical race theory, then, was born of a sustained attention to law’s failures, even as it contained—at times—certain kinds of faith in law’s potentiality and promise. Critical race scholars were a post–Brown v. Board of Education generation who witnessed the end of the Warren court’s promises of integration and inclusion. They saw affirmative action rolled back, transformed from a substantive remedy for past and ongoing discrimination to a promise of “diversity” to benefit white students who would be changed into global citizens ready for corporate employment thanks to their “exposure” to socalled racial difference.32 They witnessed the ratcheting up of standards for proving employment discrimination from racially disparate effects to discriminatory intent, effectively making it harder for minoritarian plaintiffs to prevail in discrimination suits. They emphatically asked, then, whether the goal of antiracist legal scholars should be inclusion in white institutions or whether it should be, for example, the creation of robustly funded and supported black institutions. They interrogated whether the Warren court’s landmark decision in Brown would have better served its black plaintiffs if it equally funded black schools, rather than championing desegregation and then mandating integration at “all deliberate speed.” They debated whether affirmative action should be supported if the only logic to support it is “diversity,” where students of color provide a pedagogical value for white students. Critical race theory, then, was never an embrace of an ethic of inclusion, or even a form of advocacy for new forms of redress. Instead, it was undergirded by an investment in revealing that racial progress was the result of “interest convergence” rather than a genuine investment in antisubordination, and by a fundamental belief that law would look and feel different if it “looked to the bottom.”33

While critical race theorists offered critical interrogations of law’s imagined progress, treating it as evidence of US self-interest rather than a genuine investment in racial redress, they also routinely offered ways of imagining law otherwise, refashioning antidiscrimination law, conceptions of evidence, property, and contract. They imagined a form of law that eschewed color blindness and argued that any legal regime that sought to contend with American racial violence had to be deeply color-conscious to exact meaningful remedies. They advanced new methods—narrative, parable, allegory, speculative fiction, storytelling—in an effort to jam the fictions of objectivity and neutrality and to expose that law is itself a racial project, never removed from the racial regimes it purports to disrupt. In other words, they sought to use their locations in the legal academy and in the legal profession to radically remake law, to push the boundaries of how legal doctrine could be written, imagined, and enacted. They aspired to make law into something unrecognizable and unimaginable, to push at its very parameters in the pursuit of a “jurisprudence of generosity.”34

My entry point for thinking through law as a site of black feminist love-politics is through the work of Patricia J. Williams. Her book The Alchemy of Race and Rights is complex in its form and its argument—it is memoir, “diary,” legal treatise, and critical theory at once. Williams presents herself as professor, consumer, daughter, granddaughter, train rider, and “crazy” black woman exhausted from the ordinary and spectacular raced and gendered brutalities of American life and the project of teaching law at a historically white law school. The project, then, is a rumination on the felt life of racial and gendered violence, and a critical analysis of the myriad spaces where this violence unfolds, from the media onslaught against Tawana Brawley to the experiences of being a black female faculty member at a law school.

Williams’s inquiry, though, is not simply about documenting the ubiquity of racial and gendered violence but also about engaging and describing the lived experience of racialized and gendered vulnerability, what she terms “spirit murder.” For Williams, “spirit murder” is the psychic and spiritual wounding that unfolds as a result of racial violence. “Spirit murder” describes the wounds left on the flesh, psyche, and even soul of those who experience violence and the wounds, often invisible, that haunt perpetrators of violence, including a willingness to accept, and to render unseen, those who are dispossessed. Williams’s task, then, is to imagine what law could look and feel like if it accounted for “spirit murder,” a form of violence that she argues includes “cultural obliteration, prostitution, abandonment of the elderly and the homeless, and genocide. . . . What I call spirit murder—disregard for others whose lives qualitatively depend on our regard—is that it produces a system of formalized distortions of thought.”35 Williams argues that “we need to elevate spirit murder to the conceptual—if not punitive— level of a capital moral offense. . . . We need to eradicate its numbing pathology before it wipes out what precious little humanity we have left.”36 Williams’s conception of “spirit murder” imagines law’s capacity to remedy forms of violence against the psyche and soul, a terrain that has been unimaginable to law precisely because of its commitment to remedying only visible and legible harms, and law’s ability to be mobilized “conceptually”— but not punitively—to respond to violence. In other words, the endeavor of the text is to imagine a legal project capacious and creative enough to attend to what it has always ignored: the violence inflicted on the psyche. Williams effectively invites us to imagine how we might feel differently toward each other, and toward law itself, if we had legal obligations toward mutual regard, if we knew that law took seriously spirit murder.

If Williams seeks to use law to exceed what it aspires to do, to respond to the “cultural cancer” of spirit murder, her book also contains a resounding, and even surprising, redemption of rights as a key strategy for reforming law. An embrace of rights might sound like a deeply conventional strategy, mobilizing law to do what it has long claimed to do on behalf of racialized and gendered minorities: confer rights. Despite her lengthy engagement with state violence, her exacting critique of how law permits rather than redresses spirit murder, Williams ends not with an abandonment of the state but with a deep affection for what rights could accomplish. She writes:

The task is to expand private property rights into a conception of civil rights, into the right to expect civility from others. . . . Instead, society must give them [rights] away. Unlock them from reification by giving them to slaves. Give them to trees. Give them to cows. Give them to history. Give them to rivers and rocks. Give to all of society’s objects and untouchables the rights of privacy, integrity and self-assertion; give them distance and respect. Flood them with the animating spirit that rights mythology fires in this country’s most oppressed psyches, and wash away the shroud of inanimate-object-status, so that we may say not that we own gold but that a luminous golden spirit owns us.37

If critical legal studies called for the abandonment of investment in rights, treating rights as relatively unsuccessful in securing social change and as promoting problematic conceptions of individualism, Williams makes a plea for a dramatic expansion of rights and a surprising reconceptualization of the labor of rights. Rights, she argues, should not be the purview of those who can explicitly and legibly name harm. Cows, history, and rocks should have rights, including rights to “privacy, integrity and self-assertion.” Rights should not be “reified” but generously bestowed upon everyone and everything; rights should not be used to shore up ideas of property and ownership, to allow us to claim that “we own gold,” but instead to ensure a deep spiritual connection between us. In so doing, law could remake “society,” transforming its investments in rights as something that protects property holders into rights as something that can ensure our mutual accountability, and reminds us of the “luminous golden spirit [that] owns us” all.

It is easy to read Williams as optimistically rehabilitating rights from the critical legal studies’ critique of rights, and problematically investing in precisely the doctrinal formulation that has consistently failed minoritarian subjects. In this reading, Williams is imagined as paradoxically investing in precisely the site of violence she carefully documents with far too little explanation for how rights can circumvent the problems of racism and sexism she delineates. Yet I read Williams’s visionary account of rights differently. For her, law can be mobilized not to produce new causes of action, to simply make visible new wounded subjects who can make appeals to redress, but to imagine new and radical vulnerabilities. As it is currently structured, property deeply organizes sociality, and law operates to protect property from trespass and theft. Thus, law operates to create categories like property holder (owner) and trespasser (thief), and to organize the social world around proximities to ownership. Williams uses her capacious conception of rights to imagine another way of organizing sociality: around vulnerability. Indeed, Williams asks: How are we bound up with others? What is our responsibility to ensuring the vital “spirit” of others, and to demanding the protection of our own “spirits”? What happens when we harm things that can’t articulate injuries (trees, rocks, rivers) but can only make that injury visible and oftentimes in ways that we refuse to recognize, or that might even make that injury visible in another time, in decades or centuries when we are not even here to be accountable? What happens when we take responsibility for our capacity to wound and for the histories of wounding and violence that have unfolded, often in our names? And what happens when law becomes a critical tool in making visible mutual vulnerability, in insisting that we recognize that we can “undo each other,” and in demanding that we take seriously our indebtedness to each other? For Williams, then, expanding rights becomes a strategy for transforming law to be a space that enshrines a vision of interdependence and shared vulnerability.

## K---Specific

### 2AC---AT: Afropess/Setcol/Imperialism

#### Only through working within legal institutions over intellectual property can we delink ourselves from violent modes of thought. Perm do the AFF and reject state sanctioned IP on artistic media.

Vats, 21 [Anjali Vats is an Associate Professor of Law, with a secondary appointment in Communication, at the University of Pittsburgh School of Law., 7-15-2021, accessed on 7-16-2022, Taylor & Francis, "The color of creatorship: intellectual property, race, and the making of Americans", https://www.tandfonline.com/doi/full/10.1080/14636778.2021.1951194]/ISEE

Decolonial thought, accordingly, breaks with the fundamental “myth of modernity,” embracing instead practices of “epistemic delinking” from the binary of coloniality/modernity created by the political and economic systems that originated in Europe and spread to the colonies. More specifically, “[d]e-coloniality turns the plate around and shifts the ethics and politics of knowledge. Critical theories emerge from the ruins of languages, categories of thoughts and subjectivities (Arab, Aymara, Hindi, French and English Creole in the Caribbean, Afrikaans, etc.) that had been consistently negated by the rhetoric of modernity and in the imperial implementation of the logic of coloniality.” Through this emphasis on centering marginalized categories of thought, decoloniality provides a useful theoretical frame for thinking across racial and national identity categories, in ways that aid in undoing anti-Blackness, anti-Indigeneity, and anti-Asianness, among others. As José David Saldívar explains, decolonial theory is a useful tool for thinking the politics of “becoming minor,” and the epistemic marginalization that accompanies them. In the context of intellectual property law, decoloniality is useful in advancing critiques of the area of law’s consistent inability and refusal to recognize the full personhood, therefore creatorship and citizenship, of people of color, and building models of engagement that recognize multiverses of knowledge production, knowledge making, and indigenous wisdom, apart from their commodity value. It is also useful in thinking about policymaking as a practice of working from the bottom up instead of the top down. Deconstructing the racial logics of intellectual property law creates space for new ideas that are grounded in Otherness. Such ideas are not, by definition, emancipatory ones. However, they are prerequisites to building knowledge futures that are emancipatory. While Mignolo sketches the importance of epistemic delinking from modernity, the specifics of his project are not always clear. Given the embeddedness of the nation-state, including its management of normative citizenship, with (neo)coloniality certainly requires moving away from inclusionary politics as a strategy for gaining full intellectual property citizenship. As Mignolo writes, “The emergence of ‘modern nation-states’ in Europe, means two things: that the state became the new central authority of imperial/colonial domination and that the ‘nation’ in Europe was mainly constituted of one ethnicity, articulated as ‘whiteness.’”30 White colonial nation-states became the arbiters of citizenship, in part through the creation of hierarchies through which they deemed themselves superior to (neo)colonial states and in part through the legal manipulation of the category itself.31 They also became arbiters of the legitimacy of knowledge, specifically who has and does not have the capacity to create. The project of remaking intellectual property law, then, must address the centrality of the state and the centrality of whiteness in the formation of intellectual property policy and its underlying ideologies and cultural formations. This does not mean doing away with the nation-state or completely disempowering white people. Instead, it means confronting the role of the nation state in epistemic violence and its complicity in white supremacy. Decoloniality, as a tool of a larger, interdisciplinary Critical Race IP agenda, “creates space for a complex and multifaceted engagement with race and, (neo)coloniality that addresses the fundamental historical power dynamics that shaped laws of knowledge production.” For instance, decolonizing intellectual property law requires undoing the state’s oligopoly on defining and enforcing conceptions of infringement and the public domain. It also requires pushing back against the implicit whiteness in state and cultural conceptions of creativity, innovation, progress, and A2K. Both of these are necessary but not sufficient for intellectual property justice. Darrel Wanzer-Serrano writes: “Decoloniality is an alternative accent— one marked by pluriversal commitments, geo-historical attentiveness, and bio-graphical considerations.” In order to get to a place in the context of intellectual property law where that trio of goals is possible, anti-racist and anti-colonial activists must persuade lawmakers that knowledge production comes in a variety of forms, not of all of which comport with notions of Romantic authorship. This project is an ongoing one, though it is sometimes impeded by commitments to incrementalism, inclusion, or capitalism. Approaching such issues from the vantage point of pluriversality, historicity, and contextual specificity forces engagement with intellectual property law’s tendency to mark some people as less than human and prefigure solutions through racial capitalist lenses. Important questions in building egalitarian copyright, patent, and trademark policies, then, include: “Whose labor is valuable? How is it valued? What systems underpin those definitions of labor? And how do we alter and remake the systems that undervalue the knowledge of people of color and maintain systems of white supremacy?” Storytelling, protecting traditional knowledge, and A2K are important parts of the answers to those questions, as the three case studies in chapter 4 demonstrate. But they are necessary though not sufficient solutions to the circulation of racial scripts that this book traces. Derrick Bell argues that making visible the racial non-neutrality of law is a central part of the project of CRT. Similarly, unveiling the nexus between coloniality/modernity is a core part of the project of decolonial theory— and one that is helpful in reimagining copyright, patent, and trademark law. Making visible intellectual property law’s racial non-neutrality and investments in (neo)colonial flows of power has been a core aim of this project. While scholars in a variety of disciplines have begun to work through the histories of intellectual property and race in particular instances, a great deal more work needs to be done in theorizing how copyrights, patents, and trademarks have played important roles in racial formation, how their racial scripts evolve and pervade public culture, in discursive and material ways, and how political economy is tied up with questions of race. Coming to grips with intellectual property law’s stubborn doctrinal and discursive resistance to creating narrative space for non-white creators and their full personhood renders legible those discourses that subtly but persistently normalize Enlightenment views of creatorship, infringement, and concomitantly race. In the United States and globally, the struggle over creating equitable intellectual property law is a struggle about the ways in which Americans imagine, feel, and commodify knowledge in intersectionally raced and (neo)colonial ways. Reimagining intellectual property through the lens of decoloniality is also a rhetorical project, one in which a developing theory of Critical Race IP can assist. The examples of Prince’s name change, Lynch’s Beast Mode®, decolonial vernacular in the Yoga Wars, and dewesternization through the TKDL demonstrate the broad spectrum of resistive performances and practices through which people of color remake notions of creatorship, citizenship, and personhood. They also concretize decoloniality in ways that are helpful for thinking about praxis in all its material realities. Decolonial theory posits, as a core practice of decolonization, the idea of delinking. Decolonizing intellectual property requires delinking it from the epistemological foundations of modernity/coloniality, particularly with respect to the category of creatorship and, relatedly, its articulations with citizenship and personhood. Darrel Wanzer-Serrano explains the practice of delinking decolonially as: any practice, discursive or otherwise, that facilitates a divestment from modernity/coloniality and invents openings through which decolonial epistemics can emerge. . . . Delinking requires changes in both content and form . . . It requires being oriented toward shifts in our genealogies of thought, including drawing authority from colonized spaces/voices and resisting latent imperialisms—even when such resistance may not be exclusively oppositional.35 In this way, decolonial theory and praxis conceive of “epistemological reconstitution,”36 in order to facilitate the making of “another rationality which may legitimately pretend to some universality.” From this understanding of decolonial delinking, we can move between theory and practice to imagine how it might look to delink intellectual property law from its modern/colonial investments in creatorship/infringement. We can also imagine ways of undoing creatorship as it forms racial assemblages with national identity and citizenship, two categories that must also be decolonized. The praxis of decolonial delinking is far more complicated than the conceptualization of that which must be done, however. For instance, Prince and Lynch succeed in decolonial delinking even as they work to build space for Black capitalism to thrive. Similarly, the dewesternizing restructuring and spectacular nationalism that the TKDL prompts, even while encouraging the development of decolonial vernacular, is a move toward decolonial intellectual property. Yet both of these examples point to the tendency of resistance to be embedded within unsustainable systems and ideologies of racial capitalism and racial liberalism. Anti-racist and anticolonial scholars ought to contemplate how to take decolonization even further, past beyond existing imaginaries.

### 2AC---AT: Cap

#### The AFF causes a shift to intellectual capitalism---it’s the only way to solve.

Ove Grandstand, 18 (Ove Grandstand, professor in Industrial Management and Economics at Chalmers University of Technology and is founder of Center for Intellectual Property Studies at Chalmers, 12-28-2018, accessed on 3-9-2022, Edward Elgar, “Evolving properties of intellectual capitalism” https://www.elgaronline.com/view/9780857935458/chapter01.xhtml, HBisevac)

The emergence of a knowledge-based economy has taken place in some general sense gradually for centuries. If one has to point out a period of time when the economies in the major industrialized countries began to be dominated in some economic sense by knowledge and IC, it is the 1980s and 1990s. Looking at the causes behind this emergence, there are strong reasons to be **techno-centric** and emphasize the significance of the **long accumulation** of **new technologies**, i.e. new technical knowledge.8 In relation to **resources** and **capital** in general, knowledge has **special properties** which enable cumulation of value and long term wealth and welfare creation. For one thing, knowledge is not worn out or consumed but continues to grow, in an absolute sense, not the least through new combinations of existing knowledge elements, combinations which in turn constitute new recombinable knowledge elements etc. In relation to knowledge in general, technical knowledge in turn has further special properties which make it particularly cumulative, recombinant and **value-creating** in an economy.9 Most notably, new information and communication technologies have through digitalization enabled:

1. **Radically expanded** and faster production, retrieval and global distribution and exchange of big sets of data, information and knowledge, resulting in various developments and applications becoming more sensor-, data- and computer-driven;

2. **Reduction of search costs**, interaction costs and transaction costs on markets in general, including markets for ideas, knowledge, technology markets and information markets, some of them with many small micro-transactions, whereby old markets become larger and more effective at the same time as completely new markets are created;

3. Increasing temporary privatization on the whole of data, information and other intellectual resources and their flows of returns through both legal and technical means (e.g. encryption, electronic codes, locks and firewalls, and streaming);

4. Creation of network-based scalable platforms for fast and large-scale **communications** and **information exchange**, social media and organized relation building and control (cf. e-commerce, e-government, e-research, etc.);

5. **New technology combinations**, e.g. in “intelligent” or “smart” products, processes and systems of widely varying types such as cars, houses, phones, weapons, materials, implants, etc., i.e. in various forms of machine intelligence, moreover to be connected by the “Internet of things” (IoT), and what could be called artificial intelligence (AI) and machine media, hybridizing with social media.

The collective stock of knowledge thus grows in an absolute sense (catastrophic destruction apart). This does not mean that neither economically useful knowledge, nor IC more generally will necessarily grow, since knowledge, and technologies not the least, may become obsolete and substituted for by new knowledge over time. Nor does it mean that IC will grow relative to other forms of capital, since scarcity of a vital primary physical resource (such as potable water) may conceivably arise to the point where its economic value growth contributes to a relative decline in IC’s share of capital formation, and thereby possibly eliminates its dominance. Intellectual or intangible capital is moreover inherently difficult to measure. Nevertheless, many attempts have been made to do so and make comparisons with (more accurate) measures of tangibles. A number of indicators showed in the 1990s that IC had become ever more important, even dominant in the 1990s, such as investments in R&D, and economic outcomes in terms of innovations and wealth growth. The question then is if any dominance of IC in an accounting sense is temporary or permanent. As it turns out the dominance of IC, expressed in stock market valuations around the world, was temporarily reduced but not permanently erased, neither by the bursting of the so-called information technology (IT) bubble and its affiliated “dotcom bubble” in the early 2000s, nor by the financial crisis in the late 2000s. However, fluctuations in company and asset valuations on financial markets appear to have become larger and more frequent and thereby leading to higher levels of more permanent volatility and risks in the economy which more easily could lead to reversals of any dominance of some capital component in the economy.10 Keeping all these cautious remarks in mind, Table 1.1 gives an overview of various indicators of the multi-faceted nature and importance of IC.

***\*\*TABLE OMMITED\*\****

Accounting for IC and related concepts (intangibles, knowledge, human capital, etc.) involves many difficulties which have been described in the literature and will further be described in Chapters 2, 3 and 11. The difficulties derive from a variety of definitions, typologies and operationalizations of IC related to various accounting entities (firms, nations, etc.) with separation and aggregation problems, and from data unavailability and incompatible data sources and scales.11 Many of these accounting issues are well recognized, but new ones also appear as a result of new technologies. Just to mention a few new issues in IC accounting: Should the development of machine intelligence be accounted for as a type of physical capital or IC comparable to human capital and then what about humanoid capital? Should development of IoT communications be accounted for as relational (or network) capital comparable to relational capital among humans? Accounting difficulties apart, one could claim that developments like these will lead to increases in IC, as will big data analytics and developments in sensor technologies. The accounting difficulties are compounded when any measure of IC is to be compared with measures of physical capital and its share of total capital, and further compounded if comparisons of absolute levels and relative shares over time are attempted. Just to mention one more issue: If a balance sheet is attempted at national or global level, and the inflow of solar energy or new space resources are accounted for, will that outweigh any increases in knowledge and IC? Accounting difficulties notwithstanding, it is important to get some handle on the developments of IC for learning and policy decisions. To use a variety of indicators as illustrated in Table 1.1 is a first step, leaving refinements and aggregations to further research.12 A question then is what indicates that the economy could be characterized as being or moving towards intellectual capitalism. Intellectual capitalism would be present (or approaching) in a strong sense if the share of IC as input and output in total capital formation is dominant (or increasing). That would be difficult to assess quantitatively in the present state of knowledge due to the accounting difficulties mentioned above. However, one can talk about intellectual capitalism in a weaker qualitative sense with references to various indicators showing IC to be of major importance, if not dominant, in different contexts. One can note here that the contemporary economy is frequently characterized as a knowledge-based economy, an innovation-based economy or an information-based economy, with little or no quantitative evidence. If that characterization is accepted then one question to be addressed is how the basic capitalist institutions – firms, markets, private profits and private property rights – are faring in the economy and how they are affected by IC.13 This question will be briefly dealt with next and then returned to in Chapter 11. As to firms, Table 1.1 and the references therein show that many, if not most, firms are IC based, consistent with previous research, although any trend in this respect is more of an open question after the financial crises in the early and late 2000s. IT firms like Amazon, Apple, Facebook, Google, Microsoft, etc. are certainly IC based and so are technology-based start-ups but so are also many firms based on natural resources. At the same time the large firms in the world economy account for most of the world’s R&D and patents. As to markets, technology markets and data/information/knowledge markets more generally are growing nationally and internationally as also shown in Table 1.1. In periods and places **international technology trade** grows even **faster** than international trade in physical goods.14 The increasing use of various external technology acquisition and exploitation strategies, i.e. increasing use of open innovation, increases the demand for and supply of new technologies on technology markets (see further Chapter 2). The developments in “big data” and information gathering technologies and the **rights in data** (with the General Data Protection Regulation (GDPR) as just one example) can be expected to generate **further importance** and **growth of data** and **information markets**, and the increasing demand for intellectual talent and skills will further **foster human capital markets**. Private profits and accumulation of private wealth many times derive from innovations and various types of intellectual assets, and several individuals could in fact be characterized as intellectual capitalists. Lists of wealthy individuals suggest that original (as opposed to inherited and the like) sources of personal wealth are increasingly intellectual in nature, although such lists must be interpreted with much caution. Private property rights have gradually since the nineteenth century become extended with intellectual property rights, although there are inherent differences between physical and intellectual property and it is disputable to what extent IPRs should in fact be considered as “true” property rights. Nevertheless, IPRs are property-like in some important aspects and they are functional for trade in disembodied intellectual products. Some new types of sui generis IPRs, like database rights, have also been created. The surge in patenting, copyrights, trademarks, design rights and other IPRs indicate a rapidly growing role of them in the economy, as will be dealt with in the next section. IPRs have also moreover affected other institutions in recent decades, notably **universities**. Universities are not a basic capitalist institution but have increasingly become an **economic institution** and as such indeed based on IC. As an economic institution universities have become an important component in **national innovation systems**. Universities have also become more active in propertizing their IC with proactive patenting organized in technology transfer offices and the like, run by a new breed of university IP professionals. Finally, most countries in the world have adopted capitalist economic institutions and most significant countries have some form of innovation policies and some of these, like China, India, Japan and S. Korea, are explicitly aiming at becoming innovation-based states, as will be described in the book. Although not phrased in terms of IC the close connection between innovation and intellectual capital justify talking of some countries as IC based, especially countries poor in indigenous natural resources like Japan and S. Korea.15 Thus, one is led to conclude that a new type of economy has by and large come to stay; an economy which is new in the sense that it has fairly recently begun to be dominated in some sense by knowledge and IC as pointed out by many scholars. The expression “the new economy” as used in the early years of the twenty-first century was rather misleading, though, being a suggestion that a wholly new economy had emerged and quickly replaced an old economy, while in fact all old, basic institutions in a capitalistic economic system – private firms, markets, private profits, private property rights and a complementary government maintaining these institutions – were basically preserved. Rather, these institutions were **reinforced** and further **internationalized** during the 1990s after the fall of the Soviet empire and the changes in Asia, especially in the Chinese economic system. This new type of economy could consequently be called **intellectual capitalism**.16