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#### The United States Federal Government should obtain electricity from small modular reactors for its military installations in the United States.

## DOD

#### DoD bases are vulnerable to grid disruptions which destroys command infrastructure – only SMR’s can solve

Robitaille 12

(George, Department of Army Civilian, United States Army War College, “Small Modular Reactors: The Army’s Secure Source of Energy?” 21-03-2012, Strategy Research Project)

In recent years, the U.S Department of Defense (DoD) has identified a security issue at our installations related to the dependence on the civilian electrical grid. 1 The DoD depends on a steady source of electricity at military facilities to perform the functions that secure our nation. The flow of electricity into military facilities is controlled by a public grid system that is susceptible to being compromised because of the age of the infrastructure, damage from natural disasters and the potential for cyber attacks. Although most major functions at military installations employ diesel powered generators as temporary backup, the public grid may not be available to provide electricity when it is needed the most. The United States electrical infrastructure system is prone to failures and susceptible to terrorist attacks. 2 It is critical that the source of electricity for our installations is reliable and secure. In order to ensure that our military facilities possess a secure source of electricity, either the public system of electric generation and distribution is upgraded to increase its reliability as well as reducing its susceptibility to cyber attack or another source of electricity should be pursued. Although significant investments are being made to upgrade the electric grid, the current investment levels are not keeping up with the aging system. Small modular reactors (SMRs) are nuclear reactors that are about an order of magnitude smaller than traditional commercial reactor used in the United States. SMRs are capable of generating electricity and at the same time, they are not a significant contributor to global warming because of green house gas emissions. The DoD needs to look at small modular nuclear reactors (SMRs) to determine if they can provide a safe and secure source of electricity. Electrical Grid Susceptibility to Disruptions According to a recent report by the Defense Science Board, the DoD gets ninety nine percent of their electrical requirements from the civilian electric grid. 3 The electric grid, as it is currently configured and envisioned to operate for the foreseeable future, may not be reliable enough to ensure an uninterrupted flow of electricity for our critical military facilities given the influences of the aging infrastructure, its susceptibility to severe weather events, and the potential for cyber attacks. The DoD dependency on the grid is reflected in the $4.01 Billion spent on facilities energy in fiscal year 2010, the latest year which data was available. 4 The electricity used by military installations amounts to $3.76 billion. 5 As stated earlier, the DoD relies on the commercial grid to provide a secure source of energy to support the operations that ensure the security of our nation and it may not be available when we need it. The system could be taken down for extended periods of time by failure of aging components, acts of nature, or intentionally by cyber attacks. Aging Infrastructure. The U.S electric power grid is made up of independently owned power plants and transmission lines. The political and environmental resistance to building new electric generating power plants combined with the rise in consumption and aging infrastructure increases the potential for grid failure in the future. There are components in the U.S. electric grid that are over one hundred years old and some of the recent outages such as the 2006 New York blackout can be directly attributed to this out of date, aging infrastructure. 6 Many of the components of this system are at or exceeding their operational life and the general trend of the utility companies is to not replace power lines and other equipment until they fail. 7 The government led deregulation of the electric utility industry that started in the mid 1970s has contributed to a three decade long deterioration of the electric grid and an increased state of instability. Although significant investments are being made to upgrade the electric grid, the **many years of prior neglect will require a considerable amount of time and funding to bring the aging infrastructure up to date**. Furthermore, the current investment levels to upgrade the grid are not keeping up with the aging system. 8 In addition, upgrades to the digital infrastructure which were done to increase the systems efficiency and reliability, have actually made the system more susceptible to cyber attacks. 9 Because of the aging infrastructure and the impacts related to weather, the extent, as well as frequency of **failures is expected to increase in the future.** Adverse Weather. According to a 2008 grid reliability report by the Edison Electric Institute, sixty seven per cent of all power outages are related to weather. Specifically, lightning contributed six percent, while adverse weather provided thirty one percent and vegetation thirty percent (which was predominantly attributed to wind blowing vegetation into contact with utility lines) of the power outages. 10 In 1998 a falling tree limb damaged a transformer near the Bonneville Dam in Oregon, causing a cascade of related black-outs across eight western states. 11 In August of 2003 the lights went out in the biggest blackout in North America, plunging over fifty million people into darkness over eight states and two Canadian provinces. Most areas did not have power restored four or five days. In addition, drinking water had to be distributed by the National Guard when water pumping stations and/or purification processes failed. The estimated economic losses associated with this incident were about five billion dollars. Furthermore, this incident also affected the operations of twenty two nuclear plants in the United States and Canada. 12 In 2008, Hurricane Ike caused approximately seven and a half million customers to lose power in the United States from Texas to New York. 13 The electric grid suffered numerous power outages **every year** throughout the United States and the number of outages is expected to increase as the infrastructure ages without sufficient upgrades and weather-related impacts continue to become more frequent. Cyber Attacks. The civilian grid is made up of three unique electric networks which cover the East, West and Texas with approximately one hundred eighty seven thousand miles of power lines. There are several weaknesses in the electrical distribution infrastructure system that could compromise the flow of electricity to military facilities. The flow of energy in the network lines as well as the main distribution hubs has become totally dependent on computers and internet-based communications. Although the digital infrastructure makes the grid more efficient, it also makes it more susceptible to cyber attacks. Admiral Mr. Dennis C. Blair (ret.), the former Director of National Intelligence, testified before Congress that “the growing connectivity between information systems, the Internet, and other infrastructures creates opportunities for attackers to disrupt telecommunications, electrical power, energy pipelines, refineries, financial networks, and other critical infrastructures. 14 ” The Intelligence Community assesses that a number of nations already have the technical capability to conduct such attacks. 15 In the 2009 report, Annual Threat Assessment of the Intelligence Community for the Senate Armed Services Committee, Adm. Blair stated that “Threats to cyberspace pose one of the most serious economic and national security challenges of the 21st Century for the United States and our allies.”16 In addition, the report highlights a growing array of state and non-state actors that are targeting the U.S. critical infrastructure for the purpose of creating chaos that will subsequently produce detrimental effects on citizens, commerce, and government operations. These actors have the ability to compromise, steal, change, or completely destroy information through their detrimental activities on the internet. 17 In January 2008, US Central Intelligence Agency senior analyst Tom Donahue told a gathering of three hundred international security managers from electric, water, oil & gas, and other critical industry, that data was available from multiple regions outside the United States, which documents cyber intrusions into utilities. In at least one case (outside the U.S.), the disruption caused a power outage affecting multiple cities. Mr. Donahue did not specify who executed these attacks or why, but did state that all the intrusions were conducted via the Internet. 18 During the past twenty years, advances in computer technologies have permeated and advanced all aspects of our lives. Although the digital infrastructure is being increasingly merged with the power grid to make it more efficient and reliable, it also makes it more vulnerable to cyber attack. In October 2006, a foreign hacker invaded the Harrisburg, PA., water filtration system and planted malware. 19 In June 2008, the Hatch nuclear power plant in Georgia shut down for two days after an engineer loaded a software update for a business network that also rebooted the plant's power control system. In April 2009, The Wall Street Journal reported that cyber spies had infiltrated the U.S. electric grid and left behind software that could be used to disrupt the system. **The hackers came from China, Russia and other nations and were on a “fishing expedition” to map out the system**. 20 According to the secretary of Homeland Security, Janet Napolitano at an event on 28 October 2011, cyber–attacks have come close to compromising the country’s critical infrastructure on multiple occasions. 21 Furthermore, during FY11, the United States Computer Emergency Readiness Team took action on more than one hundred thousand incident reports by releasing more than five thousand actionable cyber security alerts and information products. 22 The interdependence of modern infrastructures and digital based systems makes any cyber attacks on the U.S. electric grid potentially significant. The December 2008 report by the Commission on Cyber Security for the forty fourth Presidency states the challenge plainly: “America’s failure to protect cyberspace is one of the most urgent national security problems facing the new administration”. 23 The susceptibility of the grid to being compromised has resulted in a significant amount of resources being allocated to ensuring the systems security. Although a substantial amount of resources are dedicated to protecting the nation’s infrastructure, it may not be enough to ensure the continuous flow of electricity to our critical military facilities. SMRs as they are currently envisioned may be able to provide a secure and independent alternative source of electricity in the event that the public grid is compromised. SMRs may also provide additional DoD benefit by supporting the recent government initiatives related to energy consumption and by circumventing the adverse ramifications associated with building coal or natural gas fired power plants on the environment.

#### Grid failure shuts down US military operations

Paul Stockton 11, assistant secretary of defense for Homeland Defense and Americas’ Security Affairs, “Ten Years After 9/11: Challenges for the Decade to Come”, <http://www.hsaj.org/?fullarticle=7.2.11>

The cyber threat to the DIB is only part of a much larger challenge to DoD. Potential adversaries are seeking asymmetric means to cripple our force projection, warfighting, and sustainment capabilities, by targeting the critical civilian and defense supporting assets (within the United States and abroad) on which our forces depend. This challenge is not limited to man-made threats; DoD must also execute its mission-essential functions in the face of disruptions caused by naturally occurring hazards.20 Threats and hazards to DoD mission execution include incidents such as earthquakes, naturally occurring pandemics, solar weather events, and industrial accidents, as well as kinetic or virtual attacks by state or non-state actors. Threats can also emanate from insiders with ties to foreign counterintelligence organizations, homegrown terrorists, or individuals with a malicious agenda. From a DoD perspective, this global convergence of unprecedented threats and hazards, and vulnerabilities and consequences, is a particularly problematic reality of the post-Cold War world. Successfully deploying and sustaining our military forces are increasingly a function of interdependent supply chains and privately owned infrastructure within the United States and abroad, including transportation networks, cyber systems, commercial corridors, communications pathways, and energy grids. This infrastructure largely falls outside DoD direct control. Adversary actions to destroy, disrupt, or manipulate this highly vulnerable homeland- and foreign-based infrastructure may be relatively easy to achieve and extremely tough to counter. Attacking such “soft,” diffuse infrastructure systems could significantly affect our military forces globally – potentially blinding them, neutering their command and control, degrading their mobility, and isolating them from their principal sources of logistics support. The Defense Critical Infrastructure Program (DCIP) under Mission Assurance seeks to improve execution of DoD assigned missions to make them more resilient. This is accomplished through the assessment of the supporting commercial infrastructure relied upon by key nodes during execution. By building resilience into the system and ensuring this support is well maintained, DoD aims to ensure it can "take a punch as well as deliver one."21 It also provides the department the means to prioritize investments across all DoD components and assigned missions to the most critical issues faced by the department through the use of risk decision packages (RDP).22 The commercial power supply on which DoD depends exemplifies both the novel challenges we face and the great progress we are making with other federal agencies and the private sector. Today’s commercial electric power grid has a great deal of resilience against the sort of disruptive events that have traditionally been factored into the grid’s design. Yet, the grid will increasingly confront threats beyond that traditional design basis. This complex risk environment includes: disruptive or deliberate attacks, either physical or cyber in nature; severe natural hazards such as geomagnetic storms and natural disasters with cascading regional and national impacts (as in NLE 11); long supply chain lead times for key replacement electric power equipment; transition to automated control systems and other smart grid technologies without robust security; and more frequent interruptions in fuel supplies to electricity-generating plants. These risks are magnified by globalization, urbanization, and the highly interconnected nature of people, economies, information, and infrastructure systems. The department is highly dependent on commercial power grids and energy sources. As the largest consumer of energy in the United States, DoD is dependent on commercial electricity sources outside its ownership and control for secure, uninterrupted power to support critical missions. In fact, approximately 99 percent of the electricity consumed by DoD facilities originates offsite, while approximately 85 percent of critical electricity infrastructure itself is commercially owned. This situation only underscores the importance of our partnership with DHS and its work to protect the nation’s critical infrastructure – a mission that serves not only the national defense but also the larger national purpose of sustaining our economic health and competitiveness. DoD has traditionally assumed that the commercial grid will be subject only to infrequent, weather-related, and short-term disruptions, and that available backup power is sufficient to meet critical mission needs. As noted in the February 2008 Report of the Defense Science Board Task Force on DoD Energy Strategy, “In most cases, neither the grid nor on-base backup power provides sufficient reliability to ensure continuity of critical national priority functions and oversight of strategic missions in the face of a long term (several months) outage.”23 Similarly, a 2009 GAO Report on Actions Needed to Improve the Identification and Management of Electrical Power Risks and Vulnerabilities to DoD Critical Assets stated that DoD mission-critical assets rely primarily on commercial electric power and are vulnerable to disruptions in electric power supplies.24 Moreover, these vulnerabilities may cascade into other critical infrastructure that uses the grid – communications, water, transportation, and pipelines – that, in turn, is needed for the normal operation of the grid, as well as its quick recovery in emergency situations. To remedy this situation, the Defense Science Board (DSB) Task Force recommended that DoD take a broad-based approach, including a focused analysis of critical functions and supporting assets, a more realistic assessment of electricity outage cause and duration, and an integrated approach to risk management that includes greater efficiency, renewable resources, distributed generation, and increased reliability. DoD Mission Assurance is designed to carry forward the DSB recommendations. Yet, for a variety of reasons – technical, financial, regulatory, and legal – DoD has limited ability to manage electrical power demand and supply on its installations. As noted above, DHS is the lead agency for critical infrastructure protection by law and pursuant to Homeland Security Presidential Directive 7. The Department of Energy (DOE) is the lead agency on energy matters. And within DoD, energy and energy security roles and responsibilities are distributed and shared, with different entities managing security against physical, nuclear, and cyber threats; cost and regulatory compliance; and the response to natural disasters. And of course, production and delivery of electric power to most DoD installations are controlled by commercial entities that are regulated by state and local utility commissions. The resulting paradox: DoD is dependent on a commercial power system over which it does not – and never will – exercise control.

#### Nuclear war

Brooks, Ikenberry and Wohlforth ‘13

Stephen Brooks, Associate Professor of Government at Dartmouth College, John Ikenberry, Albert G. Milbank Professor of Politics and International Affairs at Princeton University and Global Eminence Scholar at Kyung Hee University in Seoul, John Wohlforth, Daniel Webster Professor of Government at Dartmouth College, Jan/Feb 2013, Foreign Affairs, Lean Forward, EBSCO

Of course, even if it is true that the costs of deep engagement fall far below what advocates of retrenchment claim, they would not be worth bearing unless they yielded greater benefits. In fact, they do. The most obvious benefit of the current strategy is that it reduces the risk of a dangerous conflict. The United States' security commitments deter states with aspirations to regional hegemony from contemplating expansion and dissuade U.S. partners from trying to solve security problems on their own in ways that would end up threatening other states. Skeptics discount this benefit by arguing that U.S. security guarantees aren't necessary to prevent dangerous rivalries from erupting. They maintain that the high costs of territorial conquest and the many tools countries can use to signal their benign intentions are enough to prevent conflict. In other words, major powers could peacefully manage regional multipolarity without the American pacifier. But that outlook is too sanguine. If Washington got out of East Asia, Japan and South Korea would likely expand their military capabilities and go nuclear, which could provoke a destabilizing reaction from China. It's worth noting that during the Cold War, both South Korea and Taiwan tried to obtain nuclear weapons; the only thing that stopped them was the United States, which used its security commitments to restrain their nuclear temptations. Similarly, were the United States to leave the Middle East, the countries currently backed by Washington--notably, Israel, Egypt, and Saudi Arabia--might act in ways that would intensify the region's security dilemmas. There would even be reason to worry about Europe. Although it's hard to imagine the return of great-power military competition in a post-American Europe, it's not difficult to foresee governments there refusing to pay the budgetary costs of higher military outlays and the political costs of increasing EU defense cooperation. The result might be a continent incapable of securing itself from threats on its periphery, unable to join foreign interventions on which U.S. leaders might want European help, and vulnerable to the influence of outside rising powers. Given how easily a U.S. withdrawal from key regions could lead to dangerous competition, advocates of retrenchment tend to put forth another argument: that such rivalries wouldn't actually hurt the United States. To be sure, few doubt that the United States could survive the return of conflict among powers in Asia or the Middle East--but at what cost? Were states in one or both of these regions to start competing against one another, they would likely boost their military budgets, arm client states, and perhaps even start regional proxy wars, all of which should concern the United States, in part because its lead in military capabilities would narrow. Greater regional insecurity could also produce cascades of nuclear proliferation as powers such as Egypt, Saudi Arabia, Japan, South Korea, and Taiwan built nuclear forces of their own. Those countries' regional competitors might then also seek nuclear arsenals. Although nuclear deterrence can promote stability between two states with the kinds of nuclear forces that the Soviet Union and the United States possessed, things get shakier when there are multiple nuclear rivals with less robust arsenals. As the number of nuclear powers increases, the probability of illicit transfers, irrational decisions, accidents, and unforeseen crises goes up. The case for abandoning the United States' global role misses the underlying security logic of the current approach. By reassuring allies and actively managing regional relations, Washington dampens competition in the world s key areas, thereby preventing the emergence of a hothouse in which countries would grow new military capabilities. For proof that this strategy is working, one need look no further than the defense budgets of the current great powers: on average, since 1991 they have kept their military expenditures as A percentage of GDP to historic lows, and they have not attempted to match the United States' top-end military capabilities. Moreover, all of the world's most modern militaries are U.S. allies, and the United States' military lead over its potential rivals .is by many measures growing. On top of all this, the current grand strategy acts as a hedge against the emergence regional hegemons. Some supporters of retrenchment argue that the U.S. military should keep its forces over the horizon and pass the buck to local powers to do the dangerous work of counterbalancing rising regional powers. Washington, they contend, should deploy forces abroad only when a truly credible contender for regional hegemony arises, as in the cases of Germany and Japan during World War II and the Soviet Union during the Cold War. Yet there is already a potential contender for regional hegemony--China--and to balance it, the United States will need to maintain its key alliances in Asia and the military capacity to intervene there. The implication is that the United States should get out of Afghanistan and Iraq, reduce its military presence in Europe, and pivot to Asia. Yet that is exactly what the Obama administration is doing. MILITARY DOMINANCE, ECONOMIC PREEMINENCE Preoccupied with security issues, critics of the current grand strategy miss one of its most important benefits: sustaining an open global economy and a favorable place for the United States within it. To be sure, the sheer size of its output would guarantee the United States a major role in the global economy whatever grand strategy it adopted. Yet the country's military dominance undergirds its economic leadership. In addition to protecting the world economy from instability, its military commitments and naval superiority help secure the sea-lanes and other shipping corridors that allow trade to flow freely and cheaply. Were the United States to pull back from the world, the task of securing the global commons would get much harder. Washington would have less leverage with which it could convince countries to cooperate on economic matters and less access to the military bases throughout the world needed to keep the seas open. A global role also lets the United States structure the world economy in ways that serve its particular economic interests. During the Cold War, Washington used its overseas security commitments to get allies to embrace the economic policies it preferred--convincing West Germany in the 1960s, for example, to take costly steps to support the U.S. dollar as a reserve currency. U.S. defense agreements work the same way today. For example, when negotiating the 2011 free-trade agreement with South Korea, U.S. officials took advantage of Seoul's desire to use the agreement as a means of tightening its security relations with Washington. As one diplomat explained to us privately, "We asked for changes in labor and environment clauses, in auto clauses, and the Koreans took it all." Why? Because they feared a failed agreement would be "a setback to the political and security relationship." More broadly, the United States wields its security leverage to shape the overall structure of the global economy. Much of what the United States wants from the economic order is more of the same: for instance, it likes the current structure of the World Trade Organization and the International Monetary Fund and prefers that free trade continue. Washington wins when U.S. allies favor this status quo, and one reason they are inclined to support the existing system is because they value their military alliances. Japan, to name one example, has shown interest in the Trans-Pacific Partnership, the Obama administration's most important free-trade initiative in the region, less because its economic interests compel it to do so than because Prime Minister Yoshihiko Noda believes that his support will strengthen Japan's security ties with the United States. The United States' geopolitical dominance also helps keep the U.S. dollar in place as the world's reserve currency, which confers enormous benefits on the country, such as a greater ability to borrow money. This is perhaps clearest with Europe: the EU'S dependence on the United States for its security precludes the EU from having the kind of political leverage to support the euro that the United States has with the dollar. As with other aspects of the global economy, the United States does not provide its leadership for free: it extracts disproportionate gains. Shirking that responsibility would place those benefits at risk. CREATING COOPERATION What goes for the global economy goes for other forms of international cooperation. Here, too, American leadership benefits many countries but disproportionately helps the United States. In order to counter transnational threats, such as terrorism, piracy, organized crime, climate change, and pandemics, states have to work together and take collective action. But cooperation does not come about effortlessly, especially when national interests diverge. The United States' military efforts to promote stability and its broader leadership make it easier for Washington to launch joint initiatives and shape them in ways that reflect U.S. interests. After all, cooperation is hard to come by in regions where chaos reigns, and it flourishes where leaders can anticipate lasting stability. U.S. alliances are about security first, but they also provide the political framework and channels of communication for cooperation on nonmilitary issues. NATO, for example, has spawned new institutions, such as the Atlantic Council, a think tank, that make it easier for Americans and Europeans to talk to one another and do business. Likewise, consultations with allies in East Asia spill over into other policy issues; for example, when American diplomats travel to Seoul to manage the military alliance, they also end up discussing the Trans-Pacific Partnership. Thanks to conduits such as this, the United States can use bargaining chips in one issue area to make progress in others. The benefits of these communication channels are especially pronounced when it comes to fighting the kinds of threats that require new forms of cooperation, such as terrorism and pandemics. With its alliance system in place, the United States is in a stronger position than it would otherwise be to advance cooperation and share burdens. For example, the intelligence-sharing network within NATO, which was originally designed to gather information on the Soviet Union, has been adapted to deal with terrorism. Similarly, after a tsunami in the Indian Ocean devastated surrounding countries in 2004, Washington had a much easier time orchestrating a fast humanitarian response with Australia, India, and Japan, since their militaries were already comfortable working with one another. The operation did wonders for the United States' image in the region. The United States' global role also has the more direct effect of facilitating the bargains among governments that get cooperation going in the first place. As the scholar Joseph Nye has written, "The American military role in deterring threats to allies, or of assuring access to a crucial resource such as oil in the Persian Gulf, means that the provision of protective force can be used in bargaining situations. Sometimes the linkage may be direct; more often it is a factor not mentioned openly but present in the back of statesmen's minds." THE DEVIL WE KNOW Should America come home? For many prominent scholars of international relations, the answer is yes--a view that seems even wiser in the wake of the disaster in Iraq and the Great Recession. Yet their arguments simply don't hold up. There is little evidence that the United States would save much money switching to a smaller global posture. Nor is the current strategy self-defeating: it has not provoked the formation of counterbalancing coalitions or caused the country to spend itself into economic decline. Nor will it condemn the United States to foolhardy wars in the future. What the strategy does do is help prevent the outbreak of conflict in the world's most important regions, keep the global economy humming, and make international cooperation easier. Charting a different course would threaten all these benefits. This is not to say that the United States' current foreign policy can't be adapted to new circumstances and challenges. Washington does not need to retain every commitment at all costs, and there is nothing wrong with rejiggering its strategy in response to new opportunities or setbacks. That is what the Nixon administration did by winding down the Vietnam War and increasing the United States' reliance on regional partners to contain Soviet power, and it is what the Obama administration has been doing after the Iraq war by pivoting to Asia. These episodes of rebalancing belie the argument that a powerful and internationally engaged America cannot tailor its policies to a changing world. A grand strategy of actively managing global security and promoting the liberal economic order has served the United States exceptionally well for the past six decades, and there is no reason to give it up now. The country's globe-spanning posture is the devil we know, and a world with a disengaged America is the devil we don't know. Were American leaders to choose retrenchment, they would in essence be running a massive experiment to test how the world would work without an engaged and liberal leading power. The results could well be disastrous.

#### States will inevitably compete for relative status–only primacy can prevent conflict

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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.

#### SMR’s “island” bases by providing constant reliable power

King 11

Marcus King, Ph.D., Center for Naval Analyses Project Director and Research Analyst for the Environment and Energy TeamLaVar Huntzinger, Thoi Nguyen, March 2011, Feasibility of Nuclear Power on U.S.Military Installations, www.cna.org/sites/default/files/research/Nuclear Power on Military Installations D0023932 A5.pdf

Having a reliable source of electricity is critically important for many DoD installations. Fort Meade, Maryland, which hosts the National Security Agency’s power intensive computers, is an example of where electricity is mission critical. Installations need to be more robust against interruptions caused by natural forces or intentional attack. Most installations currently rely on the commercial electricity grid and backup generators. Reliance on generators presents some limitations. A building dedicated generator only provides electricity to a specific building when there is a power outage. Typically, diesel standby generators have an availability of 85 percent when operated for more than 24 hours [38]. Most DoD installations keep less than a 5-day supply of fuel. Small nuclear power plants could contribute to electrical energy surety and survivability. Having nuclear power plants networked with the grid and other backup generating systems 5 could give DoD installations higher power availability during extended utility power outages and more days of utility-independent operation. Existing large commercial nuclear power plants have an availability of over 90 percent. When a small nuclear power plant is networked with existing backup generating systems and the grid, overall availability values could be as high as 99.6 percent [39]. Since proposed small reactors have long refueling intervals (from 4 to 30 years), if power from the commercial grid became unavailable, a small reactor could provide years of electrical power independent of the commercial grid [4]. Power assurance to DoD installations also involves three infrastructure aspects of electricity delivery: electrical power transmission, electricity distribution, and electricity control (of distribution and transmission). Electric power transmission is the bulk transfer of electrical energy from generating plants to substations located near population centers. Electricity distribution networks carry electricity from the substations to consumers. Electricity control is the management of switches and connections to control the flow of electricity through transmission and distribution networks. Typically, transmission lines transfer electricity at high voltages over long distances to minimize loss; electricity distribution systems carry medium voltages. For electrical power transmission, very little additional infrastructure is required to incorporate small nuclear power plants because they would be located on or near the DoD installation being serviced. However, redundancy in transmission lines would make the overall network more robust. Electricity control capabilities, such as self-healing 6 and optimization of assets to increase operational efficiency, could improve overall power availability; however, they are not necessary for the integration of small nuclear power plants. Key components for improving electricity control include advanced electricity meters and electricity meter data management. These tools are needed in order to establish islanding, a condition in which a portion of the utility system, which contains both load and generation, is isolated from the remainder of the utility system and continues to operate. Since the power generation capacities of small nuclear power plants are larger than required for most DoD bases, islanding could extend to adjacent communities if sufficient technical upgrades were performed to systems outside of the installation. This contributes to DoD missions because civilians and service members working on the installation often live with their families in adjacent communities. The power would ensure that critical services such as emergency response, waste water treatment, and hospitals could be maintained.

#### DoD bypasses regulatory hurdles and safety hazards

Loudermilk 11

Micah J. Loudermilk, Research Associate for the Energy & Environmental Security Policy program with the Institute for National Strategic Studies at National Defense University, 5/31/11, Small Nuclear Reactors and US Energy Security: Concepts, Capabilities, and Costs, [www.ensec.org/index.php?option=com\_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375](http://www.ensec.org/index.php?option=com_content&view=article&id=314:small-nuclear-reactors-and-us-energy-security-concepts-capabilities-and-costs&catid=116:content0411&Itemid=375)

Path forward: Department of Defense as first-mover Problematically, despite the immense energy security benefits that would accompany the wide-scale adoption of small modular reactors in the US, with a difficult regulatory environment, anti-nuclear lobbying groups, skeptical public opinion, and of course the recent Fukushima accident, the nuclear industry faces a tough road in the battle for new reactors. While President Obama and Energy Secretary Chu have demonstrated support for nuclear advancement on the SMR front, progress will prove difficult. However, a potential route exists by which small reactors may more easily become a reality: the US military. The US Navy has successfully managed, without accident, over 500 small reactors on-board its ships and submarines throughout 50 years of nuclear operations. At the same time, serious concern exists, highlighted by the Defense Science Board Task Force in 2008, that US military bases are tied to, and almost entirely dependent upon, the fragile civilian electrical grid for 99% of its electricity consumption. To protect military bases’ power supplies and the nation’s military assets housed on these domestic installations, the Board recommended a strategy of “islanding” the energy supplies for military installations, thus ensuring their security and availability in a crisis or conflict that disrupts the nation’s grid or energy supplies. DOD has sought to achieve this through decreased energy consumption and renewable technologies placed on bases, but these endeavors will not go nearly far enough in achieving the department’s objectives. However, by placing small reactors on domestic US military bases, DOD could solve its own energy security quandary—providing assured supplies of secure and constant energy both to bases and possibly the surrounding civilian areas as well. Concerns over reactor safety and security are alleviated by the security already present on installations and the military’s long history of successfully operating nuclear reactors without incident. Unlike reactors on-board ships, small reactors housed on domestic bases would undoubtedly be subject to Nuclear Regulatory Commission (NRC) regulation and certification, however, with strong military backing, adoption of the reactors may prove significantly easier than would otherwise be possible. Additionally, as the reactors become integrated on military facilities, general fears over the use and expansion of nuclear power will ease, creating inroads for widespread adoption of the technology at the private utility level. Finally, and perhaps most importantly, action by DOD as a “first mover” on small reactor technology will preserve America’s badly struggling and nearly extinct nuclear energy industry. The US possesses a wealth of knowledge and technological expertise on SMRs and has an opportunity to take a leading role in its adoption worldwide. With the domestic nuclear industry largely dormant for three decades, the US is at risk of losing its position as the global leader in the international nuclear energy market. If the current trend continues, the US will reach a point in the future where it is forced to import nuclear technologies from other countries—a point echoed by Secretary Chu in his push for nuclear power expansion. Action by the military to install reactors on domestic bases will guarantee the short-term survival of the US nuclear industry and will work to solidify long-term support for nuclear energy. Conclusions In the end, small modular reactors present a viable path forward for both the expansion of nuclear power in the US and also for enhanced US energy security. Offering highly safe, secure, and proliferation-resistant designs, SMRs have the potential to bring carbon-free baseload distributed power across the United States. Small reactors measure up with, and even exceed, large nuclear reactors on questions of safety and possibly on the financial (cost) front as well. SMRs carry many of the benefits of both large-scale nuclear energy generation and renewable energy technologies. At the same time, they can reduce US dependence on fossil fuels for electricity production—moving the US ahead on carbon dioxide and GHG reduction goals and setting a global example. While domestic hurdles within the nuclear regulatory environment domestically have proven nearly impossible to overcome since Three Mile Island, military adoption of small reactors on its bases would provide energy security for the nation’s military forces and may create the inroads necessary to advance the technology broadly and eventually lead to their wide-scale adoption.

## water

#### Water scarcity coming now - it's a threat multiplier that enflames hotspots globally. Specifically, Egypt and Central Asia - their defense isn't predictive

Dinar et al 10/18/12

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In short, predictions of a Water World War are overwrought. However, tensions over water usage can still exacerbate other existing regional conflicts. Climate change is expected to intensify droughts, floods, and other extreme weather conditions that jeopardize freshwater quantity and quality and therefore act as a threat-multiplier, making shaky regions shakier. So what river basins constitute the biggest risks today? In a World Bank report we published in 2010 (as well as a subsequent article in a special issue of the Journal of Peace Research) we analyzed the physical effects of climate change on international rivers. We modeled the variability in river annual runoff in the past and for future climate scenarios. We also considered the existence and nature of the institutional capacity around river basins, in the form of international water treaties, to potentially deal with the effects of climate change. According to our research, 24 of the world's 276 international river basins are already experiencing increased water variability. These 24 basins, which collectively serve about 332 million people, are at high risk of water related political tensions. The majority of the basins are located in northern and sub-Saharan Africa. A few others are located in the Middle East, south-central Asia, and South America. They include the Tafna (Algeria and Morocco), the Dasht (Iran and Pakistan), the Congo (Central Africa), Lake Chad (Central Africa), the Niger (Western Africa), the Nile (Northeastern Africa), and the Chira (Ecuador and Peru). There are no strong treaties governing the use of these water reserves in tense territories. Should conflicts break out, there are no good mechanisms in place for dealing with them. By 2050, an additional 37 river basins, serving 83 million people, will be at high risk for feeding into political tensions. As is the case currently, a large portion of these are in Africa. But, unlike today, river basins within Central Asia, Eastern Europe, Central Europe, and Central America will also be at high risk within 40 years. Some of these include the Kura-Araks (Iran, Turkey, and the Caucasus), the Neman (Eastern Europe) Asi-Orontes (Lebanon, Syria, Turkey), and the Catatumbo Basins (Colombia and Venezuela). CROSSING THE NILE Among the larger African basins, the Nile has the greatest implications for regional and global security. Tensions over access to the river already pit Ethiopia and Egypt, two important Western allies, against one another. Egypt has been a major player in the Middle East Peace Process and Ethiopia is an important regional force in the Horn of Africa, currently aiding other African forces to battle Al-Shabbab in Somalia. Over the years, a number of international water treaties have made rules for the basin, but they are largely limited to small stretches of it. In particular, only Egypt and Sudan are party to the 1959 Nile River Agreement, the principal treaty regarding the river. Egypt, which is the furthest downstream yet is one of the most powerful countries in the region, has been able to heavily influence the water-sharing regime. Upstream countries, such as Ethiopia and Burundi, have been left out, hard-pressed to harness the Nile for their own needs. In 1999, with increasingly vitriolic rhetoric between Egypt and Ethiopia sidetracking regional development, the World Bank stepped up its involvement in the basin. It helped create a network of professional water managers as well as a set of investments in a number of sub-basins. Still, the drafting of a new agreement stalled: upstream countries would not compromise on their right to develop water infrastructure while downstream countries would not compromise on protecting their shares. In 2010, Ethiopia signed an agreement with a number of the other upstream countries hoping to balance against Egypt and Sudan. More recently, the country has also announced plans to construct a number of large upstream dams, which could affect the stability of the region. By 2050, the environmental state of the Nile Basin will be even worse. That is why it is important to create a robust and equitable water treaty now. Such a treaty would focus on ways to harness the river's hydropower potential to satiate the energy needs of all the riparian states while maintaining ecosystem health. The construction of dams and reservoirs further upstream could likewise help even out water flows and facilitate agricultural growth. Projects such as these, mitigating damage to ecosystem health and local populations, would benefit all parties concerned and thus facilitate further basin-wide cooperation. UP IN THE ARAL Another water basin of concern is the Aral Sea, which is shared by Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan. The basin consists of two major rivers, the Syr Darya and Amu Darya. During the Soviet era, these two rivers were managed relatively effectively. The break-up of the Soviet Union, however, ended that. The major dispute now is between upstream Kyrgyzstan and downstream Uzbekistan over the Syr Darya. During the winter, Kyrgyzstan needs flowing water to produce hydroelectricity whereas Uzbekistan needs to store water to later irrigate cotton fields. The countries have made several attempts to resolve the dispute. In particular, downstream Uzbekistan, which is rich in fuel and gas, has provided energy to Kyrgyzstan to compensate for keeping water in its large reservoirs until the cotton-growing season. Such barter agreements, however, have had limited success because they are easily manipulated. Downstream states might deliver less fuel during a rainy year, claiming they need less water from upstream reservoirs, and upstream states might deliver less water in retaliation. Kyrgyzstan, frustrated and desperate for energy in winter months, plans to build mega hydro-electric plants in its territory. And another upstream state, Tajikistan, is likewise considering hydro-electricity to satiate its own energy needs. Meanwhile, Uzbekistan is building large reservoirs. Although these plans might make sense in the very near term, they are inefficient in the medium and long term because they don't solve the real needs of downstream states for large storage capacity to protect against water variability across time. In fact, both Kyrgyzstan and Uzbekistan, along with Kazakhstan, will see substantial increases in water variability between now and 2050. And so, the need to share the benefits of existing large-capacity upstream reservoirs and coordinate water uses through strong and more efficient inter-state agreements is unavoidable. A stabilized Aral Sea basin would also benefit the United States. With its withdrawal from Afghanistan, Washington has been courting Uzbekistan as a potential alternative ally and provider of stability in the region. The Uzbek government seems willing to host U.S. military bases and work as a counter-weight to Russia. Kyrgyzstan is also an important regional player. The Manas Air Base, the U.S. military installation near Bishkek, is an important transit point. The country is also working with the United States to battle drug trafficking and infiltration of criminal and insurgent groups. Regional instability could disrupt any of these strategic relationships. If the past is any indication, the world probably does not need to worry about impending water wars. But they must recognize how tensions over water can easily fuel larger conflicts and distract states from other important geopolitical and domestic priorities. Since formal inter-state institutions are key to alleviating tensions over shared resources, it would be wise, then, for the involved governments as well as the international community to negotiate sufficiently robust agreements to deal with impending environmental change. Otherwise, freshwater will only further frustrate stability efforts in the world's volatile regions.

#### Those wars go global

#### Reilly ‘2

(Kristie, Editor for In These Times, a nonprofit, independent, national magazine published in Chicago. We’ve been around since 1976, fighting for corporate accountability and progressive government. In other words, a better world, “NOT A DROP TO DRINK,” <http://www.inthesetimes.com/issue/26/25/culture1.shtml>)

\*Cites environmental thinker and activist Vandana Shiva Maude Barlow and Tony Clarke—probably North America’s foremost water experts

The two books provide a chilling, in-depth examination of a rapidly emerging global crisis. “Quite simply,” Barlow and Clarke write, “unless we dramatically change our ways, between one-half and two-thirds of humanity will be living with severe fresh water shortages within the next quarter-century. … The hard news is this: Humanity is depleting, diverting and polluting the planet’s fresh water resources so quickly and relentlessly that every species on earth—including our own—is in mortal danger.” The crisis is so great, the three authors agree, that the world’s next great wars will be over water. The Middle East, parts of Africa, China, Russia, parts of the United States and several other areas are already struggling to equitably share water resources. Many conflicts over water are not even recognized as such: Shiva blames the Israeli-Palestinian conflict in part on the severe scarcity of water in settlement areas. As available fresh water on the planet decreases, today’s low-level conflicts can only increase in intensity.

#### And nuclear

Weiner ‘90

(Jonathan, Visiting Professor of Molecular Biology at Princeton University. The Next One Hundred Years: Shaping the Fate of Our Living Earth, p. 214)

If we do not destroy ourselves with the A-bomb and the H-bomb, then we may destroy ourselves with the C-bomb, the Change Bomb. And in a world as interlinked as ours, one explosion may lead to the other. Already in the Middle East, from North Africa to the Persian Gulf and from the Nile to the Euphrates, tensions over dwindling water supplies and rising populations are reaching what many experts describe as a flashpoint. A climate shift in the single battle-scarred nexus might trigger international tensions that will unleash some of the 60,000 nuclear warheads the world has stockpiled since Trinity.

#### Indo-Pak water scarcity’s coming – causes escalatory disputes

Nitish Priyadarshi 12, lecturer in the department of environment and water management at Ranchi University in India, “War for water is not a far cry”, June 16, <http://www.cleangangaportal.org/node/44>

Such is the deep nexus between water and global warming that the increased frequency of climate change-driven extreme weather events like hurricanes, droughts and flooding, along with the projected rise of ocean levels, is likely to spur greater interstate and intrastate migration- especially of the poor and the vulnerable- from delta and coastal regions to the hinterland.

As the planet warms, water grow scarcer. Global warming will endanger the monsoon, which effects much greater than those of drought alone-particularly in India given that 70 percent of India’s rainfall comes from the monsoon.

The declining snow cover and receding glaciers in the Himalayan state of Jammu and Kashmir could trigger renewed hostilities between India and Pakistan, neighbouring states in the South Asian region that are at odds on a host of issues.

The two countries share the Indus River, one of the longest rivers in the world. The river rises in southwestern Tibet and flows northwest through the Himalayas. It crosses into the Kashmir region, meandering to the Indian and Pakistani administered areas of the territory.

Pakistan and India have long been embroiled in a territorial dispute over Kashmir, but have so far managed to uphold a World Bank-mediated Indus Water Treaty (IWT) that provides mechanisms for resolving disputes over water sharing. Any drastic reduction in the availability of water in the region has the potential of causing a war between the hostile south Asian neighbors.

The Indus water system is the lifeline for Pakistan, as 75 to 80 percent of water flows to Pakistan as melt from the Himalayan glaciers. This glacier melt forms the backbone of irrigation network in Pakistan, with 90 percent of agricultural land being fed by the vastly spread irrigation network in Pakistan, one of the largest in the world. Any disruption of water flow would cause a grave impact on agriculture produce in Pakistan.

The Indus Waters Treaty is a water-sharing treaty between the Republic of India and Islamic Republic of Pakistan, brokered by the World Bank (then the International Bank for Reconstruction and Development). The treaty was signed in Karachi on September 19, 1960 by Indian Prime Minister Jawaharlal Nehru and President of Pakistan Mohammad Ayub Khan. The treaty was a result of Pakistani fear that since the source rivers of the Indus basin were in India, it could potentially create droughts and famines in Pakistan, especially at times of war. However, India did not revoke the treaty during any of three later Indo-Pakistani Wars.

Until now, the Indus Water Treaty has worked well, but the impact of climate change would test the sanctity of this treaty. Under the treaty signed in 1960, the two countries also share five tributaries of the Indus river, namely, Jhelum, Chenab, Ravi, Beas and Sutlej. The agreement grants Pakistan exclusive rights over waters from the Indus and its westward-flowing tributaries, the Jhelum and Chenab, while the Ravi, Beas and Sutlej rivers were allocated for India’s use.

Transboundary water sharing between India and Pakistan will become an extremely difficult proposition as surface water would become a scarce commodity with the depletion of water reserves up in the mountains.

The sharing of the Ganges waters is a long-standing issue between India and Bangladesh over the appropriate allocation and development of the water resources of the Ganges River that flows from northern India into Bangladesh. The issue has remained a subject of conflict for almost 35 years, with several bilateral agreements and rounds of talks failing to produce results.

#### Goes nuclear

Zahoor ‘11

(Musharaf, is researcher at Department of Nuclear Politics, National Defence University, Islamabad, “Water crisis can trigger nuclear war in South Asia,” <http://www.siasat.pk/forum/showthread.php?77008-Water-Crisis-can-Trigger-Nuclear-War-in-South-Asia>, AM)

South Asia is among one of those regions where water needs are growing disproportionately to its availability. The high increase in population besides large-scale cultivation has turned South Asia into a water scarce region. The two nuclear neighbors Pakistan and India share the waters of Indus Basin. All the major rivers stem from the Himalyan region and pass through Kashmir down to the planes of Punjab and Sindh empty into Arabic ocean. It is pertinent that the strategic importance of Kashmir, a source of all major rivers, for Pakistan and symbolic importance of Kashmir for India are maximum list positions. Both the countries have fought two major wars in 1948, 1965 and a limited war in Kargil specifically on the Kashmir dispute. Among other issues, the newly born states fell into water sharing dispute right after their partition. Initially under an agreed formula, Pakistan paid for the river waters to India, which is an upper riparian state. After a decade long negotiations, both the states signed Indus Water Treaty in 1960. Under the treaty, India was given an exclusive right of three eastern rivers Sutlej, Bias and Ravi while Pakistan was given the right of three Western Rivers, Indus, Chenab and Jhelum. The tributaries of these rivers are also considered their part under the treaty. It was assumed that the treaty had permanently resolved the water issue, which proved a nightmare in the latter course. India by exploiting the provisions of IWT started wanton construction of dams on Pakistani rivers thus scaling down the water availability to Pakistan (a lower riparian state). The treaty only allows run of the river hydropower projects and does not permit to construct such water reservoirs on Pakistani rivers, which may affect the water flow to the low lying areas. According to the statistics of Hydel power Development Corporation of Indian Occupied Kashmir, India has a plan to construct 310 small, medium and large dams in the territory. India has already started work on 62 dams in the first phase. The cumulative dead and live storage of these dams will be so great that India can easily manipulate the water of Pakistani rivers. India has set up a department called the Chenab Valley Power Projects to construct power plants on the Chenab River in occupied Kashmir. India is also constructing three major hydro-power projects on Indus River which include Nimoo Bazgo power project, Dumkhar project and Chutak project. On the other hand, it has started Kishan Ganga hydropower project by diverting the waters of Neelum River, a tributary of the Jhelum, in sheer violation of the IWT. The gratuitous construction of dams by India has created serious water shortages in Pakistan. The construction of Kishan Ganga dam will turn the Neelum valley, which is located in Azad Kashmir into a barren land. The water shortage will not only affect the cultivation but it has serious social, political and economic ramifications for Pakistan. The farmer associations have already started protests in Southern Punjab and Sindh against the non-availability of water. These protests are so far limited and under control. The reports of international organizations suggest that the water availability in Pakistan will reduce further in the coming years. If the situation remains unchanged, the violent mobs of villagers across the country will be a major law and order challenge for the government. The water shortage has also created mistrust among the federative units, which is evident from the fact that the President and the Prime Minister had to intervene for convincing Sindh and Punjab provinces on water sharing formula. The Indus River System Authority (IRSA) is responsible for distribution of water among the provinces but in the current situation it has also lost its credibility. The provinces often accuse each other of water theft. In the given circumstances, Pakistan desperately wants to talk on water issue with India. The meetings between Indus Water Commissioners of Pakistan and India have so far yielded no tangible results. The recent meeting in Lahore has also ended without concrete results. India is continuously using delaying tactics to under pressure Pakistan. The Indus Water Commissioners are supposed to resolve the issues bilaterally through talks. The success of their meetings can be measured from the fact that Pakistan has to knock at international court of arbitration for the settlement of Kishan Ganga hydropower project. The recently held foreign minister level talks between both the countries ended inconclusively in Islamabad, which only resulted in heightening the mistrust and suspicions. The water stress in Pakistan is increasing day by day. The construction of dams will not only cause damage to the agriculture sector but India can manipulate the river water to create inundations in Pakistan. The rivers in Pakistan are also vital for defense during wartime. The control over the water will provide an edge to India during war with Pakistan. The failure of diplomacy, manipulation of IWT provisions by India and growing water scarcity in Pakistan and its social, political and economic repercussions for the country can lead both the countries toward a war. The existent A-symmetry between the conventional forces of both the countries will compel the weaker side to use nuclear weapons to prevent the opponent from taking any advantage of the situation. Pakistan's nuclear programme is aimed at to create minimum credible deterrence. India has a declared nuclear doctrine which intends to retaliate massively in case of first strike by its' enemy. In 2003, India expanded the operational parameters for its nuclear doctrine. Under the new parameters, it will not only use nuclear weapons against a nuclear strike but will also use nuclear weapons against a nuclear strike on Indian forces anywhere. Pakistan has a draft nuclear doctrine, which consists on the statements of high ups. Describing the nuclear thresh-hold in January 2002, General Khalid Kidwai, the head of Pakistan's Strategic Plans Division, in an interview to Landau Network, said that Pakistan will use nuclear weapons in case India occupies large parts of its territory, economic strangling by India, political disruption and if India destroys Pakistan's forces. The analysis of the ambitious nuclear doctrines of both the countries clearly points out that any military confrontation in the region can result in a nuclear catastrophe. The rivers flowing from Kashmir are Pakistan's lifeline, which are essential for the livelihood of 170 million people of the country and the cohesion of federative units. The failure of dialogue will leave no option but to achieve the ends through military means.

#### Water scarcity causes Central Asian war

Nitish Priyadarshi 12, lecturer in the department of environment and water management at Ranchi University in India, “War for water is not a far cry”, June 16, <http://www.cleangangaportal.org/node/44>

That's been a constant dilemma for the Central Asian states since they became independent after the Soviet break-up.

Much of Central Asia's water flows from the mountains of Kyrgyzstan and Tajikistan, leaving downstream countries Uzbekistan, Kazakhstan, and Turkmenistan dependent and worried about the effects of planned hydropower plants upstream.

Tashkent fears that those two countries' use of water from Central Asia's two great rivers -- the Syr Darya and Amu Darya -- to generate power will diminish the amount reaching Uzbekistan, whose 28 million inhabitants to make up Central Asia's largest population.

After the collapse of communism in the 1990s, a dispute arose between Hungary and Slovakia over a project to dam the Danube River. It was the first of its type heard by the International Court of Justice and highlighted the difficulty for the Court to resolve such issues decisively. There are 17 European countries directly reliant on water from the Danube so there is clear potential for conflict if any of these countries act selfishly.

Experts worry that dwindling water supplies could likely result in regional conflicts in the future. For example, in oil-and-gas rich Central Asia, the upstream countries of Kyrgyzstan and Tajikistan hold 90 percent of the region's water resources, while Uzbekistan, the largest consumer of water in the region, is located downstream.

#### Extinction

**Blank 2k** [Stephen J. - Expert on the Soviet Bloc for the Strategic Studies Institute, “American Grand Strategy and the Transcaspian Region”, World Affairs. 9-22]

Thus many structural conditions for conventional war or protracted ethnic conflict where third parties intervene now exist in the Transcaucasus and Central Asia. The outbreak of violence by disaffected Islamic elements, the drug trade, the Chechen wars, and the unresolved ethnopolitical conflicts that dot the region, not to mention the undemocratic and unbalanced distribution of income across corrupt governments, provide plenty of tinder for future fires. Many Third World conflicts generated by local structural factors also have great potential for unintended escalation. Big powers often feel obliged to rescue their proxies and proteges. One or another big power may fail to grasp the stakes for the other side since interests here are not as clear as in Europe. Hence commitments involving the use of nuclear weapons or perhaps even conventional war to prevent defeat of a client are not well established or clear as in Europe. For instance, in 1993 Turkish noises about intervening on behalf of Azerbaijan induced Russian leaders to threaten a nuclear war in that case. Precisely because Turkey is a NATO ally but probably could not prevail in a long war against Russia, or if it could, would conceivably trigger a potential nuclear blow (not a small possibility given the erratic nature of Russia's declared nuclear strategies), the danger of major war is higher here than almost everywhere else in the CIS or the "arc of crisis" from the Balkans to China. As Richard Betts has observed, The greatest danger lies in areas where (1) the potential for serious instability is high; (2) both superpowers perceive vital interests; (3) neither recognizes that the other's perceived interest or commitment is as great as its own; (4) both have the capability to inject conventional forces; and (5) neither has willing proxies capable of settling the situation.(77)

#### No diplomacy or institutions

Adam Radin 10, masters in security studies from the naval postgraduate school, “the security implications of water: prospects for instability or cooperation in south and central asia”, March, <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA518674>

Water, an issue so important to numerous facets of each state’s economy and overall stability, must not be left to loosely observed and nonbinding agreements. Tajikistan has even gone as far as to appeal to the United Nations General Assembly to focus on the “Central Asia water dilemma.”142 In a region that is still developing, and where the government’s survival rely more on its relations with it people versus its regional neighbors, domestic needs will continue to trump international cooperation. As Linn notes in his plan, the need for global actors to take an active role is likely needed in order for sustained cooperation. Additionally, this also provides an opportunity for Russia to actively insert itself through diplomacy and infrastructural investments, seeing that they still consider the CARs under their sphere of influence.143

The chapter presents a contrasting case study to South Asia, as in Central Asia water is not viewed as a regional security issue, but in terms of fulfilling short-term domestic needs. Without the looming threat of conflict or significant retribution from regional neighbors, cooperation is consistently undervalued and abandoned once domestic pressures increase. The problem with this pattern is that resources will likely continue to deteriorate and the CARs will continue to be dependent on each other to provide water and energy. Without sustained and flexible cooperation, the region at the very least will see greater stresses on government to provide for their populations, leading to domestic and potential regional instability.

#### The best scholarship proves our impact

Dinar 2

SAIS Review 22.2 (2002) 229-253

Water, Security, Conflict, and Cooperation

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The dichotomy of conflict and cooperation over water and its relationship to national and regional security reflects the reality of hydropolitics. While military clashes have been associated with water, the concept of security does not end with nor does it only imply armed conflict. Because the pursuit of peace, and thus conflict and cooperation, constitutes the flip side of security, water is indeed relevant to the concept of security. It is this phenomenon that traditionalists have cast off as irrelevant and other rejectionists of the environment-security link have ignored.

Linking security with the environment does not increase the possibility that nations will engage in more armed action against other states for the sake of natural resources such as water. Albeit minimal, evidence already exists as to the military skirmishes and military threats that have taken place over water. Nations will engage in armed conflict and political disputes over water **whether or not scholars acknowledge the link** between the environment and security. Similarly, the existence of more than 3,600 water treaties, the oldest dating to 805 AD, demonstrates a rich history of cooperation [End Page 239] over water regardless of scholarly debate on cooperation and the environment. The debate regarding the link between water, conflict, and cooperation is thus futile and has become a scholarly debate marred by polemics and semantics.

Given its geographical attributes, freshwater truly straddles the notion of sovereignty that traditionalists cherish so deeply and the international or regional conception that environmental globalists hold true. The problems that arise from shared water resources are both national and regional in nature. Similarly, the solutions that are needed to solve such problems are both national and regional. Most importantly for the debate on the environment and security, however, the impediments to cooperation and the instigation of conflict over water are both national and international in their sources. States in particular regions will continue to see water as a national security concern. Even though a regional agreement may be the best solution to states' water problems, they will continue to couch their need to access sufficient and clean freshwater in security and nationalist terms.

#### Only SMR’s solve

IAEA 7, “Economics of Nuclear Desalination: New Developments and Site Specific Studies”, July, <http://www-pub.iaea.org/MTCD/publications/PDF/te_1561_web.pdf>

Seventy percent of the planet is covered with water, but only 2.5% of that is fresh water. Nearly 70% of this fresh water is frozen in the icecaps of Antarctica and Greenland. Most of the rest is in the form of soil moisture or in deep inaccessible aquifers or comes in the form of heavy rains and floods that are difficult to contain and exploit. Consequently, only less than 0.008% (about 70 000 km3) of the world’s water is readily accessible for direct human use, and even that is very unevenly distributed. Recent statistics show that currently 2.3 billion people live in water-stressed areas and among them 1.7 billion live in water-scarce areas, where the water availability per person is less than 1000 m3/year. In fact, the situation is expected to worsen further since, by 2025, the number of people suffering from water stress or scarcity could swell to 3.5 billion, out of which 2.4 billion would live in water-scarce regions. Water scarcity is a global issue. Every year new countries are affected by growing water problems.

It is for this reason that the Millennium Declaration by UN General Assembly in 2000 set up a target

to halve, by the year 2015, the world population, which is unable to reach, or to afford, safe drinking

water. Vision 21: shared vision for Hygiene, Water Supply and Sanitation, has a target to provide

water, sanitation and hygiene for all by 2025.

Better water conservation, water management, pollution control and water reclamation are all part of the integrated solution to projected water stresses. So too are new sources of fresh water, including the desalination of seawater.

Desalination technologies have been well established since the mid-20th century and widely deployed in the Middle East and North Africa. The contracted capacity of desalination plants has increased steadily since 1965 and is now about 36 million m3/day worldwide, as shown in Figure 1. This capacity could cater to world’s population roughly 6 litres a day per capita of fresh potable water. If this capacity were available to 1.5 billion in the world without direct access to drinking water, it would provide approximately 20 litres/day/capita.

Large scale commercially available desalination processes can generally be classified into two categories: (a) distillation processes that require mainly heat plus some electricity for ancillary equipment, and (b) membrane processes that require only electricity. In the first category (distillation) there are two major processes: multi-stage flash (MSF) and multi-effect distillation (MED). In both processes, seawater is heated; the steam that evaporates is condensed and collected as freshwater; and the residual brine is discharged.

In the second category (membranes) is the reverse osmosis process (RO), in which pure water passes from the high-pressure seawater side of a semi-permeable membrane to the low-pressure freshwater side. The pressure differential must be high enough to overcome the natural tendency for water to move from the low concentration freshwater side of a membrane to the high concentration seawater side in order to balance osmotic pressures.

The energy for the desalination plants is generally supplied in the form of either steam or electricity. Conventional fossil fuel-powered plants have normally been utilized as the primary sources but their intensive use raises increasing environmental concerns, specifically in relation to greenhouse gas emissions (Section 1.3.3). The depleting sources and the future price uncertainty of the fossil fuels and their better use for other vital industrial applications are also the factors to be considered.

1.3. THE ROLE OF NUCLEAR POWER IN DESALINATION

The world energy requirements are presently met from oil, coal, gas, hydro, nuclear and renewable energies in that order as shown in Table 1.

It is now universally recognized that there will be an increase in the world’s requirement for electricity over the next few decades. The present trend towards meeting this demand includes the building of fossil fuel plants, particularly combined cycle gas fired plants.

However, the spiralling increase in greenhouse gas (GHG) emissions has resulted in setting the emission targets in international meetings held at Toronto, Rio de Janeiro and Kyoto. The IAEA predicts that the GHG emissions would be 36-50% higher by 2010 compared to 1990 levels. Many analysts, therefore, feel that the only viable alternative to fossil fuels is nuclear energy to reduce the rate of increase of GHG, particularly, carbon dioxide.

Yet another incentive for nuclear power is to maintain diversity of supply. A national strategy limited to one particular form of energy (fossil fuels) will be vulnerable to increased fuel costs and pressures from exporting countries.

Nuclear power is a proven technology, which has provided more than 16% of world electricity supply in over 30 countries. More than ten thousand reactor-years of operating experience have been accumulated over the past 5 decades.

There are many reasons which favour a possible revival of the nuclear power production in the years to come. It is thus expected that this revival would also lead to an increased role of nuclear energy in non-electrical energy services, which, at the moment, are almost entirely dominated by fossil energy sources. Among various utilization of nuclear energy for non-electrical products, using it for the production of freshwater from seawater (nuclear desalination) has been drawing broad interest in the IAEA Member States as a result of acute water shortage issues in many arid and semi-arid zones worldwide. With technical co-ordination or support of the IAEA, several demonstration programs of nuclear desalination are also in progress in several Member States to confirm its technical and economical viability under country-specific conditions

The desalination of seawater using nuclear energy is a feasible option to meet the growing demand for potable water. Over 175 reactor-years of operating experience on nuclear desalination have already been accumulated worldwide.

1.3.1. Nuclear desalination

In the IAEA terminology, nuclear desalination is defined to be the production of potable water from seawater in a facility in which a nuclear reactor is used as the source of energy for the desalination process. Electrical and/or thermal energy may be used in the desalination process on the same site. The facility may be dedicated solely to the production of potable water, or may be used for the generation of electricity and production of potable water, in which case only a portion of the total energy output of the reactor is used for water production.

The design approaches for a nuclear desalination plant are essentially derived from those of the nuclear reactor alone, with some additional aspects to be considered in the design of a desalination plant and its integration with the nuclear system.

All nuclear reactor types can provide the energy required by the various desalination processes. In this regard, it has been shown that Small and Medium Reactors (SMRs) offer the largest potential as coupling options to nuclear desalination systems in developing countries. The development of innovative reactor concepts and fuel cycles with enhanced safety features as well as their attractive economics are expected to improve the public acceptance and further the prospects of nuclear desalination.

The coupling with nuclear system is not difficult technically but needs some consideration in (a)

avoiding cross-contamination by radioactivity, (b) providing backup heat or power sources in case the

nuclear system is not in operation (e.g. for refuelling and maintenance), (c) incorporation of certain

design features, minimising the impact of the thermal desalination systems’ coupling to the nuclear

reactors (Section 1.6).

1.3.2. Why nuclear desalination?

The International Atomic Energy Agency is a specialized organization of the UN system that seeks to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world. The institutional basis for the IAEA’s involvement in nuclear desalination is in its Statute and Medium Term Strategy.

Article II of the IAEA Statute provides that:

“ The Agency shall seek to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world”.

This refers implicitly to nuclear desalination as an option for the use of nuclear technologies.

The same applies to the Article III of the Statute, which authorizes the IAEA:

“ To encourage and assist research on, and development and practical application of, atomic energy for peaceful uses throughout the world….”; (Article III, A.1); and

“To foster the exchange of scientific and technical information on peaceful uses of atomic energy.” (Article III, A.3).

In addition, Objective A.3 of the Agency’s Medium Term Strategy requires the Agency:

“ To support and facilitate the development of new and emerging applications of nuclear technologies by co-generation and heat applications, including seawater desalination”.

Request of assessing feasibility of using nuclear energy for seawater desalination was first made by the five North African countries to the IAEA in 1989 and the General Conference adopted its resolution to resume the study. These countries are located in semi-arid zones and already suffer from water shortages.

In recent years, interests have been also been indicated by Member States in South and South East Asia for the feasibility, as well as the demonstration, of nuclear desalination projects. The issue has since then been repeatedly stressed at the General Conference (Committee on the Whole) and supported by many Member States including most members of Group-77. The support stems not only from their expectation of its possible contribution to the freshwater issue but has also been motivated by a variety of reasons that include: the economic competitiveness of nuclear desalination in areas lacking cheap hydropower or fossil fuel resources, energy supply diversification, conservation of fossil fuel resources and spin-off effects of nuclear technology for industrial development.

Looking to the future, there are several reasons for focusing now on expanding nuclear power’s contribution to desalination. Apart from the expanding demand for freshwater and the increasing concern about GHG emissions and pollution from fossil fuels, there is a renewed and growing emphasis on small and medium sized nuclear reactors, and this is particularly important for desalination because the countries most in need of new sources of freshwater often have limited industrial infrastructures and relatively weaker electricity grids. The size of the grid limits the possibilities for integrating a co-generating nuclear power plant into the grid to supply the electricity market, in addition to meeting the energy requirements of a desalination plant. The largest power unit that can be integrated into an electricity grid must not exceed about 10-20 % of the total grid capacity. Of course, smaller nuclear reactors would be more appropriate for remote areas that are not suitable for connections to the grid.

For nuclear desalination to be attractive in any given country, two conditions have to be satisfied simultaneously: a lack of water and the ability to use nuclear energy for desalination. In most regions, only one of the two is present. Both are present for example in China, the Republic of Korea, India and Pakistan. These regions already account for almost half the world’s population, and thus represent a potential long term market for nuclear desalination. The market will expand further to the extent that regions with high projected water needs, such as the Middle East and North Africa, increase their nuclear expertise and capabilities.

1.3.3. Environmental impact of desalination by fossil fuelled energy sources

Desalination is an energy intensive process. A future desalination strategy based only on the use of fossil fuelled systems is not sustainable: Fossil fuel reserves are finite and must be conserved for more important uses such as transport, petrochemical industry etc. Besides, the demands for desalted water would continue increasing as population grows and standards of living improve. Conservation measures such as the modernisation of water networks to minimise leakages, the recycling of used water etc. will certainly reduce the future water demands slightly but they would not be able to halt the dissemination of desalination plants and consequently of the fossil fuelled based systems for the production of needed electricity and heat.

The following paragraphs illustrate the damaging consequences of such a policy by taking the example of the Mediterranean region.

Following the recent “Blue Plan” [2], the total available natural water resources (1), based on the statistics from 1990 to 1998, in the principle countries of the Mediterranean region, are as shown in Table 2.

The projected demands (3) for the year 2025 [31] are also included in Table 1.

It is obvious that available natural water resources would rather decrease in 2025 because of increased pollution, over exploitation and other human activities. However, to keep matters simple, it would be supposed that they would remain at the same level as in 1998.

It can be observed that, in 2025, the total projected water deficit (balance) in the Mediterranean region would of the order of 294 km3/per year.

Not all this required capacity would be met by desalination plants. Current contribution of desalination is of the order of 1 to 2 %. If it is supposed that in 2025, this contribution would be about 2.5 %, then the total required desalting capacity would be 7.3 km3/year (20.1 million m3/day).

According to the EC ExternE study2, the total emissions of GHG per MW(e).h of electricity produced by representative fossil fuelled power plants in France, are as presented in Table 3.

The specific heat and electricity consumptions of three main desalination plants are given in Table 4, [3].

The data presented in the above Tables allows to calculate the approximate3 total GHG emissions produced by the fossil fuelled plants and the three desalination plants.

Results for a total desalting capacity of 20.1 million m3/day are presented in Table 5.

It can thus be concluded that for a desalting capacity of 20.1 million m3/day in the Mediterranean region alone, required in 2025, one would produce, depending upon the energy source and the desalination process used,

13 to 264 million tonnes/year of CO2.

1350 to 1 310 000 tonnes/year of SOx.

21 100 to 540 000 tonnes/year of NOx.

1190 to 40 000 tonnes/year of particles.

The potential levels of GHG and particle emissions on the world scale could then be more than double these figures.

These could naturally be avoided through the use of nuclear energy.

#### Key to deescalate conflicts

Palley ‘11

Reese Palley, The London School of Economics, 2011, The Answer: Why Only Inherently Safe, Mini Nuclear Power Plans Can Save Our World, p. 168-71

The third world has long been rent in recent droughts, by the search for water. In subsistence economies, on marginal land, water is not a convenience but a matter of life and death. As a result small **wars have been fought, rivers diverted, and wells poisoned in what could be a warning of what is to come as industrialized nations begin to face failing water supplies.** Quite aside from the demand for potable water is the dependence of enormous swaths of industry and agriculture on oceans of water used for processing, enabling, and cleaning a thousand processes and products. It is interesting to note that fresh water used in both industry and agriculture is reduced to a nonrenewable resource as agriculture adds salt and industry adds a chemical brew unsuitable for consumption. More than one billion people in the world already lack access to clean water, and things are getting worse. Over the next two decades, the average supply of water per person will drop by a third, **condemning millions** of people **to** waterborne **diseases** and an avoidable premature death.81 So **the stage is set for water access wars between** the **first and the third worlds**, between **neighbors** downstream of supply, between **big industry** and big agriculture, between **nations**, between **population** centers, and ultimately between you and the people who live next door for an already inadequate world water supply that is not being renewed. **As populations inevitably increase, conflicts will intensify**.82 It is only by virtue of the historical accident of the availability of nuclear energy that humankind now has the ability to remove the salt and other pollutants to supply all our water needs. The problem is that **desalination is an intensely local process**. Some localities have available sufficient water from renewable sources to take care of their own needs, but not enough to share with their neighbors, and it **is here that the scale of nuclear energy production must be defined locally.** Large scale 1,000 MWe plants can be used to desalinate water as well as for generating electricity However we cannot build them fast enough to address the problem, and, if built they would face the extremely expensive problem of distributing the water they produce. Better, much better, would be to use small desalinization plants sited locally. Beyond desalination for human use is the need to green some of the increasing desertification of vast areas such as the Sahara. Placing twenty 100 MWe plants a hundred miles apart along the Saharan coast would green the coastal area from the Atlantic Ocean to the Red Sea, a task accomplished more cheaply and quickly than through the use of gigawatt plants.83 This could proceed on multiple tracks wherever deserts are available to be reclaimed. Leonard Orenstein, a researcher in the field of desert reclamation, speculates: If most of the Sahara and Australian outback were planted with fast-growing trees like eucalyptus, the forests could draw down about 8 billion tons of carbon a year—nearly as much as people emit from burning fossil fuels today. As the forests matured, they could continue taking up this much carbon for decades.84 **The use of small, easily transported**, easily **sited**, and walk away **safe nuclear reactors dedicated to desalination is the only answer** to the disproportionate distribution of water resources that have distorted human habitation patterns for millennia. Where there existed natural water, such as from rivers, great cities arose and civilizations flourished. Other localities lay barren through the ages. We now have the power, by means of SMRs profiled to local conditions, not only to attend to existing water shortages but also to smooth out disproportionate water distribution and create green habitation where historically it has never existed. **The endless wars that have been fought**, first over solid bullion gold and then over oily black gold, **can now engulf us in the desperate reach for liquid blue gold. We need never fight these wars again as we now have the nuclear power to fulfill the** biblical **ability to “strike any local rock and have water gush forth**.”

#### It’s economically viable

Gamini Seneviratne 7, Nuclear News’s Vienna Correspondent, “Research projects show nuclear

desalination economical”, April, <http://www.ans.org/pubs/magazines/nn/docs/2007-4-3.pdf>

The desalination of seawater using nuclear power is cost-effective compared with other primary energies, according to researchers in 10 countries who have studied various options at specific sites in their own countries. Their findings show nuclear to be at least competitive in all cases.

Researchers from Argentina, China, Egypt, France, India, Korea, Pakistan, Russia, Syria, and the United States focused on the economics of producing potable water by using various desalination technologies and energy sources at particular sites. The participants followed an agreed procedure throughout a coordinated research project (CRP), Economics of Nuclear Desalination— New Developments and Site-specific Studies, set up by the International Atomic Energy Agency. The findings of the studies, carried out over three years and ending in November 2006, are included in a technical document (IAEA-TECDOC) already at the printer.

“There is a dire shortage of fresh water for drinking in many countries already, and when you realize that 70 percent of the planet is covered with water but only 2.5 percent of that is fresh water, it is hardly surprising,” Ibrahim Khamis, who heads the IAEA’s desalination unit, told Nuclear News. He added that 70 percent of that fresh water is frozen in the polar icecaps and Greenland, and most of the rest is in soil moisture, inaccessible underground aquifers, or comes as heavy rain that is difficult to capture. “So only some 0.008 percent, about 70 000 km3, is readily available, and even that is very unevenly distributed.”

According to Khamis, recent statistics show 2.3 billion people living in water stressed areas, 1.7 billion of them in areas where the availability is on average less than 1000 m3 a year. Given human population growth and the increasing demands of industry and agriculture, the projections point to a continuously worsening situation, even if the effects of global warming are not taken into account. Khamis said he foresaw a time when nuclear power will be sought for desalination rather than for electricity generation, at least in some specific regions of the world such as the Middle East. “You can live without electricity for quite a long time; without water, only a matter of days.” The U.S. study, which was undertaken by Argonne National Laboratory (ANL), notes that “the need for fresh water, high-purity water, and other grades of water for various domestic, industrial, and agricultural applications is ever increasing in the United States.” Demand is driven mainly by population, as well as continuous economic and technological growth, and it is predicted that more than an additional 60 billion m3 of water a year will be needed for municipal and light industrial uses by the year 2020. An additional 11–19 liters per day per person will be needed to generate hydrogen, should transportation be based mainly on hydrogen-powered vehicles in the future. “Cogeneration of water and power could offer a major portion of the additional water needed, in addition to providing much needed energy for maintaining sustainable development and growth,” the ANL report says.

The IAEA report says that desalinating seawater is not the only solution under discussion for remedying the water scarcity, but it is an important one. There are essentially two methods: distillation using heat, and the use of membranes and electricity directly. The two main distillation modes, known as multistage flash (MSF) and multieffect distillation (MED), both involve heating seawater to produce steam, followed by evaporation, condensation, and, finally, pure water collection. The method using membranes, which is called reverse osmosis (RO), uses electricity to create a pressure differential across a semipermeable membrane, allowing fresh water to pass through to the low-pressure side, and leaving salty seawater on the high-pressure side.

Desalination plant capacity worldwide is close to 40 million m3 today, mostly by distillation using fossil energy, and mostly in the Middle East and North Africa. Nuclear desalination has so far been exclusively for use within the nuclear power plants themselves, except at the Soviet-built BN-350 fast reactor in Aktau, Kazakhstan, which supplied potable water to local communities until it was shut down in 1999.

Currently, only India supplies nuclear desalinated water outside the plant site. Having earlier used MSF to get plant-use water, it has also integrated RO to the desalination unit at its Kalpakkam pressurized heavy-water reactor (PHWR) in Chenai, and it has begun (experimentally) supplying some water outside the power station. Pakistan has begun a similar project at its Karachi nuclear power plant (KANUPP) to couple a 1600 m3/day MED unit to the nuclear plant, which earlier operated a 454 m3/day RO facility for plant use.

Fresh water is needed for many purposes. Saudi Arabia alone already irrigates crops with desalinated water. A number of countries, notably Egypt, the Persian Gulf States, Israel, Jordan, and Libya, depend on the technology to maintain tourism. Khamis said nuclear desalination has been held back by two key factors: economics, and the unavailability of reactors of appropriate size.

The CRP addressed the former, comparing cost performance between reactor plus desalination method combinations. The perception that nuclear is less cost-effective than other energy sources was repudiated by the studies.

The report says that the country case studies “have shown that in general, the nuclear desalination costs can vary from $0.5 to $0.94/m3 for RO, from $0.6 to $0.96/m3 for MED, and from $1.18 to $1.48/m3 for MSF plants. All nuclear options are economically attractive as compared with the gas turbine combined-cycle–based desalination systems, as long as gas prices remain higher than $150/toe [metric tons oil equivalent] or $21/bbl [barrel].”

#### Plan accesses a huge export market

Rosner and Goldberg 11

Robert Rosner, Stephen Goldberg, Energy Policy Institute at Chicago, The Harris School of Public Policy Studies, November 2011, SMALL MODULAR REACTORS –KEY TO FUTURE NUCLEAR POWER GENERATION IN THE U.S., <https://epic.sites.uchicago.edu/sites/epic.uchicago.edu/files/uploads/EPICSMRWhitePaperFinalcopy.pdf>

Previous studies have documented the potential for a significant export market for U.S. SMRs, mainly in lesser developed countries that do not have the demand or infrastructure to accommodate GW-scale LWRs. Clearly, the economics of SMR deployment depends not only on the cost of SMR modules, but also on the substantial upgrades in all facets of infrastructure requirements, particularly in the safety and security areas, that would have to be made, and as exemplified by the ongoing efforts in this direction by the United Arab Emirates (and, in particular, by Abu Dhabi). This is a substantial undertaking for these less developed countries. Thus, such applications may be an attractive market opportunity for FOAK SMR plants, even if the cost of such plants may not have yet achieved all of the learning benefits.

The Department of Commerce has launched the Civil Nuclear Trade Initiative, which seeks to identify the key trade policy challenges and the most significant commercial opportunities. The Initiative encompasses all aspects of the U.S. nuclear industry, and, as part of this effort, the Department identified 27 countries as “markets of interest” for new nuclear expansion. A recent Commerce Department report identified that “SMRs can be a solution for certain markets that have smaller and less robust electricity grids and limited investment capacity.” Studies performed by Argonne National Laboratory suggest that SMRs would appear to be a feasible power option for countries that have grid capacity of 2,000-3,000 MW. **Exports of SMR technology** also **could play an important role in furthering non-proliferation policy objectives.** The design of SMR nuclear fuel management systems, such as encapsulation of the fuel, may have non-proliferation benefits that merit further assessment. Also, the development of an SMR export industry would be step toward a U.S.-centric, bundled reliable fuel services.

## solvency

#### SMR’s are super cost-effective and safe

Ioannis N. Kessides and Vladimir Kuznetsov 12, Ioannis is a researcher for the Development Research Group at the World Bank, Vladimir is a consultant for the World Bank, “Small Modular Reactors for Enhancing Energy Security in Developing Countries”, August 14, Sustainability 2012, 4(8), 1806-1832

SMRs offer a number of advantages that can potentially offset the overnight cost penalty that they suffer relative to large reactors. Indeed, several characteristics of their proposed designs can serve to overcome some of the key barriers that have inhibited the growth of nuclear power. These characteristics include [23,24]: \* • Reduced construction duration. The smaller size, lower power, and simpler design of SMRs allow for greater modularization, standardization, and factory fabrication of components and modules. Use of factory-fabricated modules simplifies the on-site construction activities and greatly reduces the amount of field work required to assemble the components into an operational plant. As a result, the construction duration of SMRs could be significantly shorter compared to large reactors leading to important economies in the cost of financing. \* • Investment scalability and flexibility. In contrast to conventional large-scale nuclear plants, due to their smaller size and shorter construction lead-times SMRs could be added one at a time in a cluster of modules or in dispersed and remote locations. Thus capacity expansion can be more flexible and adaptive to changing market conditions. The sizing, temporal and spatial flexibility of SMR deployment have important implications for the perceived investment risks (and hence the cost of capital) and financial costs of new nuclear build. Today’s gigawatt-plus reactors require substantial up-front investment—in excess of US$ 4 billion. Given the size of the up-front capital requirements (compared to the total capitalization of most utilities) and length of their construction time, new large-scale nuclear plants could be viewed as “bet the farm” endeavors for most utilities making these investments. SMR total capital investment costs, on the other hand, are an order of magnitude lower—in the hundreds of millions of dollars range as opposed to the billions of dollars range for larger reactors. These smaller investments can be more easily financed, especially in small countries with limited financial resources. SMR deployment with just-in-time incremental capacity additions would normally lead to a more favorable expenditure/cash flow profile relative to a single large reactor with the same aggregate capacity—even if we assume that the total time required to emplace the two alternative infrastructures is the same. This is because when several SMRs are built and deployed sequentially, the early reactors will begin operating and generating revenue while the remaining ones are being constructed. In the case of a large reactor comprising one large block of capacity addition, no revenues are generated until all of the investment expenditures are made. Thus the staggered build of SMRs could minimize the negative cash flow of deployment when compared to emplacing a single large reactor of equivalent power [25]. \* • Better power plant capacity and grid matching. In countries with small and weak grids, the addition of a large power plant (1000 MW(e) or more) can lead to grid stability problems—the general “rule of thumb” is that the unit size of a power plant should not exceed 10 percent of the overall electricity system capacity [11]. The incremental capacity expansion associated with SMR deployment, on the other hand, could help meet increasing power demand while avoiding grid instability problems. \* • Factory fabrication and mass production economies. SMR designs are engineered to be pre-fabricated and mass-produced in factories, rather than built on-site. Factory fabrication of components and modules for shipment and installation in the field with almost Lego-style assembly is generally cheaper than on-site fabrication. Relative to today’s gigawatt-plus reactors, SMRs benefit more from factory fabrication economies because they can have a greater proportion of factory made components. In fact, some SMRs could be manufactured and fully assembled at the factory, and then transported to the deployment site. Moreover, SMRs can benefit from the “economies of multiples” that accrue to mass production of components in a factory with supply-chain management. \* • Learning effects and co-siting economies. Building reactors in a series can lead to significant per-unit cost reductions. This is because the fabrication of many SMR modules on plant assembly lines facilitates the optimization of manufacturing and assembly processes. Lessons learned from the construction of each module can be passed along in the form of productivity gains or other cost savings (e.g., lower labor requirements, shorter and more efficiently organized assembly lines) in successive units (Figure 6). Moreover, additional learning effects can be realized from the construction of successive units on the same site. Thus multi-module clustering could lead to learning curve acceleration. Since more SMRs are deployed for the same amount of aggregate power as a large reactor, these learning effects can potentially play a much more important role for SMRs than for large reactors [26]. Also, sites incorporating multiple modules may require smaller operator and security staffing. \* • Design simplification. Many SMRs offer significant design simplifications relative to large-scale reactors utilizing the same technology. This is accomplished thorough the adoption of certain design features that are specific to smaller reactors. For example, fewer and simpler safety features are needed in SMRs with integral design of the primary circuit (i.e., with an in vessel location of steam generators and no large diameter piping) that effectively eliminates large break LOCA. Clearly one of the main factors negatively affecting the competitiveness of small reactors is economies of scale—SMRs can have substantially higher specific capital costs as compared to large-scale reactors. However, SMRs offer advantages that can potentially offset this size penalty. As it was noted above, SMRs may enjoy significant economic benefits due to shorter construction duration, accelerated learning effects and co-siting economies, temporal and sizing flexibility of deployment, and design simplification. When these factors are properly taken into account, then the fact that smaller reactors have higher specific capital costs due to economies of scale does not necessarily imply that the effective (per unit) capital costs (or the levelized unit electricity cost) for a combination of such reactors will be higher in comparison to a single large nuclear plant of equivalent capacity [22,25]. In a recent study, Mycoff et al. [22] provide a comparative assessment of the capital costs per unit of installed capacity of an SMR-based power station comprising of four 300 MW(e) units that are built sequentially and a single large reactor of 1200 MW(e). They employ a generic mode to quantify the impacts of: (1) economies of scale; (2) multiple units; (3) learning effects; (4) construction schedule; (5) unit timing; and (6) plant design (Figure 7). To estimate the impact of economies of scale, Mycoff et al. [22] assume a scaling factor n = 0.6 and that the two plants are comparable in design and characteristics—i.e., that the single large reactor is scaled down in its entirety to ¼ of its size. According to the standard scaling function, the hypothetical overnight cost (per unit of installed capacity) of the SMR-based power station will be 74 percent higher compared to a single large-scale reactor. Based on various studies in the literature, the authors posit that the combined impact of multiple units and learning effects is a 22 percent reduction in specific capital costs for the SMR-based station. To quantify the impact of construction schedule, the authors assume that the construction times of the large reactor and the SMR units are five and three years respectively. The shorter construction duration results in a 5 percent savings for the SMRs. Temporal flexibility (four sequentially deployed SMRs with the first going into operation at the same time as the large reactor and the rest every 9 months thereafter) and design simplification led to 5 and 15 percent reductions in specific capital costs respectively for the SMRs. When all these factors are combined, the SMR-based station suffers a specific capital cost disadvantage of only 4 percent as compared to the single large reactor of the same capacity. Thus, the economics of SMRs challenges the widely held belief that nuclear reactors are characterized by significant economies of scale [19].

#### Role of the ballot’s to simulate enactment of the plan – key to decisionmaking and fairness

Hager, professor of political science – Bryn Mawr College, ‘92

(Carol J., “Democratizing Technology: Citizen & State in West German Energy Politics, 1974-1990” *Polity*, Vol. 25, No. 1, p. 45-70)

During this phase, the citizen initiative attempted to overcome its defensive posture and **implement an alternative politics.** The strategy of legal and technical challenge might delay or even prevent plant construction, but it would not by itself accomplish the broader goal on the legitimation dimension, i.e., democratization. Indeed, it worked against broad participation. The activists had to find a viable means of achieving change. Citizens had proved they could contribute to a **substantive policy discussion.** Now, some activists turned to the parliamentary arena as a possible forum for an energy dialogue. Until now, parliament had been conspicuously absent as a relevant policy maker, but if parliament could be reshaped and activated, citizens would have a forum in which to address the broad questions of policy-making goals and forms. They would also have an **institutional lever** with which to pry apart the bureaucracy and utility. None of the established political parties could offer an alternative program. Thus, local activists met to discuss forming their own voting list. These discussions provoked internal dissent. Many citizen initiative members objected to the idea of forming a political party. If the problem lay in the role of parliament itself, another political party would not solve it. On the contrary, parliamentary participation was likely to destroy what political innovations the extraparliamentary movement had made. Others argued that a political party would give the movement an institutional platform from which to introduce some of the grassroots democratic political forms the groups had developed. Founding a party as the parliamentary arm of the citizen movement would allow these groups to play an active, critical role in institutionalized politics, participating in the policy debates while retaining their outside perspective. Despite the disagreements, the Alternative List for Democracy and Environmental Protection Berlin (AL) was formed in 1978 and first won seats in the Land parliament with 7.2 percent of the vote in 1981.43 The founders of the AL were encouraged by the success of newly formed local green parties in Lower Saxony and Hamburg,44 whose evolution had been very similar to that of the West Berlin citizen move-ment. Throughout the FRG, unpopular administrative decisions affect-ing local environments, generally in the form of state-sponsored indus-trial projects, prompted the development of the citizen initiative and ecology movements. The groups in turn focused constant attention on state planning "errors," calling into question not only the decisions themselves, but also the conventional forms of political decision making that produced them.45 Disgruntled citizens increasingly aimed their critique at the established political parties, in particular the federal SPD/ FDP coalition, which seemed unable to cope with the economic, social, and political problems of the 1970s. Fanned by publications such as the Club of Rome's report, "The Limits to Growth," the view spread among activists that the crisis phenomena were not merely a passing phase, but indicated instead "a long-term structural crisis, whose cause lies in the industrial-technocratic growth society itself."46 As they broadened their critique to include the political **system as a whole**, many grassroots groups found the extraparliamentary arena too restrictive. Like many in the West Berlin group, they reasoned that the necessary change would require a degree of political restructuring that could only be accomplished through their direct participation in parliamentary politics. Green/alternative parties and voting lists sprang up nationwide and began to win seats in local assemblies. The West Berlin Alternative List saw itself not as a party, but as the parliamentary arm of the citizen initiative movement. One member explains: "the starting point for alternative electoral participation was simply the notion of achieving a greater audience for [our] own ideas and thus to work in support of the extraparliamentary movements and initia-tives,"47 including non-environmentally oriented groups. The AL wanted to avoid developing structures and functions autonomous from the citizen initiative movement. Members adhered to a list of principles, such as rotation and the imperative mandate, designed to keep parliamentarians attached to the grassroots. Although their insistence on grassroots democracy often resulted in interminable heated discussions, the participants recognized the importance of experimenting with new forms of decision making, of not succumbing to the same hierarchical forms they were challenging. Some argued that the proper role of citizen initiative groups was not to represent the public in government, but to mobilize other citizens to **participate directly in politics themselves**; self-determination was the aim of their activity.48 Once in parliament, the AL proposed establishmento f a temporary parliamentaryco mmissiont o studye nergyp olicy,w hichf or the first time would draw all concernedp articipantst ogetheri n a discussiono f both short-termc hoicesa nd long-termg oals of energyp olicy. With help from the SPD faction, which had been forced into the opposition by its defeat in the 1981 elections, two such commissions were created, one in 1982-83 and the other in 1984-85.49T hese commissionsg ave the citizen activists the forum they sought to push for modernizationa nd technicali nnovation in energy policy. Although it had scaled down the proposed new plant, the utility had produced no plan to upgrade its older, more polluting facilities or to install desulfurizationd evices. With proddingf rom the energyc ommission, Land and utility experts began to formulate such a plan, as did the citizen initiative. By exposing administrative failings in a public setting, and **by producing a** modernization **plan itself**, the combined citizen initiative and AL forced bureaucratic authorities to push the utility for improvements. They also forced the authorities to consider different technological solutions to West Berlin's energy and environmental problems. In this way, the activists served as technological innovators. In 1983, the first energy commission submitted a list of recommendations to the Land parliament which reflected the influence of the citizen protest movement. It emphasized goals of demand reduction and efficiency, noted the value of expanded citizen participation and urged authorities to "investigate more closely the positive role citizen participation can play in achieving policy goals."50 The second energy commission was created in 1984 to discuss the possibilities for modernization and shutdown of old plants and use of new, environmentally friendlier and cheaper technologies for electricity and heat generation. Its recommendations strengthened those of the first commission.51 Despite the non-binding nature of the commissions' recommendations, the public discussion of energy policy motivated policy makers to take stronger positions in favor of environmental protection. III. Conclusion The West Berlin energy project eventually cleared all planning hurdles, and construction began in the early 1980s. The new plant now conforms to the increasingly stringent environmental protection requirements of the law. The project was delayed, scaled down from 1200 to 600 MW, moved to a neutral location and, unlike other BEWAG plants, equipped with modern desulfurization devices. That the new plant, which opened in winter 1988-89, is the technologically most advanced and environmen-tally sound of BEWAG's plants is due entirely to the long legal battle with the citizen initiative group, during which nearly every aspect of the original plans was changed. In addition, through the efforts of the Alter-native List (AL) in parliament, the Land government and BEWAG formulated a long sought modernization and environmental protection plan for all of the city's plants. The AL prompted the other parliamentary parties to take pollution control seriously. Throughout the FRG, energy politics evolved in a similar fashion. As Habermas claimed, underlying the **objections against particular projects** was a reaction against the administrative-economic system in general. One author, for example, describes the emergence of two-dimensional protest against nuclear energy: The resistance against a concrete project became understood simul-taneously as resistance against the entire atomic program. Questions of energy planning, of economic growth, of understanding of democracy entered the picture. . . . Besides concern for human health, for security of conditions for human existence and protec-tion of nature arose critique of what was perceived as undemocratic planning, the "shock" of the delayed public announcement of pro-ject plans and the fear of political decision errors that would aggra-vate the problem.52 This passage supports a West Berliner's statement that the citizen initiative began with a project critique and arrived at *Systemkritik*.53 I have labeled these two aspects of the problem the public policy and legitima-tion dimensions. In the course of these conflicts, the legitimation dimen-sion emergd as the more important and in many ways the more prob-lematic. Parliamentary Politics In the 1970s, energy politics began to develop in the direction Offe de-scribed, with bureaucrats and protesters avoiding the parliamentary channels through which they should interact. The citizen groups them-selves, however, have to a degree reversed the slide into irrelevance of parliamentary politics. Grassroots groups overcame their defensive posture enough to begin to **formulate an alternative politics**, based upon concepts such as decision making through mutual understanding rather than technical criteria or bargaining. This new politics required new modes of interaction which the old corporatist or pluralist forms could not provide. Through the formation of green/alternative parties and voting lists and through new parliamentary commissions such as the two described in the case study, some members of grassroots groups attempted to both operate within the political system and fundamentally change it, to restore the link between bureaucracy and citizenry. Parliamentary politics was partially revived in the eyes of West German grassroots groups as a legitimate realm of citizen participation, an outcome the theory would not predict. It is not clear, however, that strengthening the parliamentary system would be a desirable outcome for everyone. Many remain skeptical that institutions that operate as part of the "system" can offer the kind of substantive participation that grass-roots groups want. The constant tension between institutionalized politics and grassroots action emerged clearly in the recent internal debate between "fundamentalist" and "realist" wings of the Greens. Fundis wanted to keep a firm footing outside the realm of institutionalized politics. They refused to bargain with the more established parties or to join coalition governments. Realos favored participating in institutionalized politics while pressing their grassroots agenda. Only this way, they claimed, would they have a chance to implement at least some parts of their program. This internal debate, which has never been resolved, can be interpreted in different ways. On one hand, the tension limits the appeal of green and alternative parties to the broader public, as the Greens' poor showing in the December 1990 all-German elections attests. The failure to come to agreement on basic issues can be viewed as a hazard of grass-roots democracy. The Greens, like the West Berlin citizen initiative, are opposed in principle to forcing one faction to give way to another. Disunity thus persists within the group. **On the other hand**, the tension can be understood not as a failure, but as a kind of success: grassroots politics has not been absorbed into the bureaucratized system; it retains its critical dimension, both in relation to the political system and within the groups themselves. The **lively debate** stimulated by grassroots groups and parties **keeps questions of democracy on the public agenda.** Technical Debate In West Berlin, the two-dimensionality of the energy issue forced citizen activists to become both participants in and critics of the policy process. In order to defeat the plant, **activists engaged in technical debate.** They won several decisions in favor of environmental protection, often **proving to be more informed than bureaucratic experts** themselves. The case study demonstrates that grassroots groups, far from impeding techno-logical advancement, can actually serve as technological innovators. The activists' role as technical experts, while it helped them achieve some success on the policy dimension, had mixed results on the legitimation dimension. On one hand, it helped them to challenge the legitimacy of technocratic policy making. They turned back the Land government's attempts to displace political problems by formulating them in technical terms.54 By demonstrating the fallibility of the technical arguments, activists forced authorities to acknowledge that energy demand was a political variable, whose value at any one point was as much influenced by the choices of policy makers as by independent technical criteria. Submission to the form and language of technical debate, however, weakened activists' attempts to introduce an alternative, goal-oriented form of decision making into the political system. Those wishing to par-ticipate in energy politics on a long-term basis have had to accede to the language of bureaucratic discussion, if not the legitimacy of bureaucratic authorities. They have helped break down bureaucratic authority but have not yet offered a viable long-term alternative to bureaucracy. In the tension between form and language, goals and procedure, the legitima-tion issue persists. At the very least, however, grassroots action challenges critical theory's notion that technical discussion is inimical to democratic politics.55 Citizen groups have raised the possibility of a dialogue that is both technically sophisticated and democratic. In sum, although the legitimation problems which gave rise to grass-roots protest have not been resolved, citizen action has worked to counter the marginalization of parliamentary politics and the technocratic character of policy debate that Offe and Habermas identify. The West Berlin case suggests that the solutions to current legitimation problems may not require total repudiation of those things previously associated with technocracy.56 In Berlin, the citizen initiative and AL continue to search for new, more legitimate forms of organization consistent with their principles. No permanent Land parliamentary body exists to coordinate and con-solidate energy policy making.57 In the 1989 Land elections, the CDU/ FDP coalition was defeated, and the AL formed a governing coalition with the SPD. In late 1990, however, the AL withdrew from the coali-tion. It remains to be seen whether the AL will remain an effective vehi-cle for grassroots concerns, and whether the citizenry itself, now includ-ing the former East Berliners, will remain active enough to give the AL direction as united Berlin faces the formidable challenges of the 1990s. On the policy dimension, grassroots groups achieved some success. On the legitimation dimension, it is difficult to judge the results of grass-roots activism by normal standards of efficacy or success. Activists have certainly not radically restructured politics. They agree that democracy is desirable, but troublesome questions persist about the degree to which those processes that are now bureaucratically organized can and should be restructured, where grassroots democracy is possible and where bureaucracy is necessary in order to get things done. In other words, grassroots groups have tried to remedy the Weberian problem of the marginalization of politics, but it is not yet clear what the boundaries of the political realm should be. It is, however, the act of calling existing boundaries into question that keeps democracy vital. In raising alternative possibilities and encouraging citizens to take an active, critical role in their own governance, the **contribution of grassroots** environmental **groups has been significant.** As Melucci states for new social movements in general, these groups mount a "symbolic" challenge by proposing "a different way of perceiving and naming the world."58 Rochon concurs for the case of the West German peace movement, noting that its effect on the public discussion of secur-ity issues **has been tremendous**.59 The effects of the legitimation issue in the FRG are evident in increased citizen interest in areas formerly left to technical experts. Citizens have formed nationwide associations of environmental and other grassroots groups as well as alternative and green parties at all levels of government. The level of information within the groups is generally quite high, and their participation, especially in local politics, has raised the awareness and engagement of the general populace noticeably.60 **Policy concessions** and new legal provisions for citizen participation **have not quelled grassroots action.** The attempts of the established political parties to coopt "green" issues have also met with limited success. Even green parties themselves have not tapped the full potential of public support for these issues. The persistence of legitima-tion concerns, along with the growth of a culture of informed political activism, will ensure that the search continues for a space for a delibera-tive politics in modern technological society.61

#### Prefer our econ models

Dean Glenn Hubbard 11-2, Professor of Finance and Economics at Columbia Business School, “Building small: In many industries, economies of size is shifting to economies of numbers”, <http://www.laserfocusworld.com/news/2012/11/05/building-small-in-many-industries-economies-of-size-is-shifting-to-economies-of-numbers.html>

For decades, bigger is better has been the conventional path to efficiency in industries ranging from transportation to power generation. Food once grown on small family plots now comes overwhelmingly from factory farms. Vessels that carried 2,000 tons of cargo have been replaced by modern container ships that routinely move 150,000 tons.

But now, new research shows, we are on the cusp of a radical shift from building big to building small-a change that has profound implications for both established and emerging industries. Many industry sectors are nearing or have reached a tipping point in which efficiency of unit size is being replaced by efficiency of numbers, according to a recent study by Garrett van Ryzin, the Paul M. Montrone Professor of Private Enterprise at Columbia Business School, Caner Gmen, Ph.D. candidate at Columbia Business School, and Eric Dahlgren and Klaus S. Lackner of Columbia Universitys School of Engineering and Applied Science. Rather than relying on custom-built, large-scale units of production - e.g. massive thermal power plants - industries can benefit from a shift to small, modular, mass-produced units that can be deployed in a single location or distributed across many locations - e.g. photovoltaic (PV) panels mounted on utility poles. Conventional wisdom holds that capital cost per unit of capacity decline with increasing unit size. Other efficiencies of unit size arise from manufacturers ability to spread out the fixed-costs components of production, as well as factors such as operator labor and design costs. This alternative approach to infrastructure design offers new possibilities for reducing costs and improving service, the researchers found. The authors identify three driving forces underlying this shift. First, new computing, sensor, and communication technologies make high degrees of automation possible at a very low cost, largely eliminating the labor savings from large units. Second, mass production of many small, standardized units can achieve capital cost savings comparable to or even greater than those achievable through large unit scale. And third, small-unit scale technology provides significant flexibility-a benefit that has been largely ignored in the race toward ever-increasing scale and one which can significantly reduce both investment and operating costs. This trend-observable in nascent form in several industries ranging from small, modular nuclear reactors, chlorine plants, and biomass energy systems to data centers-is resulting in a switch from large to small optimal unit scale, the authors found. The shift mirrors a similar revolution that began thirty years ago in the supercomputer industry. The traditional approach to producing higher capacity and greater speed in computing was to build increasingly powerful, specialized machines with ever-increasing processing power. This came to a halt in the mid-1990s, when it became cheaper to employ mass-produced processors and high-capacity memory from the burgeoning personal computer industry. Soon, the researchers conclude, many more industries will learn to think small and thereby reap the benefits of this new paradigm in production.

#### Sufficient to overcome natural gas prices

Joseph Somsel 10-13, degreed nuclear engineer holding an MBA from California Polytechnic University, “Obama's War on Nuclear Power”, <http://www.americanthinker.com/2012/10/obamas_war_on_nuclear_power.html>

Yet as of this writing, only four reactors have just begun physical construction, with permit approval in the spring of 2012. The rest have been either abandoned or suspended. Of course, the drop in natural gas prices had something to do with it, but investing in nuclear electricity-generation is a long-term bet against fossil fuel volatility. In other words, don't expect natural gas prices to stay this low for long. With the rapid spread of fracking and horizontal drilling technologies, a bubble of natural gas supply has hit the market, driving prices down. Current prices do not appear to support the long-term average cost of natural gas production causing financial difficulties for large producers like Chesapeake Energy. With an eventual normalization of costs to prices and the opening of export markets for America's gas, we can expect prices to show an upward climb over time. Nuclear, on the other hand, once built, is little troubled by uranium cost swings and can produce electricity at relatively stable rates. And stable electric rates have a intrinsic value to the customers by reducing the volatility of electric bills.

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#### Microgrids aren’t widespread and no funding for them

Daniel Sater, 2011, Research Fellow at Global Green USA's Security and Sustainability Office, Military Energy Security: Current Efforts and Future Solutions, Global Green, globalgreen.org/docs/publication-185-1.pdf

In the first six months of 2011, the US civilian power grid suffered 155 blackouts affecting an average of 83,000 people with 36 blackouts affecting over 100,000 people.1 Despite these staggering numbers, US military bases rely solely on the civilian grid to power 99% of their war fighting capabilities, homeland security missions, and rescue and relief operations.2 This paper analyzes the Department of Defense’s current efforts to increase energy efficiency and assurance and makes recommendations on the policy options available to the DOD to increase the incorporation of smart microgrids onto its military installations.

A Microgrid is a small localized version of the Smart Grid. It increases energy efficiency by regulating demand and allows for better incorporation of renewable energy sources. During a power outage, a microgrid will disconnect itself from the civilian power grid and turn on an installation’s generators to ensure electricity availability to a base’s critical loads. By prioritizing loads during an emergency, a microgrid will drastically decrease the need for fuel resupplies during a civilian power grid failure. Microgrids also have the potential for deployment in war zones where power supplies are even less secure.

Despite the benefits of microgrids, the DOD, as well as legislation and executive orders, has focused on less efficient energy alternatives. The Environmental Conservation Investment Program, one of the principle funding mechanisms to fund conservation efforts in the DOD, rarely invests in microgrids and focuses too much on less cost efficient projects. Further, the DOD’s Net Zero Energy Installation Initiative does little to increase energy assurance at military installations. By focusing too much on renewable energy generation, legislation and executive orders have decreased the available funds for microgrids, which if installed before a renewable energy project, can increase its viability.

The Defense Science Board (DSB) has published two reports urging the DOD to decrease its energy costs and better secure its energy supply to bases. However, the development of microgrids, despite their cost effectiveness and impact on energy assurance, remains slow and infrequent. To increase national security and decrease the department’s energy expenditures, the DOD should enact changes to its investment programs to give more consideration to microgrids and pursue special appropriations from Congress for the widespread deployment of microgrids. The benefit of this two-pronged approach is that it allows the DOD to follow a short-term zero cost solution while it waits for the necessary appropriation from Congress to solve the Defense Department’s energy problems.

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#### Pursuit of hegemony’s inevitable

Zach Dorfman 12, assistant editor of Ethics and International Affairs, the journal of the Carnegie Council, and co-editor of the Montreal Review, “What We Talk About When We Talk About Isolationism”, May 18, <http://dissentmagazine.org/online.php?id=605>

The rise of China notwithstanding, the United States remains the world’s sole superpower. Its military (and, to a considerable extent, political) hegemony extends not just over North America or even the Western hemisphere, but also Europe, large swaths of Asia, and Africa. Its interests are global; nothing is outside its potential sphere of influence. There are an estimated 660 to 900 American military bases in roughly forty countries worldwide, although figures on the matter are notoriously difficult to ascertain, largely because of subterfuge on the part of the military. According to official data there are active-duty U.S. military personnel in 148 countries, or over 75 percent of the world’s states. The United States checks Russian power in Europe and Chinese power in South Korea and Japan and Iranian power in Iraq, Afghanistan, and Turkey. In order to maintain a frigid peace between Israel and Egypt, the American government hands the former $2.7 billion in military aid every year, and the latter $1.3 billion. It also gives Pakistan more than $400 million dollars in military aid annually (not including counterinsurgency operations, which would drive the total far higher), Jordan roughly $200 million, and Colombia over $55 million.

U.S. long-term military commitments are also manifold. It is one of the five permanent members of the UN Security Council, the only institution legally permitted to sanction the use of force to combat “threats to international peace and security.” In 1949 the United States helped found NATO, the first peacetime military alliance extending beyond North and South America in U.S. history, which now has twenty-eight member states. The United States also has a trilateral defense treaty with Australia and New Zealand, and bilateral mutual defense treaties with Japan, Taiwan, the Philippines, and South Korea. It is this sort of reach that led Madeleine Albright to call the United States the sole “indispensible power” on the world stage.

The idea that global military dominance and political hegemony is in the U.S. national interest—and the world’s interest—is generally taken for granted domestically. Opposition to it is limited to the libertarian Right and anti-imperialist Left, both groups on the margins of mainstream political discourse. Today, American supremacy is assumed rather than argued for: in an age of tremendous political division, it is a bipartisan first principle of foreign policy, a presupposition. In this area at least, one wishes for a little less agreement.

In Promise and Peril: America at the Dawn of a Global Age, Christopher McKnight Nichols provides an erudite account of a period before such a consensus existed, when ideas about America’s role on the world stage were fundamentally contested. As this year’s presidential election approaches, each side will portray the difference between the candidates’ positions on foreign policy as immense. Revisiting Promise and Peril shows us just how narrow the American worldview has become, and how our public discourse has become narrower still.

Nichols focuses on the years between 1890 and 1940, during America’s initial ascent as a global power. He gives special attention to the formative debates surrounding the Spanish-American War, U.S. entry into the First World War, and potential U.S. membership in the League of Nations—debates that were constitutive of larger battles over the nature of American society and its fragile political institutions and freedoms. During this period, foreign and domestic policy were often linked as part of a cohesive political vision for the country. Nichols illustrates this through intellectual profiles of some of the period’s most influential figures, including senators Henry Cabot Lodge and William Borah, socialist leader Eugene Debs, philosopher and psychologist William James, journalist Randolph Bourne, and the peace activist Emily Balch. Each of them interpreted isolationism and internationalism in distinct ways, sometimes deploying the concepts more for rhetorical purposes than as cornerstones of a particular worldview.

Today, isolationism is often portrayed as intellectually bankrupt, a redoubt for idealists, nationalists, xenophobes, and fools. Yet the term now used as a political epithet has deep roots in American political culture. Isolationist principles can be traced back to George Washington’s farewell address, during which he urged his countrymen to steer clear of “foreign entanglements” while actively seeking nonbinding commercial ties. (Whether economic commitments do in fact entail political commitments is another matter.) Thomas Jefferson echoed this sentiment when he urged for “commerce with all nations, [and] alliance with none.” Even the Monroe Doctrine, in which the United States declared itself the regional hegemon and demanded noninterference from European states in the Western hemisphere, was often viewed as a means of isolating the United States from Europe and its messy alliance system.

In Nichols’s telling, however, modern isolationism was born from the debates surrounding the Spanish-American War and the U.S. annexation of the Philippines. Here isolationism began to take on a much more explicitly anti-imperialist bent. Progressive isolationists such as William James found U.S. policy in the Philippines—which it had “liberated” from Spanish rule just to fight a bloody counterinsurgency against Philippine nationalists—anathema to American democratic traditions and ideas about national self-determination.

As Promise and Peril shows, however, “cosmopolitan isolationists” like James never called for “cultural, economic, or complete political separation from the rest of the world.” Rather, they wanted the United States to engage with other nations peacefully and without pretensions of domination. They saw the United States as a potential force for good in the world, but they also placed great value on neutrality and non-entanglement, and wanted America to focus on creating a more just domestic order. James’s anti-imperialism was directly related to his fear of the effects of “bigness.” He argued forcefully against all concentrations of power, especially those between business, political, and military interests. He knew that such vested interests would grow larger and more difficult to control if America became an overseas empire.

Others, such as “isolationist imperialist” Henry Cabot Lodge, the powerful senator from Massachusetts, argued that fighting the Spanish-American War and annexing the Philippines were isolationist actions to their core. First, banishing the Spanish from the Caribbean comported with the Monroe Doctrine; second, adding colonies such as the Philippines would lead to greater economic growth without exposing the United States to the vicissitudes of outside trade. Prior to the Spanish-American War, many feared that the American economy’s rapid growth would lead to a surplus of domestic goods and cause an economic disaster. New markets needed to be opened, and the best way to do so was to dominate a given market—that is, a country—politically. Lodge’s defense of this “large policy” was public and, by today’s standards, quite bald. Other proponents of this policy included Teddy Roosevelt (who also believed that war was good for the national character) and a significant portion of the business class. For Lodge and Roosevelt, “isolationism” meant what is commonly referred to today as “unilateralism”: the ability for the United States to do what it wants, when it wants.

Other “isolationists” espoused principles that we would today call internationalist. Randolph Bourne, a precocious journalist working for the New Republic, passionately opposed American entry into the First World War, much to the detriment of his writing career. He argued that hypernationalism would cause lasting damage to the American social fabric. He was especially repulsed by wartime campaigns to Americanize immigrants. Bourne instead envisioned a “transnational America”: a place that, because of its distinct cultural and political traditions and ethnic diversity, could become an example to the rest of the world. Its respect for plurality at home could influence other countries by example, but also by allowing it to mediate international disputes without becoming a party to them. Bourne wanted an America fully engaged with the world, but not embroiled in military conflicts or alliances.

This was also the case for William Borah, the progressive Republican senator from Idaho. Borah was an agrarian populist and something of a Jeffersonian: he believed axiomatically in local democracy and rejected many forms of federal encroachment. He was opposed to extensive immigration, but not “anti-immigrant.” Borah thought that America was strengthened by its complex ethnic makeup and that an imbalance tilted toward one group or another would have deleterious effects. But it is his famously isolationist foreign policy views for which Borah is best known. As Nichols writes:

He was consistent in an anti-imperialist stance against U.S. domination abroad; yet he was ambivalent in cases involving what he saw as involving obvious national interest….He also without fail argued that any open-ended military alliances were to be avoided at all costs, while arguing that to minimize war abroad as well as conflict at home should always be a top priority for American politicians.

Borah thus cautiously supported entry into the First World War on national interest grounds, but also led a group of senators known as “the irreconcilables” in their successful effort to prevent U.S. entry into the League of Nations. His paramount concern was the collective security agreement in the organization’s charter: he would not assent to a treaty that stipulated that the United States would be obligated to intervene in wars between distant powers where the country had no serious interest at stake.

Borah possessed an alternative vision for a more just and pacific international order. Less than a decade after he helped scuttle American accession to the League, he helped pass the Kellogg-Briand Pact (1928) in a nearly unanimous Senate vote. More than sixty states eventually became party to the pact, which outlawed war between its signatories and required them to settle their disputes through peaceful means. Today, realists sneer at the idealism of Kellogg-Briand, but the Senate was aware of the pact’s limitations and carved out clear exceptions for cases of national defense. Some supporters believed that, if nothing else, the law would help strengthen an emerging international norm against war. (Given what followed, this seems like a sad exercise in wish-fulfillment.) Unlike the League of Nations charter, the treaty faced almost no opposition from the isolationist bloc in the Senate, since it did not require the United States to enter into a collective security agreement or abrogate its sovereignty. This was a kind of internationalism Borah and his irreconcilables could proudly support.

The United States today looks very different from the country in which Borah, let alone William James, lived, both domestically (where political and civil freedoms have been extended to women, African Americans, and gays and lesbians) and internationally (with its leading role in many global institutions). But different strains of isolationism persist. Newt Gingrich has argued for a policy of total “energy independence” (in other words, domestic drilling) while fulminating against President Obama for “bowing” to the Saudi king. While recently driving through an agricultural region of rural Colorado, I saw a giant roadside billboard calling for American withdrawal from the UN.

Yet in the last decade, the Republican Party, with the partial exception of its Ron Paul/libertarian faction, has veered into such a belligerent unilateralism that its graybeards—one of whom, Senator Richard Lugar of Indiana, just lost a primary to a far-right challenger partly because of his reasonableness on foreign affairs—were barely able to ensure Senate ratification of a key nuclear arms reduction treaty with Russia. Many of these same people desire a unilateral war with Iran.

And it isn’t just Republicans. Drone attacks have intensified in Yemen, Pakistan, and elsewhere under the Obama administration. Massive troop deployments continue unabated. We spend over $600 billion dollars a year on our military budget; the next largest is China’s, at “only” around $100 billion. Administrations come and go, but the national security state appears here to stay.

## at: ordering k

#### Our depiction of hypothetical war-scenarios is the only way to grapple with the uncertainty inherent the international system

**Krepinevich 9** (Andrew F. Krepinevich, Jr. is a defense policy analyst, currently executive director of the Center for Strategic and Budgetary Assessments. His influential book, The Army and Vietnam, contends that the United States could have won the Vietnam War had the Army adopted a small-unit pacification strategy in South Vietnam's villages, rather than conducting search and destroy operations in remote jungles. Today, he criticizes the counterinsurgency approaches being employed in the Iraq War. He is a West Point graduate. 1/27/2009, “7 Deadly Scenarios: A Military Futurist Explores War in the 21st Century”, <http://www.amazon.com/reader/0553805398?_encoding=UTF8&query=so%20are%20we%20building#reader_0553805398>)

While the Pentagon would dearly like to know the answers to these questions, it is simply not possible. Too many factors have a hand in shaping the future. Of course. Pentagon planners may blithely assume away all uncertainty and essentially bet that the future they fore-cast is the one that will emerge. In this case the U.S. military will be very well prepared—for the predicted future. But history shows that militaries are often wrong when they put too many eggs in one basket. In the summer of 1914, as World War I was breaking out, Europeans felt that the war would be brief and that the troops might be home "before the leaves fall." In reality the Allied and Central Powers engaged in over four years of horrific bloodletting. In World War II the French Army entered the conflict believing it would experience an advanced version of the trench warfare it had encountered in 1914-1918. Instead, France was defeated by the Germans in a lightning campaign lasting less than two months. Finally, in 2003 the Pentagon predicted that the Second Gulf War would play out [with](http://wir.li) a traditional blitzkrieg. Instead, it turned into an irregular war, a "long, hard slog."20 Militaries seem prone to assuming that the next war will be an "updated" version of the last war rather than something quite different. Consequently, they are often accused of preparing for the last war instead of the next. This is where rigorous, scenario-based planning comes into play. It is designed to take uncertainty explicitly into account by incorporating factors that may change the character of future conflict in significant and perhaps profound ways. By presenting a plausible set of paths into the future, scenarios can help senior Pentagon leaders avoid the "default" picture in which tomorrow looks very much like today. If the future were entirely uncertain, scenario-based planning would be a waste of time. But certain things are predictable or at least highly likely. Scenario planners call these things “predetermined elements.” While not quite “done deals,” they are sufficiently well known that their probability of occurring is quite high. For example, we have a very good idea of how many men of military age (eighteen to thirty-one) there will be in the United States in 2020, since all of those males have already been born, and, barring a catastrophic event, the actuarial data on them is quite refined. We know that China has already tested several types of weapons that can disable or destroy satellites. We know that dramatic advances in solid-state lasers have been made in recent years and that more advances are well within the realm of possibility. These "certainties" should be reflected in all scenarios, while key uncertainties should be reflected in how they play out across the different scenarios.21 If scenario-based planning is done well, and if its insights are acted upon promptly, the changes it stimulates in the military may help deter prospective threats, or dissuade enemies from creating threatening new capabilities in the first place.

#### Alt won’t spillover to policymakers

Danzig 11

Richard Danzig, Center for a New American Security Board Chairman, Secretary of the Navy under President Bill Clinton, October 2011, Driving in the Dark Ten Propositions About Prediction and National Security, http://www.cnas.org/files/documents/publications/CNAS\_Prediction\_Danzig.pdf

3. The Propensity for Prediction Is Especially Deeply Embedded in the U.S. Department of Defense \

Five factors powerfully contribute to this propensity.

Bureaucratic Managers, and Especially Government Officials, Seek Predict ability as a Means of Maintaining Order

Students of both business and government bureaucracies have observed that managers seek to simplify problems in order to render them more predictable. In the words of Herbert Simon: Administrative man recognizes that the world he perceives is a drastically simplified model of the buzzing, blooming confusion that constitutes the real world. He is content with the gross simplification because he believes that the real world is mostly empty – that most of the facts of the real world have no great relevance to any particular situation he is facing and that most significant chains of causes and consequences are short and simple.36

Henry Kissinger arrived at a similar observation after decades of interacting with U.S. national security bureaucracies. “The essence of bureaucracy,” he writes, “is its quest for safety; its success is calculability… The attempt to conduct policy bureaucratically leads to a quest for calculability which tends to become a prisoner of events.”37 Andrew Krepinevich, a long-time observer of the Pentagon, comments that bureaucrats would prefer “no thinking about the future (which implies things might change and they might have to change along with it). To the extent they ‘tolerate’ such thinking, they attempt to insure that such thinking results in a world that looks very much like the one for which they have planned.”38 Insofar as the future is forecast to differ from the present, it is highly desirable from a bureaucratic perspective for the forecast to at least be presented with certitude. James C. Scott discerns the reasons for this, arguing that for a government bureaucrat,

[t]he … present is the platform for launching plans for a better future… The strategic choice of the future is freighted with consequences. To the degree that the future is known and achievable … the less future benefits are discounted for uncertainty.39 Conceding uncertainty would weaken budgetary claims, power and status. Moreover, bureaucratic actors who question alleged certainties soon learn that they are regarded skeptically. Whose team are they on? What bureaucratic interest is served by emphasizing uncertainty?

Militaries, in Particular, Seek Predictive Power

The military environment compounds managers’ predisposition to prediction, and indeed, most security strategies are designed to reduce risk. Napoleon’s maxim reflects present military attitudes: “To be defeated is pardonable; to be surprised – never!”40 The American military, committed to harnessing technological superiority and overwhelming force, is particularly predisposed to a mind-set in which power and predictive accuracy are exaggerated. William Astor captures the point:

[W]hat disturbs me most is that the [U.S.] military swallowed the Clausewitzian/German notion of war as a dialectical or creative art, one in which well-trained and highly-motivated leaders can impose their will on events… a new vision of the battlefield emerged in which the U.S. military aimed, without the slightest sense of irony, for “total situational awareness” and “full spectrum dominance,” goals that, if attained, promised commanders the almost god-like ability to master the “storm of steel,” to calm the waves, to command the air. In the process, any sense of war as thoroughly unpredictable and enormously wasteful was lost.41

The Modern American Military Traces its Roots to Predictive Failure

The present American military establishment was created in the wake of two wars – World War II and the Korean War – for which it was widely recognized that America was unprepared.42 These led to a mantra of attempting to foresee and plan for risks so as never again to be comparably unprepared.

The McN amara Revolution Enshr ined Pentagon Processes Dependent on Predict ion

A half century ago, Robert McNamara and his “whiz kids” intensified the predictive tendency, but for different reasons than their predecessors. For McNamara and his colleagues, the challenge was to take an internally competitive, substantially disorganized and significantly dysfunctional DOD and make it more manageable and rational. A key step to this end was to adopt the then-modern concepts of strategic planning with which McNamara had been closely associated at Ford Motor Company.43 A related initiative was to establish for DOD a single scenario – a Soviet invasion of Western Europe – against which most investments could be measured.44 This mechanism of resource allocation became a mechanism of program planning in accord with the proposition that “what you measure is what you motivate.”

This result was rationalized with the observation that the Soviet scenario was so stressful that all other contingencies would be lesser included cases; they could be readily handled with the equipment, training and doctrine designed for the most demanding Soviet scenario. Of course, this scenario was never as dominant in practice as it was in theory. Collateral investments were made, for example, in attack submarines. Subordinate combat commands worried about scenarios specific to their regions, such as fighting in Asia or the Persian Gulf. Occasional consideration was also given by the Office of the Secretary of Defense to some alternative opponents.45 It was not that the system prohibited collateral thought about unpredicted outcomes. Rather, it forced overwhelming attention to the predicted scenario and offered few incentives to consider unexpected contingencies.

Owen Brown and Paul Eremenko observe that the McNamara revolution introduced a bias toward design systems with long lives for allegedly predictable environments. Analyzing our space programs, they write:

Decisionmakers respond to increased marginal cost by … increasing lifetime to minimize amortized annual costs. In a perfect world of no uncertainty (or certainty of the uncertainty) this is an appropriate decision. The scars of real world experience illustrate the true problems of this approach. These space systems, which (because of their complexity) take years to design and build, are designed to meet requirements based on today’s threat forecasts. With constantly changing threat environments, requirements change during the design and build phase. The result is redesign, which costs time and money for a large, tightly coupled system. Once launched, there is little hope the capability of a space system can be adapted to a new threat.46

The Monolith ic Soviet Opp onent Was Unusually Predict able

The Cold War led to co-evolution: The mutually engaged American and Soviet military systems responded to each other’s doctrines, processes and military products.47 Because the massive Soviet system became largely ponderous and predictable,48 the American system had unusual opportunities for forecasting.49 Furthermore, the U.S. system was unusually disposed to produce large numbers of standardized systems. The Defense Science Board astutely commented on the result:

Focus was on long, predictable, evolutionary change against a Cold War peer opponent who suffered as much, if not more, than the United States from a rigid and bureaucratic system. There were certainly instances of adaptability during the Cold War period, but the surviving features of that period are now predominated by long compliance-based structures.50

These five strands combine to embed a propensity for prediction deeply within the DNA of the U.S. Department of Defense.

## orientalism

#### It’s another reason pragmatic policy is key

Varisco 7

Reading orientalism: said and the unsaid (Google eBook)

Dr. Daniel Martin Varisco is chair of anthropology and director of Middle Eastern and Central Asia studies at Hofstra University. He is fluent in Arabic and has lived in the Middle East (Yemen, Egypt, Qatar) for over 5 years since 1978. He has done fieldwork in Yemen, Egypt, Qatar, U.A.E. and Guatemala.

In sum, the essential argument of Orientalism is that a pervasive and endemic Western discourse of Orientalism has constructed "the Orient," a representation that Said insists not only is perversely false but prevents the authentic rendering of a real Orient, even by Orientals themselves. Academicized Orientalism is thus dismissed, in the words of one critic, as "the magic wand of Western domination of the 0rient."283i The notion of a single conceptual essence of Orient is the linchpin in Said's polemical reduction of all Western interpretation of the real or imagined geographical space to a single and latently homogeneous discourse. Read through Orientalism and only the Orient of Western Orientalism is to be encountered; authentic Orients are not imaginable in the text. The Orient is rhetorically available for Said simply by virtue of not really being anywhere. Opposed to this Orient is the colonialist West, exemplified by France, Britain, and the United States. East versus West, Occident over Orient: this is the debilitating binary that has framed the unending debate over Orientalism. A generation of students across disciplines has grown up with limited challenges to the polemical charge by Said that scholars who study the Middle East and Islam still do so institutionally through an interpretive sieve that divides a superior West from an inferior East. Dominating the debate has been a tiresome point/counterpoint on whether literary critic Edward Said or historian Bernard Lewis knows best. Here is where the dismissal of academic Orientalism has gone wrong. Over and over again the same problem is raised. Does the Orient as several generations of Western travelers, novelists, theologians, politicians, and scholars discoursed it really exist? To not recognize this as a fundamentally rhetorical question because of Edward Said is, nolo contendere, nonsense. No serious scholar can assume a meaningful cultural entity called "Orient" after reading Said's Orientalism; some had said so before Said wrote his polemic. Most of his readers agreed with the thrust of the Orientalism thesis because they shared the same frustration with misrepresentation. There is no rational retrofit between the imagined Orient, resplendent in epic tales and art, and the space it consciously or unwittingly misrepresented. However, there was and is a real Orient, flesh-and-blood people, viable cultural traditions, aesthetic domains, documented history, and an ongoing intellectual engagementwith the past, present, and future. What is missing from Orientalism is any systematic sense of what that real Orient was and how individuals reacted to the imposing forces that sought to label it and theoretically control it. ASLEEP IN ORIENTALISM'S WAKE I have avoided taking stands on such matters as the real, true or authentic Islamic or Arab world. —EDWARD SAID, "ORIENTALISM RECONSIDERED" Orientalism is frequently praised for exposing skeletons in the scholarly closet, but the book itself provides no blueprint for how to proceed.=84 Said's approach is of the cut-and-paste variety—a dash of Foucauldian discourse here and a dram of Gramscian hegemony there—rather than a howto model. In his review of Orientalism, anthropologist Roger Joseph concludes: Said has presented a thesis that on a number of counts is quite compelling. He seems to me, however, to have begged one major question. If discourse, by its very metanature, is destined to misrepresent and to be mediated by all sorts of private agendas, how can we represent cultural systems in ways that will allow us to escape the very dock in which Said has placed the Orientalists? The aim of the book was not to answer that question, but surely the book itself compels us to ask the question of its author.a85 Another cultural anthropologist, Charles Iindholm, criticizes Said's thesis for its "rejection of the possibility of constructing general comparative arguments about Middle Eastern cultures.286 Akbar Ahmed, a native Pakistani trained in British anthropology, goes so far as to chide Said for leading scholars into "an intellectual cul-de- sac."287 For a historian's spin, Peter Gran remarks in a favorable review that Said "does not fully work out the post-colonial metamorphosis."288 As critic Rey Chow observes, "Said's work begs the question as to how otherness—the voices, languages, and cultures of those who have been and continue to be marginalized and silenced— could become a genuine oppositional force and a usable value." Said's revisiting and reconsidering of Orientalism, as well as his literary expansion into a de-geographicalized Culture and Imperialism, never resolved the suspicion that the question still goes begging. There remains an essential problem. Said's periodic vacillation in Orientalism on whether or not the Orient could have a true essence leads him to an infinity of mere representations, presenting a default persuasive act by not representing that reality for himself and the reader. If Said claims that Orientalism created the false essence of an Orient, and critics counterclaim that Said himself proposes a false essence of Orientalism, how do we end the cycle of guilt by essentialization? Is there a way out of this epistemologieal morass? If not a broad way to truth, at least a narrow path toward a clearing? With most of the old intellectual sureties now crumbling, the prospect of ever finding a consensus is numbing, in part because the formidably linguistic roadblocks are—or at least should be—humbling. The history of philosophy, aided by Orientalist and ethnographic renderings of the panhumanities writ and unwrit large, is littered with searches for meaning. Yet, mystical ontologies aside, the barrier that has thus far proved unbreachable is the very necessity of using language, reducing material reality and imaginary potentiality to mere words. As long as concepts are essential for understanding and communication, reality—conterminous concept that it must be—will be embraced through worded essences. Reality must be represented, like it or not, so how is it to be done better? Neither categorical nor canonical Truth" need be of the essence. One of the pragmatic results of much postmodern criticism is the conscious subversion of belief in a singular Truth" in which any given pronouncement could be ascribed the eternal verity once reserved for holy writ. In rational inquiry, all truths are limited by the inescapable force of pragmatic change. Ideas with "whole truth" in them can only be patched together for so long. Intellectual activity proceeds by characterizing verbally what is encountered and by reducing the complex to simpler and more graspable elements. A world without proposed and debated essences would be an unimaginable realm with no imagination, annotation without nuance, activity without art. I suggest that when cogito ergo sum is melded with "to err is human," essentialization of human realities becomes less an unresolvable problem and more a profound challenge. Contra Said's polemical contentions, not all that has been created discursively about an Orient is essentially wrong or without redeeming intellectual value. Edward Lane and Sir Richard Burton can be read for valuable firsthand observations despite their ethnocentric baggage. Wilfrid and Anne Blunt can be appreciated for their moral suasion. TheJ 'accuse of criticism must be tempered constructively with the louche of everyday human give-and-take. In planed biblical English, it is helpful to see that the beam in one's own rhetorical eye usually blocks appreciation of the mote in the other's eye. Speaking truth to power a la Said's oppositional criticism is appealing at first glance, but speaking truths to varieties of ever-shifting powers is surely a more productive process for a pluralistic society. As Richard King has eloquently put it, "Emphasis upon the diversity, fluidity and complexity within as well as between cultures precludes a reification of their differences and allows one to avoid the kind of monadic essentialism that renders cross-cultural engagement an a priori impossibility from the outset."2?0 Contrasted essentialisms, as the debate over Orientalism bears out, do not rule each other out. Claiming that an argument is essentialist does not disprove it; such a ploy serves mainly to taint the ideas opposed and thus tends to rhetorically mitigate opposing views. Thesis countered by antithesis becomes sickeningly cyclical without a willingness to negotiate synthesis. The critical irony is that Said, the author as advocate who at times denies agency to authors as individuals, uniquely writes and frames the entire script of his own text. Texts, in the loose sense of anything conveniently fashioned with words, become the meter for Said's poetic performance. The historical backdrop is hastily arranged, not systematically researched, to authorize the staging of his argument. The past becomes the whiggishly drawn rationale for pursuing a present grievance. As the historian Robert Berkhofer suggests, Said "uses many voices to exemplify the stereotyped view, but he makes no attempt to show how the new self/other relationship ought to be represented. Said's book does not practice what it preaches multiculturally."29i Said's method, Berkhofer continues, is to "quote past persons and paraphrase them to reveal their viewpoints as stereotyped and hegemonic." Napoleon's savants, Renan's racism, and Flaubert's flirtations serve to accentuate the complicity of modern-day social scientists who support Israel. Orientalism is a prime example of a historical study with one voice and one viewpoint. Some critics have argued in rhetorical defense of Said that he should not be held accountable for providing an alternative. The voice of dissent, the critique (of Orientalism or any other hegemonic discourse) does not need to propose an alternative for the critique to be effective and valid," claim Ashcroft and Ahluwalia.29= Saree Makdisi suggests that Said's goal in Orientalism is "to specify the constructedness of reality" rather than to "unmask and dispel" the illusion of Orientalist discourse.=93 Timothy Brennan argues that Said's aim is not to describe the "brute reality" of a real Orient but rather to point out the "relative indifference" of Western intellectuals to that reality.=94 Certainly no author is under an invisible hand of presumption to solve a problem he or she wishes to expose. Yet, it is curious that Said would not want to suggest an alternative, to directly engage the issue of how the "real" Orient could be represented. He reacts forcefully to American literary critics of the "left" who fail to specify the ideas, values, and engagement being urged.=95 If, as Said, insists "politics is something more than liking or disliking some intellectual orthodoxy now holding sway over a department of literature,"=9'6 then why would he not follow through with what this "something more" might be for the discourse he calls Orientalism? As Abdallah Laroui eloquently asks, "Having become concerned with an essentially political problem, the Arab intelligentsia must inevitably reach the stage where it passes from diagnosis of the situation to prescription of remedial action. Why should I escape this rule?"=97 This is a question that escapes Edward Said in Orientalism, although it imbues his life work as an advocate against ethnocentric bias. CLASH TALKING AD NAUSEAM The questioning of whether or not there really is an Orient, a West, or a unified discourse called Orientalism might be relatively harmless philosophical musing, were it not for the contemporary, confrontational political involvement of the United States and major European nations with buyable governments and bombable people in the Middle East. One of the reasons Said's book has been so influential, especially among scholars in the emerging field of post-colonial studies, is that it appeared at the very moment in which the Cold War divide reached a zenith in Middle East politics. In 1979, the fall of the United States-backed and anti-communist Shah allowed for the creation of the first modern Islamic republic in Iran, even as the Soviet Union invaded Afghanistan to try to prevent the same thing happening there. Almost three decades later, the escalation of tension and violence sometimes described as "Islamic terrorism" has become a pressing global concern. In the climate of renewed American and British political engagement in Afghanistan and Iraq after September 11, 2001, the essential categories of East and West continue to dominate public debate through the widely touted mantra of a "clash of civilizations.\* The idea of civilizations at war with each other is probably as old as the very idea of civilization. The modern turn of phrase owes its current popularity to the title of a 1993 Foreign Affairs article by political historian Samuel Huntington, although this is quite clearly a conscious borrowing from a 1990 Atlantic Monthly article by Said's nemesis, Bernard Lewis. Huntington, speculating in an influential policy forum, suggests that Arnold Toynbee's outdated list of twenty-one major civilizations had been reduced after the Cold War to six, to which he adds two more. With the exception of his own additions of Latin America and Africa, the primary rivals of the West, according to his list, are currently Confucian, Japanese, Islamic, Hindu, and Slavic-Orthodox. To say, as Huntington insists, that the main criterion separating these civilizations is religion, given the labels chosen, borders on the tautological.2?8 But logical order here would suggest that the West be seen as Christian, given its dominant religion. In a sense, Huntington echoes the simplistic separation of the West from the Rest, for secular Western civilization is clearly the dominant and superior system in his mind. The rejection of the religious label for his own civilization, secular as it might appear to him, seriously imbalances Huntington's civilizational breakdown. It strains credulity to imagine that religion in itself is an independent variable in the contemporary world of nation-states that make up the transnationalized mix of cultural identities outside the United Sates and Europe. Following earlier commentary of Bernard Lewis, Huntington posits a "fault line" between the West and Islamic civilization ever since the Arabs were turned back in 732 CE at the Battle of Tours.=99 The fault of Islam, however, appears to be less religious than politie-al and ideological. The fundamental clash Huntington describes revolves around the seeming rejection by Islam (and indeed all the rest) of "Western ideas of individualism, liberalism, constitutionalism, human rights, equality, liberty, the rule of law, democracy, free markets, the separation of church and state/300 In citing this neoconservative laundry list, Huntington is blind to the modern history of Western nations. He assumes that these idealized values have in fact governed policy in Europe and America, as though divine kingship, tyranny, and fascism have not plagued European history. Nor is it credible to claim that such values have all been rejected by non-Western nations. To assert, for example, that the rule of law is not consonant with Islam, or that Islamic teaching is somehow less concerned with human rights than Western governments, implies that the real clash is between Huntington's highly subjective reading of a history he does not know very well and a current reality he does not like. Huntington's thesis was challenged from the start in the very next issue of Foreign Affairs. "But Huntington is wrong," asserts Fouad Ajami.301 Even former U. N. Ambassador Jeane Kirkpatrick, hardly a proponent of postcolonial criticism, called Huntington's list of civilizations 'strange."3°= Ironically, both Ajami and Kirkpatrick fit Said's vision of bad-faith Orientalism. Being wrong in the eyes of many of his peers did not prevent Huntington from expanding the tentative proposals of a controversial essay into a book, nor from going well outside his field of expertise to write specifically on the resurgence of Islam. Soon after the September 11,2001, tragedy, Edward Said weighed in with a biting expose on Huntington's "clash of ignorance." Said rightly crushes the blatant political message inherent in the clash thesis, explaining why labels such as "Islam\* and "the West" are unedifying: They mislead and confuse the mind, which is trying to make sense of a disorderly reality that won't be pigeonholed or strapped down as easily as all that."3°3 Exactly, but the same must therefore be true about Said's imagined discourse of Orientalism. Pigeonholing all previous scholars who wrote about Islam or Arabs into one negative category is discursively akin to Huntington's pitting of Westerners against Muslims. Said is right to attack this pernicious binary, but again he leaves it intact by not posing a viable alternative. Both Edward Said and Fouad Ajami, who rarely seem to agree on anything, rightly question the terms of Huntington's clash thesis. To relabel the Orient of myth as a Confucian-Islamic military complex is not only ethnocentric but resoundingly ahistorical. No competent historian of either Islam or Confucianism recognizes such a misleading civilizational halfbreed. Saddam Hussein's Iraq and Kim Jong Il's Korea could be equated as totalitarian states assumed to have weapons of mass destruction, but not for any religious collusion. This is the domain of competing political ideologies, not the result of religious affiliation. And, as Richard Bulliet warns, the phrase "clash of civilizations\* so readily stirs up Islamophobia in the United States that it "must be retired from public discourse before the people who like to use it actually begin to believe it."3°4 Unfortunately, many policy-makers and media experts talk and act as if they do believe it. The best way to defeat such simplistic ideology, I suggest, is not to lapse into blame-casting polemics but to encourage sound scholarship of the real Orient that Said so passionately tried to defend.

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#### Method focus causes paradigm wars

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(Patrick Thadeus, The Conduct of Inquiry in International Relations, p. 57-59)

Perhaps the greatest irony of this instrumental, decontextualized importation of “falsification” and its critics into IR is the way that an entire line of thought that privileged disconfirmation and refutation—no matter how complicated that disconfirmation and refutation was in practice—has been transformed into a license to **worry endlessly about foundational assumptions.** At the very beginning of the effort to bring terms such as “paradigm” to bear on the study of politics, Albert O. **Hirschman** (1970b, 338) **noted this very danger**, suggesting that without “a little more ‘reverence for life’ and a little less straightjacketing of the future,” the focus on producing internally consistent packages of assumptions instead of actually examining complex empirical situations would result in scholarly paralysis. Here as elsewhere, Hirschman appears to have been quite prescient, inasmuch as the major effect of paradigm and research programme language in IR seems to have been a series of debates and discussions about whether the fundamentals of a given school of thought were sufficiently “scientific” in their construction. Thus **we have debates about how to evaluate scientific progress**, and attempts to propose one or another set of research design principles **as uniquely scientific**, and inventive, “reconstructions” of IR schools, such as Patrick James’ “elaborated structural realism,” supposedly for the purpose of placing them on a **firmer scientific footing** by making sure that they have all of the required elements of a basically Lakatosian19 model of science (James 2002, 67, 98–103).

The bet with all of this scholarly activity seems to be that if we can just get the fundamentals right, then scientific progress will inevitably ensue . . . even though this is the precise opposite of what Popper and Kuhn and Lakatos argued! In fact, all of this obsessive interest in foundations and starting-points is, in form if not in content, a lot closer to logical positivism than it is to the concerns of the falsificationist philosophers, despite the prominence of language about “hypothesis testing” and the concern to formulate testable hypotheses among IR scholars engaged in these endeavors. That, above all, is why I have labeled this methodology of scholarship neopositivist. While it takes much of its self justification as a science from criticisms of logical positivism, in overall sensibility it still operates in a visibly positivist way, attempting to construct knowledge from the ground up by getting its foundations in logical order before concentrating on how claims encounter the world in terms of their theoretical implications. This is by no means to say that neopositivism is not interested in hypothesis testing; on the contrary, neopositivists are extremely concerned with testing hypotheses, but **only after the fundamentals have been** soundly **established.** Certainty, not conjectural provisionality, seems to be the goal—a goal that, ironically, Popper and Kuhn and Lakatos would all reject.

#### Ethics should be determined by an evaluation of consequences

**Murray 97** (Alastair, Professor of Politics at U. Of Wales-Swansea, *Reconstructing Realism*, p. 110)

Weber emphasised that, while the 'absolute ethic of the gospel' must be taken seriously, it is inadequate to the tasks of evaluation presented by politics. Against this 'ethic of ultimate ends' — Gesinnung — he therefore proposed the 'ethic of responsibility' — Verantwortung. First, whilst the former dictates only the purity of intentions and pays no attention to consequences, the ethic of responsibility commands acknowledgement of the divergence between intention and result. Its adherent 'does not feel in a position to burden others with the results of his [OR HER] own actions so far as he was able to foresee them; he [OR SHE] will say: these results are ascribed to my action'. Second, the 'ethic of ultimate ends' is incapable of dealing adequately with the moral dilemma presented by the necessity of using evil means to achieve moral ends: Everything that is striven for through political action operating with violent means and following an ethic of responsibility endangers the 'salvation of the soul.' If, however, one chases after the ultimate good in a war of beliefs, following a pure ethic of absolute ends, then the goals may be changed and discredited for generations, because responsibility for consequences is lacking. The 'ethic of responsibility', on the other hand, can accommodate this paradox and limit the employment of such means, because it accepts responsibility for the consequences which they imply. Thus, Weber maintains that only the ethic of responsibility can cope with the 'inner tension' between the 'demon of politics' and 'the god of love'. 9 The realists followed this conception closely in their formulation of a political ethic.10 This influence is particularly clear in Morgenthau.11 In terms of the first element of this conception, the rejection of a purely deontological ethic, Morgenthau echoed Weber's formulation, arguing tha/t:the political actor has, beyond the general moral duties, a special moral responsibility to act wisely ... The individual, acting on his own behalf, may act unwisely without moral reproach as long as the consequences of his inexpedient action concern only [HER OR] himself. What is done in the political sphere by its very nature concerns others who must suffer from unwise action. What is here done with good intentions but unwisely and hence with disastrous results is morally defective; for it violates the ethics of responsibility to which all action affecting others, and hence political action par excellence, is subject.12 This led Morgenthau to argue, in terms of the concern to reject doctrines which advocate that the end justifies the means, that the impossibility of the logic underlying this doctrine 'leads to the negation of absolute ethical judgements altogether'.13

#### No impact – threat construction isn’t sufficient to cause wars

**Kaufman**, Prof Poli Sci and IR – U Delaware, **‘9**

(Stuart J, “Narratives and Symbols in Violent Mobilization: The Palestinian-Israeli Case,” *Security Studies* 18:3, 400 – 434)

Even when hostile narratives, group fears, and opportunity are strongly present, war occurs **only if these factors are harnessed.** Ethnic narratives and fears must combine to create significant ethnic hostility among mass publics. Politicians must also seize the opportunity to manipulate that hostility, evoking hostile narratives and symbols to gain or hold power by riding a wave of chauvinist mobilization. Such mobilization is often spurred by prominent events (for example, episodes of violence) that increase feelings of hostility and make chauvinist appeals seem timely. If the other group also mobilizes and if each side's felt security needs threaten the security of the other side, the result is a security dilemma spiral of rising fear, hostility, and mutual threat that results in violence. **A virtue of** this **symbolist theory is that symbolist logic explains why** ethnic **peace is more common than ethnonationalist war.** Even if hostile narratives, fears, and opportunity exist, severe violence usually can still be avoided if ethnic elites skillfully define group needs in moderate ways and collaborate across group lines to prevent violence: this is consociationalism.17 War is likely only if hostile narratives, fears, and opportunity spur hostile attitudes, chauvinist mobilization, and a security dilemma.

#### Nuclear technocracy’s key to solve

Nordhaus 11, chairman – Breakthrough Instiute, and Shellenberger, president – Breakthrough Insitute, MA cultural anthropology – University of California, Santa Cruz, 2/25/‘11

(Ted and Michael, <http://thebreakthrough.org/archive/the_long_death_of_environmenta>)

Tenth, we are going to have to get over our suspicion of technology, especially nuclear power. There is **no credible path** to reducing global carbon emissions without an enormous expansion of nuclear power. It is the only low carbon technology we have today with the demonstrated capability to generate large quantities of centrally generated electrtic power. It is the low carbon of technology of choice for much of the rest of the world. Even uber-green nations, like Germany and Sweden, have reversed plans to phase out nuclear power as they have begun to reconcile their energy needs with their climate commitments. Eleventh, we will need to embrace again the role of the state as a direct provider of public goods. The modern environmental movement, borne of the new left rejection of social authority of all sorts, has embraced the notion of state regulation and even creation of private markets while largely rejecting the generative role of the state. In the modern environmental imagination, government promotion of technology - whether nuclear power, the green revolution, synfuels, or ethanol - almost always ends badly. Never mind that virtually the entire history of American industrialization and technological innovation is the story of government investments in the development and commercialization of new technologies. Think of a transformative technology over the last century - computers, the Internet, pharmaceutical drugs, jet turbines, cellular telephones, nuclear power - and what you will find is government investing in those technologies at a scale that private firms simply cannot replicate. Twelveth, big is beautiful. The rising economies of the developing world will continue to develop whether we want them to or not. The solution to the ecological crises wrought by modernity, technology, and progress will be more modernity, technology, and progress. The solutions to the ecological challenges faced by a planet of 6 billion going on 9 billion will not be decentralized energy technologies like solar panels, small scale organic agriculture, and a drawing of unenforceable boundaries around what remains of our ecological inheritance, be it the rainforests of the Amazon or the chemical composition of the atmosphere. Rather, these solutions will be: large central station power technologies that can meet the energy needs of billions of people increasingly living in the dense mega-cities of the global south without emitting carbon dioxide, further intensification of industrial scale agriculture to meet the nutritional needs of a population that is not only growing but eating higher up the food chain, and a whole suite of new agricultural, desalinization and other technologies for gardening planet Earth that might allow us not only to pull back from forests and other threatened ecosystems but also to create new ones. The New Ecological Politics The great ecological challenges that our generation faces demands an ecological politics that is **generative, not restrictive.** An ecological politics capable of addressing global warming will require us to reexamine virtually every prominent strand of post-war green ideology. From Paul Erlich's warnings of a population bomb to The Club of Rome's "Limits to Growth," contemporary ecological politics have consistently embraced green Malthusianism despite the fact that the Malthusian premise has persistently failed for the better part of three centuries. Indeed, the green revolution was exponentially increasing agricultural yields at the very moment that Erlich was predicting mass starvation and the serial predictions of peak oil and various others resource collapses that have followed have continue to fail. This does not mean that Malthusian outcomes are impossible, but neither are they inevitable. **We do have a choice** in the matter, but it is not the choice that greens have long imagined. The choice that humanity faces is not whether to constrain our growth, development, and aspirations or die. It is whether we will continue to innovate and accelerate technological progress in order to thrive. Human technology and ingenuity have repeatedly confounded Malthusian predictions yet green ideology continues to cast a suspect eye towards the very technologies that have allowed us to avoid resource and ecological catastrophes. But such solutions will require environmentalists to abandon the "small is beautiful" ethic that has also characterized environmental thought since the 1960's. We, the most secure, affluent, and thoroughly modern human beings to have ever lived upon the planet, must abandon both the dark, zero-sum Malthusian visions and the idealized and nostalgic fantasies for a simpler, more bucolic past in which humans lived in harmony with Nature.

#### Their impact is wrong – debate over even the most technical issues improves decision-making and advocacy

**Hager**, professor of political science – Bryn Mawr College, **‘92**

(Carol J., “Democratizing Technology: Citizen & State in West German Energy Politics, 1974-1990” *Polity*, Vol. 25, No. 1, p. 45-70)

What is the role of the citizen in the modern technological state? As political decisions increasingly involve complex technological choices, does a citizen's ability to participate in **decision making** diminish? These questions, long a part of theoretical discourse, gained new salience with the rise of **grassroots environmental protest in advanced industrial states.** In West Germany, where a strong environmental movement arose in the 1970s, protest has centered as much on questions of democracy as it has on public policy. Grassroots groups challenged not only the construction of large technological projects, especially power plants, but also the **legitimacy of the bureaucratic institutions** which produced those projects. Policy studies generally ignore the legitimation aspects of public policy making.2 A discussion of both dimensions, however, is crucial for understanding the significance of grassroots protest for West German political development in the technological age and for assessing the likely direction of citizen politics in united Germany. In the field of energy politics, West German citizen initiative groups tried to politicize and ultimately to democratize policy making.3 The **technicality** **of the issue** **was not a barrier** to their participation. On the contrary, **grassroots groups proved to be able participants in technical energy debate, often proposing innovative solutions to technological problems.** Ultimately, however, they wanted not to become an elite of "counterexperts," but **to create a political discourse between policy makers and citizens** through which the **goals of energy policy could be recast** and its legitimacy restored. Only a deliberative, expressly democratic form of policy making, they argued, could enjoy the support of the populace. To this end, protest groups developed new, grassroots democratic forms of decision making within their own organizations, which they then tried to transfer to the political system at large. The legacy of grassroots **energy protest in West Germany** is twofold. First, it **produced major substantive changes in public policy.** Informed citizen pressure was largely responsible for the introduction of new plant and pollution control technologies. Second, grassroots protest **undermined** the **legitimacy** of bureaucratic experts. Yet, an acceptable forum for a broadened political discussion of energy issues has not been found; the energy debate has taken place largely outside the established political institutions. Thus, the legitimation issue remains unresolved. It is likely to reemerge as Germany deals with the problems of the former German Democratic Republic. Nevertheless, an evolving ideology of citizen participationa vision of "technological democracy"-is an important outcome of grassroots action.

## at: death k

#### The aff’s relationship to death is one of up-front recognition and humility. By banishing the specter of death, they just make the sarcophagus invisible, turning confrontation into obsession

Dollimore, Sociology – U Sussex, ’98

(Jonathan, Death, Desire and Loss in Western Culture, pg. 221)

Jean Baudrillard presents the argument for the existence of a denial of death in its most extreme form. For him, this denial is not only deeply symptomatic of contemporary reality, but represents an insidious and pervasive form of ideological control. His account depends heavily upon a familiar critique of the Enlightenment's intellectual, cultural and political legacy. This critique has become influential in recent cultural theory, though Baudrillard's version of it is characteristically uncompromising and sweeping, and more reductive than most. The main claim is that Enlightenment rationality is an instrument not of freedom and democratic empowerment but, on the contrary, of repression and violence. Likewise with the Enlightenment's secular emphasis upon a common humanity; for Baudrillard this resulted in what he calls 'the cancer of the Human' - far from being an inclusive category of emancipation, the idea of a universal humanity made possible the demonizing of difference and the repressive privileging of the normal: the 'Human' is from the outset the institution of its structural double, the 'Inhuman\*. This is all it is: the progress of Humanity and Culture are simply the chain of discriminations with which to brand 'Others' with inhumanity, and therefore with nullity, {p. 125) Baudrillard acknowledges here the influence of Michel Foucault, but goes on to identify something more fundamental and determining than anything identified by Foucault: at the very core of the 'rationality' of our culture, however, is an exclusion that precedes every other, more radical than the exclusion of madmen, children or inferior races, an exclusion preceding all these and serving as their model: the exclusion of the dead and of death, (p. 12.6) So total is this exclusion that, 'today, it is not normal to be dead, and this is new. To be dead is an unthinkable anomaly; nothing else is as offensive as this. Death is a delinquency, and an incurable deviancy' (p. 126). He insists that the attempt to abolish death (especially through capitalist accumulation), to separate it from life, leads only to a culture permeated by death - 'quite simply, ours is a culture of death' (p. 127). Moreover, it is the repression of death which facilitates 'the repressive socialization of life'; all existing agencies of repression and control take root in the disastrous separation of death from life (p. 130). And, as if that were not enough, our very concept of reality has its origin in the same separation or disjunction (pp. 130-33). Modern culture is contrasted with that of the primitive and the savage, in which, allegedly, life and death were not separated; also with that of the Middle Ages, where, allegedly, there was still a collectivist, 'folkloric and joyous' conception of death. This and many other aspects of the argument are questionable, but perhaps the main objection to Baudrillard's case is his view of culture as a macro-conspiracy conducted by an insidious ideological prime-mover whose agency is always invisibly at work (rather like God). Thus (from just one page), the political economy supposedly ^intends\* to eliminate death through accumulation; and 'our whole culture is just one huge effort to dissociate life and death' {p. 147; my emphases). What those like Baudrillard find interesting about death is not the old conception of it as a pre-cultural constant which diminishes the significance of all cultural achievement, but, on the contrary, its function as a culturally relative - which is to say culturally formative - construct. And, if cultural relativism is on the one hand about relinquishing the comfort of the absolute, for those like Baudrillard it is also about the new strategies of intellectual mastery made possible by the very disappearance of the absolute. Such modern accounts of how death is allegedly denied, of how death is the supreme ideological fix, entail a new intensity and complexity of interpretation and decipherment, a kind of hermeneutics of death. To reinterpret death as a deep effect of ideology, even to the extent of regarding it as the most fundamental ideological adhesive of modern political repression and social control, is simultaneously to denounce it as in some sense a deception or an illusion, and to bring it within the domain of knowledge and analysis as never before. Death, for so long regarded as the ultimate reality - that which disempowers the human and obliterates all human achievement, including the achievements of knowledge - now becomes the object of a hugely empowering knowledge. Like omniscient seers, intellectuals like Baudrillard and Bauman relentlessly anatomize and diagnose the modern (or post-modern) human condition in relation to an ideology of death which becomes the key with which to unlock the secret workings of Western culture in all its insidiousness. Baudrillard in particular applies his theory relentlessly, steamrollering across the cultural significance of the quotidian and the contingent. His is an imperialist, omniscient analytic, a perpetual act of reductive generalization, a self-empowering intellectual performance which proceeds without qualification and without any sense that something might be mysterious or inexplicable. As such it constitutes a kind of interpretative, theoretical violence, an extreme but still representative instance of how the relentless anatomizing and diagnosis of death in the modern world has become a struggle for empowerment through masterful -i.e. reductive - critique. Occasionally one wonders if the advocates of the denial-of-death argument are not themselves in denial. They speak about death endlessly yet indirectly, analysing not death so much as our culture's attitude towards it. To that extent it is not the truth of death but the truth of our culture that they seek. But, even as they make death signify in this indirect way, it is still death that is compelling them to speak. And those like Baudrillard and Bauman speak urgently, performing intellectually a desperate mimicry of the omniscience which death denies. One senses that the entire modern enterprise of relativizing death, of understanding it culturally and socially, may be an attempt to disavow it in the very act of analysing and demystifying it. Ironically then, for all its rejection of the Enlightenment's arrogant belief in the power of rationality, this analysis of death remains indebted to a fundamental Enlightenment aspiration to mastery through knowledge. Nothing could be more 'Enlightenment', in the pejorative sense that Baudrillard describes, than his own almost megalomaniac wish to penetrate the truth of death, and the masterful controlling intellectual subject which that attempt presupposes. And this may be true to an extent for all of us more or less involved in the anthropological or quasi-anthropological accounts of death which assume that, by looking at how a culture handles death, we disclose things about a culture which it does not know about itself. So what has been said of sex in the nineteenth century may also be true of death in the twentieth: it has not been repressed so much as resignified in new, complex and productive ways which then legitimate a never-ending analysis of it. It is questionable whether the denial of death has ever really figured in our culture in the way that Baudrillard and Bauman suggest. Of course, the ways of dealing with and speaking about death have changed hugely, and have in some respects involved something like denial. But in philosophical and literary terms there has never been a denial of death.2 Moreover, however understood, the pre-modern period can hardly be said to have been characterized by the 'healthy\* attitude that advocates of the denial argument often claim, imply or assume. In fact it could be said that we can begin to understand the vital role of death in Western culture only when we accept death as profoundly, compellingly and irreducibly traumatic.

#### Our aff may contain an element of fear, but that’s not really the point – it’s about embracing freedom – their search for an authentic relationship to mortality recreates the worst kind of solipsism

Dollimore, Sociology – U Sussex, ’98

(Jonathan, Death, Desire and Loss in Western Culture, pg. 221)

But freedom cannot embrace death. Despite taking so much from modern philosophers of death like Heidegger and Kojeve, Sartre finally has to eliminate death from the finitude of being. He takes Heideggerian nothingness into self, making it the basis of freedom, but he also privileges selfhood in a way which Heidegger emphatically did not, and resists Heidegger's embrace of death. Sartre knows that to take death so profoundly into being, as did Heidegger and Kojeve, threatens the entire project of human freedom as praxis, which is the most important aspect of Sartre's existentialism. Certainly, for Heidegger, authenticity did not entail praxis, and in his Letter on Humanism' he actually repudiated Sartre's attempt to derive from his work a philosophical rationale for existential engagement; so far as Heidegger was concerned, such engagement was only another version of inauthentic 'social' existence, a social evasion of the truth of Being. But was Heidegger's own truth of Being ever more than a state of authenticity whose main objective is obsessively to know or insist on itself as authentic? For all his talk of freedom, there remains in Heidegger a sense in which authenticity remains a petrified sense of self, paralysed by the very effort of concentrating on the profundity of Being, which always seems to be also a condition of mystical impossibility: 'Death is the possibility of the absolute impossibility of Dasein\* (Being and Time, p. 294). Not so for Sartre. He recognizes the modern project whereby death is Snteriorizcd . . . humanized (and] individualized\*, and that Heidegger gave philosophical form to this process. On the face of it, this is an attractive development, since death as apparent limit on our freedom is reconceptualized as a support of freedom {Being and Nothingness, pp. 532-3). But, against Heidegger, Sartre argues that death, far from being the profound source of being and existential authenticity, is just a contingent fact like birth, and this, far from being a limit, is what guarantees one's freedom. Heidegger's entire account of death rests on an erroneous conflation of death and finitude; finitude is essentially internal to life and the grounds of our freedom - 'the very act of freedom is therefore the assumption and creation of finitude. If I make myself, I make myself finite and hence my life is unique' - whereas death is simply an external and factual limit of my subjectivity (pp. 546-7). Quite simply, 'It is absurd that we are born; it is absurd that we die' (p. 547). This perhaps entails a fear of death, since 'to be dead is to be a prey for the living': one is no longer in charge of one's own life; it is now in the hands of others, of the living (p. 543). It is true that death haunts me at the very heart of each of my human projects, as their inevitable reverse side. But this reverse side of death is just the end of my possibilities and, as such, 'it does not penetrate me. The freedom which is my freedom remains total and infinite . . . Since death is always beyond my subjectivity, there is no place for it in my subjectivity' (pp. 547-8).

#### The search for an authentic relationship to death devalues life – remember in cross-x when he says we should be actually living our lives instead of archiving disaster

Theresa **Sanders 6**, theology prof at Georgetown, Tenebrae: Holy Week after the Holocaust, googlebooks

In her book Spirit of Ashes: Hegel, Heidegger, and Man-Made Mass Death, Edith Wyschogrod presents a history of how Western philosophers have thought of the meaning of death and its relation to life. She explains that for the most part, death has been viewed according to what she calls the “authenticity paradigm.” This paradigm is governed by “the assumption that a good death, even if not free of pain, is the measure of a good life.” The ultimate test of one’s life, according to this model, is whether one meets the inevitability of death with unflinching acceptance or with terror before the unknown. Wyschogrod offers two examples of the authenticity paradigm, one ancient and one more modern. The first comes from Plato’s Phaedo, which records the death of Socrates. According to the Phaedo, Socrates met his death not only with calm but with positive good cheer, taking time to instruct his disciples and to offer them words of encouragement even as the hemlock neared his lips. Because he had so thoroughly examined the nature of death while still alive, for him death held neither surprise nor sting. Socrates was able to accept the possibility that death would mean sinking into non-existence, even as he hoped that it might lead him to the freedom of the unimpaired soul, and the truth that is the goal of all philosophers. He underwent a “good death” because of the thoughtfulness and courageous quality of his life. Wyschogrod’s second example comes from the poetry of Rainer Maria Rilke. For Rilke, she says, death is not so much a future event as it is a dimension of the present. She explains that for the poet, “Only by integrating death into the texture of life is an authentic living and dying possible.” In this view, life can only be experienced in its depths if death is not only accepted but is allowed to illuminate each moment. And yet death does not thereby become the victor over life. Instead, death is the very condition of life; it is what makes the intensity of each moment possible and what makes each moment worth living. This point is crucial to Wyschogrod’s argument, as she believes that it is what differentiates Rilke’s situation from our own. For Rilke, she explains, there is a continuity that binds the present and the future together. She cites the first of Rilke’s Duino Elegies: “True it is strange to inhabit the earth no longer, / to use no longer customs scarcely required, / not to interpret roses, and other things / that promise so much, in terms of a human future…and to lay aside / even one’s proper name like a broken toy.” Even as the poem contemplates the disruption between the cares of the living and the concerns of the dead, it asserts a continuity between them. Explains Wyschogrod, “For this reason the fundamental assumption, the hidden premise, which undergirds this verse is the indestructability of an accustomed field of reference – “the things that promise so much,’ ‘customs scarcely acquired,’ ‘roses,’ ‘the name laid aside’ – since these are the stuff through which any meaningful grasp of the future comes about.” However, says Wyschogrod, the possibility of anticipation, of “looking forward to,” is precisely what has been called into question by the twentieth century and the advent of mass death. The threat of annihilation made possible by nuclear holocaust overwhelms any poetic holding-in-balance of life and death. We face, she observes, the prospect of wiping not only ourselves but all earthly being out of existence. This possibility of pure annihilation opens up a breach between our present and our future. In contemplation of mass destruction, we can no longer imagine, as Rilke did, the dead gently laying aside their customs, their roses, and their names like so many broken toys. We do not have the luxury of imagining individual souls parting reluctantly from those whom they leave behind, and thus no one to weight the meaning of death with a counterbalancing intensity of life. Concludes Wyschogrod, “By destroying the system of meanings which rendered death-accepting behavior possible, the effect of man-made mass death has undercut the power of the authenticity paradigm which permitted mastery over death.” What can we say, then, about the Catholic admonition to remember that we are dust and that we will return to dust? Let us begin with what we cannot say. We cannot simply comfort ourselves with the idea that death is a part of life, that is always has been and always will be, and that our deaths will clear the way for the generation of new life. Not only has the projection towards “always” been called into question, but the notion that death contributes to life has been overshadowed by the possibility of the complete annihilation of all life. Moreover, death as the origin of life has been given sinister meaning by the calculations of Nazism: the use of human remains as fertilizer and stuffing for mattresses, among other things. Such economics turn imagery of the “cycle of life” into mockery.

#### The environment’s getting better because of innovation

Matthews and Boltz, Center for Conservation and Government, Conservation International, June ‘12

(John and Frederick, “The Shifting Boundaries of Sustainability Science: Are We Doomed Yet?,” PLOS Biology, <http://www.plosbiology.org/article/info:doi/10.1371/journal.pbio.1001344>)

Humans have long caused irreparable harm to ecosystems, driven species to extinction, and have in turn endured major shifts in biogeochemical cycling. We agree that such incidents are avoidable and unacceptable and that the magnitude of current trends must not be dismissed. Humans have also developed ingenious and novel ways of making resource use far more efficient or exploiting new types of resources. Obvious developments here include the invention of agriculture and the domestication of wild plant and animal species, of course, but humans have also been innovative in energy development (wood, wind, coal, petroleum, hydropower, biofuels, geothermal, biogen, nuclear, solar, and wave power), the development of synthetic chemical fertilizers in the 19th century, and the discovery of modern antibiotics in the 20th century. Other innovations have been organizational, such as the development of cities in the Levant and east and south Asia, the birth of modern experimental science, and the transition from family-tribal-moeity structures to multiple scales of governance (including corporate, national, international, and global government structures and institutions).

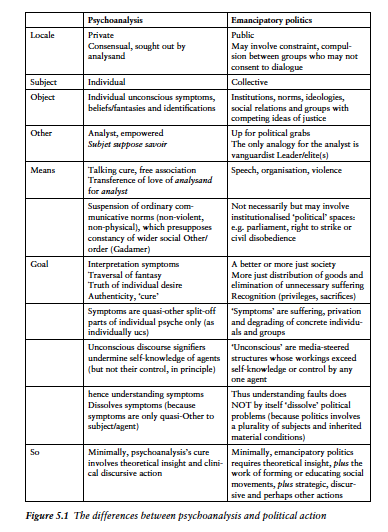
Some responses to economic and environmental change defy the longstanding predictions of overpopulation concerns, such as the widespread trend towards declining birthrates as living standards increase [32], though the relationship between per capita energy consumption and population growth is complex [33]. While Burger and colleagues point to increasing energy consumption over the past few centuries, they disregard important shifts in the sources of energy in progressive economies [1]; the expansion of low-carbon energy sources in China, Brazil, the European Union, and other regions in recent decades marks a critical transition, and a shift from coal-fired sources of power to hydropower or wind mark very significant transformations, with important implications for ecological footprints. For example, over 98% of Norway's electricity is derived from hydropower [34], about 20% of Brazil's transport fuels consumption is derived from renewable biofuels [35], while China has installed to date about 61 GW of windpower, or roughly three times the generation potential of the Three Gorges Dam [36]. The development of a global environmental movement is also notable in this context, as signified by both the 1992 Rio Earth Summit (attended by over 100 heads of state and 172 governments) as well as its planned 2012 successor conference, the Rio+20 Summit, in addition to important milestones achieved under the UN biodiversity and climate conventions (i.e., the United Nations Convention on Biological Diversity [UNCBD] and the United Nations Framework Convention on Climate Change [UNFCCC]).

While these and other innovations in organization, efficiency, and technology have had unintended side effects, they also resulted in major transitions in human survivorship, resource extraction efficiency, and social and cultural organization. They were also largely unanticipated or very difficult to predict for most observers prior to their invention. Taken together, humans have demonstrated great creativity in how we use technological, social, and cultural “tools” to solve resource limitations.

Not Doomed (Yet) Top

Our “adjustments” to the view of sustainability science presented by Brown and colleagues [1] are not meant to obscure or downplay absolute declines in resources such as economically valuable metals and agriculturally productive land, our heedless approach to anticipated tipping points in greenhouse gas accumulation, and ecosystem transformation and species extinction. The availability of natural resources is less of a problem than absolute limits in the Earth's ability to absorb the different outputs of economic activities, while maintaining conditions necessary for human productivity, much less the survival of humans and other species. Anthropogenic climate change is perhaps the most prominent example of these new scarcities and emerging “limits to growth.” Indeed, we attribute great merit to these cautionary appeals and to the evidence of Earth system thresholds. We argue for positive responses in behavior, technological progress, and economic realignments commensurate with the challenge of fulfilling human needs while maintaining an Earth system suitable for the long-term survival of humans and other species.

The authors ask, Can the Earth support even current levels of human resource use and waste production, let alone provide for projected population growth and economic development? They answer their question with little doubt: “There is increasing evidence that modern humans have already exceeded global limits on population and socioeconomic development, because essential resources are being consumed at unsustainable rates” [1]. We agree that our present consumptive trajectory risks surpassing perceived planetary boundaries in the safe operating space for humanity (c.f. [11]). We argue that these risks merit a paradigm shift, a global transformation—and that this paradigm shift is underway. We believe that the transition from relatively static approaches to sustainability to flexible green economies embedded in dynamic, variable ecosystems will prove to be a critical intellectual shift for humans this century.



entire new subject–objects. Providing the model for this set of ideas, the fi rst Žižekian political subject was Schelling’s divided God, who gave birth to the entire Symbolic Order before the beginning of time (*IDLC* 153; *OB* 144–8).

But can the political theorist reasonably hope or expect that subjects will simply give up on all their inherited ways, myths and beliefs, all in one world- creating moment? And can they be legitimately asked or expected to, on the basis of a set of ideals whose legitimacy they will only retrospectively see, after they have acceded to the Great Leap Forward? And if they do not – for Žižek laments that today subjects are politically disengaged in unprecedented ways – what means can the theorist and his allies use to move them to do so?

#### No empirical basis for applying psychology to state action

Epstein, senior lecturer in government and IR – University of Sydney, ‘10

(Charlotte, “Who speaks? Discourse, the subject and the study of identity in international politics,” European Journal of International Relations XX(X) 1–24)

One key advantage of the Wendtian move, granted even by his critics (see Flockhart, 2006), is that it simply does away with the level-of-analysis problem altogether. If states really are persons, then we can apply everything we know about people to understand how they behave. The study of individual identity is not only theoretically justified but it is warranted. This cohesive self borrowed from social psychology is what allows Wendt to bridge the different levels of analysis and travel between the self of the individual and that of the state, by way of a third term, ‘group self’, which is simply an aggregate of individual selves. Thus for Wendt (1999: 225) ‘the state is simply a “group Self” capable of group level cognition’. Yet that the individual possesses a self does not logically entail that the state possesses one too. It is in this leap, from the individual to the state, that IR’s fallacy of composition surfaces most clearly.

Moving beyond Wendt but maintaining the psychological self as the basis for theorizing the state

Wendt’s bold ontological claim is far from having attracted unanimous support (see nota­bly, Flockhart, 2006; Jackson, 2004; Neumann, 2004; Schiff, 2008; Wight, 2004). One line of critique of the states-as-persons thesis has taken shape around the resort to psy­chological theories, specifically, around the respective merits of Identity Theory (Wendt) and SIT (Flockhart, 2006; Greenhill, 2008; Mercer, 2005) for understanding state behav­iour.9 Importantly for my argument, that the state has a self, and that this self is pre-social, remains unquestioned in this further entrenching of the psychological turn. Instead questions have revolved around how this pre-social self (Wendt’s ‘Ego’) behaves once it encounters the other (Alter): whether, at that point (and not before), it takes on roles prescribed by pre-existing cultures (whether Hobbessian, Lockean or Kantian) or whether instead other, less culturally specific, dynamics rooted in more universally human char­acteristics better explain state interactions. SIT in particular emphasizes the individual’s basic need to belong, and it highlights the dynamics of in-/out-group categorizations as a key determinant of behaviour (Billig, 2004). SIT seems to have attracted increasing interest from IR scholars, interestingly, for both critiquing (Greenhill, 2008; Mercer, 1995) and rescuing constructivism (Flockhart, 2006).

For Trine Flockart (2006: 89–91), SIT can provide constructivism with a different basis for developing a theory of agency that steers clear of the states-as-persons thesis while filling an important gap in the socialization literature, which has tended to focus on norms rather than the actors adopting them. She shows that a state’s adherence to a new norm is best understood as the act of joining a group that shares a set of norms and val­ues, for example the North Atlantic Treaty Organization (NATO). What SIT draws out are the benefits that accrue to the actor from belonging to a group, namely increased self-esteem and a clear cognitive map for categorizing other states as ‘in-’ or ‘out-group’ members and, from there, for orientating states’ self–other relationships.

Whilst coming at it from a stance explicitly critical of constructivism, for Jonathan Mercer (2005: 1995) the use of psychology remains key to correcting the systematic evacuation of the role of emotion and other ‘non-rational’ phenomena in rational choice and behaviourist analyses, which has significantly impaired the understanding of inter­national politics. SIT serves to draw out the emotional component of some of the key drivers of international politics, such as trust, reputation and even choice (Mercer, 2005: 90–95; see also Mercer, 1995). Brian Greenhill (2008) for his part uses SIT amongst a broader array of psychological theories to analyse the phenomenon of self–other recog­nition and, from there, to take issue with the late Wendtian assumption that mutual recognition can provide an adequate basis for the formation of a collective identity amongst states.

The main problem with this psychological turn is the very utilitarian, almost mecha­nistic, approach to non-rational phenomena it proposes, which tends to evacuate the role of meaning. In other words, it further shores up the pre-social dimension of the concept of self that is at issue here. Indeed norms (Flockhart, 2006), emotions (Mercer, 2005) and recognition (Greenhill, 2008) are hardly appraised as symbolic phenomena. In fact, in the dynamics of in- versus out-group categorization emphasized by SIT, language counts for very little. Significantly, in the design of the original experiments upon which this approach was founded (Tajfel, 1978), whether two group members communicate at all, let alone share the same language, is non-pertinent. It is enough that two individuals should know (say because they have been told so in their respec­tive languages for the purposes of the experiment) that they belong to the same group for them to favour one another over a third individual. The primary determinant of individual behaviour thus emphasized is a pre-verbal, primordial desire to belong, which seems closer to pack animal behaviour than to anything distinctly human. What the group stands for, what specific set of meanings and values binds it together, is unimportant. What matters primarily is that the group is valued positively, since posi­tive valuation is what returns accrued self-esteem to the individual. In IR Jonathan Mercer’s (2005) account of the relationship between identity, emotion and behaviour reads more like a series of buttons mechanically pushed in a sequence of the sort: posi­tive identification produces emotion (such as trust), which in turn generates specific patterns of in-/out-group discrimination.

Similarly, Trine Flockhart (2006: 96) approaches the socializee’s ‘desire to belong’ in terms of the psychological (and ultimately social) benefits and the feel-good factor that accrues from increased self-esteem. At the far opposite of Lacan, the concept of desire here is reduced to a Benthamite type of pleasure- or utility-maximization where mean­ing is nowhere to be seen. More telling still is the need to downplay the role of the Other in justifying her initial resort to SIT. For Flockhart (2006: 94), in a post-Cold War con­text, ‘identities cannot be constructed purely in relation to the “Other”’. Perhaps so; but not if what ‘the other’ refers to is the generic, dynamic scheme undergirding the very concept of identity. At issue here is the confusion between the reference to a specific other, for which Lacan coined the concept of *le petit autre*, and the reference to *l’Autre*, or Other, which is that symbolic instance that is essential to the making of *all* selves. As such it is not clear what meaning Flockhart’s (2006: 94) capitalization of the ‘Other’ actually holds.

The individual self as a proxy for the state’s self

Another way in which the concept of self has been centrally involved in circumventing the level-of-analysis problem in IR has been to treat the self of the individual as a proxy for the self of the state. The literature on norms in particular has highlighted the role of individuals in orchestrating norm shifts, in both the positions of socializer (norm entre­preneurs) and socializee. It has shown for example how some state leaders are more sus­ceptible than others to concerns about reputation and legitimacy and thus more amenable to being convinced of the need to adopt a new norm, of human rights or democratization, for example (Finnemore and Sikkink, 1998; Keck and Sikkink, 1998; Risse, 2001). It is these specific psychological qualities pertaining to their selves (for example, those of Gorbachev; Risse, 2001) that ultimately enable the norm shift to occur. Once again the individual self ultimately remains the basis for explaining the change in state behaviour.

To summarize the points made so far, whether the state is literally considered as a person by ontological overreach, whether so only by analogy, or whether the person stands as a proxy for the state, the ‘self’ of that person has been consistently taken as the reference point for studying state identities. Both in Wendt’s states-as-persons thesis, and in the broader psychological turn within constructivism and beyond, the debate has con­sistently revolved around the need to evaluate which of the essentialist assumptions about human nature are the most useful for explaining state behaviour. It has never ques­tioned the validity of starting from these assumptions in the first place. That is, what is left unexamined is this assumption is that what works for individuals will work for states too. This is IR’s central fallacy of composition, by which it has persistently eschewed rather than resolved the level-of-analysis problem. Indeed, in the absence of a clear dem­onstration of a logical identity (of the type A=A) between states and individuals, the assumption that individual interactions will explain what states do rests on little more than a leap of faith, or indeed an analogy.

# 1AR

## 2ac dickinson

#### No impact – democratic norms and civil society check totalitarianism and genocide

**Dickinson**, associate professor of history – UC Davis, **‘4**

(Edward, Central European History, 37.1)

In short, the continuities between early twentieth-century biopolitical discourse and the practices of the welfare state in our own time are unmistakable. Both are instances of the “disciplinary society” and of biopolitical, regulatory, social-engineering modernity, and they share that genealogy with more authoritarian states, including the National Socialist state, but also fascist Italy, for example. And it is certainly fruitful to view them from this very broad perspective. **But that analysis can easily become superficial and misleading**, because it obfuscates the **profoundly different** strategic and local dynamics of power in the two kinds of regimes. Clearly the democratic welfare state is not only formally but also substantively **quite different from totalitarianism.** Above all, again, it has nowhere developed the fateful, radicalizing dynamic that characterized National Socialism (or for that matter Stalinism), the psychotic logic that leads from economistic population management to mass murder. Again, there is always the potential for such a discursive regime to generate coercive policies. In those cases in which the regime of rights does not successfully produce “health,” such a system can —and historically does— create compulsory programs to enforce it. But again, there are political and policy potentials and constraints in such a structuring of biopolitics that are very different from those of National Socialist Germany. Democratic biopolitical regimes require, enable, and incite a degree of self-direction and participation that is **functionally incompatible** with authoritarian or totalitarian structures. And this pursuit of biopolitical ends through a regime of democratic citizenship does appear, historically, to have imposed increasingly **narrow limits on coercive policies**, and to have generated a “logic” or imperative of increasing liberalization. Despite limitations imposed by political context and the slow pace of discursive change, I think this is the unmistakable message of the really very impressive waves of legislative and welfare reforms in the 1920s or the 1970s in Germany.90

Of course it is not yet clear whether this is an irreversible dynamic of such systems. Nevertheless, such regimes are characterized by sufficient degrees of autonomy (and of the potential for its expansion) for sufé cient numbers of people that I think it becomes useful to conceive of them as productive of a strategic coné guration of power relations that might fruitfully be analyzed as a condition of “liberty,” just as much as they are productive of constraint, oppression, or manipulation. At the very least, **totalitarianism cannot be the sole orientation point** for our understanding of biopolitics, the only end point of the logic of social engineering.

**This notion is not at all at odds with the core of Foucauldian** (and Peukertian) **theory.** Democratic welfare states are regimes of power/knowledge no less than early twentieth-century totalitarian states; these systems are not “opposites,” in the sense that they are two alternative ways of organizing the same thing. But they are two very different ways of organizing it. The concept “power” should not be read as a universal stiè ing night of oppression, manipulation, and entrapment, in which all political and social orders are grey, are essentially or effectively “the same.” Power is a set of social relations, in which individuals and groups have varying degrees of autonomy and effective subjectivity. And discourse is, as Foucault argued, “tactically polyvalent.” Discursive elements (like the various elements of biopolitics) can be combined in different ways to form parts of quite different strategies (like totalitarianism or the democratic welfare state); they cannot be assigned to one place in a structure, but rather circulate. The varying possible constellations of power in modern societies create “multiple modernities,” modern societies with quite **radically differing potentials.**91

## at: lashout

#### Even if they’re right about drives, the repression-lashout link has been disproven

Havi Carel 6, Senior Lecturer in Philosophy at the University of the West of England, “Life and Death in Freud and Heidegger”, googlebooks

Secondly, the constancy principle on which these ideas are based is incompatible with observational data. Once the passive model of the nervous system has been discarded, there was no need for external excitation in order for discharge to take place, and more generally, "the behavioural picture seemed to negate the notion of drive, as a separate energizer of behaviour" {Hcbb. 1982. p.35). According to Holt, the nervous system is not passive; it does not take in and conduct out energy from the environment, and it shows no tendency to discharge its impulses. 'The principle of constancy is quite without any biological basis" (1965, p. 109). He goes on to present the difficulties that arise from the pleasure principle as linked to a tension-reduction theory. The notion of tension is "conveniently ambiguous": it has phenomenological, physiological and abstract meaning. But empirical evidence against the theory of tension reduction has been "mounting steadily" and any further attempts to link pleasure with a reduction of physiological tension are "decisively refuted" (1965, pp. 1102). Additionally, the organism and the mental system are no longer considered closed systems. So the main arguments for the economic view collapse, as does the entropic argument for the death drive (1965, p. 114). A final, more general criticism of Freud's economic theory is sounded by Compton, who argues, "Freud fills in psychological discontinuities with neurological hypotheses" (1981, p. 195). The Nirvana principle is part and parcel of the economic view and the incomplete and erroneous assumptions about the nervous system (Hobson, 1988, p.277). It is an extension ad extremis of the pleasure principle, and as such is vulnerable to all the above criticisms. The overall contemporary view provides strong support for discarding the Nirvana principle and reconstructing the death drive as aggression.

## perm—nietzsche

#### Ressentiment is silly and the aff is a better way to deal with it through compassion

Frazer 6

The Review of Politics (2006), 68: 49-78 Cambridge University Press

Michael Frazer's research focuses on Enlightenment political philosophy and its relevance for contemporary political theory. His current book project, “The Enlightenment of Sympathy: Justice and the Moral Sentiments in the Eighteenth Century and Today,” defends a psychologically holistic approach to political reflection through an examination of such authors as David Hume, Adam Smith and J. G. Herder. Dr. Frazer has also published articles on Maimonides, Nietzsche, John Rawls and Leo Strauss in such journals as "Political Theory" and "The Review of Politics." After receiving his B.A. from Yale University and his Ph.D. from Princeton University, Dr. Frazer spent the 2006-7 academic year as a postdoctoral research associate in the Political Theory Project at Brown University.

Assistant professor – HARVARD

There is a second way in which the painful experience of compassion can threaten human excellence. Not only do we risk developing contempt for all but the suffering masses, but we also risk developing contempt for the compassion that forces us to suffer with them. The terrible experience of shared suffering might lead some of the would-be great on a futile quest to abolish human misery. Others, however, are likely to conclude that their sympathetic pain could be most efficiently relieved by extirpating the faculties responsible for it. When we do not hate the suffering of others, but only our own sharing of this suffering, we seek only to banish compassion from our own breasts. Doing so, however, requires us to shield ourselves from the troubling awareness of our fellows' plight, to sever the imaginative and emotional bonds which connect us to others. It requires that we turn against our own strength of intelligence and imagination, that we sacrifice knowledge for ignorance by denying our insights into the human condition. Some of us might succeed in turning ourselves into such isolated, unthinking beings, but such individuals are not destined for creative achievement.

By contrast, the natural philosopher, poet, or psychologist—the born and inevitable unriddler of human souls—could no more destroy his own sense of compassion than he could abolish the human suffering which compassion compels him to share. A futile quest to extirpate his sympathetic sentiments would only turn such an individual against the world, against life, and against himself; in the end, it might even destroy him. Zarathustra does not pass the greatest test of his strength by purging compassion from his psyche. To the contrary, he affirms his painful experience of the emotion as creativity-enhancing and life-promoting. In doing so, Nietzsche's protagonist warns against those who unduly oppose compassion as well as those who unduly celebrate it. Both sides treat pain as something to be soothed away rather than harnessed for creative purposes; they differ only in whether the pain to be alleviated is our own or that of others. From the ethically authoritative perspective of life, both can be seen as opponents of human flourishing.

## at: tech no solve

**costs are relative solves**

Paul **Spicker 12**, Chair of Public Policy at the Robert Gordon University in Scotland and Director of the Centre for Public Policy and Management, “Limits to growth, again”, January 7, <https://paulspicker.wordpress.com/2012/01/07/limits-to-growth-again/>

More than 200 years ago, Malthus argued that the world was going to run out of resources, because population inevitably increased faster than our ability to provide for it. The argument has been disproved time and again, but its adherents remain convinced that it must be true sooner or later. It doesn’t seem to matter how often the arguments are shot down in flames – there is always someone ready to pick up the standard. This week’s New Scientist has four pages praising The Limits to Growth, the book that argued that come what may, we were going to run out of the things we need. Part of the problem is the flakiness of the predictions – the birth rate has not followed the projected path, and nor will most of the consequent projections. The NS article comments that economists claimed that “Limits underestimated the power of the technological fixes humans would surely invent.” If you can’t counter an argument, misrepresent it. The basic objection from economists is not that new technologies will inevitably appear – even if they might. The point is that many alternative technologies already exist, and **costs are relative**. If a resource becomes scarce, it will cost more, and other technologies which are initially too expensive become preferable. The fundamental economic mechanism is one which pushes people to use substitutes. As coal has become more expensive, options for producing energy which once seemed unrealistic – nuclear power, bio-fuels – start to be feasible. As wood has become more expensive, plastics have expanded. If food production through conventional methods becomes unsustainable, there is a range of viable technologies, such as hydroponics, which stand in readiness. There is, certainly, an incentive to develop new technologies, such as electric cars, water purifiers or solar power, and many will be developed, but that is not the central mechanism. **We will never use the last piece** of coal, the last drop of oil, or the last lump of copper; long before then, it will cost too much. **The argument that we are about to run of resources is just plain wrong**.

**Innovation is limitless**

Robert **Bradley** Jr. **12**, CEO and founder of the Institute for Energy Research; an adjunct scholar of the Cato Institute and the Competitive Enterprise Institute, a visiting fellow of the Institute of Economic Affairs, a senior research fellow of the Center for Energy Economics at the University of Texas at Austin, “On Sustainable Energy (Part I)”, January 9, <http://www.masterresource.org/2012/01/sustainable-energy-i/#more-18083>

Feared mineral depletion and the false allure of renewables have colored energy economics and public policy from the beginning. W. S. Jevons pessimistically calculated the coming end of Britain’s coal abundance. Samuel Insull, a resource pessimist, feared the decline of coal supplies and saw natural gas as but a fleeting respite from the past and future of gasified coal. In 1981, leaders of the natural gas industry voiced their pessimism about future supply and prices. “Domestic oil and gas will never be in an oversupply position,” said Jack Bowen of Transco. “Planning is going forward for the day when the market may require a versatile substitute fuel for natural gas,” stated Robert Herring of Houston Natural Gas. Both gentlemen, heading the largest interstate and intrastate gas pipeline systems in America, respectively, would be proved wrong within a year. “Peak gas” fears, not only running-out-of-oil concerns, are not new. Expanding ‘Depletable’ Resources The paradox of growing exhaustible or depleting minerals—such as oil, natural gas, and coal—can be explained in terms of improving knowledge and expanding capital. “Knowledge is truly the mother of all resources,” Erich Zimmermann concluded. Julian Simon called human ingenuity the “ultimate resource,” a nondepletable, expansive resource. “Discoveries, like resources, may well be infinite: the more we discover, the more we are able to discover,” Simon said. This was the opposite of a “closed system,” Simon found, allowing “human beings … [to] create more than they destroy.”

## AT: Environment

**No extinction**

Easterbrook 3(Gregg, senior fellow at the New Republic, “We're All Gonna Die!”, <http://www.wired.com/wired/archive/11.07/doomsday.html?pg=1&topic=&topic_set>=)

If we're talking about doomsday - the end of human civilization - many scenarios simply don't measure up. A single nuclear bomb ignited by terrorists, for example, would be awful beyond words, but life would go on. People and machines might converge in ways that you and I would find ghastly, but from the standpoint of the future, they would probably represent an adaptation. Environmental collapse might make parts of the globe unpleasant, but considering that the biosphere has survived ice ages, it wouldn't be the final curtain. Depression, which has become 10 times more prevalent in Western nations in the postwar era, might grow so widespread that vast numbers of people would refuse to get out of bed, a possibility that Petranek suggested in a doomsday talk at the Technology Entertainment Design conference in 2002. But Marcel Proust, as miserable as he was, wrote *Remembrance of Things Past* while lying in bed.

## 1ar alt—neolib

**The system’s resilient and the alt fails**

Gideon **Rose 12**, Editor of Foreign Affairs, “Making Modernity Work”, Foreign Affairs, January/February

The central question of modernity has been how to reconcile capitalism and mass democracy, and since the postwar order came up with a good answer, it has managed to weather all subsequent challenges. The upheavals of the late 1960s seemed poised to disrupt it. But despite what activists at the time thought, they had little to offer in terms of politics or economics, and so their lasting impact was on social life instead. This had the ironic effect of stabilizing the system rather than overturning it, helping it live up to its full potential by bringing previously subordinated or disenfranchised groups inside the castle walls. The neoliberal revolutionaries of the 1980s also had little luck, never managing to turn the clock back all that far. **All potential alternatives** in the developing world, meanwhile, **have proved to be either dead ends or temporary detours from the beaten path**. The much-ballyhooed "rise of the rest" has involved not the discrediting of the postwar order of Western political economy but its reinforcement: the countries that have risen have done so by embracing global capitalism while keeping some of its destabilizing attributes in check, and have liberalized their polities and societies along the way (and will founder unless they continue to do so). Although the structure still stands, however, it has seen better days. Poor management of public spending and fiscal policy has resulted in unsustainable levels of debt across the advanced industrial world, even as mature economies have found it difficult to generate dynamic growth and full employment in an ever more globalized environment. Lax regulation and oversight allowed reckless and predatory financial practices to drive leading economies to the brink of collapse. Economic inequality has increased as social mobility has declined. And a loss of broad-based social solidarity on both sides of the Atlantic has eroded public support for the active remedies needed to address these and other problems. Renovating the structure will be a slow and difficult project, the cost and duration of which remain unclear, as do the contractors involved. Still, at root, **this is not an ideological issue**. The question is not what to do but how to do it--how, under twenty-first-century conditions, to rise to the challenge Laski described, making the modern political economy provide enough solid benefit to the mass of men that they see its continuation as a matter of urgency to themselves. The old and new articles that follow trace this story from the totalitarian challenge of the interwar years, through the crisis of liberalism and the emergence of the postwar order, to that order's present difficulties and future prospects. Some of our authors are distinctly gloomy, and one need only glance at a newspaper to see why. But remembering the far greater obstacles that have been overcome in the past, **optimism would seem the better long-term bet**.