## 1AC

### 1AC – Plan

#### Plan: The United States Federal Government should reduce anticompetitive business practices in regard to the appropriation of outer space by private entities in accordance with the higher ethical principles of the outer space treaty

#### Antitrust is uniquely compatible with the OST---the plan generates momentum for international harmonization.

Maria Lucas-Rhimbassen 21, Research Associate at the Chaire SIRIUS (Space Institute for Researches on Innovative Usages of Satellites) at the University of Toulouse, J.D. from Moncton University, Certificate in Strategic Space Law from McGill University, PhD Candidate in Space Law at the University of Toulouse, “An Introduction to Space Antitrust,” Open Lunar Foundation, 6/6/2021, https://www.openlunar.org/library/an-introduction-to-space-antitrust

Equality and Free Access

Secondly, it could be argued that the principle of “equality” and “free access” as enshrined within article I of the OST would seem to preclude monopolies insofar as equal access to celestial bodies must be maintained while, in theory, monopolization would potentially bar such equal access:

(...) Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies (...) (42). (emphasis added)

The main concern raised by the above-cited paragraph is to determine to what extent the article I applies to space resources on the celestial bodies in question. Since celestial bodies are not defined, as previously stated, and since there is no mention of space “resources” within the OST, national law or doctrine can be used to answer the question. The only national legislations mentioning space resources are the ones in favor of the commercialization, as listed supra (43). Secondary sources, or doctrine, reflect divergent views expressed by scholars at the international level (44). This situation illustrates how national law is filling the legal void previously referred to. Nevertheless, which void does it precisely try to fill? The term “appropriation” appears in article II of the OST, alongside with the term “celestial body” which, in article I appears next to “free access”, “equality” and “benefit”. By association, it can be inferred that the States in favor of space commerce do not object to the idea of the extension of these principles to space resources. In this case, as space resources regulation seems to emanate from the national level, national antitrust measures constitute, (at the first stage) an adequate legal response, in parallel, to contain and monitor the risk of monopolization or other anti-competitive behavior in space (an international level field). Such measures could indeed be included within current and future national space legislation and enforce fair competition based on the OST principles. This could in turn generate enough momentum and critical mass to trigger an international framework and intensify harmonization efforts (at the second stage), especially with regards to the commercialization of the space sector.

#### Universal application of U.S. antitrust law has direct and indirect causal mechanisms that encourage conformity.

David Gerber 12, Distinguished Professor, Law, Chicago-Kent College of Law, Illinois Institute of Technology. President, American Society of Comparative Law, "US Antitrust Law: Models and Lens," in Global Competition: Law, Markets, and Globalization, Chapter 5, 2012, pg. 151-158. edited for OCR errors.

US law and US antitrust experience have played central roles in the development of competition law virtually everywhere, and they are central to global competition law development. The US system is often referred to as a ‘model,’ and this model role has shaped the dynamics of global competition law development. Many foreign officials and commentators assume that they should or must follow it.50 Others have been skeptical that it is appropriate for their own circumstances.

I hear use the term ‘model’ in a broad sense to refer to an identifiable set of legal principles and institutions to which others commonly refer. In this sense, US antitrust law is a model, because it is commonly referred to as such. As we shall see, a model can have many functions, and can be used in a variety of ways. As we investigate the role played by US antitrust, it is important to emphasize that its roles are typically based on perceptions and images rather than extensive knowledge of the US system. The term does not necessarily imply a positive assessment of the identified characteristics.

1. Distinguishing among roles

The US model plays several roles and performs several functions. Distinctions among them are seldom clearly drawn, but failure to make them can distort analysis of the dynamics of global competition law today as well as assessment of future policies. At a basic level, the US model is important because it is a common point of reference for virtually all who participate in the global competition law arena. Some have studied US antitrust formally, but most have merely picked up pieces of information about it. All have at least some idea of some of its features. This dimension of the US role often goes unnoticed, but it frames assessments of the US system and anchors assumptions about the directions of global competition law. It is important to identify such cognitive factors, because many are unaware of them, and thus their influence can easily be underestimated.

The US model’s role as a common reference point is associated with its role as a heuristic—a cognitive device for thinking about complicated issues. Basic images of US antitrust law often orient discussions of competition law issues and supply a language for those discussions. Discussions of global competition law often contain comments such as ‘we’re moving toward a US system’ or ‘this is like the US model.’ In this way, the US model simplifies and structures complex information and facilitates discussion of competition law issues among participants who may share few other points of reference.

Use of US antitrust as a shared point of reference easily blends into a related use in which it serves as a standard of comparison and a criterion for evaluating competition law systems. Comments such as ‘country X’s system is still immature or undeveloped in comparison to the US antitrust system’ are common. The assumption here is that the US system is not only a point of reference, but it also represents a better or more mature system that others should emulate.

The US model also plays more specifically normative roles. It is often used as a source of authority for claims about what competition law should be. In this use, a proponent of a particular viewpoint or decision in a foreign system seeks to strengthen [their] ~~her~~ argument by showing that [they are] ~~she is~~ advocating a position from US law. US antitrust law here represents a form of normative ‘authority’ that can be used to support claims in other antitrust systems. Similarity to the US system in and of itself supports such claims. No further argument is required. The low cost of arguments based on this type of authority makes them particularly attractive for use by those with limited resources and those for whom lack of experience or other constraints make more sophisticated analysis difficult.

Finally, US experience also serves as a source of data. Here the focus is on the evolution of the US model rather than on the model itself. The long history of US antitrust law makes it a valuable source of antitrust experience. Th ere is an unparalleled depth of judicial opinions spanning more than a century, and many contain far more material about the practices involved than is available in other systems. In addition, there is a rich body of scholarly writing about antitrust law, and it includes a wide variety of theoretical perspectives. Importantly, the material is available in English, and it is thus far more accessible than are other rich sources of competition law experience such as German experience in the twentieth century.

2. Evolution of the model’s functions

These functions are intertwined, and their relative importance has changed over time, generally paralleling the changing role of the US in global economic and political affairs in the twentieth century. As noted in chapter two, reviews of the US antitrust system prior to the Second World War tended to be negative, and they appear to have often been based on very little actual knowledge of the system. Comments often focused on the then ‘radical’ practice of prohibiting certain conduct that was deemed anticompetitive. European economic thinking and political realities made such a prohibition seem unwarranted and unrealistic. Moreover, the US prohibition system was portrayed as harmful, because it forced fi rms to merge rather than cooperate, thus intensifying the concentration of industry, a spectre that haunted Europe during the early decades of the twentieth century.

In the aftermath of the Second World War, European views changed dramatically. The US was now in a dominant position in the market-oriented part of the world, and it promoted antitrust as a tool for fostering democracy and peace and for generating wealth. Many forgot that there had been a different model of competition law in Europe in the 1920s, and they came to identify competition law with its US variant. Over the next forty years, the US model was effectively imposed on transnational markets, because its courts and institutions applied or threatened to apply US antitrust law anywhere, and US hegemony generally blunted resistance to its imposition. This meant that scholars, lawyers and officials involved with competition law throughout the world had little choice but to learn at least something about US antitrust law and to respect its potential impact.

The fall of the Soviet Union and the successes of the US economy in the 1990s opened another chapter in the evolution of this model role. The return of global markets and their new prominence brought renewed attention to competition law, and much of the attention underscored the model role of US antitrust law. US officials, lawyers and economists have taken leading roles in the internationalizing networks that have formed during this period. They have promulgated US antitrust thinking, touting it as an important factor in building economic progress and political stability in countries previously operating on non-market principles. Officials in the many new competition law systems have needed technical assistance, and the US has been willing and able to provide it. All of this reinforces the image of US antitrust as the ‘leader’ in the field.

3. Influences and incentives

Why have others sought to know, use and follow the US antitrust model? Isolating these factors allows us to assess their impact on current dynamics as well as on future strategies. One factor is the status of US antitrust as the oldest and best-established antitrust system in the world. This ‘father’ image itself tends to confer status and authority on it. A decision maker outside the US, particularly one with a little developed competition law, can often support a position or claim by identifying it as a borrowing from the world’s oldest and most ‘mature’ system. The claim is thereby sanctioned by time and experience. A more refined version of this claim is that the long history of US antitrust does not by itself justify its authority, but that US antitrust has undergone a long process of trial-and-error learning that has revealed mistakes and produced a better system. US writers are fond of using this latter version of the claim, and often fervently believe that US experiences in the 1950s and 1960s show the follies of older and less economically based versions of competition law.

US economic successes, particularly in the 1990s and early 2000s, created another set of incentives to follow the US model. For many, the soaring US economy of the period appeared to confirm the superiority of US economic policy. Antitrust is part of that economic policy package and thus derives status and authority from its success. Ideological factors have sometimes enhanced this attractiveness and augmented the authority it provides. US antitrust is a symbol of ‘US-style capitalism’ with its resistance to government interference with business, and thus those who support this view of the relationship between government and markets have tended to welcome and support the introduction of US antitrust principles and practices into their own systems. For almost two decades prior to the financial crisis that began in 2008, governments virtually everywhere sought to emulate at least portions of this policy package.

US antitrust law is often also seen as a surrogate for an international standard. Discussions of economic globalization often seek international standards, and this has been particularly prominent in discussions of competition law. A competition law decision maker can expect support for a claim to the extent that it represents ‘what the others are doing,’ i.e. an international standard. Although there is no international standard, many assume that US power will require that US antitrust law serve that function.

US economic and political power sometimes also directly supports the influence of US antitrust law. These issues are seldom discussed, but their influence can be extensive. One form of power is governmental. The US government has actively sought to influence the development of foreign systems. Sometimes this is overt and well-publicized, as, for example, during the early 1990s when the US government pressured the government of Japan to increase enforcement of its antitrust laws, thereby hoping to increase the access of US fi rms to the Japanese market. More commonly, pressure is exerted in the context of aid and technical assistance programs, where a country can expect to gain US support and/or assistance by conforming its conduct to the wishes of the US authorities.

Private power and influence play somewhat similar, less obvious, but potentially more pervasive roles. Here there is no direct use of governmental power. Instead, the power is ‘soft’—i.e., the capacity to induce others without coercion to make decisions that correspond to the interests of the private parties involved.51 One forum for this exercise of soft power is the international competition law conferences that have become increasingly common since the mid-1990s. These conferences provide fora where lawyers, economists and public officials present their views and experiences make contacts and often seek to influence each other. In these contexts, US officials and lawyers have played leading roles. They often host the most prestigious of these conferences, and they are often featured speakers.52 As a group, their prominence is based on many factors, including their experience in international competition law matters, the richness of US scholarship, and the practical importance of US antitrust enforcement throughout the world. US lawyers and economists also benefit from the weight and influence of the institutions with which they are associated. Especially since the 1990s, very large international law firms have formed, primarily to provide services to large, internationally-structured business firms. These firms often commit significant resources to influencing foreign decision makers to favor the interests of their clients. This creates incentives for lawyers, officials and economists from other countries to seek contacts with them for their own benefit, e.g., through the potential for client referrals and so on. Large multinational corporations represent a potentially significant source of income for lawyers and consultants in the competition law fi eld. Th ese factors can also influence the literature of antitrust.

E. US Antitrust Experience as a Lens: A Leader’s Perspective

US antitrust experience is also the lens through which members of the US antitrust community and many of those associated with it view transnational competition law issues and assess foreign antitrust laws. It is common for members of this community to assume that the US antitrust system is generally superior to others and that others should follow it, perhaps shorn of some of its inconsistencies and weaknesses (such as vestiges of classical-era case law thinking). The unique evolution of the US system and its relations with other competition law systems combine to shape these US attitudes. The lens they have shaped is the source of US confidence in competition law convergence as a strategy and the generally negative US views on multilateral commitment. We look briefly at the characteristics of this lens and the images it has shaped.

A key feature of the lens is its narrow focus. There have been few incentives in US antitrust experience to look at competition law broadly, i.e., to view US antitrust as just one competition law among many. US antitrust law officials, scholars and lawyers have seldom had occasion to look carefully at foreign competition law experiences or to learn from them. There is, for example, very little in-depth comparative law writing in the antitrust field and what there is typically suggests that US antitrust law should instruct others. The general tenor of US writing that deals with foreign systems is to point out their inadequacies in relation to US antitrust learning.

Related to this is a general tendency of the lens to exclude or marginalize political and social factors in considering antitrust law and its influence. US antitrust law is made by courts. In contrast to virtually all other competition law regimes, legislative influences have been minimal in its history, and thus there has been no vehicle for direct political influence. As a result, the US antitrust community pays primary attention to court decisions, which are generally less concerned with issues of political support.

Using this lens, members of the US antitrust community generally view the basic principles and approaches of US antitrust law with satisfaction, or at least as preferable to its alternatives. Few would consider it unblemished, but most consider it to be basically ‘right.’ The rapid victory of this economics-based conception of antitrust has imbued members of the US antitrust community with confidence that current US antitrust thinking provides the ‘right answers’ to basic antitrust questions. There is little in US experience that generates questions as to whether what is ‘right’ in the US is also ‘right for the rest of the world. It is a universalizing view of US antitrust law. When it is combined with the power and influence of the US it can easily appear to others as arrogance, whereas from within the US antitrust community it is just a ‘better way’ developed through hard won experience.

Confidence in the ‘superiority’ of US antitrust law is not new. It has long been common within the US antitrust community. US antitrust law was the first prominent antitrust system, and this long-ago accustomed member of the US antitrust community to seeing their system as the ‘father’ of modern competition law and to having it seen as such by others. This father image has tended to generate and support the impression that others do and should look to the US system for leadership.

Th is self-image was strengthened in the aftermath of the Second World War. Th e US promoted antitrust as part of its ‘mission’ to help democratize countries such as Germany and Japan and to spread market principles and democracy. Th is led many to forget that there had been a different model of competition law in Europe prior to the war. US antitrust law became the model for antitrust law. The missionary tenor of this message has had a lasting, if altered and reduced impact.

Th e reformulation of US antitrust philosophy that began in the 1970s strengthened the perception in the US antitrust community that US antitrust thinking had found the right answers to basic antitrust questions. It urged that an economics-based antitrust law was superior to earlier conceptions of antitrust law in which issues such as fairness and bigness had influenced decisions. In this image, US antitrust law has learned from its mistakes and now provides a convincing and analytically consistent basis for antitrust. This understanding of US antitrust experience leads many in US antitrust law to scorn forms of competition law in other countries that resemble those earlier US ‘mistakes.’ A common refrain is that ‘we did that, and we know that it doesn’t work.’ When this lens is applied internationally, it readily leads to the conclusion that foreign systems that are concerned with issues such as fairness that have been discredited in the US domestic context deserve limited respect.

The 1990s again spotlighted the leadership role of US antitrust. The US was prominent in providing technical assistance based on US experience, and since then US officials and lawyers have generally been in the forefront of discussions of transnational competition law in many areas of the world. All this reinforces the image of the US as the most prominent antitrust system, i.e., the ‘leader’ in the field.

Finally, the image that US law is ‘the right way’ to do antitrust gives members of the US antitrust community something to ‘sell.’ US lawyers, economists and officials (many of whom expect to return soon to private practice) have incentives to promote the superiority of the US approach.53 Where others adapt the US system, they will undoubtedly turn to the US for guidance and advice.

US antitrust law and experience have long been at the center of discussions about competition law. For those outside, US antitrust law has often been a point of reference for thinking about their own decisions. For those within US antitrust, US experience has been a lens for viewing and evaluating the decisions of others and thinking about the future of competition law on both national and transnational levels. The centrality of these roles makes US antitrust experience unique and exceptionally important. It can be of great value to others and to global competition law development, but it can also obstruct and distort that development.

There are two basic ways of looking at the relevance of US experience for other countries and for global competition law development. One is to see US experience as an evolutionary process that has produced a universally valid ‘best’ approach. Here the claim is that the US has experimented with competition law longer than have other systems; that ‘trial and error’ experience has led to the rejection of approaches that have been shown to be ineffective; and that this has led to a superior system that should be copied by others. In this view, US experience is relevant to all countries and should be the model for global competition law development. A second view asks whether US experience is specifically relevant to the development of competition law in other countries and for global development. Does US experience in setting goals and creating and maintaining institutions relate specifically to the problems and issues faced in developing competition law on a global level? Here the answer is that US experience can be of great value, but that it must be used with careful attention to its uniqueness.

#### Exemptions collapse Rule of the Road – those are necessary to a thriving space industry.

Larsen 18, Paul B. "Minimum International Norms for Managing Space Traffic, Space Debris, and Near Earth Object Impacts." J. Air L. & Com. 83 (2018): 739. (taught air and space law for more than 40 years respectively at Southern Methodist University and at Georgetown University. He is co-author of Lyall and Larsen, Space Law a Treatise (2ne edition Routledge 2017) and of Larsen, Sweeney and Gillick, Aviation Law.)//Miller

D. NON-GOVERNMENTAL ORGANIZATIONS AS MODELS FOR MINIMUM SPACE NORMS Space industry operators are concerned that national and international government-established operating norms may be too restrictive and may kill off the inventive start-up space business initiatives now appearing in the marketplace. No one state or non-governmental entity can appropriate or assert sovereignty over outer space. The Outer Space Treaty Article IX requires states to pay due regard to the corresponding activities of other states.218 But that requirement does not give one state regulatory authority over the business authorities of other states. Article IX merely requires appropriate international consultations.219 Individual space businesses need room to experiment.220 At the same time, they are concerned about the intense competition and the need for some basic safety and traffic rules. Another complication is that the competing space businesses are of different nationalities, and the space businesses authorized by one state may receive inadequate protection from their authorizing state against competing businesses authorized by another state. The nations have to coordinate in order to establish order and basic operating rules for non-sovereign outer space by voluntary agreement. Several operators have sought to join together in associations for their own protection and coordination. A good example is the Space Data Association, in which large space operators like Intelsat, SES, and Euelsat have joined with large manufacturers such as Airbus, and even some space agencies like NASA and the German DLR, to pool information about traffic in outer space.221 They have formed subcommittees on urgent issues such as safety, procedural developments, and interference with radio frequencies.222 However, the large number of small satellite operators have tended to form their own association representing New Space. It is recognized that industry standardsetting organizations, such as the International Standardization Organization (ISO),223 and the new space standardization organization, CONFERS,224 have important roles for setting product standards for the space industry. However, the norms needed for management of space traffic, space debris, and NEOs require minimum government coordination among the states to establish international uniformity. Several industry observers call for some kind of international policing of outer space.225 The private associations can only depend on the goodwill of their competitors in obeying and complying with association rules. Private associations have no inherent police powers for enforcement other than legal action for breach of contract.226 Enforcement of contracts may depend on national laws and on national courts that may favor domestic business over foreign business. Furthermore, associations may be restricted by national antitrust and anti-monopoly laws. Conflicting with the idea of operators working in unison for their common good is the proposition that space operators are basically in business for individual profit. Thus, an individual business may not be willing to sacrifice its profit motives for the sake of public safety. That becomes the nub of the question of whether to leave safety in outer space to be resolved by the non governmental entities: each of the operators will always be motivated by self-interest. A neutral policing authority would therefore be more acceptable to direct traffic than competing business operators. Importantly, the individual national governmental authorities do not have exclusive policing authority in outer space. The only effective solution is to establish international minimum operating norms for space debris generation, space traffic, and planetary defense. It appears that, for space business to succeed, international norms with adequate input from business operators will be the best solution for these urgent public safety problems for space business to succeed. Standards and norms are commercial necessities. They enable businesses to satisfy a larger market demand for their products and services. Some technical standards and norms can be established by the commercial interests without government involvement, but others require minimum governmental regulation and oversight. Space traffic norms will benefit business enterprises, but they require international coordination and policing to assure uniformity. Reduction and elimination of space debris is another activity that requires international coordination combined with national enforcement. Planetary defense against threatening NEOs is yet another area beyond the ability of commercial enterprises to control. These three space activities requiring minimum government safety norms will help businesses prosper and allow space exploration to continue.

### 1AC – Space Law

#### International space law isn’t equipped for the privatization of space BUT US-led space antitrust checks its erosion AND allows for international harmonization

Maria Lucas-Rhimbassen 21, Research Associate at the Chaire SIRIUS (Space Institute for Researches on Innovative Usages of Satellites) at the University of Toulouse, J.D. from Moncton University, Certificate in Strategic Space Law from McGill University, PhD Candidate in Space Law at the University of Toulouse; Dr. Lucien Rapp, Affiliate Professor at the HEC Paris School of Law, Head of the SIRIUS at the University of Toulouse, “New Space Property Age: At the Crossroads of Space Commons, Commodities and Competition,” August 2021, Journal of Property, Planning, and Environmental Law, Vol. 13, p. 100-101

11. Discussion

Traditionally, international space law, as opposed to national space law, is not equipped to deal directly with the private sector. However, antitrust has the tools to do so. The broader range of space antitrust might help delve further down into the elusive and transnational commercial law, which is likely to accelerate in the near future and multiply interest around the commodification of the space market. As suggested throughout this paper, space concentration, leading to monopolies, is a likely outcome of the further development of space commerce. To mitigate the risks of monopolization, collusive and of other anti-competitive behavior, especially when considering the particular nature of space resources, to be exchanged on the emerging space-based market – including the complex and specialized services attendant thereto – special ethical and legal safeguards must be put in place to incentivize competition while containing the risks of fragmentation mentioned previously.

This is important to enable a healthy expansion of the ecosystem. Our emphasis on the market forces at play is rooted in the assumption that through the observation of the current trends of commercialization and of the growing number of non-traditional actors (either public or private) stemming from old and from new space-faring nations, it is easier to anticipate risk and to provide supporting regulatory proposals.

Our suggested approach toward an adaptive and polycentric governance model attempts to resolve some of these challenges, by allowing for a bottom-up framework that fosters commercialization, to surface organically, from the players, with minimal outside intervention. Our goal is to prevent the risk of privatization and commercialization that might gradually erode the ethical principles of international space law. To use the analogy of the carrot and the stick in striking a balance between regulatory intervention and free initiative, we prefer the carrot approach. Incentivizing the private sector to compete around ethically balanced markets has the potential to unlock new and unforeseen forces of antitrust in space to channel the fragmentation of forces in a sustainable manner while ensuring the respect of the conventional set of ethical principles to which many corporations already subscribe to in the context of their corporate compliance programs. Here we would an additional layer of space law higher ethical principles (such as enumerated supra) and investigate into further incentivizing soft law implementations. These higher principles are rooted in system interconnectivity and complexity, and have direct consequences on life, planetary protection, environmental aspects, intergenerational equity, etc. In approaching these issues through the angle of antitrust, we argue that antitrust is bound to evolve and to adapt, both in Space and on Earth. Furthermore, a broad space antitrust scope might also benefit from polycentric governance when concrete self-determination claims would manifest, such as Elon Musk’s self-governing principles on Mars. Any future space colonies (or settlements) would either rely on their own resources or would depend on the import and the export of resources, and therefore, on resource commodification. It then follows that having an ethical space antitrust regime well in place appears as a foreseeable necessity. An ethical space antitrust should also consider non-market factors such as the potential new rights granted to specific resources and regulate accordingly (e.g. the equivalent in space of legal rights to natural resources, etc.). Without such an ethical regime framework harnessing uncoordinated competitive forces, one possible outcome would be the dystopia described by Andy Weir’ Artemis economy on the Moon based on “soft landing grams” credits directly applied to one’s consumption of oxygen. A bleak perspective. Finally, antitrust is an adequate response to space property and resources, as property law is, at its basis, domestic law and so is competition law. They can evolve in parallel in the space sector and merge into an international framework, adapted to the international space law forum. There is no internationally harmonized antitrust framework as of this writing, except non-binding UN guidelines. Perhaps, a “space antitrust” would help bridge that gap and contribute to reducing growing issues such as “forum shopping,” fragmentation and “conflict of laws.”

12. Limitations and further research

While this paper is at the exploratory level, further research is necessary in determining the scope of antitrust in space, property and commodities and how ethics can play a role specifically, at the implementation level. Case studies should be conducted with a clear methodology. Moreover, the research must include other financial aspects such as spacebased assets and securities, notably the Space Assets Protocol of the UNIDROIT Cape Town Convention. Finally, more work must be done in terms of international/transnational recommendations for antitrust, as there is no internationally harmonized antitrust governance or regime and it remains heavily politicized – or not enough, depending on the school of thought (Teachout, 2020, p. 212).

13. Conclusion

This paper explored a roadmap into managing fragmentation triggered by the accelerated development of the outer space ecosystem and the rise in non-traditional space actors, be they public or private. International space law no longer suffices to cope with all the new actors, and therefore, transnational alternates are recommended. This paper recommends a transformed antitrust regime, adapted to space, based on the corpus juris spatialis ethics. This could help preventing the risk of space law erosion while privatization and commercialization of space are trending and potentially leading to the commodification of the space market and ecosystem, while space lawyers are still debating internationally as per the principle of non-appropriation and as per what a “space object” should consist of and what property rights could be applicable in space. An interdisciplinary approach could prove very helpful to address this problem. For instance, E. Ostrom’s work on classifying the goods into four categories from an economic standpoint might help space lawyers into classifying space goods once and for all and this could serve as a catalyst for polycentric space governance, governed inter alia, by competing forces. However, these competing forces should rather be seen as the dark matter in a space ecosystem, enabling sustainable synergies and interactions, with intergenerational equity in mind. This would be essential to avoid unregulated speculation based on space commodities, which could prove to be more detrimental in such an extreme environment as space. For instance, speculation benefits from climate change impact on crops and other commodities on Earth. We are all too familiar with the consequences. Imagine what space weather-based speculation could do in space. It could obliterate entire economies at once. One could argue that either space antitrust monitors the space commoditization closely, either space derivatives should be significantly regulated.

#### Antitrust harmonization prevents extinction from resource depletion, human rights abuse, and war

Geoffrey A. Manne 13, Lecturer in Law at Lewis & Clark Law School, Executive Director of the International Center for Law & Economics, JD from the University of Chicago Law School, Former Olin Fellow at the University of Virginia School of Law, and Dr. Seth Weinberger, PhD and MA in Political Science from Duke University, MA in National Security Studies from Georgetown University, AB from the University of Chicago, Associate Professor in the Department of Politics and Government at the University of Puget Sound, “International Signals: The Political Dimension of International Competition Law”, The Antitrust Bulletin, Volume 57, Number 3, Last Revised 7/18/2013, p. 497-503

A. The international political environment

At the root of international political theory is the fundamental maxim that relations between sovereign nations in the absence of mitigating factors is characterized by intense competition, mutual distrust, the inability to make credible commitments, and war.20

[FOOTNOTE] 20 Political scientists characterize the international system as “anarchic.” In the absence of world government (or other mitigating force), competition between states is largely unregulated by external laws or enforcement. The world is characterized by mistrust, the inability to contract, and the ultimate reliance on a state’s own devices. See THOMAS HOBBES, LEVIATHAN 80 (Edwin Curley ed., 1994) (in the state of nature “the condition of man . . . is a condition of war of everyone against everyone”). In fuller terms:

There is no authoritative allocator of resources: we cannot talk about a ‘world society’ making decisions about economic outcomes. No consistent and enforceable set of comprehensive rules exists. If actors are to improve their welfare through coordinating their policies, they must do so through bargaining rather than by invoking central direction. In world politics, uncertainty is rife, making agreements is difficult, and no secure barriers prevent military and security questions from impinging on economic affairs.

ROBERT O. KEOHANE, AFTER HEGEMONY: COOPERATION AND DISCORD IN THE WORLD POLITICAL ECONOMY 18 (1984). Efficiency-enhancing gains from trade are difficult to appropriate because trade itself (and any other form of exchange or agreement between nations) is characterized by the absence of credible commitments to future behavior. And underlying the problem is the ever-present threat of the use of force. See, e.g., Kenneth N. Waltz, Anarchic Orders and Balances of Power, in NEOREALISM AND ITS CRITICS 98, 98 (Robert O. Keohane ed. 1986) (“The state among states . . . conducts its affairs in the brooding shadow of violence . . . . Among states, the state of nature is a state of war.”). Although this dire characterization of the international environment is, of course, a stylized approximation of the real world—there are always overlying constraints on sovereign behavior in the form of norms, reputational effects, and customary international law, HEDLEY BULL, THE ANARCHICAL SOCIETY: A STUDY OF ORDER IN WORLD POLITICS (1977)—it is a useful and widely accepted heuristic for crafting a theory of international politics. [END FOOTNOTE]

As one commentator notes, “Nations dwell in perpetual anarchy, for no central authority imposes limits on the pursuit of sovereign interests.”21 And states are “unitary actors who, at a minimum, seek their own preservation and, at a maximum, drive for universal domination.”22 As a result, states operating on the international stage are unable to judge the sincerity of each others’ stated intentions when those intentions are contrary to this manifest interest. Because of self-help rules, states are forced in the main to assess their own security environment by assessing the capabilities of competitors, downplaying their motives. Given that the nature of the competition can implicate the fundamental survival of one (or more) of the actors, actions taken by one state to improve its own security must necessarily decrease the security of its competitor; in the absence of mitigation, security is a zero-sum game.23 In a world where cooperation is exceedingly difficult (because there is no authority to enforce agreements, nor any basis for assessing the reliability of another state’s commitments), international relations are characterized by a continuous race to the bottom, a mindless arms race rather than the opportunity to realize gains from cooperation.

It is obvious that not all relations between states are characterized by the security dilemma, however. Canada, for example, shares an unprotected border with the most powerful nation in the world without degenerating into a destructive and costly arms race. By some mechanism, then, Canada must be able reliably to judge U.S. intentions, even absent the apparent ability by the United States credibly to bind itself to a nonaggressive policy toward Canada. The key to mitigating the pressures of the security dilemma is the ability to distinguish a state with aggressive and expansionist tendencies from a benign one.24 States can be distinguished by their fundamental type. They can be classified as “revisionist,” that is, they seek to subvert the dominant order, or they can be classified as “status quo,” that is, they seek to support it.25 But, as noted, a state’s ability to judge another’s intentions (as opposed simply to counting its armaments) is extremely tenuous and comes at great cost. In fact, political science offers few well-understood mechanisms for judging a state’s propensity for aggression.

At the same time, hegemonic states have an abiding interest in spreading and maintaining their dominant worldview.26 Not only is it imperative that dominant states receive credible signals about other states’ intentions, but it is also important that dominant states attempt to inculcate their norms within other states that, over time, might mount credible challenges to the dominant states’ security.27 The spread of hegemony through internalization of norms occurs for three reasons. First, states with similar institutions and sympathetic domestic norms are simply better and more reliable trading partners, and it is in the hegemon’s economic interest to instill its norms.28 Second, states with defensive military postures and that adhere to the status quo present significantly less security risk to dominant states.29 And finally, the hegemon has a normative interest in the spread of its culture, its worldview, and its norms.30 This conception of the playing field upon which states interact leads to the conclusion that, entirely apart from the immediate and substantial economic benefits to a state from well-ordered interactions with other states, hegemonic states also have a national security and a normative interest in the information to be gleaned from the fact that these interactions are, in fact, well ordered.

In the absence of centralized enforcement, privately held and nonverifiable information as to a state’s fundamental type is the critical problem in assessing motives.31

[FOOTNOTE] 31 See KEOHANE, supra note 20, at 31 (“Order in world politics is typically created by a single dominant power [or hegemon].”). States are consequently classified as one of two types, “revisionist” or “status quo,” based on their acceptance and adherence to the political norms, institutions, and rules created by the hegemon. Status quo states are those that try to improve their condition from within the framework of the accepted world order. Revisionist states, by contrast, seek to gain position both by working outside that order and by working to subvert the hegemonic order itself. For instance, the existing world order is generally accepted to be that created by the United States after World War II. It comprises a liberal international economic order, the use of multilateral institutions (such as the United Nations and the WTO), negotiation for dispute resolution rather than the threat of violence, and the promotion of liberal democratic moral norms. See, e.g., Schweller, supra note 24, at 85; HANS J. MORGENTHAU, POLITICS AMONG NATIONS: THE STRUGGLE FOR POWER AND PEACE 32 (1948). Trade disputes between status quo states (like tariff disputes between the United States and Europe) are resolved through peaceful negotiation rather than the threat of war. Although status quo states do not entirely eschew the use of violence, they typically seek international authorization and legitimization before employing military force, as in the multilateral operations in Iraq, Kosovo, and Afghanistan. Revisionist states, on the other hand, such as North Korea, Iran, and China, will more readily use military force as a bargaining tool and are more reluctant fully to participate in transparent military, economic, and political negotiations. [END FOOTNOTE]

States wishing to escape the pressures of the security dilemma and engage in cooperative behavior need a means of conveying their preferences to others in a credible manner. There are, in general, two means by which such information can be transmitted: states can either bind themselves in such a way that they are unable to deviate from a stated behavior (known as “hands tying” in Schelling),32 or they can signal their intention to engage in a specified course of action by incurring costs sufficiently large that they discourage the misrepresentation of preference.33

International institutions can play a crucial role in facilitating the transmission of this information.34 In particular, international agreements over the terms of trade, even without binding supranational enforcement authority, provide a means for states to bind themselves to a desirable course of behavior in the short run and, more importantly, to signal their acquiescence to the ruling world order in the long run. Because compliance with treaty obligations often requires signatories to alter their domestic laws to reflect the terms of the treaty, the costs of compliance can be substantial. In the short run, to the extent that states enforce their domestic laws they can bind themselves to a certain course of behavior. In the long run, a state’s willingness to incur the substantial costs of changing its laws, both the transaction costs inherent in changing domestic laws and the even more substantial costs in domestic political capital, signals a willingness to engage other states on the terms set by the reigning international power. Moreover, there may be unintended effects, as changes in domestic laws result in a new set of domestic incentives to which actors respond, and new windows of opportunity may open up through which policy entrepreneurs can push for the internalization of new norms.35 Competition laws in particular are susceptible to this mode of analysis.

Most nations have adopted competition laws as a way to actualize (as well as to symbolize) a degree of commitment to the competitive process and to the prevention of abusive business practices . . . . The introduction of competition laws and policies has also gone hand in hand with economic deregulation, regulatory reform, and the end of command and control economies.36

The surest way to remove the threat of war, increase wealth, conserve resources, and protect human rights is through fundamental agreement between all states (or at least effective agreement between verifiably status quo states) under a normative umbrella that promotes all of those values. This normative convergence can be effected through the stepwise internalization of the sorts of economic and democratic values inherent in international economic liberalization, perhaps most notably through the adoption of principled international antitrust standards.37

#### Space dominance solves civilization-ending revisionist aggression from Russia and China.

Dr. Robert Zubrin 19, Masters in Aeronautics and Astronautics and Ph.D. in Nuclear Engineering from the University of Washington, President of Pioneer Energy, Founder and President of the Mars Society, Senior Fellow with the Center for Security Policy, The Case for Space: How the Revolution in Spaceflight Opens Up a Future of Limitless Possibility, p. Google Books

The United States needs a new national security policy. For the first time in more than 60 years, we face the real possibility of a large-scale conventional war, and we are woefully unprepared.

Eastern and Central Europe is now so weakly defended as to virtually invite invasion. The United States is not about to go to nuclear war to defend any foreign country. So deterrence is dead, and, with the German army cut from 12 divisions to three, the British gone from the continent, and American forces down to a 30,000-troop tankless remnant, the only serious and committed ground force that stands between Russia and the Rhine is the Polish army. It’s not enough. Meanwhile, in Asia, the powerful growth of the Chinese economy promises that nation eventual overwhelming numerical force superiority in the region.

How can we restore the balance, creating a sufficiently powerful conventional force to deter aggression? It won’t be by matching potential adversaries tank for tank, division for division, replacement for replacement. Rather, the United States must seek to totally outgun them by obtaining a radical technological advantage. This can be done by achieving space supremacy.

To grasp the importance of space power, some historical perspective is required. Wars are fought for control of territory. Yet for thousands of years, victory on land has frequently been determined by dominance at sea. In the 20th century, victory on both land and sea almost invariably went to the power that controlled the air. In the 21st century, victory on land, sea or in the air will go to the power that controls space.

The critical military importance of space has been obscured by the fact that in the period since the United States has had space assets, all of our wars have been fought against minor powers that we could have defeated without them. Desert Storm has been called the first space war, because the allied forces made extensive use of GPS navigation satellites. However, if they had no such technology at their disposal, the end result would have been just the same. This has given some the impression that space forces are just a frill to real military power — a useful and convenient frill perhaps, but a frill nevertheless.

But consider how history might have changed had the Axis of World War II possessed reconnaissance satellites — merely one of many of today’s space-based assets — without the Allies having a matching capability. In that case, the Battle of the Atlantic would have gone to the U-boats, as they would have had infallible intelligence on the location of every convoy. Cut off from oil and other supplies, Britain would have fallen. On the Eastern front, every Soviet tank concentration would have been spotted in advance and wiped out by German air power, as would any surviving British ships or tanks in the Mediterranean and North Africa. In the Pacific, the battle of Midway would have gone very much the other way, as the Japanese would not have wasted their first deadly airstrike on the unsinkable island, but sunk the American carriers instead. With these gone, the remaining cruisers and destroyers in Adm. Frank Jack Fletcher’s fleet would have lacked air cover, and every one of them would have been hunted down and sunk by unopposed and omniscient Japanese air power. With the same certain fate awaiting any American ships that dared venture forth from the West Coast, Hawaii, Australia and New Zealand would then have fallen, and eventually China and India as well. With a monopoly of just one element of space power, the Axis would have won the war.

But modern space power involves far more than just reconnaissance satellites. The use of space-based GPS can endow munitions with 100 times greater accuracy, while space-based communications provide an unmatched capability of command and control of forces. Knock out the enemy’s reconnaissance satellites and he is effectively blind. Knock out his comsats and he is deaf. Knock out his navsats and he loses his aim. In any serious future conventional conflict, even between opponents as mismatched as Japan was against the United States — or Poland (with 1,000 tanks) is currently against Russia (with 12,000) — it is space power that will prove decisive.

Not only Europe, but the defense of the entire free world hangs upon this matter. For the past 70 years, U.S. Navy carrier task forces have controlled the world’s oceans, first making and then keeping the Pax Americana, which has done so much to secure and advance the human condition over the postwar period. But should there ever be another major conflict, an adversary possessing the ability to locate and target those carriers from space would be able to wipe them out with the push of a button. For this reason, it is imperative that the United States possess space capabilities that are so robust as to not only assure our own ability to operate in and through space, but also be able to comprehensively deny it to others.

*Space superiority* means having better space assets than an opponent. Space supremacy means being able to assert a complete monopoly of such capabilities. The latter is what we must have. If the United States can gain space supremacy, then the capability of any American ally can be multiplied by orders of magnitude, and with the support of the similarly multiplied striking power of our own land- and sea-based air and missile forces be made so formidable as to render any conventional attack unthinkable. On the other hand, should we fail to do so, we will remain so vulnerable as to increasingly invite aggression by ever-more-emboldened revanchist powers.

For this reason, both Russia and China have been developing and actively testing antisatellite (ASAT) systems. Up till now, the systems they have been testing have been ground launched, designed to orbit a few times and then collide with and destroy targets below one thousand kilometers altitude. This is sufficient to take out our reconnaissance satellites but not our GPS and communications satellites, which fly at twenty thousand and thirty-six thousand kilometers respectively. However, the means to reach these are straightforward, and, given their critical importance to us, there is every reason to believe that such development is well underway.11

The Obama administration sought to dissuade adversaries from developing ASATs by setting a good example and not working on them ourselves. This approach has failed. As a consequence, many defense policy makers are now advocating that we move aggressively to develop ASATs of our own. While more hardheaded than the previous policy, such an approach remains entirely inadequate to the situation.

The United States armed forces are far more dependent upon space assets than any potential opponent. Were both sides in a conflict able to destroy the space assets of the other, we would be the overwhelming loser by the exchange.

#### Alternatives to U.S. global power cause nuclear war.

Hal Brands 18. Henry A. Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins University School of Advanced International Studies, Senior Fellow at the Center for Strategic and Budgetary Assessments and the Foreign Policy Research Institute, Ph.D. in history from Yale University. “Chapter 6: Does America Have Enough Hard Power?” American Grand Strategy in the Age of Trump; pp. 129-133.

Much contemporary commentary favors the first option—reducing commitments—and denounces the third as financially ruinous and perhaps impossible.5 Yet significantly expanding American capabilities would not be nearly as economically onerous as it may seem. Compared to the alternatives, in fact, this approach represents the best option for sustaining American primacy and preventing a slide into strategic bankruptcy that will eventually be punished. Since World War II, the United States has had a military second to none. Since the Cold War, America has committed to having overwhelming military primacy. The idea, as George W. Bush declared in 2002, that America must possess “strengths beyond challenge” has featured in every major U.S. strategy document for a quarter century; it has also been reflected in concrete terms.6 From the early 1990s, for example, the United States consistently accounted for around 35 to 45 percent of world defense spending and maintained peerless global power-projection capabilities.7 Perhaps more important, U.S. primacy was also unrivaled in key overseas strategic regions—Europe, East Asia, the Middle East. From thrashing Saddam Hussein’s million-man Iraqi military during Operation Desert Storm, to deploying—with impunity—two carrier strike groups off Taiwan during the China-Taiwan crisis of 1995– 96, Washington has been able to project military power superior to anything a regional rival could employ even on its own geopolitical doorstep. This military dominance has constituted the hard-power backbone of an ambitious global strategy. After the Cold War, U.S. policymakers committed to averting a return to the unstable multipolarity of earlier eras, and to perpetuating the more favorable unipolar order. They committed to building on the successes of the postwar era by further advancing liberal political values and an open international economy, and to suppressing international scourges such as rogue states, nuclear proliferation, and catastrophic terrorism. And because they recognized that military force remained the ultima ratio regum, they understood the centrality of military preponderance. Washington would need the military power necessary to underwrite worldwide alliance commitments. It would have to preserve substantial overmatch versus any potential great-power rival. It must be able to answer the sharpest challenges to the international system, such as Saddam’s invasion of Kuwait in 1990 or jihadist extremism after 9/11. Finally, because prevailing global norms generally reflect hard-power realities, America would need the superiority to assure that its own values remained ascendant. It was impolitic to say that U.S. strategy and the international order required “strengths beyond challenge,” but it was not at all inaccurate. American primacy, moreover, was eminently affordable. At the height of the Cold War, the United States spent over 12 percent of GDP on defense. Since the mid-1990s, the number has usually been between 3 and 4 percent.8 In a historically favorable international environment, Washington could enjoy primacy—and its geopolitical fruits—on the cheap. Yet U.S. strategy also heeded, at least until recently, the fact that there was a limit to how cheaply that primacy could be had. The American military did shrink significantly during the 1990s, but U.S. officials understood that if Washington cut back too far, its primacy would erode to a point where it ceased to deliver its geopolitical benefits. Alliances would lose credibility; the stability of key regions would be eroded; rivals would be emboldened; international crises would go unaddressed. American primacy was thus like a reasonably priced insurance policy. It required nontrivial expenditures, but protected against far costlier outcomes.9 Washington paid its insurance premiums for two decades after the Cold War. But more recently American primacy and strategic solvency have been imperiled. THE DARKENING HORIZON For most of the post–Cold War era, the international system was— by historical standards—remarkably benign. Dangers existed, and as the terrorist attacks of September 11, 2001, demonstrated, they could manifest with horrific effect. But for two decades after the Soviet collapse, the world was characterized by remarkably low levels of great-power competition, high levels of security in key theaters such as Europe and East Asia, and the comparative weakness of those “rogue” actors—Iran, Iraq, North Korea, al-Qaeda—who most aggressively challenged American power. During the 1990s, some observers even spoke of a “strategic pause,” the idea being that the end of the Cold War had afforded the United States a respite from normal levels of geopolitical danger and competition. Now, however, the strategic horizon is darkening, due to four factors. First, great-power military competition is back. The world’s two leading authoritarian powers—China and Russia—are seeking regional hegemony, contesting global norms such as nonaggression and freedom of navigation, and developing the military punch to underwrite these ambitions. Notwithstanding severe economic and demographic problems, Russia has conducted a major military modernization emphasizing nuclear weapons, high-end conventional capabilities, and rapid-deployment and special operations forces— and utilized many of these capabilities in conflicts in Ukraine and Syria.10 China, meanwhile, has carried out a buildup of historic proportions, with constant-dollar defense outlays rising from US$26 billion in 1995 to US$226 billion in 2016.11 Ominously, these expenditures have funded development of power-projection and antiaccess/area denial (A2/AD) tools necessary to threaten China’s neighbors and complicate U.S. intervention on their behalf. Washington has grown accustomed to having a generational military lead; Russian and Chinese modernization efforts are now creating a far more competitive environment. Second, the international outlaws are no longer so weak. North Korea’s conventional forces have atrophied, but it has amassed a growing nuclear arsenal and is developing an intercontinental delivery capability that will soon allow it to threaten not just America’s regional allies but also the continental United States.12 Iran remains a nuclear threshold state, one that continues to develop ballistic missiles and A2/AD capabilities while employing sectarian and proxy forces across the Middle East. The Islamic State, for its part, is headed for defeat, but has displayed military capabilities unprecedented for any terrorist group, and shown that counterterrorism will continue to place significant operational demands on U.S. forces whether in this context or in others. Rogue actors have long preoccupied American planners, but the rogues are now more capable than at any time in decades. Third, the democratization of technology has allowed more actors to contest American superiority in dangerous ways. The spread of antisatellite and cyberwarfare capabilities; the proliferation of man-portable air defense systems and ballistic missiles; the increasing availability of key elements of the precision-strike complex— these phenomena have had a military leveling effect by giving weaker actors capabilities which were formerly unique to technologically advanced states. As such technologies “proliferate worldwide,” Air Force Chief of Staff General David Goldfein commented in 2016, “the technology and capability gaps between America and our adversaries are closing dangerously fast.”13 Indeed, as these capabilities spread, fourth-generation systems (such as F-15s and F-16s) may provide decreasing utility against even non-great-power competitors, and far more fifth-generation capabilities may be needed to perpetuate American overmatch. Finally, the number of challenges has multiplied. During the 1990s and early 2000s, Washington faced rogue states and jihadist extremism—but not intense great-power rivalry. America faced conflicts in the Middle East—but East Asia and Europe were comparatively secure. Now, the old threats still exist—but the more permissive conditions have vanished. The United States confronts rogue states, lethal jihadist organizations, and great-power competition; there are severe challenges in all three Eurasian theaters. “I don’t recall a time when we have been confronted with a more diverse array of threats, whether it’s the nation state threats posed by Russia and China and particularly their substantial nuclear capabilities, or non-nation states of the likes of ISIL, Al Qaida, etc.,” Director of National Intelligence James Clapper commented in 2016. Trends in the strategic landscape constituted a veritable “litany of doom.”14 The United States thus faces not just more significant, but also more numerous, challenges to its military dominance than it has for at least a quarter century.

#### Nuke war causes extinction AND outweighs other existential risks

PND 16. internally citing Zbigniew Brzezinski, Council of Foreign Relations and former national security adviser to President Carter, Toon and Robock’s 2012 study on nuclear winter in the Bulletin of Atomic Scientists, Gareth Evans’ International Commission on Nuclear Non-proliferation and Disarmament Report, Congressional EMP studies, studies on nuclear winter by Seth Baum of the Global Catastrophic Risk Institute and Martin Hellman of Stanford University, and U.S. and Russian former Defense Secretaries and former heads of nuclear missile forces, brief submitted to the United Nations General Assembly, Open-Ended Working Group on nuclear risks. A/AC.286/NGO/13. 05-03-2016. <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/OEWG/2016/Documents/NGO13.pdf> //Re-cut by Elmer

Consequences human survival 12. Even if the 'other' side does NOT launch in response the smoke from 'their' burning cities (incinerated by 'us') will still make 'our' country (and the rest of the world) uninhabitable, potentially inducing global famine lasting up to decades. Toon and Robock note in ‘Self Assured Destruction’, in the Bulletin of Atomic Scientists 68/5, 2012, that: 13. “A nuclear war between Russia and the United States, even after the arsenal reductions planned under New START, could produce a nuclear winter. Hence, an attack by either side could be suicidal, resulting in self assured destruction. Even a 'small' nuclear war between India and Pakistan, with each country detonating 50 Hiroshima-size atom bombs--only about 0.03 percent of the global nuclear arsenal's explosive power--as air bursts in urban areas, could produce so much smoke that temperatures would fall below those of the Little Ice Age of the fourteenth to nineteenth centuries, shortening the growing season around the world and threatening the global food supply. Furthermore, there would be massive ozone depletion, allowing more ultraviolet radiation to reach Earth's surface. Recent studies predict that agricultural production in parts of the United States and China would decline by about **20 percent** for four years, and by 10 percent for a decade.” 14. A conflagration involving USA/NATO forces and those of Russian federation would most likely cause the deaths of most/nearly all/all humans (and severely impact/extinguish other species) as well as destroying the delicate interwoven techno-structure on which latter-day 'civilization' has come to depend. Temperatures would drop to below those of the last ice-age for up to 30 years as a result of the lofting of up to 180 million tonnes of very black soot into the stratosphere where it would remain for decades. 15. Though human ingenuity and resilience shouldn't be underestimated, human survival itself is arguably problematic, to put it mildly, under a 2000+ warhead USA/Russian federation scenario. 16. The Joint Statement on Catastrophic Humanitarian Consequences signed October 2013 by 146 governments mentioned 'Human Survival' no less than 5 times. The most recent (December 2014) one gives it a highly prominent place. Gareth Evans’ ICNND (International Commission on Nuclear Non-proliferation and Disarmament) Report made it clear that it saw the threat posed by nuclear weapons use as one that at least threatens what we now call 'civilization' and that potentially threatens human survival with an immediacy that even climate change does not, though we can see the results of climate change here and now and of course the immediate post-nuclear results for Hiroshima and Nagasaki as well.

#### Pursuit inevitable – decline causes global war.

Michael Beckley 15. Michael Beckley is a research fellow in the International Security Program at Harvard Kennedy School’s Belfer Center for Science and International Affairs., “The Myth of Entangling Alliances Michael Beckley Reassessing the Security Risks of U.S. Defense Pacts”, <http://live.belfercenter.org/files/IS3904_pp007-048.pdf>

The finding that U.S. entanglement is rare has important implications for international relations scholarship and U.S. foreign policy. For scholars, it casts doubt on classic theories of imperial overstretch in which great powers exhaust their resources by accumulating allies that free ride on their protection and embroil them in military quagmires.22 The U.S. experience instead suggests that great powers can dictate the terms of their security commitments and that allies often help their great power protectors avoid strategic overextension.

For policy, the rarity of U.S. entanglement suggests that the United States’ current grand strategy of deep engagement, which is centered on a network of standing alliances, does not preclude, and may even facilitate, U.S. military restraint. Since 1945 the United States has been, by some measures, the most militarily active state in the world. The most egregious cases of U.S. overreach, however, have stemmed not from entangling alliances, but from the penchant of American leaders to define national interests expansively, to overestimate the magnitude of foreign threats, and to underestimate the costs of military intervention. Scrapping alliances will not correct these bad habits. In fact, disengaging from alliances may unleash the United States to intervene recklessly abroad while leaving it without partners to share the burden when those interventions go awry.

#### Education about military strategy is good – it’s key to military effectiveness and humanitarian missions that outweigh.

Toronto 15 [Dr. Nathan W. Toronto is an associate professor of Strategy and Security Studies at the United Arab Emirates National Defense College. 5/26. "Does Military Education Matter?" https://www.e-ir.info/2015/05/26/does-military-education-matter/]

Military education is valuable because it provides an intellectual architecture for battlefield success. It contributes to stable civil-military relations, a culture of reflection, and a capacity for critical analysis. This article specifies these conceptual links between military education and battlefield success, and then suggests statistical correlations linking military education and battlefield success. The main point of this exercise is that questioning the purpose of military education is like questioning the purpose of education, period. National education systems are chock full of students who think they are taking useless general education classes, just as there will always be officers who question why they have to go to military schools. The reason is that, regardless of what people do, education helps them do it better. Military education matters because it cultivates an aspiration to excellence.

This is especially true for military education, because the military usually only has to fix things when they are truly broken, like combating Ebola in West Africa, battling Islamic State, or conducting humanitarian aid and disaster relief operations. We do not give the military the easy problems. We give them the hardest possible problems we can find. What is more, we cannot even predict what those problems will be, much less devise solutions to them ahead of time. For military organizations, which often thrive on predictability and routine, this is the most challenging aspect of the job (Dempsey, 2012; Bruscino, 2013).

This nettlesome environment requires a daunting command of everything from book-learned knowledge of history and social science to hard-won experience from the world’s remotest battlefields and military headquarters. Military officers get this through their education, not only by being exposed to new ideas in the classroom, but also by reflecting on their experience in new ways. Military education becomes a ‘force multiplier,’ meaning that it magnifies the positives in what the military is already doing (Lamb and Porro, 2014). However, war is complex. It will always be the province of reason and passion and chance (Clausewitz, 1989[1832]), so it is unreasonable to expect that more military education will always lead to more military success. This article proposes reasons why military education is related to military success, but the claim is probabilistic. Military education is not an insurance policy against failure, but it is likely to establish the conditions for military success.

### 1AC – Framework

#### Pleasure and pain are intrinsic valuable and invaluable – everything else regresses – robust neuroscience.

Blum et al. 18

Kenneth Blum, 1Department of Psychiatry, Boonshoft School of Medicine, Dayton VA Medical Center, Wright State University, Dayton, OH, USA 2Department of Psychiatry, McKnight Brain Institute, University of Florida College of Medicine, Gainesville, FL, USA 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA 5Department of Precision Medicine, Geneus Health LLC, San Antonio, TX, USA 6Department of Addiction Research & Therapy, Nupathways Inc., Innsbrook, MO, USA 7Department of Clinical Neurology, Path Foundation, New York, NY, USA 8Division of Neuroscience-Based Addiction Therapy, The Shores Treatment & Recovery Center, Port Saint Lucie, FL, USA 9Institute of Psychology, Eötvös Loránd University, Budapest, Hungary 10Division of Addiction Research, Dominion Diagnostics, LLC. North Kingston, RI, USA 11Victory Nutrition International, Lederach, PA., USA 12National Human Genome Center at Howard University, Washington, DC., USA, Marjorie Gondré-Lewis, 12National Human Genome Center at Howard University, Washington, DC., USA 13Departments of Anatomy and Psychiatry, Howard University College of Medicine, Washington, DC US, Bruce Steinberg, 4Division of Applied Clinical Research & Education, Dominion Diagnostics, LLC, North Kingstown, RI, USA, Igor Elman, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, David Baron, 3Department of Psychiatry and Behavioral Sciences, Keck Medicine University of Southern California, Los Angeles, CA, USA, Edward J Modestino, 14Department of Psychology, Curry College, Milton, MA, USA, Rajendra D Badgaiyan, 15Department Psychiatry, Cooper University School of Medicine, Camden, NJ, USA, Mark S Gold 16Department of Psychiatry, Washington University, St. Louis, MO, USA, “Our evolved unique pleasure circuit makes humans different from apes: Reconsideration of data derived from animal studies”, U.S. Department of Veterans Affairs, 28 February 2018, accessed: 19 August 2020, <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6446569/>, R.S.

**Pleasure** is not only one of the three primary reward functions but it also **defines reward.** As homeostasis explains the functions of only a limited number of rewards, the principal reason why particular stimuli, objects, events, situations, and activities are rewarding may be due to pleasure. This applies first of all to sex and to the primary homeostatic rewards of food and liquid and extends to money, taste, beauty, social encounters and nonmaterial, internally set, and intrinsic rewards. Pleasure, as the primary effect of rewards, drives the prime reward functions of learning, approach behavior, and decision making and provides the **basis for hedonic theories** of reward function. We are attracted by most rewards and exert intense efforts to obtain them, just because they are enjoyable [10]. Pleasure is a passive reaction that derives from the experience or prediction of reward and may lead to a long-lasting state of happiness. The word happiness is difficult to define. In fact, just obtaining physical pleasure may not be enough. One key to happiness involves a network of good friends. However, it is not obvious how the higher forms of satisfaction and pleasure are related to an ice cream cone, or to your team winning a sporting event. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure [14]. Pleasure as a hallmark of reward is sufficient for defining a reward, but it may not be necessary. A reward may generate positive learning and approach behavior simply because it contains substances that are essential for body function. When we are hungry, we may eat bad and unpleasant meals. A monkey who receives hundreds of small drops of water every morning in the laboratory is unlikely to feel a rush of pleasure every time it gets the 0.1 ml. Nevertheless, with these precautions in mind, we may define any stimulus, object, event, activity, or situation that has the potential to produce pleasure as a reward. In the context of reward deficiency or for disorders of addiction, homeostasis pursues pharmacological treatments: drugs to treat drug addiction, obesity, and other compulsive behaviors. The theory of allostasis suggests broader approaches - such as re-expanding the range of possible pleasures and providing opportunities to expend effort in their pursuit. [15]. It is noteworthy, the first animal studies eliciting approach behavior by electrical brain stimulation interpreted their findings as a discovery of the brain’s pleasure centers [16] which were later partly associated with midbrain dopamine neurons [17–19] despite the notorious difficulties of identifying emotions in animals. Evolutionary theories of pleasure: The love connection BO:D Charles Darwin and other biological scientists that have examined the biological evolution and its basic principles found various mechanisms that steer behavior and biological development. Besides their theory on natural selection, it was particularly the sexual selection process that gained significance in the latter context over the last century, especially when it comes to the question of what makes us “what we are,” i.e., human. However, the capacity to sexually select and evolve is not at all a human accomplishment alone or a sign of our uniqueness; yet, we humans, as it seems, are ingenious in fooling ourselves and others–when we are in love or desperately search for it. It is well established that modern biological theory conjectures that **organisms are** the **result of evolutionary competition.** In fact, Richard Dawkins stresses gene survival and propagation as the basic mechanism of life [20]. Only genes that lead to the fittest phenotype will make it. It is noteworthy that the phenotype is selected based on behavior that maximizes gene propagation. To do so, the phenotype must survive and generate offspring, and be better at it than its competitors. Thus, the ultimate, distal function of rewards is to increase evolutionary fitness by ensuring the survival of the organism and reproduction. It is agreed that learning, approach, economic decisions, and positive emotions are the proximal functions through which phenotypes obtain other necessary nutrients for survival, mating, and care for offspring. Behavioral reward functions have evolved to help individuals to survive and propagate their genes. Apparently, people need to live well and long enough to reproduce. Most would agree that homo-sapiens do so by ingesting the substances that make their bodies function properly. For this reason, foods and drinks are rewards. Additional rewards, including those used for economic exchanges, ensure sufficient palatable food and drink supply. Mating and gene propagation is supported by powerful sexual attraction. Additional properties, like body form, augment the chance to mate and nourish and defend offspring and are therefore also rewards. Care for offspring until they can reproduce themselves helps gene propagation and is rewarding; otherwise, many believe mating is useless. According to David E Comings, as any small edge will ultimately result in evolutionary advantage [21], additional reward mechanisms like novelty seeking and exploration widen the spectrum of available rewards and thus enhance the chance for survival, reproduction, and ultimate gene propagation. These functions may help us to obtain the benefits of distant rewards that are determined by our own interests and not immediately available in the environment. Thus the distal reward function in gene propagation and evolutionary fitness defines the proximal reward functions that we see in everyday behavior. That is why foods, drinks, mates, and offspring are rewarding. There have been theories linking pleasure as a required component of health benefits salutogenesis, (salugenesis). In essence, under these terms, pleasure is described as a state or feeling of happiness and satisfaction resulting from an experience that one enjoys. Regarding pleasure, it is a double-edged sword, on the one hand, it promotes positive feelings (like mindfulness) and even better cognition, possibly through the release of dopamine [22]. But on the other hand, pleasure simultaneously encourages addiction and other negative behaviors, i.e., motivational toxicity. It is a complex neurobiological phenomenon, relying on reward circuitry or limbic activity. It is important to realize that through the “Brain Reward Cascade” (BRC) endorphin and endogenous morphinergic mechanisms may play a role [23]. While natural rewards are essential for survival and appetitive motivation leading to beneficial biological behaviors like eating, sex, and reproduction, crucial social interactions seem to further facilitate the positive effects exerted by pleasurable experiences. Indeed, experimentation with addictive drugs is capable of directly acting on reward pathways and causing deterioration of these systems promoting hypodopaminergia [24]. Most would agree that pleasurable activities can stimulate personal growth and may help to induce healthy behavioral changes, including stress management [25]. The work of Esch and Stefano [26] concerning the link between compassion and love implicate the brain reward system, and pleasure induction suggests that social contact in general, i.e., love, attachment, and compassion, can be highly effective in stress reduction, survival, and overall health. Understanding the role of neurotransmission and pleasurable states both positive and negative have been adequately studied over many decades [26–37], but comparative anatomical and neurobiological function between animals and homo sapiens appear to be required and seem to be in an infancy stage. Finding happiness is different between apes and humans As stated earlier in this expert opinion one key to happiness involves a network of good friends [38]. However, it is not entirely clear exactly how the higher forms of satisfaction and pleasure are related to a sugar rush, winning a sports event or even sky diving, all of which augment dopamine release at the reward brain site. Recent multidisciplinary research, using both humans and detailed invasive brain analysis of animals has discovered some critical ways that the brain processes pleasure. Remarkably, there are pathways for ordinary liking and pleasure, which are limited in scope as described above in this commentary. However, there are **many brain regions**, often termed hot and cold spots, that significantly **modulate** (increase or decrease) our **pleasure or** even **produce the opposite** of pleasure— that is disgust and fear [39]. One specific region of the nucleus accumbens is organized like a computer keyboard, with particular stimulus triggers in rows— producing an increase and decrease of pleasure and disgust. Moreover, the cortex has unique roles in the cognitive evaluation of our feelings of pleasure [40]. Importantly, the interplay of these multiple triggers and the higher brain centers in the prefrontal cortex are very intricate and are just being uncovered. Desire and reward centers It is surprising that many different sources of pleasure activate the same circuits between the mesocorticolimbic regions (Figure 1). Reward and desire are two aspects pleasure induction and have a very widespread, large circuit. Some part of this circuit distinguishes between desire and dread. The so-called pleasure circuitry called “REWARD” involves a well-known dopamine pathway in the mesolimbic system that can influence both pleasure and motivation. In simplest terms, the well-established mesolimbic system is a dopamine circuit for reward. It starts in the ventral tegmental area (VTA) of the midbrain and travels to the nucleus accumbens (Figure 2). It is the cornerstone target to all addictions. The VTA is encompassed with neurons using glutamate, GABA, and dopamine. The nucleus accumbens (NAc) is located within the ventral striatum and is divided into two sub-regions—the motor and limbic regions associated with its core and shell, respectively. The NAc has spiny neurons that receive dopamine from the VTA and glutamate (a dopamine driver) from the hippocampus, amygdala and medial prefrontal cortex. Subsequently, the NAc projects GABA signals to an area termed the ventral pallidum (VP). The region is a relay station in the limbic loop of the basal ganglia, critical for motivation, behavior, emotions and the “Feel Good” response. This defined system of the brain is involved in all addictions –substance, and non –substance related. In 1995, our laboratory coined the term “Reward Deficiency Syndrome” (RDS) to describe genetic and epigenetic induced hypodopaminergia in the “Brain Reward Cascade” that contribute to addiction and compulsive behaviors [3,6,41]. Furthermore, ordinary “liking” of something, or pure pleasure, is represented by small regions mainly in the limbic system (old reptilian part of the brain). These may be part of larger neural circuits. In Latin, hedus is the term for “sweet”; and in Greek, hodone is the term for “pleasure.” Thus, the word Hedonic is now referring to various subcomponents of pleasure: some associated with purely sensory and others with more complex emotions involving morals, aesthetics, and social interactions. The capacity to have pleasure is part of being healthy and may even extend life, especially if linked to optimism as a dopaminergic response [42]. Psychiatric illness often includes symptoms of an abnormal inability to experience pleasure, referred to as anhedonia. A negative feeling state is called dysphoria, which can consist of many emotions such as pain, depression, anxiety, fear, and disgust. Previously many scientists used animal research to uncover the complex mechanisms of pleasure, liking, motivation and even emotions like panic and fear, as discussed above [43]. However, as a significant amount of related research about the specific brain regions of pleasure/reward circuitry has been derived from invasive studies of animals, these cannot be directly compared with subjective states experienced by humans. In an attempt to resolve the controversy regarding the causal contributions of mesolimbic dopamine systems to reward, we have previously evaluated the three-main competing explanatory categories: “liking,” “learning,” and “wanting” [3]. That is, dopamine may mediate (a) liking: the hedonic impact of reward, (b) learning: learned predictions about rewarding effects, or (c) wanting: the pursuit of rewards by attributing incentive salience to reward-related stimuli [44]. We have evaluated these hypotheses, especially as they relate to the RDS, and we find that the incentive salience or “wanting” hypothesis of dopaminergic functioning is supported by a majority of the scientific evidence. Various neuroimaging studies have shown that anticipated behaviors such as sex and gaming, delicious foods and drugs of abuse all affect brain regions associated with reward networks, and may not be unidirectional. Drugs of abuse enhance dopamine signaling which sensitizes mesolimbic brain mechanisms that apparently evolved explicitly to attribute incentive salience to various rewards [45]. Addictive substances are voluntarily self-administered, and they enhance (directly or indirectly) dopaminergic synaptic function in the NAc. This activation of the brain reward networks (producing the ecstatic “high” that users seek). Although these circuits were initially thought to encode a set point of hedonic tone, it is now being considered to be far more complicated in function, also encoding attention, reward expectancy, disconfirmation of reward expectancy, and incentive motivation [46]. The argument about addiction as a disease may be confused with a predisposition to substance and nonsubstance rewards relative to the extreme effect of drugs of abuse on brain neurochemistry. The former sets up an individual to be at high risk through both genetic polymorphisms in reward genes as well as harmful epigenetic insult. Some Psychologists, even with all the data, still infer that addiction is not a disease [47]. Elevated stress levels, together with polymorphisms (genetic variations) of various dopaminergic genes and the genes related to other neurotransmitters (and their genetic variants), and may have an additive effect on vulnerability to various addictions [48]. In this regard, Vanyukov, et al. [48] suggested based on review that whereas the gateway hypothesis does not specify mechanistic connections between “stages,” and does not extend to the risks for addictions the concept of common liability to addictions may be more parsimonious. The latter theory is grounded in genetic theory and supported by data identifying common sources of variation in the risk for specific addictions (e.g., RDS). This commonality has identifiable neurobiological substrate and plausible evolutionary explanations. Over many years the controversy of dopamine involvement in especially “pleasure” has led to confusion concerning separating motivation from actual pleasure (wanting versus liking) [49]. We take the position that animal studies cannot provide real clinical information as described by self-reports in humans. As mentioned earlier and in the abstract, on November 23rd, 2017, evidence for our concerns was discovered [50] In essence, although nonhuman primate brains are similar to our own, the disparity between other primates and those of human cognitive abilities tells us that surface similarity is not the whole story. Sousa et al. [50] small case found various differentially expressed genes, to associate with pleasure related systems. Furthermore, the dopaminergic interneurons located in the human neocortex were absent from the neocortex of nonhuman African apes. Such differences in neuronal transcriptional programs may underlie a variety of neurodevelopmental disorders. In simpler terms, the system controls the production of dopamine, a chemical messenger that plays a significant role in pleasure and rewards. The senior author, Dr. Nenad Sestan from Yale, stated: “Humans have evolved a dopamine system that is different than the one in chimpanzees.” This may explain why the behavior of humans is so unique from that of non-human primates, even though our brains are so surprisingly similar, Sestan said: “It might also shed light on why people are vulnerable to mental disorders such as autism (possibly even addiction).” Remarkably, this research finding emerged from an extensive, multicenter collaboration to compare the brains across several species. These researchers examined 247 specimens of neural tissue from six humans, five chimpanzees, and five macaque monkeys. Moreover, these investigators analyzed which genes were turned on or off in 16 regions of the brain. While the differences among species were subtle, **there was** a **remarkable contrast in** the **neocortices**, specifically in an area of the brain that is much more developed in humans than in chimpanzees. In fact, these researchers found that a gene called tyrosine hydroxylase (TH) for the enzyme, responsible for the production of dopamine, was expressed in the neocortex of humans, but not chimpanzees. As discussed earlier, dopamine is best known for its essential role within the brain’s reward system; the very system that responds to everything from sex, to gambling, to food, and to addictive drugs. However, dopamine also assists in regulating emotional responses, memory, and movement. Notably, abnormal dopamine levels have been linked to disorders including Parkinson’s, schizophrenia and spectrum disorders such as autism and addiction or RDS. Nora Volkow, the director of NIDA, pointed out that one alluring possibility is that the neurotransmitter dopamine plays a substantial role in humans’ ability to pursue various rewards that are perhaps months or even years away in the future. This same idea has been suggested by Dr. Robert Sapolsky, a professor of biology and neurology at Stanford University. Dr. Sapolsky cited evidence that dopamine levels rise dramatically in humans when we anticipate potential rewards that are uncertain and even far off in our futures, such as retirement or even the possible alterlife. This may explain what often motivates people to work for things that have no apparent short-term benefit [51]. In similar work, Volkow and Bale [52] proposed a model in which dopamine can favor NOW processes through phasic signaling in reward circuits or LATER processes through tonic signaling in control circuits. Specifically, they suggest that through its modulation of the orbitofrontal cortex, which processes salience attribution, dopamine also enables shilting from NOW to LATER, while its modulation of the insula, which processes interoceptive information, influences the probability of selecting NOW versus LATER actions based on an individual’s physiological state. This hypothesis further supports the concept that disruptions along these circuits contribute to diverse pathologies, including obesity and addiction or RDS.

#### Thus, the standard is maximizing expected well-being or act hedonistic util. Prefer additionally –

#### 1] Death is bad and outweighs – a) agents can’t act if they fear for their bodily security which constrains every ethical theory, b) it destroys the subject itself – kills any ability to achieve value in ethics since life is a prerequisite which means it’s a side constraint since we can’t reach the end goal of ethics without life

#### 2] Actor spec—governments must use util because they don’t have intentions and are constantly dealing with tradeoffs—outweighs since different agents have different obligations—takes out calc indicts since they are empirically denied.

#### Extinction first –

#### 1 – Forecloses future improvement – we can never improve society because our impact is irreversible

#### 2 – Turns suffering – mass death causes suffering because people can’t get access to resources and basic necessities

#### 3 – Moral obligation – allowing people to die is unethical and should be prevented because it creates ethics towards other people

#### 4 – Objectivity – body count is the most objective way to calculate impacts because comparing suffering is unethical

#### 5 – Moral uncertainty – if we’re unsure about which interpretation of the world is true – we ought to preserve the world to keep debating about it

### 1AC – Method

#### The 1AC foreclosed a chance to develop skills of space policy literacy - space scenario planning can develop emancipatory skills, combat inequality, and fracture expertism in space activities - without stifling the 1AC’s radical energies.

Weeks, 12—Adjunct Professor of International Relations Online Program, Webster University (Edythe, “OUTER SPACE DEVELOPMENT: THE SOLUTION FOR GLOBAL INEQUALITY,” *Outer Space Development, International Relations and Space Law: A Method for Elucidating Seeds*, Chapter 7, pg 171-174, dml)

This is the time to discuss equality. Once societies in outer space are established it will be too late. The first wave of outer space development in the last half of the 20th century changed the world. This process included establishing a satellite telecommunications infrastructure in the geostationary orbit along with the globalization of new high-tech products and services. The retirement of the NASA space shuttle program symbolized the start of the second wave of outer space development, which is likely to be propelled by the privatization of space tourism and space mining. This type of space industrialization will undoubtedly result in extreme wealth for a few who know what is happening, while those who have no knowledge will be left behind. Decision makers, scholars, trouble-shooters, and others worry constantly about existing inequality gaps, lack of development, poverty, and economic hardship. This chapter suggests a method for preventative maintenance prior to humankind’s next development project. It argues that education, information, and sharing knowledge can become tools for generating perpetual equality as we embark on our journey to colonize the final frontier. Those historically disenfranchised can gain a fresh advantage through preparation and education to develop an expertise aimed at providing valuable knowledge useful for space endeavors. In addition, in these times of crashing economies, job loss, high unemployment rates, and school system failures, people are searching for ways to create prosperous futures for themselves and their families. Outer space could prove to be a way for many to find their answer. Newly Emerging Trends Relevant for Outer Space Development The passage of the NASA Authorization Act of 2010 demonstrates a willingness by the U.S. to fund a stepped-up phase of space activities. During bad economic times, this Act provides $58,400,000,000 for various space-related programs from 2011 to 2013. In 2010/2011, media reports constantly alerted the general public to be ready for the retirement of the NASA Space Shuttle program. This initiative complemented the New Vision for U.S. Space Exploration Policy (2004), as well as various other laws and policies initiated by the United States and discussed in previous chapters. When read together, it is fair to assume the newly emerging space industries will be related to achieving advanced space transportation systems, private spacecraft development, commercial space habitats, space stations, space settlements, commercial space mining, spacecraft trajectory optimization techniques for landing on near-Earth asteroids, commercial spaceport construction, interplanetary telecommunications, and space exploration missions. The thing for teachers, students, and members of the general public to do in order to prepare to take advantage of these linked opportunities is to imagine how these goals are likely to play out, and what types of goods, services, and skill-sets will be needed. Education as the Solution Outer space development historically has been the purview of skilled professionals in the science, technology, engineering, and math (STEM) fields. The STEM-oriented opportunities for those proficient in physics, astrophysics, space medicine, engineering, calculus, etc., have always been limited to a few select students. But now global society is calling for something, more since the STEM fields have failed to attract diverse people on an equal footing.186 A bridge can be created by using social and behavioral sciences curricula, thereby to attract people from a wider range of backgrounds to learn about outer space development and newly emerging industries. New education paradigms can help ensure equity and enable wider citizen participation throughout the international community. Curricula using the new paradigm can be used to motivate and inspire a new generation of scholars who can play a key role in the process of outer space development. In effect, an educational system that unleashes human creativity and curiosity will empower students with the knowledge and competencies not only for the second wave of outer space development, but also for the global engagement necessary for the 21st century and beyond (Weeks and Tamashiro, 2011). It is never too early to begin cultivating a person’s intellectual and academic talents. Most children are naturally curious. As part of the curriculum, students of all ages can be shown how to do research, how to write a research paper, to compile and present data, perform critical analytical thinking, and to anticipate and develop relevant skill-sets for newly emerging industry trends. Learning these skills will enable more people to develop an expertise aimed at supplying talent that will be in demand as future industries emerge. This can change people’s lives. Students can learn how to anticipate and prepare for future emerging industries while they are at the K-12 level. Students can also learn at young ages how to get recognized by publishers, editors, the mass media, and others. In situations where the resources necessary for teaching science are unavailable, space studies can be introduced through the social and behavioral sciences and the arts. For many years, space studies has remained the exclusive purview of engineers, scientists, and technology experts. However, there is room at the table for social and behavioral sciences students to join in and develop a specialty area of expertise. Key actors within the outer space development community have expressed an interest in advancing space studies to a broader audience. Orchestrating such a process carries with it the power to improve international relations, education, inspiration, dreams, and creativity, and to boost the global economy by creating a myriad of new jobs and degree programs. We can open an additional door to allow a broader range of knowledge into the minds of more people by introducing outer space development studies through the social and behavioral sciences (Hammond and Weeks, 2011). Unlike engineering, an interdisciplinary social and behavioral sciences lens enables us to interpret the meaning behind sets and patterns of human behaviors—this includes the behavior of individuals, institutions, groups, presidents, members of congress, business and other organizations, mass media, international organizations, and lawmakers. Humankind can progress beyond the “STEMs = space studies” model by including, encouraging, involving, and preparing a new breed of social and behavioral sciences geniuses. These would be people who are naturals in international relations, conflict resolution, and peace studies, as well as versed in international law, politics, social psychology, critical analysis, discourse analysis, international communication, artistic architecture, race and ethnic studies, gender studies, religious studies, economics, finance, business and entrepreneurship, history, and political economy, while also being concerned with inequality gaps, oppression, subjugation, revolts, uprisings, revolutions, and various other social and behavioral phenomena. People who understand the issues concerning human beings now have a way of participating in future emerging space industries. The audience of learners scheduled to receive cutting-edge knowledge of fields relevant for outer space development will be expanded by online learning techniques and sharing of information through the open-source technologies of the Internet. Shaping Ideology Imagine teaching students about the newly emerging trends related to outer space development. This would give students permission to envision and carve out their role in designing future space societies. Students from all disciplines can be taught to see what’s coming next by learning to research and interpret economic policies, laws, and international relations. This will enable them to detect newly emerging industries and to anticipate the elements likely to be in demand. Students can then shape their skill-sets and prepare to satisfy these emerging needs. Students can be taught to perform this type of interdisciplinary analysis and to research combined dynamics—government hearings and transcripts, policy statements and speeches, laws, economic initiatives, and international treaties. They can also be taught to combine this type of primary data with theoretical understandings of historical, ideological, institutional, political, economic, psychological, and structural phenomena.

#### Analyzing and rejecting hegemonic missteps is not mutually exclusive with affirming hegemony is a net force for good. US leadership promotes human rights, education, and health---the alternative is much worse.

Dubowitz and Schanzer 20 Mark Dubowitz and Jonathan Schanzer 12-15-2020 “Retain American Power, Do Not Restrain It” <https://www.fdd.org/analysis/2020/12/15/defending-forward-retain-american-power-do-not-restrain-it/> (Mark Dubowitz is the chief executive of FDD, a Washington, D.C.-based nonpartisan policy institute. Dr. Jonathan Schanzer is senior vice president for research at FDD, where he oversees the work of the organization’s experts and scholars)

Today’s restrainers similarly seek to capitalize on the suffering and difficulties associated with the wars in Iraq and Afghanistan, as well as the broader fight against terrorism, when they argue for the withdrawal of the remaining U.S. forces from these and other conflicts.11 Restrainers, however, often **conflate** the initial decision to intervene at all with how a conflict is subsequently managed or how eventually to withdraw. **These are different policy decisions.** Indeed, one **can be critical of the 2003 invasion of Iraq** and how the war was managed – while also **believing that Washington should retain a modest U.S. military presence** to help prevent a return of the Islamic State and to counter the influence of Iran. Restrainers have also attempted to leverage the Great Recession and the current economic crisis resulting from the COVID-19 pandemic to incite populist passions.12 They do this by **falsely suggesting that defense spending is the primary source** of the federal deficit and debt.13 Defense spending is near post-World War II lows in terms of percentage of U.S. gross domestic product and percentage of federal spending. Restrainers consistently paint existing and potential conflicts and U.S. military deployments with the same brush, warning of another “forever war.”14 However, **not every conflict leads to an interminable quagmire.** Even the so-called War on Terror, despite its headaches, so far has helped prevent another major foreign terrorist attack on the United States, which many had predicted to be inevitable after 9/11. The term “forever war” is itself curious. History, unfortunately, is a forever war – the chronicle of states’ struggles with their enemies. To be sure, one can write a truly wondrous history of human achievement. But sadly, as the Spanish writer George Santayana observed, “only the dead have seen the end of war.”15 Restrainers operate under the **mistaken assertion** that the world would be a safer or better place if U.S. influence would simply recede.16 **The 20th century tells another story**. As the historian Robert Kagan argued in his 2012 book The World America Made, the U.S.-led world order has heralded a global rise in liberalism and **human rights, better education and health, greater wealth, and more access to information**.17 Equally puzzling is the notion that the world’s problems and conflicts are of little consequence to the United States.18 What happens abroad inevitably affects Americans at home. Al-Qaeda launched the 9/11 attacks despite America’s best efforts to steer clear of Taliban-controlled Afghanistan, where al-Qaeda was and is based. The Japanese bombed Pearl Harbor despite Washington’s best efforts to stay out of the fray. Isolationists initially blocked then-President Franklin D. Roosevelt from providing greater support to an embattled Britain, and millions of lives were lost from not confronting German leader Adolf Hitler sooner.19 The best way to protect American interests is to engage internationally and maintain a well-designed, forward-deployed military presence alongside allies and partners. As Jakub J. Grygiel and A. Wess Mitchell have noted, U.S. deployments of varying magnitude along what they call the “unquiet frontier” that stretches from the Baltic Sea to the South China Sea counter the rise of revisionist powers such as China, Russia, and Iran.20 Support for U.S. allies, coupled with a U.S. military presence in forward bases, helps deter gathering threats.21 When Washington plays an outsized role in shaping and maintaining the international rules-based order, Americans and people around the world are **safer and more prosperous**. That is what the United States has done, for the most part, since World War II. And that **leadership role has helped ensure that global conflicts such as the Cold War did not erupt into devastating military confrontations.** Admittedly, the U.S.-led international order certainly has not prevented all wars. There have been costly mistakes along the way. But responding to those mistakes by ignoring persistent threats and drawing down U.S. military posture for its own sake **would be shortsighted and dangerous.** Those who welcome the retreat of U.S. power have yet to fully answer one important question: What happens after the United States goes home? When the British Empire unraveled after World War II, the United States stepped into the void, promoting an international system based on the rule of law. Who will follow the United States? **The alternatives are frightening.** Russia is far less equipped to become a superpower but would be a particularly predatory, corrupt, and avaricious one under Russian President Vladimir Putin. China, for its part, **actively seeks global leadership.** The Chinese Communist Party’s authoritarian hostility to democracy; weaponization of data;22 human rights abuses;23 support for rogue states such as Iran, North Korea, and Pakistan;24 threats to Hong Kong and Taiwan;25 militarization of the South China Sea;26 and massive theft of intellectual property27 should all **serve as warnings about a Chinese-led world order.** And let us all dispense with the fiction that the European Union could be an alternative to the United States in defending democracies. U.S. power, therefore, must be **retained, not restrained.**