# 1nc

### t - its

#### Interpretation: the resolution mandates federal ownership of the ocean development

#### “Its” is a possessive pronoun showing ownership

Supreme Court of Oklahoma 34

(Swindall v. State Election Board, 168 Okla. 97, Lexis)//BB

However, I view another phase of the act which is not considered in the majority opinion. It is my opinion that the expression, "its nominees," should have been construed by this court. Had this court so construed those words, it would have assisted the State Election Board in the furtherance of its ministerial duties, and would have set to rest the immediate question. It is my theory that the correct interpretation to place upon those words, "its nominees," is to the effect that those words do not mean all the nominees of any particular party. The word "its" is the possessive case, or the possessive adjective of "it", meaning of or belonging to it. Webster's International Dictionary. In other words, the expression, "its nominees," as applied to the Republican party, means nominees of it (the Republican party). The words, "nominees" of the "Republican party," do not and necessarily cannot mean all the nominees of the Republican party. Those words, however, do mean more than one nominee. It seems reasonable to conclude, in the absence of an expression like "all of its nominees," or words of similar import, that it was not the intent of the Legislature to make those words, "its nominees," all inclusive. It seems to me that a fair and reasonable interpretation would be that those words support and embrace the thought expressed by the New York statute, to wit, that it is the intention of the candidate to support generally at the next general election the nominees of the party from which he seeks his nomination, or that it is his intention to support a majority of the candidates of that party.

#### Ocean development is utilization of ocean resources

**Japanese Institute of Navigation, 98** (“Ocean Engineering Research Committee”, <http://members.j-navigation.org/e-committee/Ocean.htm>)

Discussions of "Ocean Engineering" are inseparable from "Ocean Development." What is ocean development? Professor Kiyomitsu Fujii of the University of Tokyo defines ocean development in his book as using oceans for mankind, while preserving the beauty of nature. In the light of its significance and meaning, the term "Ocean Development" is not necessarily a new term. Ocean development is broadly classified into three aspects: (1) Utilization of ocean resources, (2) Utilization of ocean spaces, and (3) Utilization of ocean energy. ¶ Among these, development of marine resources has long been established as fishery science and technology, and shipping, naval architecture and port/harbour construction are covered by the category of using ocean spaces, which have grown into industries in Japan. When the Committee initiated its activities, however, the real concept that caught attention was a new type of ocean development, which was outside the coverage that conventional terms had implied.¶ Special technologies are required for developing oceans, and an academic field is necessary to provide a base to construct such special technologies in systematic and organic ways. This academic field is Ocean Engineering. Dr. Tadayoshi Sasaki of the Tokyo Fisheries University stated that "Ocean Engineering" is the integration of several fields in which diverse approaches are to be taken for the ocean environment, unlike individual engineering fields in a traditional sense.

#### Violation – the aff incentives private sector development or exploration – it doesn’t mandate federal development or exploration

#### The industry would possess and maintain the development projects – that violates the core meaning of “its”

Appelate Court of Illinois 80

(“Hulett v. Central Illinois Light Co.,” 83 Ill. App. 3d 195, Lexis)//BB

The plaintiff responded to the motion for summary judgment to the effect that as to who owned or controlled the wires is immaterial, since CILCO was required to maintain and inspect all electric supply lines carrying its electricity and had failed to do so. In support of this contention the plaintiff relies upon Illinois Commerce Commission General Order 160 -- Revised, and effective as of June 1, 1963, which provides as follows:¶ "9. General Maintenance Requirements.¶ Each public utility operating a system of power or communication lines shall maintain *its* [italics in original] system of lines in such condition as will enable it to furnish safe, adequate and dependable service.¶ Power and communication lines and their associated equipment shall comply with the provisions of this General Order when placed in service, and shall thereafter by systematically inspected, and when necessary, be subjected to tests to determine their fitness for the service required of them, and for conditions of safety. Any defects revealed by such inspections and tests which could cause or create an unsafe condition, shall be promptly corrected. If such corrections are not immediately undertaken, a record of the condition found shall be made in the proper plant office of the utility. Defective lines or their associated equipment shall be placed in good operating condition, or otherwise effectively disconnected or removed." (Emphasis added.)¶ The purport of the trial judge's order is to this court clear in that a question of law is presented, namely, whether or not the Commerce Commission General Order 160 places a duty upon CILCO to maintain, repair and inspect the electrical lines in question, even though they are not and never have been owned or controlled by the power company. We note, however, that the plaintiff attempts to challenge the sufficiency of the Volk affidavit which denies ownership or control of the lines by CILCO. It is the plaintiff's argument that the affidavit referred to records as to premises located at 821 Tremont Township, Tremont, Illinois, and that the described premises have not been established as the place where the plaintiff was injured. We find no merit in this contention since it is [198] patently clear from the record that there was no concern on the part of the trial court or the parties to this action concerning the Volk affidavit or where the plaintiff was injured. It should be noted that the plaintiff did not file a counteraffidavit and consequently admitted that CILCO did not own or control the electrical line. (See Carruthers v. B. C. Christopher & Co. (1974), 57 Ill. 2d 376, 313 N.E.2d 457.) To raise on appeal the question of ownership appears to be an effort on the part of the plaintiff to obfuscate the true issue, to-wit, the meaning and effect of General Order 160.¶ We have set forth the pertinent provisions of the order and attention should be directed to the word its located in the first paragraph and which we have emphasized. The word its as used is a pronoun and is being used in its possessive form. By the use of the word it is clear that each public utility system shall maintain the power lines which it owns.

#### Voting issue –

#### Precision – the only way to provide a meaningful limit on the topic is to define it through court decisions – any other limit creates an arbitrary literature base and nullifies the benefit of any education

#### Limits – absent a restriction on the mechanism of the aff, any small adjustment to federal law becomes topical – dozens of incentives and regulation bodies remove any functional limits to the topic because small affs could just change the solvency mechanism every round

### private sector prizes cp

#### The United States federal government should institute a substantial monetary prize incentive for the purpose of environmental cleanup technology of nuclear waste in the Kara Sea.

#### The counterplan is plan-minus – the private sector owns the project which severs “its”

Harrold 11 – Esq., brief to the Supreme Court of Indiana

(Dennis, “HAIRE v. PARKER, 2011 IN S. Ct. Briefs LEXIS 350,” Lexis)//BB

However, simply stating that Haspin Acres is released cannot afford enough protection because - under Indiana's law of agency or various theories of derivative liability - Haspin Acres would nevertheless face significant liability exposure for the negligent acts of its agents and affiliates. Under the doctrine of respondeat superior, a principal is liable for the negligent acts of his agent. See Comer-Marquardt v. A-l Glassworks, LLC, 806 N.E.2d 883, 887 (Ind. Ct. App. 2004). This explains the use of the language: "its officers, trustees, employees and agents, meet [15] officials, promoters, sponsors, motorcycle riders, mechanics and pit crew." (App. 26) Haspin Acres included this list of possible agents and affiliates to further reduce liability exposure. This list of categories is controlled by the possessive "its", referring to Haspin Acres. Thus, each category is subject to the same possessive. Therefore, the entities released are Haspin Acres and "its officers", "its .. . trustees", "its .. . employees and agents", "its .. . riders", etc. (App. 26) The effect of the possessive "its" controls the entire list, including "riders". The express provision states "its . . . riders," not all riders.

#### Prizes solve and stream line public-private partnerships– solves better in the long term

Gustetic ’12, Prizes and Challenges Program Executive NASA

Jenn, “Government as a Catalyst: Prizes for Tech Innovation”, http://www.pocg.com/blog/archives/736

At this year’s South by South West Interactive (SXSWi) conference, I’m pleased to be moderating a panel on the role of government and prizes in stimulating technology innovation and providing public services. Federal agencies have recently been given the authority by Congress to sponsor competitions for individuals, groups, and companies to develop new ideas and technology innovations for a chance to win potentially lucrative prizes. These competitions can range from new mobile outreach technologies to web-based data analytics tools to even vehicle-to-vehicle communications; the government is looking for breakthrough technologies from the minds of the most creative and forward thinking Americans.¶ The panel will highlight some of the coolest prizes for technology development that the government has been involved in to date, including the DOT’s Connected Vehicle Challenge, the VA’s industry competition and blue button projects, and NASA’s centennial challenges. Additionally we will explore what role the government should be playing in these activities moving forward by looking at some prizes where the government did not have a role.¶ Here’s a sneak preview about what you’ll hear if you come spend an hour with us. We believe prizes matter for many reasons, but we’ll focus on four during the session:¶ They work. How can we be so sure? You’ll hear about a series of prizes from NASA, VA, and DOT that demonstrate the value of government sponsored prizes.¶ They complement other innovation methods. There are many ways to stimulate technology development and many actors are involved in doing so. It doesn’t happen very often however that government gets a BRAND NEW way to stimulate innovation—and prizes are just that. Prizes are a new way for government to stimulate technology development that compliments other, traditional methods for innovation. We’ll give some interesting examples of where prizes work with other innovation methods in government to create some really cool results.¶ They're becoming a way of doing business. If government is spending money and doing business this way, entrepreneurs and industry alike should be paying attention. Imagine a world where as much money flows through an organization through prizes as it does through contracts. Now that’s big business.¶ They're exposing different roles for Government. Government does not always need to have a role for prizes to work however. The question no longer is CAN government have a role, but SHOULD they. The private sector is increasingly involved in activities that affect the public good and people WANT to get engaged in the public good. We believe this may create room for the public sector to disengage or interesting public-private partnerships to form. We’ll talk about some instances where this is happening.

### noaa t/o da

#### NOAA weather satellite programs receiving increased funding now

Leone, 6/12 (Dan, 6/12/2014, “House and Senate Find Common Ground on NOAA Budget,” <http://www.spacenews.com/article/civil-space/40883house-and-senate-find-common-ground-on-noaa-budget>, JMP)

WASHINGTON — The U.S. Senate Appropriations Committee on June 5 approved a budget bill that would give the National Oceanic and Atmospheric Administration about $5.4 billion in 2015, including some $2.1 billion for its major weather satellite programs — a small increase over 2014 that is about even with the White House’s 2015 request and what House appropriators included in a competing bill approved in May. Senate and House appropriators now seem to be more or less on the same page when it comes to the weather agency’s 2015 budget, even if they do not agree fully with the White House — or each other — on every detail. Senate appropriators, like their counterparts in the House, agreed to give NOAA’s two major weather satellite programs the roughly $130 million boost the White House requested in March. That comes out to about $916 million for the Joint Polar Satellite System, some $95 million more than 2014, and about $981 million for the Geostationary Operational Environmental Satellite-R, roughly $39 million more than 2014. The second Joint Polar Satellite System spacecraft is slated to launch in 2017 — a testbed satellite launched in 2011 was pressed into service as the program’s first — while the next geostationary satellite would lift off in 2016. Likewise, both Senate and House appropriators have now directed NASA to take over full development responsibility for the Jason-3 ocean altimetry satellite and the Deep Space Climate Observatory (DSCOVR), stripping NOAA management of their role in the development process, but keeping the weather agency in charge of on-orbit operations. The House and Senate bills, however, differ on funding levels for these two projects. Senate appropriators included $25.6 million for Jason-3, a little less than the $25.7 million the White House wanted but $10 million more than the House bill includes. The Deep Space Climate Observatory would get $24.8 million under the Senate bill — $4.8 million more than the House approved and $3.5 million more than the White House requested.

#### Plan forces a tradeoff --- funding for weather satellites relies on constraints to the rest of the NOAA budget

Showstack, 12 (3/6/2012, Randy --- staff writer, Eos, Transactions American Geophysical Union, “NOAA Budget Would Boost Satellite Funding but Cut Some Key Areas,” vol. 93, no. 10, Wiley Online Library, JMP)

The White House’s proposed fiscal year (FY) 2013 budget for the National Oceanic and Atmospheric Administration (NOAA), announced on 13 February, looks favorable at first glance. The administration’s request calls for $5.1 billion, an increase of $153 million (3.1%) above the FY 2012 estimated budget. However, the increase for NOAA satellites is $163 million, which means that other areas within the agency would be slated for decreased funding, including programs within the National Ocean Service (NOS), National Marine Fisheries Service (NMFS), National Weather Service (NWS), and some NOAA education programs. The proposed overall budget for the agency “reflects the overarching importance of weather satellites to public safety, to national security, and to the economy,” NOAA director Jane Lubchenco said at a 16 February briefing, noting that difficult choices were made regarding the budget. “Due to significant resources required for our weather satellites and the economic conditions in the country, other parts of our budget have been reduced, in some cases quite significantly,” she said. She added that the imperative to fund both the Joint Polar Satellite System (JPSS) and geostationary satellites in FY 2013 “imposes serious constraints on the rest of NOAA’s budget.”The budget for the National Environmental Satellite, Data, and Information Service (NESDIS) would increase 8.7% to $2.041 billion. This includes full funding for the JPSS ($916.4 million, down from $924 million). In addition, funding for the Geostationary Operational Environmental Satellite–R Series (GOES-R) would increase to $802 million, up from $615.6 million. Environmental satellite observing systems would receive $123.2 million, up from $112.5 million. However, NOAA’s Climate Database Modernization Program to preserve and enhance the availability of climate and environmental data would be terminated. Cuts Proposed for NOAA’s “Wet” Side The NOS budget of $478.1 million (down 2.4% from FY 2012) would include $149.6 million for navigation services (trimmed from $148 million), $166.1 million for ocean resources conservation and assessment (down from $163.3 million), and $142.8 mil - lion for ocean and coastal management (a dip from $148.2 million). Lubchenco said the budget would maintain core mission functions, including funding for navigation services and marine sanctuary and coastal zone management programs. She highlighted the $24.3-million request for response and restoration capabilities, $29.5 million for the Integrated Ocean Observing System, and $11 million for NOAA competitive research. However, she said targeted losses would include the termination of navigation response teams and the coastal and estuarine land conservation pro - gram and a funding cut for mapping and charting. Compared to FY 2012, NMFS funding would drop to $880.3 million (down 1.6%). Some areas would receive boosts, including funding for fisheries research and management ($430.1 million, up $4 million) and for improving enforcement and observer programs ($110.3 million, up $4.9 million). However, programs on the short end would include Habitat Conservation and Restoration ($36 million, down $11.3 million) and NOAA’s regional councils and fisheries com - missions ($27.3 million, down $5.1 million). Lubchenco said it is unclear what the reduction will mean for the councils. The bud - get also calls for closing the James J. Howard Marine Sciences Laboratory at Sandy Hook, N. J., a move strongly opposed by several members of the state’s congressional delegation. The budget “is troubling due to the continued underfunding of NOAA and its ocean program,” said Jeff Watters, senior manager of government relations for the nonprofit Ocean Conservancy. “Adding to the burden of overall budget reductions, NOAA is tasked with paying for new, multibillion- dollar weather satellites, as well as managing our coasts and fisheries. As costs of the weather- related program continue to rise, there are fewer resources for NOAA’s core ocean programs. Americans shouldn’t have to choose between forecasting the weather and protecting our ocean. We need both.” Matt Tinning, executive director of the nonprofit Marine Fish Conservation Network, applauded targeted fisheries investments in NOAA’s FY 2013 budget proposal, including additional funding for fisheries science, surveys, stock assessments, and monitoring. However, he said, “For NOAA to be forced to reallocate funds from core ocean and science programs to avoid crippling gaps in our nation’s satellite capacity is unsustainable, and we urge Congress and the White House to urgently seek a new approach to satellite funding.”

#### Sufficient funding is necessary to ensure timely deployment of JPSS satellite and avoid gaps in data coverage

Kicza, 13 --- Assistant Administrator National Environmental Satellite, Data, and Information Service at NOAA (9/19/2013, Mary E., “HEARING TITLED DYSFUNCTION IN MANAGEMENT OF WEATHER AND CLIMATE SATELLITES BEFORE THE SUBCOMMITTEES ON ENVIRONMENT AND OVERSIGHT COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY U.S. HOUSE OF REPRESENTATIVES,” <http://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-113-SY21-WState-MKicza-20130919.pdf>, JMP)

2013 GAO Review of the JPSS Program NOAA was provided an opportunity to review the draft GAO recommendations and NOAA concurs with the five GAO recommendations for the JPSS Program reflected in that document. We will review the final report and the recommendations contained therein and will work to address them. The recommendations include direction to: ● track the extent to which groups of satellite data users are using Suomi NPP and JPSS products and obtain feedback on these products; ● establish a complete JPSS Program integrated master schedule that includes a logically linked sequence of activities; ● address the shortfalls in the ground system and spacecraft component schedules outlined in the report; ● update the joint cost and schedule confidence level for JPSS-1, if warranted and justified after completing the integrated master schedule and addressing shortfalls in component schedules; and ● establish a comprehensive contingency plan for potential satellite data gaps in the polar orbit that is consistent with the contingency planning best practices identified in this report. The plan should include, for example, specific contingency actions with defined roles and responsibilities, timelines, and triggers; analysis of the impact of lost data from the morning orbits, and identification of opportunities to accelerate the calibration and validation phases of JPSS-1. Refocusing the JPSS Program to a weather mission and moving content to other programs has improved our confidence on meeting the second quarter FY 2017 launch readiness date for the JPSS-1 satellite, thereby minimizing the possibility of gaps in data coverage noted in the GAO’s “High Risk” report. While there is still a risk of a gap in coverage, recent analyses and assessments have increased our confidence that we will launch JPSS-1 in the second quarter of FY 2017. This, coupled with a rigorous management regime for the Suomi NPP satellite to preserve operating life, gives us confidence that if the satellite continues to perform as expected, we will significantly reduce risk of a gap of coverage in the afternoon orbit. However, sufficient funding is required to ensure that we maintain the current acquisition schedule.

#### Gaps in coverage will wreck U.S. military readiness and damage major sectors of the economy

Conathan, 11 --- Director of Oceans Policy at American Progress (2/18/2011, Michael, “A Forecast for Disaster: Stormy Conditions Await if NOAA Funding Is Cut,” <http://americanprogress.org/issues/green/news/2011/02/18/9055/a-forecast-for-disaster/>, JMP)

Weather predictions used to be a frequent punchline but they have improved dramatically in recent years. More often than not you’ll need an umbrella if your local television channel or website of choice tells you to bring one when you leave the house. But we could take a huge step back to the days when your dartboard had a reasonable chance of outpredicting Al Roker if House Republicans have their way with the 2011 federal budget. The House of Representatives is debating the Full Year Continuing Resolution Act (H.R. 1) to fund the federal government for the remainder of fiscal year 2011. The Republican leadership has proposed sweeping cuts to key programs across the climate change, clean energy, and environmental spectrum. They have also decided that accurate weather forecasting and hurricane tracking are luxuries America can no longer afford. The GOP’s bill would tear $1.2 billion (21 percent) out of the president’s proposed budget for the National Oceanic and Atmospheric Administration, or NOAA. On the surface, cutting NOAA may seem like an obvious choice. The FY 2011 request for the agency included a 16 percent boost over 2010 levels that would have made this year’s funding level of $5.5 billion the largest in NOAA’s history. Even this total funding level, however, is woefully insufficient for an agency tasked with managing such fundamental resources as the atmosphere that regulates our climate, the 4.3 million square miles of our oceanic exclusive economic zone, the ecological health of coastal regions that are home to more than 50 percent of all Americans, response to environmental catastrophes including the Deepwater Horizon oil spill, and fisheries that employ thousands of Americans and annually contribute tens of billions of dollars to the national economy. More than $700 million of the president’s proposed 2011 increase in NOAA funding would be tagged for overhauling our nation’s aging environmental satellite infrastructure. Satellites gather key data about our oceans and atmosphere, including cloud cover and density, miniscule changes in ocean surface elevation and temperatures, and wind and current trajectories. Such monitoring is integral to our weather and climate forecasting and it plays a key role in projections of strength and tracking of major storms and hurricanes—things most Americans feel are worth keeping an eye on. In fact, NOAA has been making great strides in hurricane tracking. The average margin of error for predicting landfall three days in advance was 125 miles in 2009—half what it was 10 years prior. This data translates into a higher degree of confidence among the public in NOAA’s forecasts, which means individuals will be more likely to obey an evacuation order. Further, since evacuating each mile of shoreline costs approximately up to $1 million, greater forecasting accuracy translates to substantial savings. The United States needs these satellites if we’re to continue providing the best weather and climate forecasts in the world. The implications of the loss of these data far exceed the question of whether to pack the kids into snowsuits for the trip to school. The concern here is ensuring ongoing operational efficiency and national security on a global scale. In some cases it can literally become a question of life and death. Consider the following numbers: The $700 billion maritime commerce industry moves more than 90 percent of all global trade, with arrival and departure of quarter-mile long container ships timed to the minute to maximize revenue and efficiency. Shipping companies rely on accurate forecasts to set their manifests and itineraries. Forecasting capabilities are particularly strained at high latitudes and shippers have estimated that the loss of satellite monitoring capabilities could cost them more than half a billion dollars per year in lost cargo and damage to vessels from unanticipated heavy weather. When a hurricane makes landfall, evacuations cost as much as $1 million per mile. Over the past decade, NOAA has halved the average margin of error in its three-day forecasts from 250 miles to 125 miles, saving up to $125 million per storm. Commercial fishing is the most dangerous profession in the country with 111.8 deaths per 100,000 workers. A fisherman’s most valuable piece of safety equipment is his weather radio. When disaster strikes at sea, polar-orbiting satellites receive emergency distress beacons and relay positioning data to rescuers. This resulted in 295 lives saved in 2010 alone and the rescue of more than 6,500 fishermen, recreational boaters, and other maritime transportation workers since the program began in 1982. Farmers rely on NOAA’s drought predictions to determine planting cycles. Drought forecasts informed directly by satellite data have been valued at $6 billion to 8 billion annually. NOAA’s volcanic ash forecasting capabilities received international attention last spring during the eruption of the Icelandic volcano, Eyjafjallajökull. The service saves airlines upwards of $200 million per year. NOAA’s polar-orbiting satellites are America’s only source of weather and climate data for vast areas of the globe, including areas key to overseas military operations. Their data are integral to planning deployments of troops and aircraft—certain high-atmosphere wind conditions, for example, can prohibit mid-air refueling operations.All of these uses will be compromised if the Republicans succeed in defunding NOAA’s satellite program. At least an 18-month gap in coverage will be unavoidable without adequate funding for new polar-orbiting satellites this year. More troubling, taking an acquisition program offline and then restarting the process at a later date would lead to cost increases of as much as three to five times the amount the government would have to spend for the same product today. So here’s the choice: Spend $700 million this year for continuous service or $2 billion to $3.5 billion at some point in the future for the same equipment and a guaranteed service interruption. Environmental satellites are not optional equipment. This is not a debate about whether we should splurge on the sunroof or the premium sound system or the seat warmers for our new car. Today’s environmental satellites are at the end of their projected life cycles. They will fail. When they do, we must have replacements ready or risk billions of dollars in annual losses to major sectors of our economy and weakening our national security. That’s an ugly forecast. Tragically, it’s also 100 percent accurate.

#### Readiness key to deter global conflict

Jack Spencer, 2000, Research Fellow in Nuclear Energy Policy at The Heritage Foundation's Roe Institute for Economic Policy Studies. “The Facts About Military Readiness” Sep. 15, 2k. accessed July 31, 2010 <http://www.heritage.org/Research/Reports/2000/09/BG1394-The-Facts-About-Military-Readiness//Donnie>

Military readiness is vital because declines in America's military readiness signal to the rest of the world that the United States is not prepared to defend its interests. Therefore, potentially hostile nations will be more likely to lash out against American allies and interests, inevitably leading to U.S. involvement in combat. A high state of military readiness is more likely to deter potentially hostile nations from acting aggressively in regions of vital national interest, thereby preserving peace.

### anthro k

#### Their extinction claims require a defense of the intrinsic value of human survival as separated from other forms of life. This involves the image of distinctly good human life contrasted to the banal useless existence of the genes. This makes the aff’s political subjectivity an affect of a species-contingent survival paradigm which abandons bare life.

KOCHI & ORDAN 2K8 [tarik and noam, queen’s university and bar llan university, “an argument for the global suicide of humanity”, vol 7. no. 4., bourderlands e-journal]

If only some of our genes but not our species has survived, maybe the emphasis we place upon the notion of ‘survival’ is more cultural than simply genetic. Such an emphasis stems not only from our higher cognitive powers of ‘self-consciousness’ or self-awareness, but also from our conscious celebration of this fact: the image we create for ourselves of ‘humanity’, which is produced by via language, collective memory and historical narrative. The notion of the ‘human’ involves an identification of our species with particular characteristics with and upon which we ascribe certain notions of value. Amongst others such characteristics and values might be seen to include: the notion of an inherent ‘human dignity’, the virtue of ethical behaviour, the capacities of creative and aesthetic thought, and for some, the notion of an eternal soul. Humans are conscious of themselves as humans and value the characteristics that make us distinctly ‘human’. When many, like Hawing, typically think of the notion of the survival of the human race, it is perhaps this cultural-cognitive aspect of homo sapiens, made possible and produced by human self-consciousness, which they are thinking of. If one is to make the normative argument that the human race should survive, then one needs to argue it is these cultural-cognitive aspects of humanity, and not merely a portion of our genes, that is worth saving. However, it remains an open question as to what cultural-cognitive aspect of humanity would survive in the future when placed under radical environmental and evolutionary pressures. We can consider that perhaps the fish people, having the capacity for self-awareness, would consider themselves as the continuation or next step of ‘humanity’. Yet, who is to say that a leap in the process of evolution would not prompt a change in self awareness, a different form of abstract reasoning about the species, a different self-narrative, in which case the descendents of humans would look upon their biological and genetic ancestors in a similar manner to the way humans look upon the apes today. Conceivably the fish people might even forget or suppress their evolutionary human heritage. While such a future cannot be predicted, it also cannot be controlled from our graves. In something of a sense similar to the point made by Giorgio Agamben (1998), revising ideas found within the writings of Michel Foucault and Aristotle, the question of survival can be thought to involve a distinction between the ‘good life’ and ‘bare life’. In this instance, arguments in favour of human survival rest upon a certain belief in a distinctly human good life, as opposed to bare biological life, the life of the gene pool. It is thus such a good life, or at least a form of life considered to be of value, that is held up by a particular species to be worth saving. When considering the hypothetical example of the fish people, what cultural-cognitive aspect of humanity’s good life would survive? The conditions of life under water, which presumably for the first thousand years would be quite harsh, would perhaps make the task of bare survival rather than the continuation of any higher aspects of a ‘human heritage’ the priority. Learning how to hunt and gather or farm underwater, learning how to communicate, breed effectively and avoid getting eaten by predators might displace the possibilities of listening to Mozart or Bach, or adhering to the Universal Declaration of Human Rights, or playing sport, or of even using written language or complex mathematics. Within such an extreme example it becomes highly questionable to what extent a ‘human heritage’ would survive and thus to what extent we might consider our descendents to be ‘human’. In the case where what survives would not be the cultural-cognitive aspects of a human heritage considered a valuable or a good form of life, then, what really survives is just life. Such a life may well hold a worth or value altogether different to our various historical valuations and calculations. While the example of the fish people might seem extreme, it presents a similar set of acute circumstances which would be faced within any adaptation to a new habitat whether on the earth or in outer space. Unless humans are saved by radical developments in technology that allow a comfortable colonisation of other worlds, then genetic adaptation in the future retains a reasonable degree of probability. However, even if the promise of technology allows humans to carry on their cultural-cognitive heritage within another habitat, such survival is still perhaps problematic given the dark, violent, cruel and brutal aspects of human life which we would presumably carry with us into our colonisation of new worlds. Thinkers like Hawking, who place their faith in technology, also place a great deal of faith in a particular view of a human heritage which they think is worth saving. When considering the question of survival, such thinkers typically project a one-sided image of humanity into the future. Such a view presents a picture of only the good aspects of humanity climbing aboard a space-craft and spreading out over the universe. This presumes that only the ‘good aspects’ of the human heritage would survive, elements such as ‘reason’, creativity, playfulness, compassion, love, fortitude, hope. What however happens to the ‘bad’ aspects of the human heritage, the drives, motivations and thoughts that led to the Holocaust for example?

#### This species-contingent paradigm creates unending genocidal violence against forms of life deemed politically unqualified.

KOCHI & ORDAN 2K8 [tarik and noam, queen’s university and bar llan university, “an argument for the global suicide of humanity”, vol 7. no. 4., bourderlands e-journal]

Within the picture many paint of humanity, events such as the Holocaust are considered as an exception, an aberration. The Holocaust is often portrayed as an example of ‘evil’, a moment of hatred, madness and cruelty (cf. the differing accounts of ‘evil’ given in Neiman, 2004). The event is also treated as one through which humanity comprehend its own weakness and draw strength, via the resolve that such actions will never happen again. However, if we take seriously the differing ways in which the Holocaust was ‘evil’, then one must surely include along side it the almost uncountable numbers of genocides that have occurred throughout human history. Hence, if we are to think of the content of the ‘human heritage’, then this must include the annihilation of indigenous peoples and their cultures across the globe and the manner in which their beliefs, behaviours and social practices have been erased from what the people of the ‘West’ generally consider to be the content of a human heritage. Again the history of colonialism is telling here. It reminds us exactly how normal, regular and mundane acts of annihilation of different forms of human life and culture have been throughout human history. Indeed the history of colonialism, in its various guises, points to the fact that so many of our legal institutions and forms of ethical life (i.e. nation-states which pride themselves on protecting human rights through the rule of law) have been founded upon colonial violence, war and the appropriation of other peoples’ land (Schmitt, 2003; Benjamin, 1986). Further, the history of colonialism highlights the central function of ‘race war’ that often underlies human social organisation and many of its legal and ethical systems of thought (Foucault, 2003). This history of modern colonialism thus presents a key to understanding that events such as the Holocaust are not an aberration and exception but are closer to the norm, and sadly, lie at the heart of any heritage of humanity. After all, all too often the European colonisation of the globe was justified by arguments that indigenous inhabitants were racially ‘inferior’ and in some instances that they were closer to ‘apes’ than to humans (Diamond, 2006). Such violence justified by an erroneous view of ‘race’ is in many ways merely an extension of an underlying attitude of speciesism involving a long history of killing and enslavement of non-human species by humans. Such a connection between the two histories of inter-human violence (via the mythical notion of differing human ‘races’) and interspecies violence, is well expressed in Isaac Bashevis Singer’s comment that whereas humans consider themselves “the crown of creation”, for animals “all people are Nazis” and animal life is “an eternal Treblinka” (Singer, 1968, p.750).

#### The alternative is that the judge should vote negative to reject the 1AC’s human survival ethic. This rejection enables an understanding of the species-being. That solves the ethical contradiction of their species-level racism.

HUDSON 2K4 [Laura, The Political Animal: Species-Being and Bare Life, mediations journal, <http://www.mediationsjournal.org/files/Mediations23_2_04.pdf>]

We are all equally reduced to mere specimens of human biology, mute and uncomprehending of the world in which we are thrown. Species-being, or “humanity as a species,” may require this recognition to move beyond the pseudo-essence of the religion of humanism. Recognizing that what we call “the human” is an abstraction that fails to fully describe what we are, we may come to find a new way of understanding humanity that recuperates the natural without domination. The bare life that results from expulsion from the law removes even the illusion of freedom. Regardless of one’s location in production, the threat of losing even the fiction of citizenship and freedom affects everyone. This may create new means of organizing resistance across the particular divisions of society. Furthermore, the concept of bare life allows us to gesture toward a more detailed, concrete idea of what species-being may look like. Agamben hints that in the recognition of this fact, that in our essence we are all animals, that we are all living dead, might reside the possibility of a kind of redemption. Rather than the mystical horizon of a future community, the passage to species-being may be experienced as a deprivation, a loss of identity. Species-being is not merely a positive result of the development of history; it is equally the absence of many of the features of “humanity” through which we have learned to make sense of our world. It is an absence of the kind of individuality and atomism that structure our world under capitalism and underlie liberal democracy, and which continue to inform the tenets of deep ecology. The development of species-being requires the collapse of the distinction between human and animal in order to change the shape of our relationships with the natural world. A true species-being depends on a sort of reconciliation between our “human” and “animal” selves, a breakdown of the distinction between the two both within ourselves and in nature in general. Bare life would then represent not only expulsion from the law but the possibility of its overcoming. Positioned in the zone of indistinction, no longer a subject of the law but still subjected to it through absence, what we equivocally call “the human” in general becomes virtually indistinguishable from the animal or nature. But through this expulsion and absence, we may see not only the law but the system of capitalism that shapes it from a position no longer blinded or captivated by its spell. The structure of the law is revealed as always suspect in the false division between natural and political life, which are never truly separable. Though clearly the situation is not yet as dire as Agamben’s invocation of the Holocaust suggests, we are all, as citizens, under the threat of the state of exception. With the decline of the nation as a form of social organization, the whittling away of civil liberties and, with them, the state’s promise of “the good life” (or “the good death”) even in the most developed nations, with the weakening of labor as the bearer of resistance to exploitation, how are we to envision the future of politics and society?

### boid

#### Biodiversity loss is irrelevant- species will adapt

Willis ‘9

[Kathy J. Willis, Long-Term Ecology Laboratory, Oxford University Centre for the Environment and Department of Biology, University of Bergen. Shonil A. Bhagwat, Long-Term Ecology Laboratory, Oxford University Centre for the Environment. “Biodiversity and Climate Change.” Science 6 November 2009: Vol. 326 no. 5954 pp. 806-807. ETB]

Another complexity, however, is the impact of climate change on already highly altered fragmented landscapes outside of protected areas. Over 75% of the Earth's terrestrial biomes now show evidence of alteration as a result of human residence and land use ([10](http://www.sciencemag.org.proxy.lib.uiowa.edu/content/326/5954/806.full?sid=9a26dd19-f70d-4840-b971-26e78917d71a#ref-10)). Yet, recent case studies suggest that even in a highly fragmented landscape, all is not lost for biodiversity. ¶ It has long been assumed that in a fragmented landscape, the fragment size and its isolation are important factors in determining species persistence; the smaller and more isolated the fragment, the lower its occupancy. Yet few worldwide studies have attempted to quantify this relation. Prugh et al. ([11](http://www.sciencemag.org.proxy.lib.uiowa.edu/content/326/5954/806.full?sid=9a26dd19-f70d-4840-b971-26e78917d71a#ref-11)) compiled and analyzed raw data from previous research on the occurrence of 785 animal species in >12,000 discrete habitat fragments on six continents. In many cases, fragment size and isolation were poor predictors of occupancy. The quality of the matrix surrounding the fragment had a greater influence on persistence: When the matrix provided conditions suitable to live and reproduce, fragment size and isolation were less important and species were able to persist. ¶ This ability of species to persist in what would appear to be a highly undesirable and fragmented landscape has also been recently demonstrated in West Africa. In a census on the presence of 972 forest butterflies over the past 16 years, Larsen found that despite an 87% reduction in forest cover, 97% of all species ever recorded in the area are still present ([12](http://www.sciencemag.org.proxy.lib.uiowa.edu/content/326/5954/806.full?sid=9a26dd19-f70d-4840-b971-26e78917d71a#ref-12)). For reasons that are not entirely clear, these butterfly species appear to be able to survive in the remaining primary and secondary forest fragments and disturbed lands in the West African rainforest. However, presence or absence does not take into account lag effects of declining populations; a more worrying interpretation is therefore that the full effects of fragmentation will only be seen in future years.

#### Species loss won’t snowball or threaten human life

Moore ‘98

(Senior Fellow – Hoover Institute, Climate of Fear, Pg. 99)

Nevertheless, the loss of a class of living being does not typically threaten other species. Most animals and plants can derive their nutrients or receive the other benefits provided by a particular species from more than a single source. If it were true that the extinction of a single species would produce a cascade of losses, then the massive extinctions of the past should have wiped out all life

. Evolution forces various life forms to adjust to change. A few may not make the adaptation but others will mutate to meet the new conditions. Although a particular chain of DNA may be eliminated through the loss of a species, other animals or plants adapting to the same environment often produce similar genetic solutions with like proteins. It is almost impossible to imagine a single species that, if eliminated, would threaten us humans.

#### Not key to ecosystem stability

Sasaki and Lauenroth, 11

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We found a significant negative relationship between temporal stability and species richness, number of rare species, and relative abundance of rare species (Fig. 2a, d, h). This is counter to the growing body of empirical evidence that suggests that the temporal stability of communities increases with diversity (Tilman 1999; Cottingham et al. 2001; Valone and Hoffman 2003; Tilman et al. 2006). Many theoretical studies have focused on the portfolio and covariance effects (see ‘‘Materials and methods’’) in demonstrating how increased diversity can confer increased temporal stability (Tilman 1999; Yachi and Loreau 1999; Hughes and Roughgarden 2000). However, we found no significant relationships between summed variances and species richness and number of rare species (Fig. 3a, b), and we found significant positive relationships between summed covariances and species richness and number of rare spe- cies (Fig. 3e, f). Neither the portfolio nor the covariance effect contributed significantly to temporal stability in our communities. Rare species that generally exhibit greater temporal fluctuations than common species should more often exhibit years of zero abundance than common species because of their small population sizes (Lande 1993; Valone and Schutzenhofer 2007), resulting in synchrony in response to high interannual variability in rainfall. This probably dampened the expected stabilizing effect of species richness on temporal stability (Yachi and Loreau 1999). Valone and Barber (2008) also showed that covariances between most pairs of species in natural communities were more often positive than negative, potentially because of shared responses of coexisting species to fluctuations in a common resource base, pos- sibly driven by climatic fluctuations. Moreover, the rela- tionship between summed abundance and species richness was not significant (Fig. 3i), suggesting that overyielding was not important in our communities. A previous study has indicated that functional diversity is a good predictor of the overyielding effect of species richness (Griffin et al. 2009). Our findings suggest that, although we do not know the explicit mechanism, the lack of change in functional diversity, despite the increase in species rich- ness resulting from the removal of dominant species, might explain the absence of an overyielding effect. Thus, there were no operational stabilizing effects of greater diversity; rather, greater species richness supported by an increase in the number of rare species destabilized the communities.

### russia

#### US-Russian relations are cyclical- prevents full relations collapse

Xing ‘12

[Li Xing, director for Russian studies at the School of Political Science and International Studies at Beijing Normal University. Interviewed by Ling Yi at the Global Times.

<http://www.globaltimes.cn/DesktopModules/DnnForge%20-%20NewsArticles/Print.aspx?tabid=99&tabmoduleid=94&articleId=709170&moduleId=405&PortalID=0> ETB]

Russia-US relations are constantly cyclical. As the US presidential election is coming this fall, the Obama campaign wants to show a tough attitude on Russia, which explains the finger-pointing about Russia's election earlier this year. But this will improve after the US election. Such high-level ties are always based on mutual interests. Russia has to expand economic cooperation with the US and the White House needs the Kremlin's support on international security issues such as Iran and Syria.

### nux trr

#### Technical barriers prevent nuclear terrorism—the risk is less than 1 in a million

Mueller ‘8

(John, poli sci prof at Ohio State Univ, “The Atomic Terrorist: Assessing the Likelihood,” 1-1, Prepared for presentation at the Program on International Security Policy, Univ of Chicago, 1-15-2008, http://polisci.osu.edu/faculty/jmueller/APSACHGO.PDF)

Appraising the barriers. As noted earlier, most discussions of atomic terrorism deal rather piecemeal with the subject--focusing separately on individual tasks such as procuring HEU or assembling a device or transporting it. But, as the Gilmore Commission, a special advisory panel to the President and Congress, stresses, building a nuclear device capable of producing mass destruction presents "Herculean challenges" and requires that a whole series of steps be accomplished. The process requires obtaining enough fissile material, designing a weapon "that will bring that mass together in a tiny fraction of a second, before the heat from early fission blows the material apart," and figuring out some way to deliver the thing. And it emphasizes that these merely constitute "the minimum requirements." If each is not fully met, the result is not simply a less powerful weapon, but one that can't produce any significant nuclear yield at all or can't be delivered

(Gilmore 1999, 31, emphasis in the original). Following this perspective, an approach that seems appropriate is to catalogue the barriers that must be overcome by a terrorist group in order to carry out the task of producing, transporting, and then successfully detonating Allison's "large, cumbersome, unsafe, unreliable, unpredictable, and inefficient" improvised nuclear device. Table 1 attempts to do this, and it arrays some 20 of these--all of which must be surmounted by the atomic aspirant. Actually, it would be quite possible to come up with a longer list: in the interests of keeping the catalogue of hurdles down to a reasonable number, some of the entries are actually collections of tasks and could be divided into two or three or more. For example, number 5 on the list requires that heisted highly-enriched uranium be neither a scam nor part of a sting nor of inadequate quality due to insider incompetence; but this hurdle could as readily be rendered as three separate ones. In assembling the list, I sought to make the various barriers independent, or effectively independent, from each other, although they are, of course, related in the sense that they are sequential. However, while the terrorists must locate an inadequately-secured supply of HEU to even begin the project, this discovery will have little bearing on whether they will be successful at securing an adequate quantity of the material, even though, obviously, they can't do the second task before accomplishing the first. Similarly, assembling and supplying an adequately equipped machine shop is effectively an independent task from the job of recruiting a team of scientists and technicians to work within it. Moreover, members of this group must display two qualities that, although combined in hurdle 9, are essentially independent of each other: they must be both technically skilled and absolutely loyal to the project. Assessing the probabilities. In seeking to carry out their task, would-be atomic terrorists effectively must go though an exercise that looks much like this. If and when they do so, they are likely to find their prospects daunting and accordingly uninspiring or even dispiriting. To bias the case in their favor, one might begin by assuming that they have a fighting chance of 50 percent of overcoming each of these obstacles even though for many barriers, probably almost all, the odds against them are much worse than that. Even with that generous bias, the chances they could successfully pull off the mission come out to be worse than one in a million, specifically they are one in 1,048,567. Indeed, the odds of surmounting even seven of the twenty hurdles at that unrealistically, even absurdly, high presumptive success rate is considerably less than one in a hundred. If one assumes, somewhat more realistically, that their chances at each barrier are one in three, the cumulative odds they will be able to pull off the deed drop to one in well over three billion--specifically 3,486,784,401. What they would be at the (entirely realistic) level one in ten boggles the mind. Comparisons with the 9/11 conspiracy. The difficulties confronting the 9/11 hijackers were considerable, but they were nothing like those confronting the atomic terrorist. The 9/11 conspirators did maintain extensive secrecy and group loyalty on their daring and risky endeavor, and their planning does seem to have been meticulous. But the size of the conspiracy was very small, they never had to trust strangers or criminals, technical requirements were minimal, obtaining flight training only took the money to pay for it, the weapons they used could legally be brought on planes, and, most importantly, they were exploiting an environment in which the policy was to cooperate with hijackers rather than fight and risk the entire plane--indeed, only a few months earlier three Muslim terrorists, in this case Chechens, had commandeered a Russian airliner and had it flown to Saudi Arabia where they were then overcome by local security forces with almost no loss of life (Kramer 2004/05, 58). Even at that, the 9/11 hijackers failed to accomplish their mission with the last of the four planes. A comparison of the personnel requirements for each case may make this clear. The 9/11 plot necessitated the recruitment and the training (minimal, except for the pilots) of a single group of men who were absolutely loyal to the cause. However, aside from a general physical ability and a capacity to carry out orders, they needed little in the way of additional qualities. In the case of the terrorist bomb, the conspiracy--or, actually, the sequential sets of conspiracies--mandate the enlistment of a much larger number of people, and most of these must not only be absolutely loyal, but also extremely skilled at an elaborate series of technical, organizational, and conspiratorial tasks. The bottom line. Keller suggests that "the best reason for thinking it won't happen is that it hasn't happened yet," and that, he worries, "is terrible logic" (2002). "Logic" aside, there is another quite good reason for thinking it won't happen: the task is bloody difficult. The science fiction literature, after all, has been spewing out for decades--centuries, even--a wealth of imaginative suggestions about things that might come about that somehow haven't managed to do so. We continue to wait, after all, for those menacing and now-legendary invaders from Mars.

# 2nc

### 2nc – ov/solvency wall

#### Counterplan solves 100% of the case and doesn’t link to the net benefit – prizes create a model for Darwinian innovation that create the most economically viable projects. This makes rapid growth of private development and public partnerships, which builds a model for long term development. That’s Gustetic 12’

#### Inducement prizes are effective and don’t trade off with other policies

#### Spurs economic growth and investment

Thomas Kalil 12/2006—Special Assistant to the Chancellor for Science and Technology at UC Berkeley “Prizes for Technological Innovation” The Hamilton Project-The Brookings Institution-an American think tank http://www.brookings.edu/~/media/research/files/papers/2006/12/healthcare%20kalil/200612kalil.pdf

Science, technology, and innovation are central to America’s continued economic growth. As policy analysts and economists have long recognized, private sector ﬁrms and the government play essential and complementary roles in innovation,including the development of new technology. Broadly speaking, the government creates an institutional setting and sponsors a knowledge base that makes innovation possible, whereasprivate sector ﬁrms take the lead on deciding what innovative new products and servicesshould actually be produced. Government efforts to promote research and development (R&D) rest on three pillars: funding, intellectual property rights, and education. First, the federal government uses grants, contracts, andappropriations to fund research efforts by private institutions, academic institutions, national labo- ratories, and other federally funded facilities; and uses tax incentives to encourage private ﬁrms to carry out R&D.Second, the federal government legislates and enforces intellectual property rights, such as those embodied in patents and trade secrets, so that private sector innovators have less reason to fear that other ﬁrms will copy their discoveries in the short term. Third, federal and state govern- ments support higher education, which helps create the workforce that is needed for research-intensive science and engineering ﬁrms. Nordhaus (2004) estimates that innovators them- selves captured only 2.2 percent of the total value of their innovations during the period 1948–2001. The balance of the social beneﬁt goes to other pro- ducers and to consumers of products that use the new invention. Even with publicly funded scientiﬁc discovery, patents, tax incentives, and other public support for science and technology, the innovators’ beneﬁts from innovation are only a small fraction of the broader social beneﬁts. Clearly, the private sector invests less in R&D than is justiﬁed by the beneﬁts for society as a whole. This paper proposes greater use ofinducement prizes, an old but currently underutilized public policy tool that stimulates technological innovation. Inducement prizes encourage efforts by contestants to accomplish a particular goal (NAE 1999). They are different from recognition prizes,such as the Nobel Prize, that reward researchers for past achievement. Inducement prizes are similar in spir- it to advance market commitments (AMCs): Under AMCs,governments commit to buy a given quan- tity of a product or service that meets prespeciﬁed performance goals. Inducement prizes and AMCs are policy tools that help to blend the best of public purpose and the creativity, energy, and passion of private sector entrepreneurial teams.Inducement prizes are not new. In 1714, in response to several shipwrecks that had resulted from inac- curate longitude measurements, the British Parlia- ment established a prize for the precise determina- tion of a ship’s longitude (Sobel 1996). In 1795, a prize was offered for a method of food preservation that would be usable by Napoleon’s military forces (Scotchmer 2004). In the early twentieth century, many advances in aviation such as faster speed, greater distance, and new technologies were driven by prizes sponsored by aeronautical societies, news- papers, mail companies, and interested individuals (Schroeder 2004). After frequent use between the eighteenth and ear- ly twentieth centuries, prize competitions largely fell out of use as a means to stimulate technologi- cal innovation. They have enjoyed a renaissance in recent years, however, attributable in part to the success of the Ansari X PRIZE. In 1996, Peter Diamandis established the X PRIZE to “promote the development and ﬂight of spaceships able to provide low-cost commercial transport of humans into space.” The X PRIZE Foundation offered a ten million dollar prize to the team that, without government support, developed a craft that could successfully send the pilot and two passengers (or equivalent weight) to a suborbital altitude of at least one hundred kilometers, and then repeat the ﬂight within two weeks. Aerospace designer Burt Rut- tan and his team at Scaled Composites, backed by Microsoft cofounder Paul Allen, won the prize on October 4, 2004, with the SpaceShipOne (Miller 2005). The X PRIZE Foundation is now sponsor- ing the X PRIZE Cup, which will eventually award prizes for spaceships that are faster, cheaper, safer, and can travel higher. In addition, the X PRIZE Foundation recently announced a ten million dol- lar prize for inexpensive and rapid sequencing of the human genome, and is exploring new prizes in areas such as high-mileage autos, education, space, the environment, nanotechnology, medicine, and social entrepreneurship.1 The proposal for a more widespread use of inducement prizes is in no way intended as a substitute for a more comprehensive and robust public sci- ence and technology policy. For example, the main- stream agenda recently set forth by the National Academies deserves and is beginning to receive serious consideration by policymakers (National Academies 2005).2 Inducement prizes can be a useful complement to, and under some circumstances may have advantages over, traditional funding mechanisms:

#### Empirical data

Williams ’12, PhD in economics from Harvard

Heidi, “Innovation Inducement Prizes: Connecting Research to Policy”, MIT Economics, http://economics.mit.edu/files/7823

Two recent papers have looked deeper into the historical record to construct counterfactual¶ analyses in order to assess the effectiveness of prizes in spurring innovation:¶ Brunt, Lerner, and Nicholas (in press) and Nicholas (2010).¶ Brunt, Lerner, and Nicholas (in press) collect a novel data set in order to analyze¶ innovation inducement prizes awarded by the Royal Agricultural Society of¶ England (RASE) between 1839 and 1939. The goal of RASE was to encourage¶ scientists to apply their skills to improving agricultural technologies. Starting in¶ 1839, RASE held annual prize competitions. One year in advance of the competitions,¶ RASE announced which technological areas would be targeted as well as¶ the number and value of prizes to be awarded in each area; judges authorized¶ payment of awards, or withheld them if the criteria for winning were not met,¶ and were also given discretion to award additional ex post prizes. These competitions¶ awarded substantial monetary prizes (in excess of 1 million pounds in current¶ prices) as well as prestigious but nonpecuniary medals. Between 1839 and¶ 1939, 15,032 inventions competed for these prizes and a total of 1,986 awards were¶ made.¶ To examine the question of whether these prizes encouraged innovation, the authors¶ assemble data on all applications for (and grants of) British patents from¶ 1839 to 1939, matched to information on competition entrants, prize winners, and¶ prize schedules (that is, the preannounced targeted technological areas as well as the¶ number and value of prizes). Following previous work, they also collect information¶ on whether renewal fees were paid for granted patents as a proxy for the quality¶ of patents (since inventors should be more willing to pay renewal fees for more¶ valuable patents; see Schankerman & Pakes, 1986).¶ Using this data, the authors present a number of empirical results. First, they find¶ that the RASE contests attracted large numbers of entrants. This is true for both¶ pecuniary and nonpecuniary prizes, with the largest entry effects arising from the¶ nonpecuniary RASE gold medal. Second, they find that prizes are associated with¶ 29 Dava Sobel’s 1996 book (Sobel, 1996) on the Longitude prize, mentioned in the introduction, could¶ similarly be described as an (extended) case study, but one that is not focused on providing a counterfactual¶ analysis.¶ 30 See http://www.oecd.org/dataoecd/8/48/42237166.pdf (last accessed January 29, 2012).¶ Journal of Policy Analysis and Management DOI: 10.1002/pam¶ Published on behalf of the Association for Public Policy Analysis and Management¶ 20 / Innovation Inducement Prizes¶ “real” changes in contemporaneous patenting activity in the technological areas¶ targeted by the RASE contests. This result suggests that RASE prizes were spurring¶ not only the entry of technologies into RASE contests, but actually spurring the¶ development of new technologies (asmeasured by patents) that would not otherwise¶ have been developed. Importantly, the induced innovation seems to be composed¶ of “high quality” inventions as measured by the renewal fee metric described above.¶ Within the sample of high-quality patents as defined by this measure, the authors¶ find that a doubling in monetary prize value is associated with a 4 percent increase¶ in contemporaneous patents, and that an additional medal is associated with a 20¶ to 21 percent increase in contemporaneous patents.¶ In a second recent paper, Nicholas (2010) examines a similar research question in¶ the context of Japan’s Meiji era—during which patents were introduced in Japan (in¶ 1885) and a large number of mostly nonpecuniary prizes were awarded (by 1911,¶ 1.2million prizes were awarded at 8,503 competitions). Using amethodology similar¶ in spirit to that in Brunt, Lerner, and Nicholas (in press), he finds evidence that¶ prizes increased patent outcomes on the order of 30 percent.¶ To summarize, both studies suggest prize awards—including nonpecuniary prize¶ awards—can encourage not only entry into prize contests, but also real innovation,¶ as proxied by patenting activity. Although the results of these studies clearly do not¶ imply that prizes will successfully spur innovation in all cases, they are suggestive¶ that the types of prizes that have been implemented in the past can be successful on¶ this metric.

#### They are empirically effective and avoid bureaucracy—and they’re popular with the public

Alex Schroeder 12/2004 Colorado School of Mines. Div. of Economics and Business Independence Institute “The Application and Administration of Inducement Prizes in Technology—The Technological Implications of Prizes”

The Technological Implications of Prizes Both recognition and inducement prizes seek to reward an individual or team for a breakthrough in a given field. These prizes have the option of rewarding advances in traditional thinking or the development of non- traditional thinking. This freedom plays a major advantage when weighing the potential methods employed to attain a prize. The vast audience that a prize competition allows for increases the possibility of non-traditional ideas to be proven more effective. Specifically, inducement prizes sidestep the bureaucratic approval often necessary to gain grant and project funding. Since prizes do not discriminate against the ideas that are involved in achieving a certain technological breakthrough a new methodology is free to gain otherwise unlikely exposure. These new ideas often spark public inter- est and media attention creating yet another benefit of prizes. Twenty-five percent of all Americans had personally viewed the Spirit of St. Louis in the year immediately following Charles Lindbergh’s Trans-Atlantic flight. Given the state of personal transportation in 1927 as compared to now, this is a staggering number. Prizes in technology have shown to inspire the public much in the same way the NCAA Tournament does for college basketball. As of July 2004, the X Prize1 had regis- tered 3 billion print impressions of its name in newspapers, journals, and web sites.2 This number has undoubtedly increased significantly after Burt Rutan claimed the X Prize in October. Prizes have historically been very effective at drawing public sentiment to a technology. An increase in public sentiment means a sequential increase in technology visibility and proliferation. This is evidenced by the way that the country latched on to information technology in the development of Silicon Valley.

#### Prizes are key to technological innovation and federal agencies have authority

Porter, reporter for the Wall Street Journal, 6/19/2014 (Caroline, “Innovation Contests With Cash Prizes Attract More 'Average Joes'” Wall Street Journal http://online.wsj.com/articles/innovation-contests-with-cash-prizes-attract-more-average-joes-1403151163)//JSutter

Government and private foundations increasingly are using prize money to allow even Average Joes to help find outside-the-box solutions to complex problems, according to a report set to be released Thursday. From a search for new technology to thwart robocallers to a bid to boost the number of college graduates living in cities, solutions to public problems are more often being sought from open contests in addition to more traditional methods, such as contracts with experts and consultants. Results from "citizen solvers" so far are promising, with more than 350 government and philanthropic prizes awarded since 2010. Among the 2009 winners was a Maine engineer who created a more durable and flexible astronaut glove for NASA. The median purse for the government prizes has jumped to about $10,000 in 2013 from about $2,000 in 2010, according to the report, which was funded by Bloomberg Philanthropies and the Case, Joyce, Knight, Kresge and Rockefeller foundations. While only two federal contests boasted prizes of more than $100,000 in 2010, the number jumped to 13 in 2012 and nine in 2013, the report said. "The big takeaway is that challenges and prizes are no longer an exotic innovation strategy, but rather they are becoming mainstream," said Jesse Goldhammer, co-author of the report and a consultant with an innovation arm of Deloitte Consulting LLP. "Innovation is not just you go into a corner and come out with a fresh, new idea. We're really starting to see it as something you cultivate from beginning to end." The report, which details specific strategies to make the prizes work, breaks down the different goals of prizes into six categories, ranging from developing prototypes to raising public awareness of key issues. The America Competes Reauthorization Act of 2010, which gave federal agencies broader powers to use prizes, opened the door for the boom, Obama administration officials said. More than 50 agencies have used contests, said Cristin Dorgelo, the assistant director for Grand Challenges at the White House Office of Science and Technology Policy. "It's high leverage on the dollar," she said. "You're only paying for success." In the philanthropic world, the use of competitions to award grant money remains a fairly new concept, according to Patrick Rooney, a professor of economics and philanthropic studies at the Indiana University Lilly Family School of Philanthropy. "The motivation for these prizes is trying to break out of the same-old, same-old model, and introduce and induce new actors into the field," said Mr. Rooney, who added that the extra publicity doesn't hurt either. Private companies are using contests, too. In 2006, the [Netflix](http://quotes.wsj.com/NFLX) [NFLX -2.48%](http://quotes.wsj.com/NFLX) Prize offered $1 million to anyone who could formulate algorithms that accurately could guess user preferences for movie choices. Three years later, with more than 40,000 teams' submissions, Netflix Inc. awarded the prize to a team of seven researchers from four countries. [International Business Machines](http://quotes.wsj.com/IBM) Corp. [IBM -0.26%](http://quotes.wsj.com/IBM) received about 400 applications from 43 countries for its 2014 Watson Mobile Developer Challenge that asked contest participants to devise apps by using its cloud-based computing technology. "The challenge itself is a vehicle we have found to be extremely productive at achieving a desired result but doing so in a much more efficient fashion," said Stephen Gold, vice president of IBM Watson Group. Donald Coolidge, chief executive of Majestyk Apps, spent several months working late nights and weekends on a soft, cuddly toy known as FANG that learns along with the child playing with it. His team was one of the three final winners. "We all felt our ideas were validated by winning," he said. "The thing we heard most was, 'I want one and when does it come out?' "

## Spillover

### 2nc – spill over

#### Prizes spill over to create new industries

Hendrix ’14, Director for emerging issues and research at the U.S. Chamber of Commerce Foundation

Michael, “The Power of Prizes”, http://www.uschamberfoundation.org/sites/default/files/Power%20of%20Prizes\_0.pdf

Prizes don’t emerge from vacuums. They act as leverage to encourage ¶ capital to be invested according to measurable benchmarks. Quite often ¶ these funds begin dispersed across public and private sectors and are only ¶ brought together once a prize is announced and teams form to compete.25 ¶ as we saw with the ansari XPrize, these investments often exceed the size ¶ of the cash prize and go on to craft brand new industries.26 a successful ¶ prize contest will generate spillover benefits in publicity and prestige that ¶ overwhelm the value of the prize itself.¶ The prominent, democratic nature of prizes can stimulate a high degree ¶ of competition, often from surprising corners. Contestants range from ¶ companies and academics to entrepreneurs and garage-bound tinkerers. ¶ sponsors are able to tap into these diverse pools of creativity and reserves of ¶ fresh ideas that they may not have been able to previously identify. as bill Joy ¶ of intel famously remarked, “no matter who you are, most of the smartest ¶ people work for someone else.”27 Prizes are a mechanism for widening the ¶ talent pool in pursuit of solutions.¶ Prizes then are marked by boldness and tempered by reality, while avoiding ¶ the prescriptive focus that marks grant programs. no wonder the solutions ¶ are often just as unexpected as those in pursuit of them.

#### The technology from prizes become commercialized- here’s some examples

Hendrix ’14, Director for emerging issues and research at the U.S. Chamber of Commerce Foundation

Michael, “The Power of Prizes”, http://www.uschamberfoundation.org/sites/default/files/Power%20of%20Prizes\_0.pdf

Return on investment is a central part of fostering sustained innovation. To¶ that point, Peter Diamandis of XPRIZE estimates that innovation contests¶ return somewhere between 10 and 40 times their initial investment.44¶ Moreover, a recent report on Shell’s Springboard Prize, a contest for finding¶ innovative business ideas in low carbon technology, found that it boasted¶ a return on investment of between 200% and 900%, if return is measured¶ according to the spending and investment by competitors and the expense of¶ managing the competition.45 Still, it remains unclear what causes this variation¶ in return, and there is much work to be done to comprehensively catalogue¶ the costs versus the gains for prizes throughout history. Only 23% of the prize¶ sponsors surveyed by McKinsey annually evaluated the impact of their prizes.46¶ Moreover, we need to ask just how much investment is being undertaken in¶ industries that use prizes beyond what would have been the average.¶ As for whether prizes can kick-start the formation of a new industry, we¶ need only refer to the previously cited example of XPRIZE (though there¶ are others). With the advent of Virgin Galactic after Burt Rutan’s successful¶ space flights, additional firms have moved into the space tourism market to¶ compete for what has gone from being a nonexistent market to a projected¶ $1 billion industry by 2022.47 Private investors have already poured well more¶ than $1.5 billion into the industry48, and Rutan’s company, Scaled Composites,¶ was later sold to aerospace and defense firm Northrop Grumman.49¶ Prizes can also rejuvenate existing markets and industries. The Super Efficient¶ Refrigerator Program (SERP) offered a $30 million prize in 1992 as a golden¶ carrot incentivizing the creation of a highly efficient, CFC-free refrigerator¶ design.50 A year later, Whirlpool was announced as the winner for making a¶ design that was over 25% more efficient than what federal standards required¶ then. Similarly designed refrigerators now make up a third of the U.S. market,¶ and each consumes half as much electricity as typical units did prior to 1993.51¶ While numerous anecdotes are available on the ability of prizes to jump-start¶ industry creation or rejuvenation, there is little research available that offers a¶ systematic account of market creation or the consumer benefit derived from it.¶ U.S. Chamber of Commerce Foundation | 1 1¶ Similarly, no comprehensive study exists of the spillover effects from prizes.¶ And again, the example of Whirlpool’s successful refrigerator design applies.¶ The company created a system known as ExacTrack to monitor the sales of its¶ efficient refrigerators, in keeping with the SERP program’s requirement that¶ contestants be able to track 25% of the units sold and shipped.¶ The system proved highly successful not just for Whirlpool but also for the¶ utility companies that were partly sponsoring the SERP program, as they now¶ had a mechanism to monitor appliance location and energy usage as well as¶ “provide critical data to identify regional markets, identify behavior in those¶ markets, and identify sales.”52 DuPont also gained in reputation from the¶ successful flight of the Gossamer Albatross; in fact, it went on to back other¶ solar-powered flights due to the success of its original sponsorship.53

#### Others sectors transform goals

Luciano Kay 5/17/2012—Postdoctoral Scholar with the Center for Nanotechnology in Society at University of California Santa Barbara (CNS-UCSB) and a Research Associate with The Georgia Tech Program in Science, Technology and Innovation Policy (STIP), Georgia Tech. “Opportunities and Challenges in the Use of Innovation Prizes as a Government Policy Instrument” supported in part by the U.S. National Science Foundation under Grant Number SBE-0965103

There are at least two areas in which prizes are more likely to present advantages over other incentive mechanisms for S&T policies. Prizes can accelerate the development and/or commercialization of existing technologies that are held back for diverse reasons and help to leverage public money with external ideas, collaborative efforts, and the participation of diverse individuals and organizations (including companies, universities, NGOs and others generally not involved with the prize technologies) and the public. To be effective, however, prizes have to: target speciﬁc technological problems for which the achievement of a solution will be unequivocal, veriﬁable, and visible to the judges, the competitors and the public; address issues that can be tackled with the base technologies that are generally available to all entrants and within a reasonable development lead time given by the prize deadline; and, balance both cash rewards with other non-monetary incentives that are also important for entrants (Kay 2011b, 2011a). Prizes as a policy instrument have additional effects when they serve the goals of S&T policies. The announcement of a prize with a concrete technological target generally induces converging problem-solving efforts of entrants, their partners, and collaborators. But, increasing promotional efforts of the prize sponsor and prize entry requirements that are easier to meet can also attract and allow the participation of individuals and organizations motivated for reasons other than the cash purse or the achievement of the prize challenge. This is because being involved with the prize offers these entrants the opportunity to learn and gain experience with technology development, focus other personal or organizational efforts, or create a commercial enterprise based on the prize technologies, for example. Through this aggregate of problem-solving efforts, other diverse undertakings of the participants, and the emerging network of interactions, entrants can access funding, collabora- tors, partnerships, customers, and other valuable in-kind resources. Over time, prizes with widespread and vibrant participation can even become a self-sustaining community in the ﬁeld (Kay 2011b)

#### Normal means is that prizes get used by all

Hendrix ’14, Director for emerging issues and research at the U.S. Chamber of Commerce Foundation

Michael, “The Power of Prizes”, http://www.uschamberfoundation.org/sites/default/files/Power%20of%20Prizes\_0.pdf

Prizes, once available, must be public and open to all. This increases the¶ odds of success and, as The Economist notes, “can inspire solutions that are¶ hard to find in industry.”58 There can be particular criteria for entrance, but¶ only insofar as they do not deny the potential for a relatively large number¶ of participants. Quite¶ often the exclusion¶ is self-enforced due¶ to the risk and costs¶ being borne by the¶ contestants.59¶ Successful prizes clearly¶ specify the terms of¶ the reward and make a¶ credible commitment¶ to follow through.¶ There must be no¶ ambiguity on the prize,¶ as it helps contestants¶ to weigh their chances¶ against the amount¶ of time and money they will spend in pursuit.60 This, in turn, encourages the¶ leveraging of further investment and offers a valuable signal of performance¶ for contestants.61

### 2nc – cp solves investment

#### Prizes lead to 10X the amount of investment the plan does

Kalil ‘6, Expert on technology and innovation policy, and Deputy Director for Policy for the White House Office of Science and Technology Policy

Thomas, “Prizes for Technological Innovation”, Brookings Institute, http://www.brookings.edu/~/media/research/files/papers/2006/12/healthcare%20kalil/200612kalil.pdf

4. Under some circumstances, prizes can stimulate¶ philanthropic and private sector investment that¶ is greater than the cash value of the prize. For¶ example, the ten million dollar Ansari X PRIZE¶ was financed by a one million dollar insurance¶ policy, and the X PRIZE Foundation reports¶ that the prize stimulated at least one hundred¶ million dollars in private sector investment¶ (Diamandis 2006). This leverage can come from¶ a number of different sources. Companies may¶ be willing to cosponsor a competition or invest¶ heavily to win it because of the publicity and the¶ potential enhancement of their brand or reputation.¶ Private, corporate dollars that are currently¶ being devoted to sponsorship of America’s Cup¶ or other sports events might shift to support¶ prizes or teams. Wealthy individuals are willing¶ to spend tens of millions of dollars to sponsor¶ competitions or bankroll individual teams simply¶ because they wish to be associated with the¶ potentially historical nature of the prize. Most¶ areas of science and technology are unlikely to¶ attract media, corporate, or philanthropic interest,¶ however.¶ 5. Prizes can attract teams with fresh ideas who¶ would never do business with the federal government¶ because of procurement regulations¶ (e.g., accounting and reporting requirements)¶ that they may find burdensome. This effect is¶ important because, as Baumol (2004, p. 5) notes,¶ “the independent innovator and the independent¶ entrepreneur have tended to account for¶ most of the true, fundamentally novel innovations.¶ In the list of the important innovative¶ breakthroughs of the twentieth century, a substantial¶ number, if not the majority, turn out to¶ be derived from these sources rather than from¶ the laboratories of giant business enterprises.”¶ As examples of small-firm innovations, Baumol¶ cites the airplane, air conditioning, the electronic¶ spreadsheet, FM radio, the high-resolution¶ CAT scanner, and the microprocessor.

### Innovation/STEM

#### Prizes solve- most effective, ensure best performance, and incentivize innovation

Hendrix 1-14-14, Director of Emerging Issues & Research U.S. Chamber of Commerce Foundation

Michael, “The Power of Prizes”, U.S. Chamber of Commerce Foundation, http://www.uschamberfoundation.org/library/2014/01/power-prizes

Prizes have existed since the dawn of man. As modern civilization grew, they become a tool for incentivizing progress. Yet, it was only in the past few centuries that we came to view prizes as some of the most effective—and overlooked—tools for incentivizing breakthrough solutions.¶ Prizes are wrapped up in a quest for prosperity and economic growth, which in turn depends on the development of new ways of working, living, and thinking—in short, innovation. We need ways to incorporate more market gain into the personal incentive to innovate. Intellectual property does so by rewarding innovators with ownership of their work and a share of its value over time. Prizes also act as incentives by bringing forward a share of future gains from innovation into the present while releasing ownership of the work to the public.¶ What sets prizes apart is that they are applied to opportunities, both large and small, where a breakthrough seems within reach with just the right “kick.” By blending public aims with private initiative, prizes are able to “tap a primitive urge to win, and to be seen winning,” in order to make great things happen.1¶ ¶ By better understanding innovation prizes, we will begin to see why they may be more needed now than ever before.¶ WHAT’S THE HISTORY OF PRIZES?¶ ¶ Homer’s Illiad sets out one of the first descriptions of prizes in history. We see Achilles atop a funeral pyre, calling on his men to compete in honor of Patroclus, whose death he would glorify through sport. He proclaimed prizes of gold and horses, and “once Achilles finished speaking, swift charioteers rushed into action,” for they were “keen to win.” ¶ We may be long past the time of Greek myth, but in more modern history, we have seen prizes spur action in surprising ways, none more so than with the great European contests of the 18th and 19th centuries. Over the course of the 18th century alone, prizes funded more than twice as many scientific efforts than were paid for by grants.2 And things were just getting started. William Masters and Benoit Delbecq write that “the early 20th century saw an even greater burst of prizes for breakthroughs in transportation and civil aviation, financed by newspapers and others.”3¶ Yet, these gains were short lived. A rising tide of government largesse in the wake of the Second World War soon swamped prize funding and relegated it to obscurity. Moreover, increasing amounts of research money were going to large-scale projects in the national security sphere that had little need for the publicity that prizes brought. It was not until the late 1970s that private funding of research and development (R&D) began to break away and rise above the levels of federal support.4¶ By the 2000s, large amounts of private capital were available to a growing range of innovative endeavors, proving to be a fertile ground for the further development of XPRIZE and others. Foundations were established to channel research funds toward social goods. Moreover, governments were searching for new ways to fund applied research beyond the simple grant-making framework. ¶ Prizes are an idea whose time has come again.¶ WHAT ARE PRIZES, EXACTLY?¶ ¶ Prizes encourage innovative activity in pursuit of relevant problems. Sponsors articulate the challenge and the terms of success, and the innovator assumes the cost and risks while enjoying relative freedom in finding a solution. What matters most of all is that anyone can compete and win—the only thing that matters is performance.¶ Why compete? The biggest lesson from across centuries of contests is that people strive for attention as much as they do for the money. If it weren’t for both non-monetary and monetary incentives working in union, we wouldn’t see, for instance, the contestants of XPRIZE spending more than ten times the sum of the prize purse in order to claim it.5 Prize monies mostly serve to get innovators to the point of action—to meet their “natural investment threshold.”6¶ The democratic nature of prizes can stimulate a high degree of competition, often from surprising corners. Contestants range from companies and academics to entrepreneurs and garage-bound tinkerers. Sponsors are able to tap into these diverse pools of creativity and reserves of fresh ideas that they may not have been able to previously identify. As Bill Joy of Intel famously remarked, “No matter who you are, most of the smartest people work for someone else.”7¶ ¶ Prizes then are marked by boldness and tempered by reality, while avoiding the prescriptive focus that marks grant programs.8 No wonder the solutions are often just as unexpected as those in pursuit of them.9¶ ¶ ARE PRIZES SUCCESSFUL?¶ ¶ Prizes infuse the spirit of competition into efforts bent on addressing market failures and adding to public knowledge. Problems that were once ignored are given new life within a market-driven framework. Or consider the spillover effects alone. The human-powered Gossamer Albatross, which won the Kremer Prize in 1979 for its flight across the English Channel, helped demonstrate and lead to the adoption of Dupont’s Kevlar composite and many other now-vital synthetic products.10¶ A recent study offers the most substantive case for prizes leading to innovation. It reviews nearly 2,000 prizes awarded by the Royal Agricultural Society of England (RASE) over a one-hundred-year period, from 1839 to 1939.11 Those who won the prizes were much more likely to receive and renew patents, and doubling the prize purse led to upwards of a 33% increase in patented innovations. Even those who lost their contests cumulatively received more than 13,000 patents. As one British journal remarked in 1867 about the RASE prizes, “It is indisputable that these competitive trials have done, and are doing, much to raise agricultural engineering to the highest standards of efficiency and economy.”12¶ A more recent study of the crowdsourcing platform Innocentive found that its community of problem-solvers succeeded in winning 30% of the prizes on offer. These were hundreds of problems that quite often had stymied the research labs of leading companies and nonprofits.13 According to Innocentive, roughly 85% of the 1,700 external-facing challenges that it measured were successful, with credit going to their methodology and approach.14WHAT’S THE MARKET?¶ ¶ The market for innovation prizes has grown dramatically over the past decade. Yet, it is surprisingly difficult to know for certain just how large the space is.¶ McKinsey’s 2009 report on philanthropic prizes boasts the most accurate (if not the most up-to-date) data yet. According to the consultancy, the current prize sector is sized somewhere between $1 billion and $2 billion, with cumulative prize pursues having tripled during the 2000s to $375 million.15 Viewed over the span of the past four decades, prizes have enjoyed a 15-fold growth in value—much of these funds are from the private sector.¶ Since the time of McKinsey’s report, there has been a massive rise in the government use of prizes, particularly with the U.S. Congress’s passage of the America COMPETES Reauthorization Act in 2009.16 Whereas in previous years only NASA and the Department of Defense enjoyed the authority to commission and implement prizes, now every federal agency can assume the lead role in sponsoring a prize.17¶ While the public sector has moved more energetically into the prize space, traditional approaches toward incentivizing innovation have remained. Prizes continue to function as a compliment to other funding mechanisms, such as grants, and incentive structures, such as patents.¶ WHAT’S NEXT?¶ Much of the low-hanging fruit of innovation has already been plucked, particularly for prizes. The challenges that remain fall into two categories: the complex problems requiring large, cross-disciplinary teams, and those pushing for discrete, small-scale advances that are primed for crowdsourced solutions.¶ No matter the realm in which prizes are applied in the years to come, the most remarkable advance may well be how normal or obscure they become. That may pose challenges for creating publicity, but it will do wonders for establishing prizes within an institutional framework for spurring innovation.¶ We will likely see a greater trend in the outsourcing of research and development as companies look to balance scarce resources with greater needs for innovation. Similarly, we will see more reasons for the growth in public-private partnerships as agencies attempt to leverage greater investment and outsource key activities.¶ It is in the private sector where we will see a diverse range of prize structures and applications arise. There’s a much wider variety of applications and actors in the private marketplace, all while the increasing scope of technological gain increases the reward from innovation.¶ SO WHAT?¶ ¶ Prizes have long been more potential than reality. With a well-informed application to the most pressing challenges in innovation, prizes may soon become a more common way to incentivize our most inquiring minds. What makes prizes so compelling today is that while we live on the innovation frontier with vast possibilities ahead, all we clearly see is a present humbled by the past. Where moon shots once lit up our skies, we’re left gazing down at our smartphone’s soft glow. Prizes open the imagination to what is unseen.

### Pharmaceuticals

#### Government programs with the private sector solve disease

Kremer 2K, Senior Fellow at the Brookings Institution

Michael, “A Better Way to Spur Medical Research and Development”, Cato, http://object.cato.org/sites/cato.org/files/serials/files/regulation/2000/7/kremer.pdf

Potential Sponsors Recently, two institutions that traditionally¶ have taken a centralized, statist, approach to r&d¶ have begun exploring market-oriented approaches.¶ World Bank president James Wolfensohn said recently¶ that his institution plans to create a $1 billion loan fund to¶ help countries purchase specified vaccines if and when¶ they are developed (Financial Times, February 2, 2000). It is¶ not clear whether the Wolfensohn proposal will pass¶ through the organization’s internal bureaucracy and win¶ board approval.¶ The U.S. government, which sponsored the ill-fated¶ usaid effort to find a malaria vaccine, is now considering¶ a more market-oriented approach. Private firms, rather than¶ government bureaucracies, would make research decisions,¶ knowing that they would be paid only if they develop effective¶ vaccines. Specifically, the Clinton administration’s budget¶ proposal would match every dollar of qualifying vaccine¶ sales with a dollar of tax credit, effectively doubling the¶ incentive to develop vaccines for neglected diseases. A qualifying¶ vaccine would have to attack an infectious disease that¶ kills at least one million people a year and would have to be¶ approved by the fda. To qualify for the tax credit, sales¶ would have to be made to approved nonprofit organizations¶ or international institutions. The program’s matching¶ feature could encourage the funding of vaccine purchases by¶ nonprofit organizations, international institutions, and the¶ governments of developing countries. The cost of the program¶ would be capped at $1 billion and it would run from¶ 2002 through 2010, but it could be extended for 10 years if¶ no vaccine has been developed in that time.¶ Private foundations could also play a major role in creating¶ markets for new vaccines. Because foundations have¶ more continuity of leadership, they can more easily make¶ credible commitments to purchase new vaccines. (The¶ Gates Foundation, for example, has $22 billion in assets; one¶ of its main priorities is to provide vaccines for developing¶ countries.) U.S. law requires private foundations to spend¶ at least 5 percent of their assets annually. A U.S. foundation¶ could spend 5 percent of its assets annually on grants to¶ expand the use of existing vaccines and to fund vaccine¶ research, while using some of its principal to back a pledge¶ to purchase and distribute effective new vaccines, if and¶ when they are developed.¶ CONCLUSION¶ the united states currently supports r&d through¶ the granting of patents and government-funded research.¶ It is time to consider supplementing these mechanisms. In¶ particular, programs to help create markets for malaria,¶ tuberculosis, and aids vaccines could harness the resources¶ and expertise of the private sector in the fight against the¶ world’s worst infectious diseases while avoiding the inefficiencies¶ associated with many government programs.¶ Commitments to buy large quantities of vaccines could¶ lead to the development and delivery of effective vaccines at¶ low cost, saving millions of lives. Taxpayers would pay nothing¶ unless and until those vaccines have been developed.

### Climate Change

#### Prizes comparatively solve warming best

Adler ‘9, Professor of Law and Director of the Center for Business Law and Regulation, Case Western Reserve University School of Law

Jonathan H., “EYES ON A CLIMATE PRIZE: REWARDING ENERGY INNOVATION TO ACHIEVE CLIMATE STABILIZATION”, Harvard Environmental Law Review, http://www.law.harvard.edu/students/orgs/elr/vol35\_1/HLE101.pdf

Stabilizing atmospheric concentrations of greenhouse gases at double their pre-industrial¶ levels (or lower) will require emission reductions far in excess of what can¶ be achieved at a politically acceptable cost with current or projected levels of technology.¶ Substantial technological innovation is required if the nations of the world¶ are to come anywhere close to proposed emission reduction targets. Neither traditional¶ federal support for research and development of new technologies nor traditional¶ command-and-control regulations are likely to spur sufficient innovation.¶ Technology inducement prizes, on the other hand, have the potential to significantly¶ accelerate the rate of technological innovation in the energy sector. This Article¶ outlines the theory and history of the use of inducement prizes to encourage and¶ direct inventive efforts and technological innovation and identifies several comparative¶ advantages inducement prizes have over traditional grants and subsidies for¶ encouraging the invention and development of climate-friendly technologies. While¶ no policy measure guarantees technological innovation, greater reliance on inducement¶ prizes would increase the likelihood of developing and deploying needed technologies¶ in time to alter the world’s climate future. Whatever their faults in other¶ contexts, prizes are particularly well suited to the climate policy challenge.

#### Prizes solve- incentives lead to innovative solutions

Adler ‘9, Professor of Law and Director of the Center for Business Law and Regulation, Case Western Reserve University School of Law

Jonathan H., “EYES ON A CLIMATE PRIZE: REWARDING ENERGY INNOVATION TO ACHIEVE CLIMATE STABILIZATION”, Harvard Environmental Law Review, http://www.law.harvard.edu/students/orgs/elr/vol35\_1/HLE101.pdf

Meeting the climate policy challenge will require policymakers to expand¶ their policy toolkit. Spurring technological innovation requires something¶ more ambitious, and yet more simple, than the traditional tools¶ deployed most often today. If the goal is to spur needed innovation of the¶ sort that might make various greenhouse GHG targets achievable, policymakers¶ should reconsider the use of technology inducement prizes. Prizes¶ are particularly well-suited for the climate policy challenge because the¶ threat of global warming cannot be reduced by any meaningful degree without¶ dramatic technological breakthroughs that enable reductions in atmospheric¶ concentrations of GHGs, and traditional innovation tools are¶ inadequate. Patent protection provides ample incentive to innovate in many¶ areas, but not where, as here, there is no direct economic benefit to be derived¶ from relevant inventions. Specifically, because the atmosphere is, for¶ all practical purposes, a global, open-access commons, there is no price on¶ GHG emissions, no direct economic incentive to reduce such emissions, and¶ consequently no meaningful market for GHG emission-reducing technologies.¶ 23 Without such a market, there is little economic incentive to pursue¶ patents in this area.24 Prizes can fill the gap by providing the promise of¶ supercompetitive returns for the development of climate-protecting innovations.¶ Whatever their faults in other contexts, prizes are particularly well¶ suited to the climate policy challenge.

### Tragedy of the Commons

#### Privatization is a key to project success- personal incentive proves

Hannesson ’4, Professor at Norwegian School of Economics

Rögnvaldur, “The Privatization of the Oceans”, Pgs 12-14, EbscoHost

1 Economic Welfare and the Evolution of Property Rights¶ The economic system in what we usually call Western industrialized countries¶ is based on private property. Property rights extend not just to small¶ items for personal use or larger items for one’s immediate family such as¶ dwellings; they also extend to means of production, and land and its¶ various resources. It can be argued that property rights to means of production¶ and land is a fundamental reason for the success of this economic¶ system. This arrangement also is, or has been, highly controversial. Socialism¶ arose in protest against it and its perceived injustice. That perception¶ was not without foundation. The Industrial Revolution made those who¶ owned land and means of production immensely rich, but it is doubtful¶ whether it made others poorer, at any rate in absolute terms. Pre-industrial¶ societies were anything but affluent and egalitarian. Some individuals have¶ always been able to get an edge over others, either by birth or by knowing¶ how to maneuver themselves into positions of power and privilege. The¶ Industrial Revolution and the economic development that followed raised¶ the living standards of all nations in which it took place and brought “the¶ common man” riches that his ancestors eking out a precarious subsistence¶ would never even have dreamed of.¶ Yet the societies undergoing the Industrial Revolution or having just¶ emerged from it were marred by a skewed distribution of wealth and the¶ class struggle which it generated. Less than 100 years ago, socialism was a¶ still untested dream of a more just and harmonious society. Many believed¶ in it and offered their lives for it. As the practical experiments with socialism¶ got under way, first in the Soviet Union and later in other countries,¶ the dream became harder to believe. It finally ended in a nightmare, and¶ the experiment collapsed when the Soviet Union, the first socialist state,¶ fell apart. Most of the few remaining states with a nominal association with¶ socialism are now busy distancing themselves from its economic principles¶ and practices.¶ What brought the experiment down? Could it have ended otherwise?¶ The diehards would say that socialism has not really been tried yet. Even¶ if the downfall of the Soviet Union has many and complex causes, one¶ seems most important: the socialist system simply was not productive¶ enough. The material standard of living in the affluent “West” further and¶ further outpaced that in the socialist “East.” Even if the socialist East did¶ its best to keep out Western media, awareness of the difference trickled¶ down to the general public in the socialist countries, and members of their¶ elite who traveled abroad became painfully aware of it.¶ This was not always so evident. In the 1950s and the 1960s, when¶ Sputnik went aloft and the Soviet Union demonstrated the quality of its¶ science and the prowess of its technology to the entire world, many people¶ in the capitalist West, economists among others, believed that the socialist¶ economies might one day overtake the capitalist economies in terms of¶ material production. The economic growth of the Soviet Union seemed¶ impressive; the fact that it still lagged behind the United States could be¶ explained by a lower starting level and the devastation of World War II.¶ The famous American economist Paul Samuelson published a diagram in¶ the 1961 edition of his classic introductory textbook showing that the¶ Soviet Union might overtake the United States in gross national product¶ by the year 2000. The text accompanying the diagram reveals the undecided¶ nature of the economic contest between the two superpowers at the¶ time. “All seem to agree that [the Soviet Union’s] recent growth rates have¶ been considerably greater than ours as a percentage per year. . . . It will be¶ evident that the Soviet Union is unlikely to overtake our real GNP for a¶ long time to come, and our per capita welfare level for a still longer time¶ to come. . . . [O]ur two systems are on trial in the eyes of many uncommitted¶ underdeveloped nations.” But Samuelson concluded “on a note of¶ optimism. . . . Our mixed economy—wars aside—has a great future before¶ it. Writing a textbook some 30 years ago, one could not have said all this:¶ looking around at the shrinking international trade network, at the¶ collapsing banking structure, at the grim specter of poverty midst plenty,¶ some might then have despaired over the future of free societies.”1 This¶ last quotation may serve to remind us that, however productive capital-¶ ism may be, it will survive in democratic societies only if it succeeds in¶ distributing its fruits reasonably equitably.¶ Private property rights are not the whole story behind the success of¶ Western capitalism; the issue is immensely more complicated than that.¶ Pre-industrial societies did not lack private property rights; they lacked a¶ technology and an organizational framework that would have made it possible¶ to use such rights productively. What capitalism and the Industrial¶ Revolution accomplished was to mobilize the surplus value produced by¶ labor (i.e., the value over and above what was needed to maintain and¶ reproduce the labor force) for investment, making a still greater surplus¶ possible. Many societies of the past were rich and produced substantial¶ surplus value, but that value was appropriated by a predatory and unproductive¶ ruling class and by the church or other religious or ceremonial¶ institutions. The cathedrals of Europe, the pyramids of Egypt, and the¶ temples of Thailand are among the legacies of this past. And societies did¶ not have to be very productive to do this; the Easter Islanders converted¶ their meager surplus production to carving statues out of their mountains¶ and transporting them over long distances to the places where they were¶ erected, their stony faces staring sternly at the lowly inhabitants who lived¶ in primitive huts they could not even enter upright. How the limited technological¶ knowledge of the Easter Islanders enabled them to do this still¶ boggles the minds of those who try to understand it.¶ That private property should be among the keys to general prosperity is¶ more than a little paradoxical. Private property is a manifestation of selfinterest¶ and greed; if we were happy to share everything, there would be¶ no reason for private property. It is indeed paradoxical that a system based¶ on self-interest and greed has proven itself superior to socialism, which is¶ based on shared interests and common ownership. Dreamers of all ages¶ have found it difficult to come to terms with this. No one has, perhaps,¶ expressed it more eloquently than the famous French romantic Jean-¶ Jacques Rousseau2:¶ The first man, having enclosed a piece of land, [who] thought of saying “this is¶ mine” . . . was the true founder of civil society. How many crimes, wars, murders;¶ how much misery and horror the human race could have been spared if someone¶ had pulled up the stakes and filled the ditch and cried out to his fellow men: “Beware¶ of listening to this impostor. You are lost if you forget that the fruits of the earth¶ belong to no one!”¶ And no one has replied more eloquently than Rousseau’s countryman¶ Voltaire, who scribbled this in the margin3:¶ What? He who has planted, sown, and enclosed some land has no rights to the¶ fruits of his efforts? Is this unjust man, this thief to be the benefactor of the human¶ race? Behold the philosophy of the beggar who would like the rich to be robbed by¶ the poor!¶ And in a letter to Rousseau, Voltaire added this4:¶ I have received, monsieur, your new book against the human race, and I thank you.¶ No one has employed so much intelligence to turn us men into beasts. One starts¶ wanting to walk on all fours after reading your book. However, in more than sixty¶ years I have lost the habit.¶ Private property and self-interest constitute a powerful incentive mechanism.¶ Being assured of the fruits of his efforts, the owner of a piece of¶ land, a factory, or a mineral deposit has an obvious interest in taking good¶ care of it and using it in the most productive way. Furthermore, a system¶ of ordered and accepted property rights avoids devastating struggles over¶ what would otherwise come into and remain in one’s possession through¶ taking and defending by force. Finally, as was emphasized by Hernando de¶ Soto, secure property rights make it possible to “mobilize” property by¶ using it as a collateral for credit to initiate new, productive projects or¶ expand existing ones.5¶ Would humanity have chosen an economic system based on selfinterest¶ as a driving force and private property as a mode of organization¶ if we were to design it from scratch, not knowing what would work and¶ what would not? Probably not. Chances are that we would find it repugnant,¶ and that we would instead go for a system with a more sympathetic¶ appeal, one based on common property and care for our fellow human¶ beings (this is what socialism was supposed to be about). But market capitalism¶ was not designed from scratch, and it did not descend upon us all¶ of a sudden. Market capitalism has evolved over a long period of time,¶ through small changes and adaptations of institutions, and historians can¶ probably argue endlessly about what got it going. It is, as the Scottish¶ philosopher Adam Ferguson put it about jurisprudence, a “result of human¶ action and not of human design.”6¶ Another reason why the victory march of market capitalism is somewhat¶ surprising is that this system seems to be a recipe for chaos rather than¶ coordination. In capitalist market economies there is no single coordinat-¶ ing institution; decisions are made by individuals, on the basis of their (or¶ their employer’s) self-interest. It is not obvious how all these decisions¶ interweave into a coherent whole capable of satisfying human needs in an¶ acceptable manner. As Thomas Schelling has aptly noted, there are many¶ cases where the overall consequences of individual decisions are unexpected¶ and maybe unacceptable, yet unintended.7 The sum of individually¶ innocuous parts can be evil. Worries about the coordination failures of¶ market capitalism have compelled many economists to propose that the¶ state should govern the economy in some detail. Indeed, there have been¶ times, especially during the Great Depression, when capitalist market¶ economies did not seem to be functioning well, as the above quotation¶ from Samuelson alludes to. Today, however, few ideas have lost currency¶ to a degree comparable to the “economics of planning.”¶ That social welfare can be maximized through individual pursuit of¶ private interest has been known since Adam Smith if not longer. Smith’s¶ famous phrase “as if guided by an invisible hand” does little, however, to¶ explain how the coordination problem is solved, and it must still be¶ regarded as a bit of a mystery how in fact this is achieved in a market¶ economy. To some extent coordination may be fortuitous and specific in¶ time and space; coordination failures such as the Great Depression have¶ in fact happened, and rags and riches continue to coexist, more so in some¶ places than in others. The advantage of the market economy lies perhaps¶ first and foremost in making use of information where it is available, as¶ emphasized by Hayek, and its release of individual energy through its¶ appeal to individual gain. The seeking of self-interest is, however, like a¶ powerful beast. If it runs amok, it may destroy; if it is tamed and harnessed,¶ it will do useful work. Market capitalism works wonders when it is well¶ tamed and harnessed. Unfettered capitalism is not a pretty sight. The¶ Russia that emerged from the wreckage of the Soviet Union is a warning¶ example.¶ So, in order to fulfill its role as a useful system of organizing economic¶ activity, market capitalism has to be supplemented with a governance¶ structure that channels its energies for the common benefit. The productivity¶ of the system is one aspect, the distribution of its results another.¶ All market capitalist societies are characterized by unequal distribution of¶ wealth, but as long as the system is perceived as delivering the goods in a¶ reasonably equitable manner this can be tolerated, and even welcomed if¶ it is seen as a precondition for productivity. At least in democratic societies,¶ an economic order that is perceived as grossly unfair is not likely to¶ last long, and in authoritarian societies elites resting on bayonets always¶ lead an uncertain existence.¶ Despite the usefulness of and the powerful incentives associated with¶ private property rights and market transactions, there are limits to how far¶ they can and should extend. It is possible to come up with economic arguments¶ in favor of slavery; the slave owner would have a stronger incentive¶ than an employer of free labor to provide his slave with skills because the¶ slave could not voluntarily change masters, but few of us would think¶ that the argument stops there. Modern medicine has created a basis for a¶ market in organs, but does that mean that people should have a right to¶ sell themselves (or their offspring) in parts? Many people today are desperate¶ enough to find that an attractive proposition.8 But in between clearcut¶ cases there are many which are less so; there is an element of judgment¶ in how property rights should be defined and circumscribed and what¶ should be left to markets to sort out and what should not. The subject of¶ this book provides a fairly clear-cut case: as long as we regard fish primarily¶ as a source of food and other material benefits, the problem in fisheries¶ worldwide is absence of property rights and market transactions rather¶ than the opposite.

### 1nc – doesn’t link to tradeoff

#### Prizes are effective and allow agencies to use resources far more efficiently

Walker 12 – science and technology journalist for breaking gov

(Richard, “What 205 Prize Challenges Have Taught Government Agencies”, breaking gov <http://breakinggov.com/2012/09/10/what-205-prize-challenges-have-taught-government-agencies/>, HW)

In September 2010 the Obama Administration launched Challenge.gov, a one-stop shop where entrepreneurs and the public can locate and tackle tough problems – and win cash prizes doing it. Two years later, 45 federal agencies have awarded more than $13.9 million in prize money in 205 challenges, with some 16,000 citizen “solvers” taking part in the competitions. These impressive numbers demonstrate the impact made by the administration’s efforts to make incentive prizes a key part of agencies’ problem-solving and innovation arsenal, White House officials said. “Well-designed incentive prizes enable federal agencies to establish ambitious goals, pay only for success, reach beyond the ‘usual suspects’ to increase the number of minds tackling a problem and bring out-of-discipline perspectives to bear,” Cristin Dorgelo, assistant director for Grand Challenges in the White House Office of Science and Technology Policy, said recently in a blog marking the second anniversary of Challenge.gov. Challenge.gov is an outgrowth of the America Competes Reauthorization Act of 2010, which granted federal agencies the authority to conduct prize competitions to generate innovation, solve problems and advance their core missions. A March 2012 progress report from the Office of Science and Technology Policy on federal prize authority concluded that “prizes have a good track record of spurring innovation in the private and philanthropic sectors. Early adopters in the public sector have already begun to reap the rewards of well-designed prizes integrated into a broader innovation strategy.” Perhaps as important as the prizes is the breadth of federal departments and top officials participating in the initiative, including U.S. Treasurer Rosie Rios (video above), who in June kicked off the MyMoneyAppUp Challenge to solicit ideas from the public for mobile applications to help Americans with their finances. In an interview with AOL, Dorgelo emphasized that innovation competitions listed on Challenge.gov are realizing meaningful results that can be practically applied to mission goals. They aren’t simply isolated experiments that spur clever results from crowd-sourcing. Incentive prizes also turn out to be a great deal for taxpayers, she said. “Certainly we’re seeing a wide variety of practical results getting into agencies,” she said, pointing to the Air Force Research Laboratory’s recent “vehicle stopper” challenge as a prime example. Last year, AFRL and its research partner, the Wright Brothers Institute, listed a competition on Challenge.gov and posted on InnoCentive Inc.’s open innovation platform for a cost-effective means of stopping a speeding vehicle. The $25,000 prize was won by a retired, 66-year-old engineer from Peru, whose unique vehicle stopping design has the real potential to be used at military security checkpoints if it passes operational tests this year. “If this were a procurement program, you could look at something like the vehicle stopper prize program at AFRL and know that it’s incredible value for a $25,000 prize to receive such an inspiring system design in the door from a new source,” Dorgelo said. Because Challenge.gov lists a wide range of competitions of different types, metrics applied to measure success vary from project to project. “We’re looking at a variety of types of incentive prizes, ranging from large-scale market stimulation prizes down to the point-solution prizes like AFRL’s vehicle stopper and the more participation-focused prizes like some of the video competitions that you see,” she said. “Those would be differently measured in terms of what their initial goals for success were.” Financial leverage, or cost-effectiveness, is only one of a number of important metrics applied when looking at the impact of prizes, she said. Agencies, for instance, may assess the quantity of entrants in a challenge. “The Office of Naval Research conducted a competition for energy storage in which they were really doing a landscape look at different approaches to energy storage globally,” Dorgelo said. “In that case, they were really interested in the volume of entrants coming in the door. So we can look at success in a variety of ways and certainly see some really exciting initial results as we move forward with using this tool with new agencies. I think it’s a great new tool in our innovation toolkit.” Dogelo cautioned, however, that prize competitions are not meant for every problem. “They need to be carefully selected as one tool in the toolkit,” she said. “In my mind, they work in a couple of situations particularly well. One where an agency has a sense of the goal they want to accomplish, but not a clear sense of how they’re going to get there. Secondly, it works in situations where an agency is looking to get new minds on an unsolved problem, where they’re looking to call in expertise from outside of the area of research from some other field.” However, she said, if agency officials know exactly what they want to accomplish and who is the most likely candidate to solve the problem, crowd-sourcing is not the way to go. Instead, a performance-based grant approach would probably deliver the solution they want. Among lessons learned in two years of challenges, Dorgelo noted that it is critical for agencies using incentive prizes to have clearly defined strategy for marketing the competition and attracting solvers. “One thing we learned is that a great way to do that is through partnerships,” she said. “The authority to conduct prizes in the America Competes legislation actually allows federal agencies to engage in public-private partnerships to help them build more highly leveraged, more impactful prize programs with organizations that can help them spread the word about the competition.” Challenge.gov has made strides toward the effective use of crowd sourcing for innovation in the public sector but it still has some shortcomings, said Shawn McCarthy, research director at IDC Government Insights. “I think challenge.gov is a great platform, but it needs to be leveraged much more effectively,” McCarthy said. “That includes making more people aware of the site. Based on quoted statistics it looks like the site gets about 700 or so submissions–incoming ideas and answers to posted challenges–from participants each month. Given the prize money and potential recognition, it should be much higher than that.” Another issue, according to McCarthy, is that sometimes “really good and exciting projects get lost in the noise amid other challenges posted on the site. In my opinion, there are too many challenges that simply say, ‘create a video’ or ‘share your ideas’ about a certain topic.” “Slightly better, but still not super exciting,” he said, “are the challenges that ask people to build an app for things like health monitoring or subject-specific data tracking. To me, the real excitement, and the real potential for the site, can be found in the section dedicated to science and technology.” An example of an exciting technology challenge was the Defense Advanced Research Projects Agency’s “Shredder Challenge,” McCarthy said. In this competition, posted last October, solvers from around the world attempted to reconstruct more than 10,000 machine-shredded documents in increasingly difficult stages to win DARPA’s $50,000 prize A small team of computer geeks from San Francisco correctly reconstructed the shredded documents and claimed the $50,000 reward. Overall, Challenge.gov has had a positive impact, “but if more posted challenges on the site can move away from the simple ‘share your thoughts’ mode and into a more far-reaching ‘help us solve this technical challenge mode,’ then Challenge.gov can become a much more powerful resource for the government,” McCarthy said. What ahead for Challenge.gov and prize competitions as an innovation tool in government? “What we’ll see next are new agencies trying out the tool,” Dorgelo said. “We’re going to see agencies that have already gotten on board scaling their programs and looking for areas where they can have greater impact in applying lessons learned. And we’re going to see more public-private partnerships where the federal government partners with philanthropies and with the private sector to roll out these open innovation programs, and we’re going to see new solutions getting generated.” Finally, she said, “One of the things I’m most excited to see are the actual solutions coming in the door to some long standing tough problems in government.”

#### Prizes significantly reduce the cost to the agency and promote government efficiency

Gatto 4/5 – Assemblyman, California’s 43rd District

(Mike, “California ‘X-Prize’ promotes government efficiency”, UT San Diego, <http://www.utsandiego.com/news/2014/Apr/05/prize-letter-gatto/>, HW)

While normally I pride myself in being a public official who listens to the wisdom of editorial boards, particularly one as engaged as U-T San Diego’s, I think the March 30 editorial, “Here are some good ideas; no prizes needed,” about my “Government X-Prize” bill was off the mark. I fear the U-T misunderstood my legislation. The bill does not appropriate $25,000 for a mere idea. I agree, there are plenty of ideas out there for improving our government, and they are free. Instead, AB 2138 appropriates $25,000 for intellectual property. A defense-department agency that recently tried one of these prize contests met with great success. The winner provided a blueprint for a new combat-support vehicle, to the agency, for just $7,500. It is worth emphasizing, that the agency did not acquire a mere idea, (i.e., “you should build a new combat transport”), but actual intellectual property (plans and blueprints), that would normally cost millions of dollars. The fame, renown, and career exposure provided to the contest winner allows the government to, for once, purchase services for far cheaper than what it would otherwise be able to do so under normal procurement rules. It also opens the process to the public, instead of the usual suspects of special interests who lurk the halls of government. State agencies, for example, the DMV, routinely pay in the neighborhood of $25 million for computer systems. Imagine the savings if a Silicon Valley wunderkind offers the same system for $25,000 and the fame acquired for doing so. Cheaper, more efficient procurement, and reducing the stranglehold of special interests. Those are proposals I know the U-T Editorial Board can support.

## Enviro

### 2NC- Ext. No Impact

#### No impact to biodiversity loss-

#### a. plants and animals will adapt to changes in the environment- 97% of species can survive an 87% loss in habitat- that’s Willis ’9. Our evidence is from a leading ecologist writing in a peer-reviewed journal.

#### b. past extinctions prove species loss won’t cause human extinction- that’s Moore 98.

#### Species loss won’t cause extinction- Adaptation and redundancy solve

Doremus 2k

(Law Prof – Berkeley, Washington and Lee Law Review)

Reluctant to concede such losses, tellers of the ecological horror story highlight how close a catastrophe might be, and how little we know about what actions might trigger one. But the apocalyptic vision is less credible today than it seemed in the 1970s. Although it is clear that the earth is experiencing a mass wave of extinctions, n213 the complete elimination of life on earth seems unlikely. n214 Life is remarkably robust. Nor is human extinction probable any time soon. Homo sapiens is adaptable to nearly any environment. Even if the world of the future includes far fewer species, it likely will hold people. n215 One response to this credibility problem tones the story down a bit, arguing not that humans will go extinct but that ecological disruption will bring economies, and consequently civilizations, to their knees. n216 But this too may be overstating the case. Most ecosystem functions are performed by multiple species. This functional redundancy means that a high proportion of species can be lost without precipitating a collapse. n217

#### Biodiversity loss won’t cause extinction

Bostrom ‘2

[Nick Bostrom, Professor, Faculty of Philosophy, Oxford University. Journal of Evolution and Technology, Vol. 9, No. 1 (2002). <http://www.nickbostrom.com/existential/risks.html>]

Existential risks are distinct from global endurable risks. Examples of the latter kind include: threats to the biodiversity of Earth’s ecosphere, moderate global warming, global economic recessions (even major ones), and possibly stifling cultural or religious eras such as the “dark ages”, even if they encompass the whole global community, provided they are transitory (though see the section on “Shrieks” below). To say that a particular global risk is endurable is evidently not to say that it is acceptable or not very serious. A world war fought with conventional weapons or a Nazi-style *Reich* lasting for a decade would be extremely horrible events even though they would fall under the rubric of endurable global risks since humanity could eventually recover. (On the other hand, they could be a *local* terminal risk for many individuals and for persecuted ethnic groups.)

#### Past species extinction prove

Lomborg ‘1

(Associate Statistics Prof – Aarhus, The Skeptical Environmentalist, pp. 251-2)

How many go extinct? In the natural environment species are constantly dying in competition with other species. It is estimated that more than 95 percent of all species that have ever existed are now extinct. A species typically survives 1-10 million years. Translated to the case of our described 1.6 million species, we must reckon with a natural extinction of around two species every decade. Table 6 shows that about 25 species have become extinct every decade since 1600.

#### Redundancy means biodiversity loss won’t escalate to extinction.

Marxen ‘3

(Craig S.,, assoc. prof. of economics at Univ. of Nebraska, Winter, The Independent Review, Vol. VII, No. 3, <http://www.independent.org/pdf/tir/tir_07_3_marxsen.pdf>)

Carlos Davidson (2000), a biologist with an economics background, takes issue with what he perceives as Sagoff’s agnosticism concerning the existence of significant environmental destruction relevant to humankind’s well-being. He perceives that Sagoff risks overstatement of the environment’s robustness, and he argues that human activities clearly damage the environment, but not in a way that is likely to lead to catastrophe. According to Davidson, environmental damage is not so much like pulling rivets out of an airplane as it is like pulling threads out of a tapestry. The tapestry becomes more and more threadbare and damaged looking, but it never reaches some critical threshold of cataclysmic failure. The ecosystem is brimming with redundancy, and problems such as reductions in biodiversity do not threaten the viability of the simpler system that results. Like an old carpet, an increasingly damaged and dirty environment would show no tendency to resolve the deterioration trend catastrophically.

### 2NC- Ext. Won’t Snowball

#### Ecosystem redundancy means single species loss won’t snowball - that’s More 98

#### Technological advances prevent spillover effects.

Simon ‘94

Julian, prof. of business administration at Univ. of Maryland, 2-9-94, *The Ultimate Resource II: People, Materials, and Environment*, Chapter 31, <http://www.juliansimon.org/writings/Ultimate_Resource/TCHAR31.txt>)

The issue first came to scientific prominence in 1979 with Norman Myers's book The Sinking Ark. It then was brought to an international public and onto the U. S. policy agenda by the 1980 Global 2000 Report to the President. These still are the canonical texts. Unlike the story in chapter 9 about the loss of farmland scare, where the crisis has vanished instead of the farmland, the scare about extinction of species was not quickly extinguished when its statistical basis was shown not to exist in the early 1980s, but instead continued bigger than ever. The Global 2000 forecast extraordinary losses of species between 1980 and 2000. "Extinctions of plant and animal species will increase dramatically. Hundreds of thousands of species -- perhaps as many as 20 percent of all species on earth -- will be irretrievably lost as their habitats vanish, especially in tropical forests," it said. Yet the data on the observed rates of species extinction are wildly at variance with common belief, and do not provide support for the various policies suggested to deal with the purported dangers. Furthermore, recent scientific and technical advances - - especially seed banks and genetic engineering, and perhaps electronic mass-testing of new drugs -- have rendered much less crucial the maintenance of a particular species of plant life in its natural habitat than would have been the case in earlier years.

### 2NC- Not Key to Ecosystems

Recent studies prove no relationship between biodiversity and ecosystem health- that’s Sasaki and Lauenroth, 11

#### Biodiversity collapse doesn’t kill ecosystems- redundancy checks

## Nuclear Terror

### Barriers

#### Here’s the list of the 20 barriers that nuclear terrorists must overcome

Mueller ‘8

(John, poli sci prof at Ohio State Univ, “The Atomic Terrorist: Assessing the Likelihood,” 1-1, Prepared for presentation at the Program on International Security Policy, Univ of Chicago, 1-15-2008, http://polisci.osu.edu/faculty/jmueller/APSACHGO.PDF)

Table 1: The atomic terrorist's task in the most likely scenario

1 An inadequately-secured source of adequate quantities of highly-enriched uranium (HEU) must be found

2 The area must be entered while avoiding detection by local police and by locals wary of strangers

3 Several insiders who seem to know what they are doing must be corrupted

4 All the insiders must remain loyal throughout the long process of planning and executing the heist, and there must be no consequential leaks

5 The insiders must successfully seize and transfer the HEU, and the transferred HEU must not be a scam or part of a sting and it must not be of inadequate quality due to insider incompetence

6 The HEU must be transported across the country over unfamiliar turf while its possessors are being pursued

7 To get the HEU across one or more international borders smugglers must be employed, and they must remain loyal despite the temptations of massive reward money even while no consequential suspicion must be generated in other smugglers using the same routes who may be interested in the same money

8 A machine shop must be set up in an obscure area with imported, sophisticated equipment without anyone becoming suspicious

9 A team of highly skilled scientists and technicians must be assembled, and during production all members of the team must remain absolutely loyal to the cause and develop no misgivings or severe interpersonal or financial conflicts

10 The complete team must be transported to the machine shop, probably from several countries, without suspicion and without consequential leaks from relatives, friends, and colleagues about the missing

11 The team must have precise technical blueprints to work from (not general sketches) and must be able to modify these appropriately for the precise purpose at hand over months (or even years) of labor, and without being able to test

12 Nothing significant must go wrong during the long process of manufacture and assembly of the improvised nuclear device (IND)

13 There must be no inadvertent leaks from the team

14 Local and international police, on high (even desperate) alert, must not be able to detect the project using traditional policing methods as well as the most advanced technical detection equipment

15 No locals must sense that something out of the ordinary is going on in the machine shop with the constant coming and going of non-local people

16 The IND, weighing in a ton or more, must be smuggled without detection out of the machine shop to an international border

17 The IND must be transported to the target country either by trusting the commercial process filled with people on the alert for cargo of this sort or by clandestine means which requires trusting corrupt co-conspirators who also know about the reward money

18 A team of completely loyal and technically accomplished co-conspirators must be assembled within, or infiltrated into, the target country

19 The IND must successfully enter the target country and be received by the in-country co-conspirators

20 A detonation team must transport the IND to the target place and set it off without anybody noticing and interfering, and the untested and much-traveled IND must not prove to be a dud

# 1nr

## Tradeoff

### UQ

#### Budget is zero-sum --- new programs require cuts in others

Leopold, 13 --- long-time Washington-based science and technology writer who is now working with the Policy Program here at the American Meteorological Society (4/9/2013, George, “Budget Squeeze Spurs U.S. Weather Collaboration,” <http://blog.ametsoc.org/columnists/budget-squeeze-spurs-u-s-weather-collaboration/>, JMP)

The zero-sum budget process faced by federal agencies means that “if you want something, you have to give up something else,” says Robbie Hood, director of NOAA’s Unmanned Aircraft Systems program. “Our job is to look at all these new technologies” and identify the best option.

#### Fiscal constraints force tradeoffs

Tracton, 12 (3/29/2012, Steve, “National Weather Service budget cuts misguided, misplaced,” <http://www.washingtonpost.com/blogs/capital-weather-gang/post/national-weather-service-budget-cuts-misguided-misplaced/2012/03/29/gIQAmm6qiS_blog.html>, JMP)

Important note: The explicit and publically announced budget reductions ultimately stem from tradeoffs in NOAA’s priorities by restraints imposed by the Obama Administration on all government agencies in recognition of the realities the nation’s fiscal difficulties. Given the state of U.S. politics it’s not surprising that the Administration’s FY 2013 budget proposal was deemed dead on arrival even before reaching the halls of Congress. What ultimately emerges from Capitol Hill as the 2013 Federal Budget, which of course includes the approved version of the NOAA budget, is unknown. Actually, it’s probably more likely that only a “Continuing Resolution” will pass congress (hopefully without necessitating government shutdown) and provide – at least temporarily – a reprieve from the budget cuts being discussed.

### LINK

#### Costly NOAA satellite programs have required reductions in other ocean policies

Representative Smith, 14 (4/30/2014, Rep. Smith, Lamar - (R-TX), Congressional Documents and Publications. House Science, Space, and Technology Subcommittee on Environment Hearing - "An Overview of the National Oceanic and Atmospheric Administration Budget Request for FY2015," Factiva, JMP)

Meanwhile the chronic cost over-runs of NOAA's satellites have forced significant reductions in funding for important activities in areas such as oceans, fisheries, and weather.

#### Cuts to ocean and fishing programs have been critical to fund weather satellites --- full funding is key to keep the program on track

Morello, 12 (3/21/2012, Lauren, “Soaring Satellite Costs Spur U.S. Government to Seek Budget Cuts; NOAA's ambitious plans for new satellites are consuming more of the agency's budget, prompting questions from lawmakers,” <http://www.scientificamerican.com/article/soaring-satellite-costs-spur-us-government-to-seek-budget-cuts/>, JMP)

The spiraling cost of satellite programs at the National Oceanic and Atmospheric Administration has lawmakers from both parties sniffing around for a strategy to trim the agency's budget. But there are no easy options to cut satellite spending and ensure the quality of weather forecasts and warnings to which Americans are accustomed, Obama administration officials said yesterday. The White House's fiscal 2013 budget request seeks $5.1 billion for NOAA -- a request that amounts to a slight increase over current spending, but one that balances growing satellite costs with cuts to weather, oceans, fisheries and research programs. It's a necessary evil, Commerce Secretary John Bryson told members of the House Appropriations subcommittee that handles NOAA's budget. "I believe we have to put full priority in the satellite programs," he said. "National security is absolutely at stake." NOAA Administrator Jane Lubchenco sounded a similar line during her subsequent appearance before the Commerce, Justice and Science appropriations panel. "Satellites are expensive," she said. "We have tried to make a lot of tough choices, but in light of the importance of these satellites to provide weather warnings, disaster warnings, we believe they are vitally important." An unwelcome message That was an unwelcome message for lawmakers like Rep. Norm Dicks (D-Wash.), the ranking member of the full House Appropriations Committee. "Just a few years ago, in [fiscal] 2010, satellite procurement represented just over 25 percent of the NOAA budget. In this [fiscal] 2013 proposal, that jumps to 36.6 percent," he said. "This situation seems unsustainable." Pennsylvania Democrat Chaka Fattah suggested that NOAA's satellites were "eating at other needed services." Subcommittee Chairman Frank Wolf (R-Va.) repeatedly compared NOAA's Joint Polar Satellite System, which accounts for a hefty percentage of the agency's current satellite budget, to NASA's troubled James Webb Space Telescope, years behind schedule and well over its original budget. But Lubchenco told lawmakers that the data that will be collected by JPSS is crucial for accurate weather forecasts and warnings -- and it is not available from any other source. "There is no backup," she said. NOAA has committed to cap JPSS's overall cost at $12.9 billion, she said, but keeping the program on track would require Congress to award the agency the full $916 million it is seeking for the satellite effort in fiscal 2013.

### ECON

#### Satellites are key to the economy

NOAA, no date (“NOAA Satellites; The legacy of NOAA's satellites,” <http://www.jpss.noaa.gov/satellites_legacy.html>, JMP)

For more than 50 years, NOAA weather satellites have provided U.S. citizens and global partners with advance warning of extreme weather and natural disasters. Satellites are vital for the weather forecasts NOAA provides to the American public-at-large, including emergency managers and first responders, farmers and the agricultural community, the aviation industry, decision makers and political leaders, coastal residents and maritime transportation. The frequency and severity of extreme weather events, like Hurricane Sandy, serve as a reminder of the importance to maintain all the critical tools necessary for accurate weather forecasting, including key observations provided by satellites.

NOAA satellites are critical to the Nation’s infrastructure and economy. Polar satellites provide critical weather forecasting for the $700 billion maritime commerce sector and offer a value of hundreds of millions of dollars for the fishing industry. NOAA satellites can also observe volcanic eruptions and track the movement of ash clouds—at a value of $100 to $200 million to the aviation industry.

NOAA operates satellites in two complementary orbits: Geostationary satellites, which constantly monitor a fixed area on the Earth from a perch over 22,300 miles above the Earth; and Polar-Orbiting satellites, which circle the Earth around 500 miles above the surface providing information and observations over the entire Earth - land, ocean and atmosphere, from pole- to- pole. Polar satellites are able to see the weather as it takes shape around the globe, while typical geostationary weather satellites, like GOES, see the weather within their limited domain.

### Military leadership

Extend Spencer 2k – Readiness deters global conflict and nw

#### Military readiness key to hegemony

Talbot, founder and former editor-in-chief of Salon founder and former editor-in-chief, 2

(David Talbot, Jan 3 2002, Salon, “The making of a hawk”, <http://www.salon.com/2002/01/03/hawk/>, accessed 7-7-13, DAG)

Despite their eventual success, each U.S. military response in the past decade — even to the brazen sky terrorism that leveled the World Trade Center and devastated the Pentagon — has sparked passionate opposition in political, media and cultural circles. Conservative commentators like Andrew Sullivan, Charles Krauthammer and the Wall Street Journal editorial board have blamed current antiwar resistance on the left and its tradition of pacifism and criticism of American hegemony. And it’s true, any liberal who came of age during the Vietnam War, as I did, feels some kinship with these implacable critics of American policy, even a lingering sense of alienation from our own country’s world-straddling power. But most of us, at some point during the last two decades, made a fundamental break from this pacifistic legacy. For me, it came during the savage bombing of Sarajevo, whose blissfully multi-ethnic cosmopolitanism was, like New York would later become, an insult to the forces of zealous purity. Most liberals of my generation, however, feel deeply uneasy about labeling themselves hawks — to do so conjures images for them of Gen. Curtis “Bombs Away” LeMay, it suggests a break from civilization itself, a heavy-footed step backwards, toward the bogs of our ancestors. What I have come to believe, however, is that America’s unmatched power to reduce tyranny and terror to dust is actually what often makes civilization in today’s world possible. I want to retrace my journey here, for those who might be wrestling with similar thoughts these days.

#### War is inevitable in the status quo – States will always compete for regional status even when it is at their disadvantage – only unquestioned primacy stops it from escalating

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(William, “Unipolarity, Status Competition, and Great Power War” World Politics, 61:1, January, Project Muse)

Second, I question the dominant view that status quo evaluations are relatively independent of the distribution of capabilities. If the status of states depends in some measure on their relative capabilities, and if states derive utility from status, then different distributions of capabilities may affect levels of satisfaction, just as different income distributions may affect levels of status competition in domestic settings. 6 Building on research in psychology and sociology, I argue that even capabilities distributions among major powers foster ambiguous status hierarchies, which generate more dissatisfaction and clashes over the status quo. And the more stratified the distribution of capabilities, the less likely such status competition is. Unipolarity thus generates far fewer incentives than either bipolarity or multipolarity for direct great power positional competition over status. Elites in the other major powers continue to prefer higher status, but in a unipolar system they face comparatively weak incentives to translate that preference into costly action. And the absence of such incentives matters because social status is a positional good—something whose value depends on how much one has in relation to others.7 “If everyone has high status,” Randall Schweller notes, “no one does.”8 While one actor might increase its status, all cannot simultaneously do so. High status is thus inherently scarce, and competitions for status tend to be zero sum.9 I begin by describing the puzzles facing predominant theories that status competition might solve. Building on recent research on social identity and status seeking, I then show that under certain conditions the ways decision makers identify with the states they represent may prompt them to frame issues as positional disputes over status in a social hierarchy. I develop hypotheses that tailor this scholarship to the domain of great power politics, showing how the probability of status competition is likely to be linked to polarity. The rest of the article investigates whether there is sufficient evidence for these hypotheses to warrant further refinement and testing. I pursue this in three ways: by showing that the theory advanced here is consistent with what we know about large-scale patterns of great power conflict through history; by [End Page 30] demonstrating that the causal mechanisms it identifies did drive relatively secure major powers to military conflict in the past (and therefore that they might do so again if the world were bipolar or multipolar); and by showing that observable evidence concerning the major powers’ identity politics and grand strategies under unipolarity are consistent with the theory’s expectations. Puzzles of Power and War Recent research on the connection between the distribution of capabilities and war has concentrated on a hypothesis long central to systemic theories of power transition or hegemonic stability: that major war arises out of a power shift in favor of a rising state dissatisfied with a status quo defended by a declining satisfied state.10 Though they have garnered substantial empirical support, these theories have yet to solve two intertwined empirical and theoretical puzzles—each of which might be explained by positional concerns for status. First, if the material costs and benefits of a given status quo are what matters, why would a state be dissatisfied with the very status quo that had abetted its rise? The rise of China today naturally prompts this question, but it is hardly a novel situation. Most of the best known and most consequential power transitions in history featured rising challengers that were prospering mightily under the status quo. In case after case, historians argue that these revisionist powers sought recognition and standing rather than specific alterations to the existing rules and practices that constituted the order of the day. In each paradigmatic case of hegemonic war, the claims of the rising power are hard to reduce to instrumental adjustment of the status quo. In R. Ned Lebow’s reading, for example, Thucydides’ account tells us that the rise of Athens posed unacceptable threats not to the security or welfare of Sparta but rather to its identity as leader of the Greek world, which was an important cause of the Spartan assembly’s vote for war.11 The issues that inspired Louis XIV’s and Napoleon’s dissatisfaction with the status quo were many and varied, but most accounts accord [End Page 31] independent importance to the drive for a position of unparalleled primacy. In these and other hegemonic struggles among leading states in post-Westphalian Europe, the rising challenger’s dissatisfaction is often difficult to connect to the material costs and benefits of the status quo, and much contemporary evidence revolves around issues of recognition and status.12 Wilhemine Germany is a fateful case in point. As Paul Kennedy has argued, underlying material trends as of 1914 were set to propel Germany’s continued rise indefinitely, so long as Europe remained at peace.13 Yet Germany chafed under the very status quo that abetted this rise and its elite focused resentment on its chief trading partner—the great power that presented the least plausible threat to its security: Great Britain. At fantastic cost, it built a battleship fleet with no plausible strategic purpose other than to stake a claim on global power status.14 Recent historical studies present strong evidence that, far from fearing attacks from Russia and France, German leaders sought to provoke them, knowing that this would lead to a long, expensive, and sanguinary war that Britain was certain to join.15 And of all the motivations swirling round these momentous decisions, no serious historical account fails to register German leaders’ oft-expressed yearning for “a place in the sun.” The second puzzle is bargaining failure. Hegemonic theories tend to model war as a conflict over the status quo without specifying precisely what the status quo is and what flows of benefits it provides to states.16 Scholars generally follow Robert Gilpin in positing that the underlying issue concerns a “desire to redraft the rules by which relations among nations work,” “the nature and governance of the system,” and “the distribution of territory among the states in the system.”17 If these are the [End Page 32] issues at stake, then systemic theories of hegemonic war and power transition confront the puzzle brought to the fore in a seminal article by James Fearon: what prevents states from striking a bargain that avoids the costs of war? 18 Why can’t states renegotiate the international order as underlying capabilities distributions shift their relative bargaining power? Fearon proposed that one answer consistent with strict rational choice assumptions is that such bargains are infeasible when the issue at stake is indivisible and cannot readily be portioned out to each side. Most aspects of a given international order are readily divisible, however, and, as Fearon stressed, “both the intrinsic complexity and richness of most matters over which states negotiate and the availability of linkages and side-payments suggest that intermediate bargains typically will exist.”19 Thus, most scholars have assumed that the indivisibility problem is trivial, focusing on two other rational choice explanations for bargaining failure: uncertainty and the commitment problem.20 In the view of many scholars, it is these problems, rather than indivisibility, that likely explain leaders’ inability to avail themselves of such intermediate bargains. Yet recent research inspired by constructivism shows how issues that are physically divisible can become socially indivisible, depending on how they relate to the identities of decision makers.21 Once issues surrounding the status quo are framed in positional terms as bearing on the disputants’ relative standing, then, to the extent that they value their standing itself, they may be unwilling to pursue intermediate bargaining solutions. Once linked to status, easily divisible issues that theoretically provide opportunities for linkages and side payments of various sorts may themselves be seen as indivisible and thus unavailable as avenues for possible intermediate bargains. The historical record surrounding major wars is rich with evidence suggesting that positional concerns over status frustrate bargaining: expensive, protracted conflict over what appear to be minor issues; a propensity on the part of decision makers to frame issues in terms of relative rank even when doing so makes bargaining harder; decision-makers’ [End Page 33] inability to accept feasible divisions of the matter in dispute even when failing to do so imposes high costs; demands on the part of states for observable evidence to confirm their estimate of an improved position in the hierarchy; the inability of private bargains to resolve issues; a frequently observed compulsion for the public attainment of concessions from a higher ranked state; and stubborn resistance on the part of states to which such demands are addressed even when acquiescence entails limited material cost. The literature on bargaining failure in the context of power shifts remains inconclusive, and it is premature to take any empirical pattern as necessarily probative. Indeed, Robert Powell has recently proposed that indivisibility is not a rationalistic explanation for war after all: fully rational leaders with perfect information should prefer to settle a dispute over an indivisible issue by resorting to a lottery rather than a war certain to destroy some of the goods in dispute. What might prevent such bargaining solutions is not indivisibility itself, he argues, but rather the parties’ inability to commit to abide by any agreement in the future if they expect their relative capabilities to continue to shift.22 This is the credible commitment problem to which many theorists are now turning their attention. But how it relates to the information problem that until recently dominated the formal literature remains to be seen.23 The larger point is that positional concerns for status may help account for the puzzle of bargaining failure. In the rational choice bargaining literature, war is puzzling because it destroys some of the benefits or flows of benefits in dispute between the bargainers, who would be better off dividing the spoils without war. Yet what happens to these models if what matters for states is less the flows of material benefits themselves than their implications for relative status? The salience of this question depends on the relative importance of positional concern for status among states. Do Great Powers Care about Status? Mainstream theories generally posit that states come to blows over an international status quo only when it has implications for their security or material well-being. The guiding assumption is that a state’s satisfaction [End Page 34] with its place in the existing order is a function of the material costs and benefits implied by that status.24 By that assumption, once a state’s status in an international order ceases to affect its material wellbeing, its relative standing will have no bearing on decisions for war or peace. But the assumption is undermined by cumulative research in disciplines ranging from neuroscience and evolutionary biology to economics, anthropology, sociology, and psychology that human beings are powerfully motivated by the desire for favorable social status comparisons. This research suggests that the preference for status is a basic disposition rather than merely a strategy for attaining other goals.25 People often seek tangibles not so much because of the welfare or security they bring but because of the social status they confer. Under certain conditions, the search for status will cause people to behave in ways that directly contradict their material interest in security and/or prosperity.

#### There are hundreds of causes of conflict – hegemony deters and controls escalation by internalizing costs

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(John Norton, “Solving the War Puzzle: Beyond the Democratic Peace,” pg. 41-43)

If major interstate war is predominantly a product of a synergy between a potential nondemocratic aggressor and an absence of effective deterrence, what is the role of the many traditional "causes" of war? Past, and many contemporary, theories of war have focused on the role of specific disputes between nations, ethnic and religious differences, arms races, poverty or social injustice, competition for resources, incidents and accidents, greed, fear, and perceptions of "honor," or many other such factors. Such factors may well play a role in motivating aggression or in serving as a means for generating fear and manipulating public opinion. The reality, however, is that while some of these may have more potential to contribute to war than others, there may well be an infinite set of motivating factors, or human wants, motivating aggression. It is not independent the  existence of such motivating factors for war but rather the circumstances permitting or encouraging high risk decisions leading to war that is the key to more effectively controlling war. And the same may also be true of democide. The early focus in the Rwanda slaughter on "ethnic conflict," as though Hutus and Tutsis had begun to slaughter each other through spontaneous combustion, distracted our attention from the reality that a nondemocratic Hutu regime had carefully planned and orchestrated a genocide against Rwandan Tutsis as well as its Hutu opponents.I1 Certainly if we were able to press a button and end poverty, racism, religious intolerance, injustice, and endless disputes, we would want to do so

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This tripartite level of analysis has subsequently been widely copied in the study of international relations. We might summarize my analysis in this classical construct by suggesting that the most critical variables are the second and third levels, or "images," of analysis. Government structures, at the second level, seem to play a central role in levels of aggressiveness in high risk behavior leading to major war. In this, the "democratic peace" is an essential insight. The third level of analysis, the international system, or totality of external incentives influencing the decision for war, is also critical when government structures do not restrain such high risk behavior on their own. Indeed, nondemocratic systems may not only fail to constrain inappropriate aggressive behavior, they may even massively enable it by placing the resources of the state at the disposal of a ruthless regime elite. It is not that the first level of analysis, the individual, is unimportant. I have already argued that it is important in elite perceptions about the permissibility and feasibility of force and resultant necessary levels of deterrence. It is, instead, that the second level of analysis, government structures, may be a powerful proxy for settings bringing to power those who may be disposed to aggressive military adventures and in creating incentive structures predisposing to high risk behavior. We should keep before us, however, the possibility, indeed probability, that a war/peace model focused on democracy and deterrence might be further usefully refined by adding psychological profiles of particular leaders, and systematically applying other findings of cognitive psychology, as we assess the likelihood of aggression and levels of necessary deterrence in context. A post-Gulf War edition of Gordon Craig and Alexander George's classic, Force and Statecraft,13 presents an important discussion of the inability of the pre-war coercive diplomacy effort to get Saddam Hussein to withdraw from Kuwait without war.14 This discussion, by two of the recognized masters of deterrence theory, reminds us of the many important psychological and other factors operating at the individual level of analysis that may well have been crucial in that failure to get Hussein to withdraw without war. We should also remember that nondemocracies can have differences between leaders as to the necessity or usefulness of force and, as Marcus Aurelius should remind us, not all absolute leaders are Caligulas or Neros. Further, the history of ancient Egypt reminds us that not all Pharaohs were disposed to make war on their neighbors. Despite the importance of individual leaders, however, we should also keep before us that major international war is predominantly and critically an interaction, or synergy, of certain characteristics at levels two and three, specifically an absence of democracy and an absence of effective deterrence. Yet another way to conceptualize the importance of democracy and deterrence in war avoidance is to note that each in its own way internalizes the costs to decision elites of engaging in high risk aggressive behavior. Democracy internalizes these costs in a variety of ways including displeasure of the electorate at having war imposed upon it by its own government. And deterrence either prevents achievement of the objective altogether or imposes punishing costs making the gamble not worth the risk.I5 VI Testing the Hypothesis Theory without truth is but costly entertainment. HYPOTHESES, OR PARADIGMS, are useful if they reflect the real world better than previously held paradigms. In the complex world of foreign affairs and the war puzzle, perfection is unlikely. No general construct will fit all cases even in the restricted category of "major interstate war"; there are simply too many variables. We should insist, however, on testing against the real world and on results that suggest enhanced usefulness over other constructs. In testing the hypothesis, we can test it for consistency with major wars; that is, in looking, for example, at the principal interstate wars in the twentieth century, did they present both a nondemocratic aggressor and an absence of effective deterrence?' And although it is by itself not going to prove causation, we might also want to test the hypothesis against settings of potential wars that did not occur. That is, in nonwar settings, was there an absence of at least one element of the synergy? We might also ask questions about the effect of changes on the international system in either element of the synergy; that is, what, in general, happens when a totalitarian state makes a transition to stable democracy or vice versa? And what, in general, happens when levels of deterrence are dramatically increased or decreased?