## 1

#### **[a] Interp - The letter “A” is an indefinite article that modifies “democracy” – the resolution must be proven true in all instances, not one particular instance**

CCC Capital Community College [a nonprofit 501 c-3 organization that supports scholarships, faculty development, and curriculum innovation], “Articles, Determiners, and Quantifiers”, http://grammar.ccc.commnet.edu/grammar/determiners/determiners.htm#articles AG

The three articles — a, an, the — are a kind of adjective. The is called the definite article because it usually precedes a specific or previously mentioned noun; a and an are called indefinite articles because they are used to refer to something in a less specific manner (an unspecified count noun). These words are also listed among the noun markers or determiners because they are almost invariably followed by a noun (or something else acting as a noun). caution CAUTION! Even after you learn all the principles behind the use of these articles, you will find an abundance of situations where choosing the correct article or choosing whether to use one or not will prove chancy. Icy highways are dangerous. The icy highways are dangerous. And both are correct. The is used with specific nouns. The is required when the noun it refers to represents something that is one of a kind: The moon circles the earth. The is required when the noun it refers to represents something in the abstract: The United States has encouraged the use of the private automobile as opposed to the use of public transit. The is required when the noun it refers to represents something named earlier in the text. (See below..) If you would like help with the distinction between count and non-count nouns, please refer to Count and Non-Count Nouns. We use a before singular count-nouns that begin with consonants (a cow, a barn, a sheep); we use an before singular count-nouns that begin with vowels or vowel-like sounds (an apple, an urban blight, an open door). Words that begin with an h sound often require an a (as in a horse, a history book, a hotel), but if an h-word begins with an actual vowel sound, use an an (as in an hour, an honor). We would say a useful device and a union matter because the u of those words actually sounds like yoo (as opposed, say, to the u of an ugly incident). The same is true of a European and a Euro (because of that consonantal "Yoo" sound). We would say a once-in-a-lifetime experience or a one-time hero because the words once and one begin with a w sound (as if they were spelled wuntz and won). Merriam-Webster's Dictionary says that we can use an before an h- word that begins with an unstressed syllable. Thus, we might say an hisTORical moment, but we would say a HIStory book. Many writers would call that an affectation and prefer that we say a historical, but apparently, this choice is a matter of personal taste. For help on using articles with abbreviations and acronyms (a or an FBI agent?), see the section on Abbreviations. First and subsequent reference: When we first refer to something in written text, we often use an indefinite article to modify it. A newspaper has an obligation to seek out and tell the truth. In a subsequent reference to this newspaper, however, we will use the definite article: There are situations, however, when the newspaper must determine whether the public's safety is jeopardized by knowing the truth. Another example: "I'd like a glass of orange juice, please," John said. "I put the glass of juice on the counter already," Sheila replied. Exception: When a modifier appears between the article and the noun, the subsequent article will continue to be indefinite: "I'd like a big glass of orange juice, please," John said. "I put a big glass of juice on the counter already," Sheila replied. Generic reference: We can refer to something in a generic way by using any of the three articles. We can do the same thing by omitting the article altogether. A beagle makes a great hunting dog and family companion. An airedale is sometimes a rather skittish animal. The golden retriever is a marvelous pet for children. Irish setters are not the highly intelligent animals they used to be. The difference between the generic indefinite pronoun and the normal indefinite pronoun is that the latter refers to any of that class ("I want to buy a beagle, and any old beagle will do.") whereas the former (see beagle sentence) refers to all members of that class

“Democracy” is a generic indefinite singular.

Leslie 12 Leslie, Sarah-Jane. “Generics.” In Routledge Handbook of Philosophy of Language, edited by Gillian Russell and Delia Fara, 355–366. Routledge, 2012. <https://www.princeton.edu/~sjleslie/RoutledgeHandbookEntryGenerics.pdf> SM

GENERICS VS. EXISTENTIALS The interpretation of sentences containing bare plurals, indefinite singulars, or definite singulars can be either generic as in (1) respectively or existential/specific as in (2): (1) Tigers are striped A tiger is striped The tiger is striped. (2) Tigers are on the front lawn A tiger is on the front lawn The tiger is on the front lawn. The subjects in (1) are prima facie the same as in (2), yet their interpretations in (1) are intuitively quite different from those in (2). In (2) we are talking about some particular tigers, while in (1) we are saying something about tigers in general. There are some tests that are helpful in distinguishing these two readings. For example, the existential interpretation is upward entailing, meaning that the statement will always remain true if we replace the subject term with a more inclusive term. For example, if it is true that tigers are on the lawn, then it will also be true that animals are on the lawn. This is not so if the sentence is interpreted generically. For example, it is true that tigers are striped, but it does not follow that animals are striped (Lawler 1973 Laca 1990; Krifka et al 1995). Another test concerns whether we can insert an adverb of quantification (in the sense of Lewis 1975) with minimal change of meaning (Krifka et al 1995). For example, inserting “usually” in the sentences in (1) (e.g. “tigers are usually striped”) produces only a small change in meaning, while inserting “usually” in (2) dramatically alters the meaning of the sentence (e.g. “tigers are usually on the front lawn). (For generics such as “mosquitoes carry malaria”, the adverb “sometimes” is perhaps better used than “usually”.)

#### **[b] Violation – They spec**

#### [c] Standards:

#### 1] Topic education – If the other debater specifies something not mentioned in the res, then it’s extra topical. Making the debate around whatever they specified kills actual topic education. IE. they specified a specific part of appropriation, which means that they aren’t negating as per NSDA rules.

#### 2] Predictability – Moves the debate into unpredictable ground which destroys clash. I don’t know what they are going to specify, and this means I have a short time to come up with responses that won’t be as good which means we are getting less education. They kill education and fairness.

#### 3] Prep Burdens – I can’t possibly prep for every single potential specification in the world. Now my responses can’t be as good which harms the education we receive from the round since they have the ability to literally go for anything. Kills education and fairness. I have to prep for the actual topic, but they just find ev to win their plan which means they will always win their aff debate which decks fairness.

#### 4] Limits and Ground – Even if they read evidence that they are topical because of a subset, they still can’t resolve the fact that I lost ground in the debate because of their action. Their plan imposes a model of debate wherein they can specify whatever they want and not debate the topic as is on the tourney invite page. Ie. their model means that they can continue to shift the limit of the debate to parts where they have more ev and prep which devastates my prep and ev burdens because I spent time prepping and cutting ev for other parts of the res which means my responses will be less in depth which takes out your inevitable claims to education. You’ll always destroy me on this debate which means no substantive education.

#### I LOST ACCESS TO DISADS TO THE REST OF THE WORLD WHICH IS 99 PERCENT OF THE TOPIC.

#### [d] Voters:

#### 1] Education – is a voter because it is the goal and purpose of debate.

#### 2] Fairness – is a voter because it is necessary in any competition.

#### It’s DTD; DTA illogical, time skew, you can’t drop their adovacy without dropping the debater since the advocacy control the round, and dropping the argument would turn it condo which is bad because condo advocacies allow them to kick out midway through and moot my speeches which decks fairness. No RVIs; chills checking of abuse, baiting, illogical, you don’t win for being fair. It’s CI; reasonability is arbitrary and encourages judge intervention since there’s no clear norm, but CI causes a race to the top with the best norms for debate.

## 3

#### AIs turn

#### Nuclear war prevents AI and Nanotech research.

Baum & Barrett 18 – Seth Baum is an American researcher involved in the field of risk research. He is the executive director of the Global Catastrophic Risk Institute (GCRI), a think tank focused on existential risk. Global Catastrophic Risk Institute. 2018. [“A Model for the Impacts of Nuclear War.” SSRN Electronic Journal. 10.2139/ssrn.3155983] Recut Justin

Another link between nuclear war and other major catastrophes comes from the potential for general malfunction of society shifting work on risky technologies such as artificial intelligence, molecular nanotechnology, and biotechnology. The simplest effect would be for the general malfunction of society to halt work on these technologies. In most cases, this would reduce the risk of harm caused by those technologies.

#### AI destroys the universe.

Alan Rominger 16, PhD Candidate in Nuclear Engineering at North Carolina State University, Software Engineer at Red Hat, Former Nuclear Engineering Science Laboratory Synthesis Intern at Oak Ridge National Laboratory, BS in Nuclear Engineering from North Carolina State University, “The Extreme Version of the Technological Singularity”, Medium 11-6, [https://medium.com/@AlanSE/the-extreme-version-of-the-technological-singularity-75608898eae5 //](https://medium.com/@AlanSE/the-extreme-version-of-the-technological-singularity-75608898eae5%20//) Re-Cut Justin

Let’s reformulate that story of the AI paperclip maker.

1. We design an AI to optimize paperclip production
2. The AI improves up to the ability of self-enhancement
3. AI’s pace of improvement becomes self-reinforcing, becomes god-like
4. Time ends.
5. Something else begins?

There are many valid-sounding possibilities for the 5th step. The AI creates new baby universes from black holes. Maybe not exactly in this way. Perhaps the baby universes have to be created in particle accelerators, which is obvious to the AI after it solves the string theory problems of how our universe is folded. There’s also no guarantee that whatever next step is involved can be taken without destroying the universe that we live in. Go ahead, imagine that the particle accelerators create a new universe but trigger the vacuum instability in our own. In this case, it’s entirely possible that the AI carefully plans and coordinates the death of our universe. For a simplistic example, let’s say that after lifting the 10 nearest stars, the AI realizes the most efficient ways to stimulate the curved dimensions on the Planck scale to create baby universes. Next, it conducts an optimization study to balance the number of times this operation can be performed with gains from further expansion. Since its plans begin to largely max-out once the depth of the galactic disk is exploited, I will assume that its go-point is somewhere around the colonization of half of the milky way. At this point, a coordinated experiment is conducted throughout all of the space. Each of these events both create a baby universe and trigger an event in our own universe which destroys the meta-stable vacuum that we live in. Billions of new universes are created, while the space-time that we live in begins to unravel in

#### **Nanotech proliferates fast and destroys the universe.**

Hu 18 – Jiaqi Hu, Humanities Scholar and President and Chief Scientist of the Beijing Jianlei International Decoration Engineering Company and 16Lao Group, Graduate of Dongbei University, Elected as the Chinese People’s Consultative Conference Member for Beijing Mentougou District, Saving Humanity: Truly Understanding and Ranking Our World's Greatest Threats, p. 208-210

As a unit of measurement, a nanometer is 10^9 meters (or one billionth of a meter); it is roughly one 50,000th of a strand of hair and is commonly used in the measuring of atoms and molecules. In 1959, Nobel Prize winner and famous physicist Richard Feynman first proposed in a lecture entitled "There's Plenty of Room at the Bottom" that humans might be able to create molecule-sized micro-machines in the future and that it would be another technological revolution. At the time, Feynman's ideas were ridiculed, but subsequent developments in science soon proved him to be a true visionary. In 1981, scientists developed the scanning tunneling microscope and finally reached nano-level cognition. In 1990, IBM scientists wrote the three letters "IBM" on a nickel substrate by moving thirty-five xenon atoms one by one, demonstrating that nanotechnology had become capable of transporting single atoms. Most of the matter around us exists in molecule forms, which are composed of atoms. The ability to move atoms signaled an ability to perform marvelous feats. For example, we could move carbon atoms to form diamonds, or pick out all the gold atoms in low-grade gold mines. However, nanotechnology would not achieve any goals of real significance if solely reliant on manpower. There are hundreds of millions of atoms in a needle-tip-sized area—even if a person committed their life to moving these atoms, no real value could be achieved. Real breakthroughs in nanotechnology could only be produced by nanobots. Scientists imagined building molecule-sized robots to move atoms and achieve goals; these were nanobots. On the basis of this hypothesis, scientists further postulated the future of nanotechnology; for example, nanobots might be able to enter the bloodstream and dispose of cholesterol deposited in the veins; nanobots could track cancer cells in the body and kill them at their weakest moment; nanobots could instantly turn newly-cut grass into bread; nanobots could transform recycled steel into a brand new-car in seconds. In short, the future of nanotechnology seemed incredibly bright. This was not the extent of nanotechnology's power. Scientists also discovered that nanotechnology could change the properties of materials. In 1991, when studying C60, scientists discovered carbon nanotubes (CNTs) that were only a few nanos in diameter. The carbon nanotube became known as the king of nano materials due to its superb properties; scientists believed that it would produce great results when applied to nanobots. Later, scientists also developed a type of synthetic molecular motor that derived energy from the high-energy adenosine triphosphate (ATP) that powered intracellular chemical reactions. The success of molecular motor research solved the core component problem of nano machines; any molecular motor grafted with other components could turn into a nano machine, and nanobots could use them for motivation. In May 2004, American chemists developed the world’s first nanobot: a bipedal molecular robot that looked like a compass with ten-nanometer-long legs. This nanobot was composed of DNA fragments, including thirty-six base pairs, and it could "stroll" on plates in the laboratory. In April 2005, Chinese scientists developed nano-scale robotic prototypes as well. In June of 2013, the Tohoku University used peptide protein micro-tablets to successfully create nanobots that could enter cells and move on the cell membrane. In July 2017, researchers at the University of Rome and the Roman Institute of Nanotechnology announced the development of a new synthetic molecular motor that was bacteria-driven and light-controlled. The next step would be to get nanobots to move atoms or molecules. Compared to the value produced by a nanobot, they are extremely expensive to create. The small size of nanobots means that although they can accomplish meaningful tasks, they are often very inefficient. Even if a nanobot toiled day and night, its achievements would only be calculated in terms of atoms, making its practical total attainment relatively small. Scientists came up with a solution for this problem. They decided to prepare two sets of instructions when programming nanobots. The first set of instructions would set out tasks for the nanobot, while the second set would order the nanobot to self-replicate. Since nanobots are capable of moving atoms and are themselves composed of atoms, self-replication would be fairly easy. One nanobot could replicate into ten, then a hundred, and then a thousand . . . billions could be replicated

#### Multiple countries are investing billions and they’re ripe for theft

Jeff **Daniels**, 3-17-20**17**, “Mini-nukes and mosquito-like robot weapons being primed for future warfare,” CNBC, <https://www.cnbc.com/2017/03/17/mini-nukes-and-inspect-bot-weapons-being-primed-for-future-warfare.html>

Several countries are developing nanoweapons that could unleash attacks using mini-nuclear bombs and insect-like lethal robots.  While it may be the stuff of science fiction today**, the advancement of nanotechnology in the coming years will make it a bigger threat to humanity than conventional nuclear weapons**, according to an expert. The U.S., Russia and China are believed to be investing billions on nanoweapons research.  “Nanobots are the real concern about wiping out humanity because they can be weapons of mass destruction,” said Louis Del Monte, a Minnesota-based physicist and futurist. He’s the author of a just released book entitled “Nanoweapons: A Growing Threat To Humanity.”  One unsettling prediction Del Monte’s made is that terrorists could get their hands on nanoweapons as early as the late 2020s through black market sources.

#### Err negative on impact weighing – their evidence is unwarranted pessimism – updated models.

Rodriguez 20 [Luisa Rodriguez is research fellow at the Forethought Foundation for Global Priorities Research. Previously, she researched nuclear war at Rethink Priorities and as a visiting researcher at the Future of Humanity Institute, "What is the likelihood that civilizational collapse would directly lead to human extinction (within decades)? - EA Forum", 24th Dec 2020, https://forum.effectivealtruism.org/posts/GsjmufaebreiaivF7/what-is-the-likelihood-that-civilizational-collapse-would#Concrete\_example\_\_A\_large\_nuclear\_war\_that\_causes\_a\_nuclear\_winter]

Case 2: 90% population loss, infrastructure damage, and extreme climate change (e.g. nuclear war that caused nuclear winter) In a scenario in which a catastrophe causes the deaths of 90% of the population (800 million survivors), major infrastructure damage, and climate change — for example, a severe, global nuclear war that caused a nuclear winter — I believe the question of whether humans would be able to meet their basic needs becomes more difficult.[14] The questions I consider for this scenario are: What is the likelihood that survivors are able to continue to survive using traditional forms of agriculture, given a catastrophe that causes severe infrastructure damage and climate change? What is the likelihood that radiation causes extinction? What is the likelihood that humanity would survive in the event of conflict immediately following the catastrophe? What is the likelihood that survivors are able to continue to survive using traditional forms of agriculture? Time spent on this section: 2–3 hours Types of sources: Academic literature, non-academic reports, and expert interviews Expert judgment: Several experts, including ALLFED director David Denkenberger, have affirmed this conclusion — they do not expect humanity to dip below the minimum viable population even in relatively extreme sun-blocking scenarios. Literature review: The nature of all of the catastrophes we know of that would cause extreme global cooling (e.g. nuclear winter, asteroid impacts) **would have unevenly distributed impacts** — causing extreme global cooling in some parts of the world, but more moderate cooling in others. For example, in the case of a nuclear war between the US and Russia, nuclear winter models suggest that the most **severe climate effects would be limited** to the Northern Hemisphere, where temperatures would fall by 10–30 degrees C. But in the Southern Hemisphere, and especially at the equator, those effects would be much less severe: between 5–10 degrees Celsius. With heterogeneous impacts like this, it’s likely that agriculture would still be possible in some regions — especially in New Zealand and Australia, and possibly in South America and Central Africa.[15] To be clear, I’m describing a very grim scenario, in which basically everyone in the Northern Hemisphere — and in many parts of the Southern Hemisphere — would be unable to grow food using standard agricultural techniques. Given this, I expect there would be mass starvation and violent competition and conflict until a new equilibrium was reached, one where the remaining survivors didn’t exceed the Earth’s carrying capacity. While I expect this would be a truly terrible period of widespread suffering, I believe this equilibrium would be reached long before the population got anywhere near the minimum viable population. My best guess is the population would fall to hundreds of thousands to tens of millions, but not much lower. While I haven’t looked into this much, I feel fairly convinced that hundreds of thousands or **millions** of people **could survive**

#### Can’t rebuild industrial civilization.

John Jacobi 17. [Leads an environmentalist research institute and collective, citing Fred Hoyle, British astronomer, formulated the theory of stellar nucleosynthesis, coined the term “big bang,” recipient of the Gold Medal of the Royal Astronomical Society, professor at the Institute of Astronomy, Cambridge University. 05-27-17. “Industrial Civilization Could Not Be Rebuilt.” The Wild Will Project. <https://www.wildwill.net/blog/2017/05/27/industrial-civilization-not-rebuilt/>]

A suggestion, for the sake of thought: If industrial civilization collapsed, it probably could not be rebuilt. Civilization would exist again, of course, but industry appears to be a one-time experiment. The astronomist Fred Hoyle, exaggerating slightly, writes: It has often been said that, if the human species fails to make a go of it here on Earth, some other species will take over the running. In the sense of developing high intelligence this is not correct. We have, or soon will have,

#### Particles: turn

#### That solves inevitable extinction - massive particle colliders are being built which can create black holes and vacuum decay –destroys the universe

Rory **Mckeown** (12-14-20**15**) -Rory McKeown, Journalist for the Daily Star, quoting Wang Yifang, Director of the Institute of High Emergency Physics at the China Academy of Sciences, Stephen Hawking and Sir Martin Rees, President of the Royal Society, Fellow of Trinity College and Emeritus Professor of Cosmology and Astrophysics at the University of Cambridge Dailystar.co.uk, "China to build a gigantic hadron collider that could destroy the UNIVERSE," https://www.dailystar.co.uk/news/latest-news/china-build-gigantic-hadron-collider-17226448

**Physicists** in the Far East **want to start building a huge particle accelerator** to uncover the unsolved mysteries surrounding the universe. The proposed gigantic machine will **[with] better** Europe’s collider at CERN in Switzerland for both **power and size**. With a staggering circumference of between 30 to 62 miles, it is long enough to circle New York's Manhattan. But **the move could have disastrous consequences for the universe** as we know it – **with its potential to create a black hole or spontaneously combust**. Brit scientist Professor Stephen **Hawking made a bleak claim last year that search for the Higgs boson particle – often referred to as the God particle – could end the world in 10 to 100 years time**. **China is expected to start** building its Frankenstein’s Monster of physics **in 2020**. But conspiracy theorists were quick to point out the date coincides with a prophecy suggesting the arrival of the antichrist. **The Circular Electron Positron Collider (CEPC)** was announced by experts at the China Academy of Sciences and reportedly **will generate millions of Higgs bosons particles – a huge amount more than the Large Hadron Collider**. Wang Yifang, director of the Institute of High Emergency Physics at the academy, said the massive tunnel will hold two super colliders. They want the CEPC to be the first stage of the project, which aims to discover how the Higgs boson particle decays following collision. **China hopes its mean machine will get the closest humanity has ever got to creating the conditions just after the Big Bang.** Wang said the project will generate seven times the energy of Europe’s own collider. He said: “LHC is hitting its limits of energy level. “It seems not possible to escalate the energy dramatically at the existing facility. “The technical route we chose is different from the LHC. “While the LHC smashes together protons, it generates Higgs particles together with many other particles.” He told China Daily the CEPC, which is set to be build near the start of the Great Wall, creates a “clean environment that only produces Higgs boson particles.” “This is a machine for the world and by the world: not a Chinese one", he added. **The second stage of the accelerator – a Super Proton-Proton Collider (SPPC) would begin construction in 2040**. Here scientists could be able to shed light on dark matter, the Big Bang and black holes. And **the process would, according to Sir Martin Rees, Astronomer Royal of the UK, leave the planet “an inert hyperdense sphere about one hundred metres across.” But for all the advancement in science and technology, some fear human intervention into the unknown could wipe out the universe. Prof Hawking described the discovery of the Higgs boson particle in 2012 as a doomsday scenario**. He **warned**: “The Higgs potential has the worrisome feature that it might become metastable at energies above 100 billion gigaelectronvolts. “This could mean that **the universe could undergo catastrophic vacuum decay, with a bubble of the true vacuum expanding the speed of light. “This could happen at any time and we wouldn’t see it coming.”**

#### ISOMER: turn

#### The military is developing isomer bombs—testing will destroy the universe.

Evgeniya Petrova 2004, Founder of Spacetime Threat Assessment Report Research, Founder of STARstream Research, Futurist, “American Military is Pursuing New Types of Exotic Weapons”, Pravda, 8-30, https://english.pravda.ru/science/5527-weapons/

In recent years it has been discovered that our universe is being blown apart by a mysterious anti-gravity effect called "dark energy". Mainstream physicists are scrambling to explain this mysterious acceleration in the expansion of the universe. Some physicists even believe that the expansion will lead to "The Big Rip" when all of the matter in the universe is torn asunder - from clusters of galaxies in deep space down to the tiniest atomic particles. The universe now appears to be made of two unknowns - roughly 23% is "dark matter", an invisible source of gravity, and roughly 73% is "dark energy", an invisible anti-gravity force. Ordinary matter constitutes perhaps 4 percent of the universe. Recently the British science news journal "New Scientist" revealed that the American military is pursuing new types of exotic bombs - including a new class of isomeric gamma ray weapons. Unlike conventional atomic and hydrogen bombs, the new weapons would trigger the release of energy by absorbing radiation, and respond by re-emitting a far more powerful radiation. In this new category of gamma-ray weapons, a nuclear isomer absorbs x-rays and re-emits higher frequency gamma rays. The emitted gamma radiation has been reported to release 60 times the energy of the x-rays that trigger the effect. The discovery of this isomer triggering is fairly recent, and was first reported in a 1999 paper by an international group of scientists. Although this controversial development has remained fairly obscure, it has not been hidden from the public. Beyond the visible part of defense research is an immense underground of secret projects considered so sensitive that their very existence is denied. These so-called "black budget programs" are deliberately kept from the public eye and from most political leaders. CNN recently reported that in the United States the black budget projects for 2004 are being funded at a level of more than 20 billion dollars per year. In the summer of 2000 I contacted Nick Cook, the former aviation editor and aerospace consultant to Jane's Defence Weekly, the international military affairs journal. Cook had been investigating black budget super-secret research into exotic physics for advanced propulsion technologies. I had been monitoring electronic discussions between various American and Russian scientists theorizing about rectifying the quantum vacuum for advanced space drive. Several groups of scientists, partitioned into various research organizations, were exploring what NASA calls "Breakthrough Propulsion Physics" - exotic technologies for advanced space travel to traverse the vast distances between stars. Partly inspired by the pulp science fiction stories of their youth, and partly by recent reports of multiple radar tracking tapes of unidentified objects performing impossible maneuvers in the sky, these scientists were on a quest to uncover the most likely new physics for star travel. The NASA program was run by Marc Millis, financed under the Advanced Space Transportation Program Office (ASTP). Joe Firmage, then the 28-year-old Silicon Valley CEO of the three billion dollar Internet firm US Web, began to fund research in parallel with NASA. Firmage hired a NASA Ames nano-technology scientist, Creon Levit, to run the "International Space Sciences Organization", a move which apparently alarmed the management at NASA. The San Francisco based Hearst Examiner reported that NASA's Office of Inspector General assigned Special Agent Keith Tate to investigate whether any proprietary NASA technology might have been leaking into the private sector. Cook was intrigued when I pointed out the apparent connections between various private investors, defense contractors, NASA, INSCOM (American military intelligence), and the CIA. While researching exotic propulsion technologies Cook had heard rumors of a new kind of weapon, a "sub-quantum atomic bomb", being whispered about in what he called ⌠the dark halls of defense research. Sub-quantum physics is a controversial re-interpretation of quantum theory, based on so-called pilot wave theories, where an information field controls quantum particles. The late Professor David Bohm showed that the predictions of ordinary quantum mechanics could be recast into a pilot wave information theory. Recently Anthony Valentini of the Perimeter Institute has suggested that ordinary quantum theory may be a special case of pilot wave theories, leaving open the possibility of new and exotic non-quantum technologies. Some French, Serbian and Ukrainian physicists have been working on new theories of extended electrons and solitons, so perhaps a sub-quantum bomb is not entirely out of the question. Even if the rumors of a sub-quantum bomb are pure fantasy, there is no question that mainstream physicists seriouslycontemplate a phase transition in the quantum vacuum as a real possibility. The quantum vacuum defies common sense, because empty space in quantum field theory is actually filled with virtual particles. These virtual particles appear and disappear far too quickly to be detected directly, but their existence has been confirmed by experiments that demonstrate their influence on ordinary matter.

"Such research should be forbidden!"

In the early 1970's Soviet physicists were concerned that the vacuum of our universe was only one possible state of empty space. The fundamental state of empty space is called the "true vacuum". Our universe was thought to reside in a "false vacuum", protected from the true vacuum by "the wall of our world". A change from one vacuum state to another is known as a phase transition. This is analogous to the transition between frozen and liquid water. Lev Okun, a Russian physicist and historian recalls Andrei Sakharov, the father of the Soviet hydrogen bomb, expressing his concern about research into the phase transitions of the vacuum. If the wall between vacuum states was to be breached, calculations showed that an unstoppable expanding bubble would continue to grow until it destroyed our entire universe! Sakharov declared that "Such research should be forbidden!" According to Okun, Sakharov feared that an experiment might accidentally trigger a vacuum phase transition.

#### Nuclear war now spurs political will for disarmament without causing extinction.

Deudney 18 [Associate Professor of Political Science at Johns Hopkins University. 03/15/2018. “The Great Debate.” The Oxford Handbook of International Security. www.oxfordhandbooks.com, doi:10.1093/oxfordhb/9780198777854.013.22]

Although nuclear war is the oldest of these technogenic threats to civilization and human survival, and although important steps to restraint, particularly at the end of the Cold War, have been achieved, the nuclear world is increasingly changing in major ways, and in almost entirely dangerous directions. The third “bombs away” phase of the great debate on the nuclear-political question is more consequentially divided than in the first two phases. Even more ominously, most of the momentum lies with the forces that are pulling states toward nuclear-use, and with the radical actors bent on inflicting catastrophic damage on the leading states in the international system, particularly the United States. In contrast, the arms control project, although intellectually vibrant, is largely in retreat on the world political stage. The arms control settlement of the Cold War is unraveling, and the world public is more divided and distracted than ever. With the recent election of President Donald Trump, the United States, which has played such a dominant role in nuclear politics since its scientists invented these fiendish engines, now has an impulsive and uninformed leader, boding ill for nuclear restraint and effective crisis management. Given current trends, it is prudent to assume that sooner or later, and probably sooner, nuclear weapons will again be the used in war. But this bad news may contain a “silver lining” of good news. Unlike a general nuclear war that might have occurred during the Cold War, such a nuclear event now would probably not mark the end of civilization (or of humanity), due to the great reductions in nuclear forces achieved at the end of the Cold War. Furthermore, politics on “the day after” could have immense potential for positive change. The survivors would not be likely to envy the dead, but would surely have a greatly renewed resolution for “never again.” Such an event, completely unpredictable in its particulars, would unambiguously put the nuclear-political question back at the top of the world political agenda. It would unmistakeably remind leading states of their vulnerability It might also trigger more robust efforts to achieve the global regulation of nuclear capability. Like the bombings of Hiroshima and Nagasaki that did so much to catalyze the elevated concern for nuclear security in the early Cold War, and like the experience “at the brink” in the Cuban Missile Crisis of 1962, the now bubbling nuclear caldron holds the possibility of inaugurating a major period of institutional innovation and adjustment toward a fully “bombs away” future.

## Climate

#### CO2 key to solve Bio-D loss and helps fight global hunger – impact turn

**Goklany 15** -- Indur M. Goklany is a science and technology policy analyst for the United States Department of the Interior, where he holds the position of Assistant Director of Programs, Science and Technology Policy. “CARBON DIOXIDE The good news” <http://www.thegwpf.org/content/uploads/2015/10/benefits.pdf>

3 Ancillary benefits of increased biospheric productivity Improved human wellbeing Higher agricultural yields reduce food prices in general. This provides a double dividend for humanity. Firstly, it reduces chronic hunger, but secondly a reduction in chronic hunger is the first step toward improvements in public health.61,62 Reduced habitat loss and pressure on biodiversity No less important, higher yields also provide a double dividend for the rest of nature. Firstly, they free up habitat for the rest of nature, which reduces the pressure on ecosystems. Had it not been for the increase in yields of 9–15%, global cropland would have had to be increased by a similar amount to produce the same amount of food, all else being equal. That figure means that an area equivalent to the combined area of Myanmar, Thailand and Malaysia has been saved from the plough. Secondly, land that has not been appropriated by humans also produces more food for other species. Consequently, this increases the aggregate biomass – that is, the product of number of species and representatives of each species – that the planet can sustain. How much would the food available for other species have decreased in the absence of anthropogenic increases in atmospheric carbon dioxide? To calculate this figure, assume that: • the productivity of unmanaged ecosystems also increased by 9–15% because of higher carbon dioxide concentrations (as estimated for crops) • human beings currently ‘appropriate’ 25% of the earth’s NPP.63 Therefore, had there been no anthropogenic increase in carbon dioxide, satisfying current human demand for food, timber, feed for domesticated animals and other plant-derived product would have required the share of NPP available for the rest of nature to decline by 11–17%. Alternatively, if one assumes that human beings currently use 40% of global NPP64 and retain the other assumptions intact then the present share of NPP available for the rest of nature would have had to decline by 14–22%. In either case, in the absence of any carbon dioxide fertilisation there would have been **a significant increase in the number of species at risk of extinction**. Notably, one of the factors invoked to explain the latitudinal gradient in biodiversity –the greater abundance of species as one moves from the poles to the tropics – is greater ecological productivity.65 It has also been suggested that an even more importantfactor might be that metabolic and other processes speed up as temperatures increase, consistent with the Arrhenius rate equation.66,67 Whatever the explanation, it reminds us that in a world with higher temperatures, at the very least the higher latitudes would support more biomass, other things being equal. The increasing amplitude of the seasonal variation in atmospheric carbon dioxide in these areas is one manifestation of this.68

#### CO2 solves ice age – extinction – impact turn

**Marsh 12** (Gerald, Retired Physicist from the Argonne National Laboratory and a former consultant to the Department of Defense on strategic nuclear technology and policy in the Reagan, Bush, and Clinton Administration, “The Coming of a New Ice Age,” <http://www.winningreen.com/site/epage/59549_621.htm>) //BS 1-22-2018

CHICAGO — Contrary to the conventional wisdom of the day, the real danger facing humanity is not global warming, but more likely the coming of a **new Ice Age**. What we live in now is known as an interglacial, a relatively brief period between long ice ages. Unfortunately for us, most interglacial periods last only about ten thousand years, and that is how long it has been since the last Ice Age ended. How much longer do we have before the ice begins to spread across the Earth’s surface? Less than a hundred years or several hundred? We simply don’t know. Even if all the temperature increase over the last century is attributable to human activities, the rise has been relatively modest one of a little over one degree Fahrenheit — an increase well within natural variations over the last few thousand years. While an enduring temperature rise of the same size over the next century would cause humanity to make some changes, it would undoubtedly be within our ability to adapt. Entering **a new ice age**, however, would be catastrophic for the continuation of modern **civilization**. One has only to look at maps showing the extent of the great ice sheets during the last Ice Age to understand what a return to ice age conditions would mean. Much of Europe and North-America were covered by thick ice, thousands of feet thick in many areas and the world as a whole was much colder. The last “little” Ice Age started as early as the 14th century when the Baltic Sea froze over followed by unseasonable cold, storms, and a rise in the level of the Caspian Sea. That was followed by the extinction of the Norse settlements in Greenland and the loss of grain cultivation in Iceland. Harvests were even severely reduced in Scandinavia And this was a mere foreshadowing of the miseries to come. By the mid-17th century, glaciers in the Swiss Alps advanced, wiping out farms and entire villages. In England, the River Thames froze during the winter, and in 1780, New York Harbor froze. Had this continued, history would have been very different. Luckily, the decrease in solar activity that caused the Little Ice Age ended and the result was the continued flowering of modern civilization. There were very few Ice Ages until about 2.75 million years ago when Earth’s climate entered an unusual period of instability. Starting about a million years ago cycles of ice ages lasting about 100,000 years, separated by relatively short interglacial periods, like the one we are now living in became the rule. Before the onset of the Ice Ages, and for most of the Earth’s history, it was far warmer than it is today. Indeed, the Sun has been getting brighter over the whole history of the Earth and large land plants have flourished. Both of these had the effect of dropping carbon dioxide concentrations in the atmosphere to the lowest level in Earth’s long history. Five hundred million years ago, carbon dioxide concentrations were over 13 times current levels; and not until about 20 million years ago did carbon dioxide levels dropped to a little less than twice what they are today. It is possible that moderately **increased carbon dioxide concentrations** could extend the current interglacial period. **But we have not reached the level required yet, nor do we know the optimum level to reach.** So, rather than call for arbitrary limits on carbon dioxide emissions, perhaps the best thing the UN’s Intergovernmental Panel on Climate Change and the climatology community in general could do is spend their efforts on determining the optimal range of carbon dioxide needed to extend the current interglacial period indefinitely. NASA has predicted that the solar cycle peaking in **2022** could be one of the weakest in centuries and should cause a **very significant cooling** of Earth’s climate. Will this be the trigger that initiates a new Ice Age? We ought to carefully consider this possibility before we wipe out our current prosperity by spending trillions of dollars to combat a perceived global warming threat that may well prove to be only a will-o-the-wisp.

#### Jellyfish turn-

#### Warming fuels Jellyfish prolif

**Woodward 19** [Aylin Woodward, 10-30-2019, "Thousands of animals around the world are at risk of extinction. But not jellyfish — they're thriving in warm, polluted water.," Business Insider, https://www.businessinsider.com/jellyfish-thriving-climate-change-warm-oceans-2019-10#they-move-by-rapidly-contracting-their-mushroom-shaped-bell-to-expel-water-which-propels-them-forward-2, accessed 10-31-2020]LHSBC

[Recent research](http://www.everythingconnects.org/uploads/7/0/3/5/7035190/art3a10.10072fs10750-012-1039-71.pdf) has revealed that the increases in jellyfish populations can be linked to human activity, too. As **greenhouse gases trap heat on the planet, oceans are heating up** — they **absorb 93% of that excess heat**. Unlike many marine species, **jellies can thrive in warmer water with less oxygen.** What's more, their natural predators, like turtles and sharks, are being overfished by humans.∂ Here's what to know about why jellyfish are thriving — and why their population explosion could be dangerous. ∂ Jellies are 95% water. The creatures don't have brains, stomachs, intestines, or lungs.∂ Instead, nutrients and oxygen slip through [their gelatinous layers of see-through skin](https://www.businessinsider.com/human-sized-jellyfish-photo-uk-2019-7).∂ They move by rapidly contracting their mushroom-shaped bell to expel water, which propels them forward.∂ Trailing tentacles then brush against prey, immobilizing the jelly's next meal with tiny venom-filled stingers. The tentacles move that prey up into the creature's body cavity, [where it gets digested](https://daily.jstor.org/global-jellyfish-crisis-perspective/).∂ Jellies are opportunistic feeders, meaning they'll ingest just about anything: microscopic plankton, crustaceans, and fish larvae are all fair game.∂ They'll even consume other jellies, according to the [Smithsonian Institute](https://ocean.si.edu/ocean-life/invertebrates/jellyfish-and-comb-jellies).∂ **The absence of complex body parts allows jellies to adapt easily to changing ocean conditions.∂** Jellies aren't vulnerable to fluctuating temperature, acidity, and salinity like other marine species, [according to JSTOR Daily](https://daily.jstor.org/global-jellyfish-crisis-perspective/).∂ In the last 100 years, average ocean surface temperatures have risen by about 1.6 degrees Fahrenheit (0.9 degrees Celsius), according to the National Oceanic and Atmospheric Administration. Last year was the hottest on record for the seas.∂ Warmer waters, in turn, mean less oxygen. This double whammy severely hurts many marine creatures, like coral, but not jellies. In mid-latitudes, in fact, higher water temperatures lead jelly embryos and larvae to **develop more quickly,** and the animals **enjoy longer reproductive periods**, [according to Inside Climate News](https://insideclimatenews.org/species/invertebrates/jellyfish).

#### That’s devastating for the Chinese Navy

**Mizokami 17** [Kyle Mizokami, 12-4-2017, "China's Aircraft Carriers Have a Menace: Jellyfish Swarms," Popular Mechanics, https://www.popularmechanics.com/military/navy-ships/a14017901/china-aircraft-carriers-jellyfish-swarms/, accessed 10-31-2020]LHSBC

One of China's most intractable enemies **doesn’t even have a vertebrae—or a brain.**∂ Chinese scientists and engineers are devising new methods to destroy swarms of jellyfish before they can get into naval propulsion systems, halting ships dead in their tracks or overheating their engines. Ironically, this seems to be a problem of China’s own making. Its overfishing, especially of shark fisheries, is a contributing factor to the global jellyfish population explosion.∂ Engineers at the Liaoning Ocean and Fisheries Science Research Institute in Dalian, China are developing a so-called “jellyfish shredder” to deal with large swarms of the marine invertebrates. According to the [South China Morning Post](http://www.scmp.com/news/china/diplomacy-defence/article/2121812/why-humble-jellyfish-could-stop-chinas-aircraft), the device consists of a net hundreds of yards long lined with sharp steel blades. Towed behind a ship, the jellyfish shredder slices any jellyfish in its path into small pieces, decimating swarms of jellyfish and clearing a path for larger vessels.∂ It sounds ridiculous, but the jellyfish boom is a huge problem and not just for the People’s Liberation Army Navy. Swarms of jellyfish, some as large as an armchair, are becoming more and more frequent and posing a hazard to man-made objects. Jellyfish swarms have [closed down coastal coal and nuclear plants](https://www.theguardian.com/environment/2016/oct/13/power-stations-to-get-early-warning-against-jellyfish-invasions) in the United States, Sweden, the Philippines, the United Kingdom, and Japan, as intakes that suck up seawater to be used for coolant accidentally vacuum up large numbers of jellyfish, clogging them. Power plants affected by jelly swarms must switch off to clean them out. In the Philippines, millions of people lost electricity when the 1,000-megawatt Sual power plant was forced to shut down to remove 50 tons of jellyfish.∂ These jellyfish swarms also pose dangers to warships. In 2006, the aircraft carrier USS Ronald Reagan was incapacitated while visiting Brisbane, Australia due to [blubber jellyfish](https://www.montereybayaquarium.org/animal-guide/invertebrates/blubber-jelly) swarms. [Reportedly](https://books.google.com/books?id=hcpDDQAAQBAJ&pg=PT561&lpg=PT561&dq=uss+ronald+reagan+2006+jellyfish&source=bl&ots=e5Dg2PgI98&sig=S_bki26N1mP3hKDmAuaclvzdIUc&hl=en&sa=X&ved=0ahUKEwi5-oKO9PDXAhUD4mMKHXNsBVs4ChDoAQhRMAg#v=onepage&q=uss%20ronald%20reagan%202006%20jellyfish&f=false), cooling pipes for the ship’s nuclear reactor were clogged with the foot-wide jellies, necessitating an evacuation of the carrier.∂ China’s first aircraft carrier, Liaoning, was built in Dalian on the Yellow Sea and frequently exercises in the nearby body of water. The Yellow Sea has seen an explosion of jellyfish in recent years, particularly Nomura’s jellyfish, one of the largest marine invertebrates in the world. In 2009, a Japanese fishing trawler [capsized](https://qz.com/133251/jellyfish-are-taking-over-the-seas-and-it-might-be-too-late-to-stop-them/) after its nets became full of Nomura’s jellyfish, each of which can weigh up to 440 pounds. While Liaoning isn’t nuclear-powered, it probably does **suck in seawater to use as coolant**. If those seawater intakes are clogged, **systems can rapidly overheat,** causing **equipment burnouts and even fires.**

#### US Naval Power stops Great Power Conflicts

**Cropsey and McGrath 18** Seth Cropsey and Bryan McGrath January 2018 “Maritime Strategy in a New Era of Great Power Competition” <https://s3.amazonaws.com/media.hudson.org/files/publications/HudsonMaritimeStrategy.pdf> (senior fellow and director of the Center for American Seapower at Hudson Institute, founding Managing Director of The FerryBridge Group LLC (FBG), a niche consultancy specializing in Naval and national security issues)//Elmer

Introduction As a maritime nation, naval power is the U.S.’s most useful means of responding to distant crises, preventing them from harming our security or that of our allies and partners, and keeping geographically remote **threats from metastasizing into conflicts** that could approach our borders. A maritime defense demands a maritime strategy. As national resources are increasingly strained the need exists for a strategy that makes deliberate choices to connect ends (security) with means (money and the fleet it builds). This paper examines the need for a maritime strategy, discusses options, and offers recommendations for policy makers. After several decades of unchallenged world leadership, the United States once again faces great power **competition**, this time featuring two other world powers. China and Russia increasingly bristle under the constraints of the post-World War II systems of global trade, finance, and governance largely created by the United States and its allies, systems that the United States has protected and sustained to the economic and security benefit of its citizens and the citizens of other nations. Both China and Russia are demonstrably improving the quality of their armed forces while simultaneously acting aggressively toward neighboring countries, some of which are US treaty allies. Additionally, **both nations are turning their attention to naval operations** far from their own coasts, operations **designed to advance national interests that are often in tension with those of the United States**.1 For the past several decades, US national security strategy has not had to contend with great powers. Instead, it has concerned itself primarily with building alliances designed to manage regional security more efficiently by proxy, while devoting increasingly more resources to homeland defense and intelligence aimed at stemming acts of terror by Islamic radical organizations and their followers. To the extent that the US position of leadership in the world was not threatened, this strategy was reasonable, if imperfectly pursued. Such a strategy will no longer suffice in a world of great power competition, especially one in which powers of considerable—but unequal—strength are opposed. Unbalanced multi-polarity is an especially unstable condition, and the United States is not effectively postured to manage that instability. Henry Kissinger divides the concept of world order into two parts: a normative system that defines acceptable action, and a ‘balance of power’ arrangement that punishes the breach of such conventions2. As the underlying balance of forces shifts, states with different ideas of international order gain the power to reshape the system. Thucydides’ ancient insight holds true – the rise in power of one actor threatens all others. Where such threat exists and if the balance of power between states or coalitions approaches equilibrium, a “Cold War” between competing ideological camps occurs. In an unbalanced system, the stronger side is tempted to strike its weaker opponent while the balance of forces is favorable. Unbridled competition for supremacy defined Europe during its bloodiest periods. Europe’s 16th and 17th century religious wars between Catholics and Protestants and the global 20th century struggles between totalitarian ideologies and democracy both represent the natural end-state of unbalanced multipolar systems. Without norms to restrain states and force to uphold these norms, violence is very likely. Today’s international system is moving toward unbalanced multi-polarity. Unfortunately, the United States is not currently prepared to manage such an international environment. If Americans want to preserve their nation’s secure and prosperous position as the world’s great power, the United States must begin now to prepare strategically for what it will inevitably face. Otherwise, it will ultimately be forced into an increasingly limited number of unattractive options to sustain its position of leadership. There is little evidence that the people of the United States wish to see our position in the world diminished. The 2016 Presidential Election raised important questions about the degree to which globalization has served the interests of everyday Americans (and their perceptions thereof), while the two dominant US political parties have moved toward more protectionist policies, at least as articulated by their nominees. Opinion polling indicates the divided nature of the American public on issues like free trade and sustained foreign commitments.3 However, Americans remain cognizant of threats to the United States, and favor maintaining America’s position as a great power by sustaining a strong military.4 Moreover, it would be difficult to identify meaningful numbers of Americans who would sacrifice national security in favor of increased social spending, despite the continuing rise in non-discretionary spending in the federal budget. Americans understand that the US position of world leadership benefits the nation’s economy, its security, its allies, and the international order that has been the object of US foreign and defense policy for over a century. They know that their lives would be diminished if this position of global leadership were surrendered to an adversary or group of them. The paradox of the American experience is that the US is not simply a great power – it is an exceptional power, for which ideals count as much as strength. The American public, despite its aversion to foreign commitments, can rise to the occasion and respond to clear threats, as it has in both World Wars, the Cold War, and after September 11th. The job of the policymaker, therefore, is to ensure America remains a great power, so that when the occasion arises, it can act as an exceptional power. It is critical then, for US political leaders to begin thinking more strategically about protecting and advancing America's position in the face of growing great power competition. This monograph asserts that a strategy to support such a goal would necessarily be maritime in nature, leveraging this nation’s great **geographical advantages** in the service of its national power. Sharing land borders with only two nations—both of whom are friendly to the United States—and separated **from other great powers by vast oceans**, the United States enjoys a security position quite unlike that of any other nation. For over a century, it has been the unspoken (but doggedly pursued) national security aim of the United States to ensure that no power rise to prominence in Asia or Europe so as to occupy a position there as dominant as the United States’ position in the Western Hemisphere. Were this to occur, not only could that nation then lock the United States out of the resources and activity of that region, but it could also then eventually turn its attention to challenging our position in the Western Hemisphere.5 Underlying this approach is the reality that most the world’s activity does not occur in our own hemisphere, but in Asia and Europe. American interests in these regions— political, diplomatic, economic, and military—are considerable and growing. Protecting and sustaining those interests must remain a priority of American policy, and maritime strategy is an effective tool in doing so. Maritime strategy is a subset of grand strategy, and the relationship between the two is ably defined by Professor John B. Hattendorf of the Naval War College: “In its broadest sense, grand strategy is the comprehensive direction of power to achieve particular national goals. Within those terms, maritime strategy is the direction of all aspects of national power that relate to a nation’s interests at sea. The navy serves this purpose, but maritime strategy is not purely a naval preserve. Maritime strategy involves the other functions of state power that include diplomacy; the safety and defence of merchant trade at sea; fishing; the exploitation, conservation, regulation and defence of the exclusive economic zone at sea; coastal defence; security of national borders; the protection of offshore islands; as well as participation in regional and world-wide concerns relating to the use of oceans, the skies over the oceans and the land under the seas.6 It is wholly appropriate for the world’s dominant naval power—separated from its widely-flung interests by thousands of miles of open ocean—**to develop and execute coherent maritime strategy**. In a time of re-emerging great power competition, it is essential. The nation’s current maritime strategy 7 is, unfortunately, not up to the task. It focuses insufficiently on great power competition; it does not recognize the rise in importance of conventional forces in deterring great power war; it does not provide a theory of conventional deterrence appropriate to great powers and their likely objectives; it does not suggest **a posture for naval forces that acts as an effective deterrent**; its derived force structure is too small and short on effective logistic support; it does not place sufficient value on naval partnerships with geographically important nations which may not be traditional partners; and it is silent on the need for the nation to invest in a maritime industrial base that can enable an appropriate strategy. This monograph urges new thinking about maritime strategy, a strategy compatible with the United States’ responsibilities as the leader of the free world, as well as the world’s premier political, military, economic, and diplomatic power. Such a strategy would seek to protect and sustain those leadership positions in the face of renewed great power competition, competition that largely subsumes other, lesser security concerns. There will be those who view this approach as a return to “Cold War” strategic thinking, and we do not shy from this comparison. The United States acted for decades as a coherent strategic actor when faced with expansionist Soviet totalitarianism, and it must act with equal coherence and resolve to contest China and Russia’s brands of aggressive mercantilism, regional expansion, and contempt for established global order. There will be those who evaluate our suggestions in this paper and conclude that the nation cannot afford it, that the expense associated with moving to a maritime grand strategy would imbalance the traditional “ends, ways, means” approach to the making of strategy. And while the ends, ways, means approach is generally relevant to military and operational strategy, it is unsuited to the making of grand strategy for one very important reason. Unlike subordinate levels of strategy, grand strategy re-allocates, realigns, and re-orients a nation’s “means” to serve strategic “ends”. Military strategy starts with the proposition that there is a certain resource level available to pursue its ends. Grand strategy starts with the sum of the nation’s output capacity, and then determines how it can most effectively be allocated to the achievement of strategic goals. Short of war itself, there is nothing in American history that causes strategic realignment more reliably than a change in Administration, and we wish to be part of that dialogue. We argue here for a new theory of deterrence, one that revises the Cold War approach in which the Soviet Union was deterred from large-scale conventional attack by the threat of nuclear escalation. Under that rubric, one could justifiably say that America’s conventional deterrent was dependent on its strategic deterrent. Today, the decapitating “bolt from the blue” strike is even more remote than it was in the Cold War, and to the extent that nuclear exchange between great powers is conceivable, it is far more likely to flow from conventional conflict that has gone awry. Therefore, to deter nuclear war, we must deter conventional war. No aspect of American military power will be more critical to deterring either **nuclear** or conventional super-power **war than seapower.**