

The United States and the Geopolitics of Water

Human Need, Mississippi River Barges, and Offshore Eurasian Balancing

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Abstract

Countries are secure and prosperous, or fail to reach such advantage, for a variety of reasons. In the case of the United States, a primary cause for its past, current, and perhaps future success in these respects, the author believes, comes from its place amidst water, that resource amply located within the country, and also, within two extensive oceans beyond either coast. Steady rainfall produces abundant food; dependable river systems offer ready transport. Oceans keep North America distant and safe from Eurasia, Earth's largest and most threatening land-expanse to America, leaving the United States in a separate and rich hemisphere with no dangers from neighboring states and able to involve its marine afar in Eurasian balances. These themes pertinent to water will be extended in the pages that follow.

With the United States as this essay's main focus, and with the country's status as the current leader-state or hegemon, thanks in part to its possession of and location betwixt a relative abundance of domestic and global waters, the author will examine certain water-related topics that fit a classical geopolitics relevance, and in some cases, a neo-realist interpretation as well, giving this US-oriented theme a first attention at the local and then at the national and later at the strategic levels. This assortment of all three dimensions expands the recent interest toward a "geopolitics of water" (among the many sources, see Friedman and Federkasten 2017; Janson 2014) that has adhered rather narrowly to a description of the growing possibility of human/state conflicts over water scarcity. But not so limited to inter-state strife over rivers and aquifers, the present essay will provide a more extensive examination of a variety of these and other aspects by including the global perspective in addition to the national. But to repeat this paper's thesis, the favorable locations of water for North America have made possible to some large extent the wealth and the strategic reach of the United States, marking its current global hegemony so pronounced that its present status of hegemon could well continue into the decades ahead.

Human need for water will introduce our discussion, this precious but steadily depleting resource for good health and survival, with the plight of growing scarcity evidenced particularly in conflicts already in the arid and poorer countries of central Eurasia, Sub-Sahara Africa, and the Middle East. Rivalry and violence surely will attach to these shortages, eventually striking conflict within nations as well as war among states. The United States, holding adequate reserves, should suffer less of this strife than others. The importance of rivers next follows with special attention shown the Mississippi and Missouri Rivers and their combined watershed. This whole central region, the author asserts, should represent a more suitable fit for a global heartland identity than for Halford Mackinder's original Eurasian location (Kelly 2017). Barge traffic on these rivers reveals this importance, a factor reflected in the wealth of the North American continental expanse. Finally, on the strategic level, the United States navy commands the outer oceans of Earth. This power extends security perimeters away from America and closer to the fringes of Eurasia, satisfying the non-entanglement stipulations of Monroe's Doctrine via the offshore-balancing advantage in addition to the awarding of safe passage for all nations' freight and communications. No other Great Nation can come anywhere near to duplicating this American fulcrum of a two-ocean positioning over the waters off Eurasia.

The author's purpose for this essay is two-fold: one, to highlight the contribution of water in all of its three levels, human, state, and strategic, as substantiating further the contention that North America represents a true Mackinderisque heartland, and two, to go beyond this assertion, to connect the North American heartland and its balancing of strategic forces upon Eurasia with the present debate over security policy now surfacing that links in part to that US maritime offshore balancing astride Eurasia. In both cases, the focus is upon the geopolitics of water.

Key Words: water, Mississippi and Missouri Rivers, offshore balancing, North American heartland, grand strategies, geopolitics and neo-realism.

Introduction

In a central argument of an earlier article published in the journal, *Geopolitics, History, and International Relations* (Kelly 2017), the author wrote to relocate Halford Mackinder's original heartland from its first placement in north-central Eurasia to another and more appropriate location in the middle-section of North America, specifically to the Mississippi River watershed -- a newly-designated *North American heartland*. This essay furthers that argument. Mackinder's thesis itself should continue to hold a contemporary relevance, not refuted yet still updated by the present writer. But that earlier Russian depiction instead needs this better American residence, for reasons given in that article. The present essay will broaden that narrative, this being a sequel to it, with some new topics and thoughts, particularly these revolving around the three general insights about water and their geopolitical and neo-realist expressions that will show the power and richness of this liquid resource traditionally enjoyed by the United States.

In contrast to the topics raised here, of water for human need, passage over rivers and lakes, and commanding sea-power astride continents, those three selected for this essay, much of the concern of classical geopolitics has looked instead to territorial and continental placement of states and resources as affecting on land their international relationships, the most prominent example, Mackinder's Eurasian heartland nestled within the continent's far-flung internal World Island (Mackinder 1919, 1904). The Eurasian rimlands or coastal margins, and the outer peripheral zones of Africa, America, and South Asia and the Pacific islands, complement this territorial-based portrayal by also emphasizing the encircling land-power facets as balancing against the continental hinterland, Michael Gerace (1991), William Kirk (1965) and Nicholas Spykman (1942) adding to Mackinder's thesis in these territorial-based respects.

This fixation on land in foreign affairs and on the international-relations models of geopolitics and neo-realism should bring little surprise since human beings and states alike base their primary livelihoods first on solid territory, their landward-residencies figuring within the machinations of domestic and international politics. The author does not denigrate Mackinder and others for their landward inclinations, indeed, he favors his and also the realist model for this focus. But the geopolitics of water, too, if extended to the breath planned for this essay, should convey attention world-wide as well as locally and in past and present times and in the years ahead -- for human and agricultural needs, for dependable river and ocean passage, and for vital defense and other economic and strategic interests pertaining to regional and global affairs.

One more point associated to the arguments stated above. The author believes "heartlands" of the Mackinder depiction can be structured also by combining a sea-power orientation to a land-power positioning, the two features interlaced. The essentials of heartlands defined originally by Mackinder included: a central yet isolated and protected continental location, one of internal unity and of sufficient resources for strength and protection and with the ability to extend authority outwardly over the entire continental space and possibly beyond. Showing some contrast but still within his parameters, the North American heartland precisely reflects these qualities, representing a configuration built within both alignments, seaward and landward: an insulated continental interior of wealth and union, both enhanced with the sufficiency of rains and rivers and with the authority to extend power outwardly from America via its marine authority. These all reveal the essential factors outlined by Mackinder but now they are enhanced by water as much as by land in this updated description.

To extend these points further and to repeat for emphasis that stated in the abstract,

the purpose of the immediate essay is two-fold: one, to highlight the contribution of water in all of its three levels, human, state, and strategic, as substantiating further the contention that North America represents a true Mackinderisque heartland, and two, to go beyond this assertion to connect the North American heartland and its balancing of strategic forces upon Eurasia within the present debate over security policy now surfacing that links in part to that US maritime offshore balancing astride Eurasia. In both cases, the focus is upon the geopolitics of water.

Water locates within and around us, composing 70 percent of our human bodies and that same amount of Earth's surface. Ninety percent of world trade traffics across oceans. But one billion Earth residents now lack access to safe water, and twenty percent of children's deaths come from water-related diseases. Clean freshwater reserves and undersurface aquifers available to human consumption steadily face depletion and pollution worldwide, and expanding populations raise demands for increased food production, further absorbing already-limited land and water supplies. An assortment of present national and international rivalries and conflicts may claim their source in water scarcity. Strategic sea choke points attract pirates, especially in the Indian Ocean, and competitive naval posturing and confrontations in the East and South China Seas and elsewhere could easily escalate into violence. And finally, US security traditionally has linked naval power to its extension onto Eurasian coastal waters, and such tenets have risen, and perhaps may be altered, in current policy debates. These events, all tied to water, deserve our serious study and concern.

Interpretations of such potential and immediate strife, but still within a description of water, can fit within two traditional international-relations models, these helping us interpret contemporary events: (1) classical geopolitics, defined as "a focus upon relative positions and locations of states, regions, and resources that impact upon states' foreign affairs" (Kelly 2016, 23-25), and (2) neo-realism, a balancing of strategies among states that might enhance their national securities (Waltz 1979), currently seen for the United States in several contrasting versions of Eurasia offshore naval posturing. Both models, described more fully below, will serve as methodological approaches to the various water topics examined in this essay, and specific theories utilized will be so identified where applied.

In the case of neo-realism, a vigorous academic and policy debate now rages over the extent of positioning of US naval forces, about how far abroad their offshore marine locations should extend away from Eurasia. These arguments intersect with the rise of China and the supposed relative decline of North America, and how these power transitions might alter the present "unipolar moment," the premise of a cycling phenomena for a rise-and-decline of leader against challenger state, China rising and the United States declining. Among the several arguments they assert, of which US "grand strategy" might be best to meeting this balancing cycle, the question of naval stationing over ocean waters astride Eurasia, and particularly of that with respect toward China, is central to these considerations. Five such strategies and their rationales will be reviewed, compared, and evaluated below in this essay's Part Three.

First, several introductory explanations of methodology and definition by the author will need explanation, once more, from the perspectives of the classical geopolitical and of the neo-realist models.

- Classical geopolitics defines as the location and position of a state, region, or resource impacting upon that state's international policy, action, and behavior. Concepts and theories that fit this spatial definition will enter a geopolitical "model," a model being a passive container holding such theories that correspond to that classical definition (for a listing of many of these theories, see Kelly 2016, 173-185). The author envisions geopolitics as a neutral, timeless, and ubiquitous tool or method, with emphasis upon using theories for interpreting international events and foreign policies. National security may lie in a country's position and location as well as in its unique resources. North America shades toward the oceans; most other Great Powers reflect continental residences. A pattern of a spatial "checkerboard" may characterize Eurasia, perhaps reducing continental unity. States persons may utilize such premises in their design of security and other strategies.

Water fits this geopolitical definition: it figures as a natural and national resource, both for human drinking and hygiene and for food production. Also, rivers describe this category, the Mississippi clearly a vital asset for North America's unity and central transport. And the US navy's ability to position its power adjacent strategic Eurasian regions from a distant and protected homeland, likewise, emits a geopolitical depiction. The three water aspects intersect: the human and the riverine expanding the impact of the foreign naval posturing, and the oceanic forces fortifying against possible invasion and thus safeguarding the republic.

- Realism is an international relations model (Kelly 2016, 29-33) that looks upon a state's awareness and management of power, formulated to assist the security and economic interests of countries that inhabit an anarchistic or dangerous international environment. Individual countries may attempt their own security, the idea of "self-help," but rarely are they able wholly to defend themselves unilaterally against opponent states of equal power. Whenever they attempt to increase their defenses, others will improve their protections as well, creating a "security dilemma" and dysfunctional arms race. Ultimately, the better solution must turn to a collective security among equal-sized countries, all agreeing to a concerted consensus for stability via trust, moderation, compromise, and diplomacy. Only such a consensus will bring peace followed by safety in a lawless world, and state-leaders should perform to maintain such a confidence and transparency by open relations and adjustments. Reckless and revolutionary states must be isolated and eliminated because they are not predictable and trustworthy and cannot be relied upon to support a consensus for peace.
- Neo-realists continue within this format by adding balancing theories as reflective of the number of symmetrically-grouped states, whether multiple "poles" or countries, or two, or one, the latter, a unipolar configuration with the United States presently as global hegemon or leader-state among the other primary Great Powers, China, Japan, Russia, and Germany, five poles in all but with the US as leader. A second variable links to the level of cooperation among the balancing states, whether hostile or accommodative. In the past several decades, one could characterize the present configuration as unipolar-accommodative, although the contemporary aggressiveness of Russia and the growth of China may be changing this formula.
- Geopolitics differs from realism in these ways: (1) geopolitics places its emphasis upon positions of states, regions, and resources, whereas realism focuses upon the calculation and management of countries' power. Thus, the former suggests

locations best suited or less suited for stability and security, the latter on how states-persons might balance power and alliances for enhanced protection. (2) Geopolitics provides a wide assortment of spatial theories that may assist leaders toward understanding events, strategies, and policies, whereas realism, possessing fewer theories, encourages policies based on prudence and compromise among moderate states in devising a collective-security format for maintaining peace and constancy. One might contend that geopolitics is more general and descriptive, academic, and reflective of theory application; realism is more focused and specific toward immediate problem- and policy-oriented solutions.

Occasionally, certain theories within the two models may appear to intersect, for instance, in the facet of power balances so central to our discussion. Here, geopolitics looks to spatial configurations reflective of states' relative positions such as checkerboards and pan regions, opposing countries juxtaposed against friendly nations. In contrast, neo-realism envisions balances attuned to power calculations, two sides equal or one side preponderant, a balancing or bandwagoning phenomenon that would derive from states-persons' decisions and their measurements and applications of comparable power.

Stipulating the more important Earth spaces contrasts, also. For geopolitics, a core-periphery design occasionally appears, for instance, heartlands expanding toward rimlands, or sea-powers poised against land-powers, or rich or core nations astride the poorer or peripheral. Neo-realism shows a Great-Power proclivity, the larger countries in alliance or competition. Geopolitics applies its theories to all sorts of countries and regions, small and unimportant to the more strategic and wealthy.

Offshore balancing may turn in either direction as well. For geopolitics, the US Navy's ability to position its fleets along Eurasian coasts, there to favor allies in regional constellations. For neo-realism, paramount is a Great Power's attempt to check the rise of potential hostile opponents, whether or not within a maritime format. Here, the author suggests for the current essay a wider interpretation that includes as well a naval offshore perspective, the United States holding the sole advantage.

But, the reader should be advised – the two models, realism and geopolitics and their associated theories, while much respected and utilized by the author, represent two contrasting international-relations assumptions and descriptions. Nonetheless, both are important to this essay.

- In the case of sea-power and land-power, rating one above the other will not be attempted: Each holds its uniqueness and leverage; neither offers a sure pathway to national protection and greatness. One state may shade toward the oceans, the other toward the landward, although their emphases can vary over time - these determined not only by policy but also by location and position. Once more, the author will not judge one to be superior over the other.

But this said, some might still surmise in the contemporary era a higher possibility for seaward strife than for territorial conflict because two Great Powers, China and Russia in particular, appear to be expanding their naval forces (Parry 2014, 1-10, 267-274) against an already dominate US Navy, and the areas that threaten today locate in certain competed-for seas, East and South China, Black, Baltic, and Arctic, and in vital straits and sea-lanes-of-communication adjacent Eurasia.

- In defining “offshore balancing,” two contrasting applications appear – for one, an alternative label for a US grand strategy described later in Part Three of a partial retrenchment of forces from the Eurasian shores and of a lessening of US involvement in that region's affairs; or for two, an ability of the US Navy, alone

among the Great Powers, to projecting its marine outwardly so as to alter regional power balances on the fringes of Eurasia. This armed projection, again with an emphasis upon the maritime, happens in various ways – navies assisting land-based armies, protecting straits and vital sea lanes, lending assistance during human and natural disasters, blockading freight from entering and exiting ports, sanctioning against illegal actions, and resisting pirates, smugglers, and terrorists. In sum, the two expressions differ, the first being a policy proposal that includes offshore balancing as a part of its design, the second, a facet of the US navy placing its strength on either flank of Eurasia.

Part One: Individual and Societal Water Needs

In a provocative book authored by medical doctor, F. Batmanghelidj (1997, 5-19), it is asserted that “every function of the body is monitored and pegged to the flow of water . . . [and] water is a natural medication for a variety of health conditions.” With human aging, an individual steadily suffers “loss of sensitivity of the thirst sensation, and insufficient water intake” will follow. Hence, less intake of water can be debilitating. In such dehydration, the body will form a “drought management” procedure setting priorities for how water shortages must be allocated to the various parts of our anatomy. Only water serves this human need for hydration, not coffee, teas, or other drinks commonly consumed, these actually leading to dehydration. In short, we all should be consuming more water!

Each human requires a minimum of 20 liters or 5.28 gallons of water each day for basic health (WHO, “Water: A Human Right,” 2006). Unfortunately, global reserves for this requirement suffer depletion due to an expanding population, a requisite productive agriculture, rising energy needs, and the ravages of climate change, to note some major reasons. And acute shortages where they presently occur conceivably cannot be resolved because such peoples and areas lack facilities to bringing quality liquid to their communities. Fully, one billion people, primarily those residing in the poorer developing worlds of Africa, Eurasia, and the Middle East, need more access to safe water.

A United Nations World Water Development Report shows troubling times ahead (UNDP Report 2006): “in the next 20 years, the quantity of water available to everyone is predicted to decrease by 30%. Currently, 40% of the world’s inhabitants have insufficient fresh water for minimal hygiene. More than 2.2 million people died in 2000 from diseases related to the consumption of contaminated water or drought. . . a child dies every 15 seconds from easily preventable water-related diseases; often this means lack of sewage disposal.”

A further insight originates from the environmentalist Paul Hanley (2014, 154-155) who writes: “Some 40 percent of the world’s food comes from irrigated cropland . . . [but this amount of land per person] has dropped 5 percent since 1978. . . The number of people living in water-stressed countries is projected to climb from 470 million [in 2011] to 3 billion by 2025.”

And to elaborate from the above, freshwater accounts for just 3% of water on Earth, one third of which lies in groundwater, on the surface in lakes and rivers and in subsurface aquifers, and the remaining two-thirds is stored in glaciers and polar ice caps, these melting and succumbing to salty seawater at apparently fast rates. All of these sources see pollution, waste, and decline, and we as Earth residents should be alarmed and engaged.

Because water is a resource, akin to oil and food, its availability and location adheres to a geopolitical discussion. And, for the current essay, it is one set within the confines of North America compared to other regions of Great-Power engagement. The United States leads all countries in water consumption per capita, followed by Canada. It ranks (see Social Progress Index 2017) in the top third of nations for “rural access to improved water source” (43rd of 136) and in the top half for “access to piped water” (57th of 136). Another study estimates the US owns eight (8%) percent of global freshwater but holds four and a half (4.5%) percent of world population, thus showing some relief from crisis (“How the United States Uses Water”). Nonetheless, numerous predictions of US drought and depletion hale in the literature, particularly for the central plains and for the southwestern and southeastern states.

Frankly, the debate over US water reserves can easily confuse, although the author has come to rely upon the more moderate estimates, for instance, in noting one whose methodology differs from the norm (University of Florida Institute of Food and Agricultural Sciences 2013) that utilized an “infrastructure” or “runoff-based approach” for gauging higher levels of urban water supplies, more than claimed by alternative estimates. Another source claims an “intensification of the water cycle,” or higher precipitation rates due to climate change, this affecting North America as well as other continents (Smil 2008, 399). Judith Schwartz (2016) offers a further perspective, demonstrating quite convincingly that conserving water more efficiently will alleviate much of our scarcity fears. In sum, the United States, the author concludes, commands adequate but limited reserves of available clean water. Ours is not a water-threatened state at present, or in the near future, when compared to the more desperate drought-exposed countries.

Over two billion people rely on groundwater as their primary source for drinking and sanitation, but insufficient and deferred management over its conservation and the imponderables of climate change pose further threats to human habitats (Famiglietti 2014). In sum, all potential water sources, including recycling, groundwater recharge, storm water capture, and desalination must be utilized and integrated.

Nonetheless, the United States now faces a growing water crisis, not so much in a depletion of this resource as in a weakened delivery system of such to its citizens (Frostenson 2017, 1; see also Ferris and Sullivan 2017): “According to a paper from researchers at Michigan State University, water prices will have to increase by 41 percent in the next five years to cover the costs of replacing aging water infrastructure and adapting to climate change. That will mean that nearly 41 million households - or a staggering third of all US households -- may not be able to afford water for drinking, bathing, and cooking by 2020.”

Good solutions to this plight fade at present due to public disinterest, absence of awareness, and perceived lack of funding, among the major responses. Federal budgeting for water infrastructure, now just nine percent of previous allotments, has declined by more than 60 percent over past decades. Higher expenditure rates are doubtful. To resolve the weaknesses and inefficiencies of current systems, an estimated \$14 to \$26 billion would be needed by mid-century.

Furthermore, estimates of climate change relative to water supplies show a rough indication that the regions most vulnerable to shortages may come in the global middle latitudes, areas already suffering water plight. The northern climes, including the upper parts of the United States, could even become wetter, and if not, then not much worse off than present levels (Goldenberg 2014). And, one could once more repeat from the above optimism that such challenges could well be met by the American possessions of technology and finances enough to develop an improved structure including de-salting of ocean waters, if these become warranted. Indeed, efficiencies in desalination already are happening, for instance, one source states that on a “windy day a single large wind turbine could generate enough electricity to desalinate . . . enough [water] to cover the domestic [daily] needs of nearly 40,000 Americans” (Smil, 401). Here, the author envisions a sufficiency of water for the United States, a blessing felt again within the North American ecosystem.

One could assume that water scarcities elsewhere should see eventual eruptions into violence, if not such disruptions may be appearing already in places of current turmoil. Syria, in the half decade following 2005, was hit by devastating drought that “helped stir up a pot that boiled over into all-out civil war” (Engelke and Sticklor 2015). Kathleen Cannon (2006) warns of Chinese instability tied to an irregular water distribution, inefficient public response to coming hydraulic problems, and pollution abuses. “Virtual

water” represents another facet of water exhaustion (Morrisette and Boer 2004-2005), of low-cost subsidized grains grown in water-rich countries imported by drier (but often oil-rich) states that lack sufficient liquid resources for themselves growing foods, the water “imported” as contained within the grains. When subsidies for such crops end via free-trade policies, importing countries will lose this cheaper source of liquid and suffer accordingly. One could arouse additional examples of such scarcities and likely turmoil, the literature being expansive, but these examples should suffice for our discussion.

Finally, to conclude this first section, the author poses the query: Why not more examples of violence reflective of water scarcities? Perhaps the following suggestions might be relevant: (1) Current shortages locate in more depressed lands submerged in civil war, genocide, government corruption and failure, and other threats, distracting from a water-depletion awareness. This point could be carried further by Magnus Theisen and colleagues (2011/2012) who found no correlation between water-scarcity in Africa and civil conflict. Rather, a variety of other variables held higher significance, although when drought was controlled as a statistic, violence became more relevant. (2) Marginalized peoples, suffering the most, cannot easily protest; they lack means to do so. Hence, we may remain unaware of their troubles for the current moment. (3) Popular protests and upheavals may have already begun where natives possess facilities to protest, but these may not be receiving good publicity because of the remoteness of and the political suppression in such countries. The Islamic states of southern Eurasia may provide examples for this. Other points of cause might be added to this display, yet the above may provide some basics.

Potential strife in regions plagued with water inadequacies should not impact immediately upon the United States, assuming its continued supply of this asset by effective conservation and infrastructure maintenance and expansion. Still, disruptions elsewhere may draw upon American military and financial capital, prompting US interventions where interests may be threatened, whether in Eurasia or in the marginal lands including Latin America. Serious disorder could alter US relations with other Great Powers, stimulating changed strategies and different billeting of marine and army forces. An evolving water scarcity-stricken world will not serve the US preference for stability.

Part Two: The Mississippi and River Barge Traffic

Among the major global waterways, the Nile and the Amazon Rivers rank highest in length, followed by the Yangtze, Mississippi-Missouri, and Yenisei (“List of Rivers by Length” 2017). Each holds a particular notability and value, with rough comparisons noted below:

Nile: Its primary feature is agricultural, historically and presently, the periodic floods enriching sediment along shores for food growing. For Egypt, little industry locates astride its bounds, most population residing amidst the Delta. River transport is marginal, and possible threats to downstream water becoming more limited may derive from arid-stricken peoples to the south taking flows for their own irrigation needs. Here, the threat derives from the Ethiopian Grand Renaissance Dam, causing the Nile’s water levels to drop twenty-five (25%) percent for the next seven years until the reservoir behind it fills (Wirtschaftler 2017).

Amazon: By a wide margin, this mighty river’s discharge totals all major systems combined, pure Amazon waters extending far out into the Atlantic. Transportation internal to the region has gradually improved, and malaria is disappearing. Nonetheless, economic development continues to lag, with mining, forestry, and agriculture the main areas of production, thus supporting a population of only nine million persons.

Yangtze: Residence along its shores to over 400 million persons, one third of China’s total, the river is navigable to ocean vessels one-thousand miles inland, and its industrial delta at Shanghai accounts for twenty percent of China’s GDP. One immediate problem lies in the River’s periodic flooding reflective of heavy and prolonged rainfall internally, the 1998 flood costing over 4,000 fatalities, making fifteen million homeless, and bringing twenty-six billion dollars in damages. The environmentally-controversial Three Gorges Dam, when operational the Earth’s largest hydroelectric facility, claims to reduce flooding and to expand river traffic and farm productivity greatly. But, river barge traffic for the Yangtze has not met the promise of its earlier predictions (Veenstra and Notteboom 2011) for several reasons: hydraulic restrictions associated with the Three Gorges Dam in addition to other water-flow obstacles and also non-serviceable container ports and weak access nodes for reaching port facilities. Improvements come slowly.

Mississippi: The Mississippi basin and intra-coastal waterways hold more miles of navigable passageways for barge transport than for the rest of the world combined. The watershed covers the middle third of the continent, extending to a distance of 3,000 kilometers inland. In addition, the adjacent lands represent the largest contiguous area on Earth of rich and well-watered farmland, significant food surpluses resulting. Descriptions of other advantages will follow in the pages below.

Yenisei-Angara- Selenge: The main river flowing into the Arctic Sea via a central Siberia watershed, its economic value limits to regional passage of minerals, foodstuffs, and construction materials. None of its produce links to international trade. Due to poor enforcement of regulations, the Yenisei is polluted with radioactive and other discharges. Additional rivers could be included in these descriptions, among the most notable, the Danube River of Middle Europe, now extending in navigable waters from Rotterdam to the Black Sea, some 2,200 miles and linking the North Sea to the Black. Twenty million residents look to the river and its historic and trade importance. The Rhine runs shorter, its source in the Swiss Alps and its course via the Franco-German border, this passageway exiting through the Netherlands into the North Sea. Likewise, the Volga, being the prime river of Russia and the longest of Europe. It too, similar to the Danube and the Rhine, now has increased its navigation with additional canals, extended passageways, and augmented trade.

In cargo tonnage, three of these global waterways compare fairly evenly, perhaps first, the Yangtze followed by the Rhine and the Mississippi. Yet, ranking rivers toward worldwide importance submits to contrasting gauges that may open to authors' mistaken estimates. To this essay's writer, in attempting such estimates despite their fault, the Mississippi and to a somewhat lesser extent, the Yangtze, appear the more formative in terms of resident populations, economic productivity, dependable navigation, regional integration, ocean outlets, and international trade. Both contribute mightily to their nations' prosperity and unity.

The author will feature the Mississippi and its barge traffic as strengthening the United States in its recognition as global leader-state, the river's contribution to national power shown both internally and internationally. Indeed, it will be argued that this rich and strategically-located Mississippi watershed, with its benefits listed below, should merit recognition for having brought a continental heartland to North America within the guise of Mackinder's definition. In importance and wealth, it replaces his original deployment within Russian central Eurasia.

One could add the Columbia River of the US Northwest to this discussion, also a large watershed that includes barge traffic 360 miles inland to Lewiston, Idaho. The once-noteworthy Erie Canal of New England now limits to recreation and only to miniscule barge commerce. But, it too, would be remiss to omit the Great Lakes that serve the northern Midwestern states.

These facts point to the immense favor awarded the United States by the Mississippi, its tributaries of the Ohio and Missouri, and its total watershed:

- Among the major rivers, none compare to the wealth of adjacent fertile farmlands, internal transit waterways, well-educated populations, industrial resources, and technological expertise than does this central North American basin. These features reveal the outstanding international significance of the Mississippi, indeed, a true fulcrum of power that has helped heighten the United States to global impact.
- It drains Earth's fourth largest territorial acreage, the great mass of fertile spaces enclosed by the Rocky and Appalachian Mountains, giving a fluvial unity to roughly forty percent of the US mainland.
- The River including the Missouri and Ohio reaches inland for 3,900 miles, fourth longest among global rivers but navigable throughout most of its length. It extends into Lake Michigan by way of the Illinois River Waterway that in turn connects into the Great Lakes Waterway, then into the Saint Lawrence Seaway, and eventually out into the North Atlantic Ocean.
- Water flow from its source to its estuary is gradual, with no impeding upland falls or rapids south of Sioux City, allowing for safe barge traffic throughout much of its expanse. The costs of flooding tend to be much less than those suffered along the Yangtze.
- The wetter climate of the region favors the watershed, too, by providing dependable water for human needs, irrigation, and barge transport. It might be admitted, nonetheless, that floods occasionally hamper river commerce due to rapid Rocky Mountain snowmelt and to heavy plains rainfall, some of the latter induced by hurricanes moving inland from the Gulf of Mexico. In addition, drought occasionally lowers water levels, hampering barge transit.
- The Mississippi's inland and the coastal waterways include more than 25,000 miles of navigable rivers, passing through the globe's greatest and most fertile agricultural breadbasket, linking farmlands to such water transit and onto national and international trading markets and, in return, gaining cheaper access to

fertilizers and other necessities for food production. This waterway in mileage more than equals all of the world's inland passageways combined. Barge commerce enhances this richness of the Mississippi, and again, supports the author's heartland thesis via a geopolitics of water.

- Waterways connect abundant energy and mineral deposits for facilitating an industrial and technological base. Other global regions possess these deposits, too, but they normally are not found in sufficient amounts or so linked together by rivers necessary for significant capital advances. Once more, the United States lives on the best placed land in the world – the protected location, the mix of resources, the rainfall and fertility, and the dependable river systems for transport and unity – all settled within a heartland creating a powerful and strategically-directed North America.
- The River is natural to flat-bottomed barges, typically 195 feet in length and 35 feet in width, and some more extensive, that freight 1,500 or more tonnage of bulk cargo including sand and rock, fertilizers and chemicals, heavy equipment, scrap iron, petroleum products in addition to farm produce, wheat, sorghum, and corn. Spud barges focus on bridge construction; other deck vessels span the Caribbean and even into the outer oceans, passing in and out from the New Orleans port and estuary. An average upper Mississippi tow would consist of fifteen barges, five tied together across and three moving abreast. With the river south of Saint Louis deeper and wider, larger barge formations can be assembled.
- Such water transport, compared to land conveyance, represents the lowest cost over greater distances for heavy bulk cargoes. Note these comparisons (“Inland Waterways of the United States” 2016, 2):

“On average, a gallon of fuel allows one ton of cargo to be shipped 180-240 miles by truck, 450 miles by railway, and 514 by barge. . . A single 15 barge tow is equivalent to 225 railroad cars or 870 tractor-trailer trucks. If the cargo transported on the inland waterway each year had to be moved by another mode, it would take an additional 6.3 million rail cars or 25.2 million trucks to carry to load.”

- In environmental terms, with causing less trucking and rail commerce, Mississippi

River barge transport reduces traffic congestion and highway and rail accidents in addition to less wear on highways and noise in nearby neighborhoods.

These additional statistics come from a Minnesota environmental impact study (1991, i): “What was determined [in a “no build”] analysis was that a shift to trucks from [barge] vessels would cause:

- an 826% increase in fuel use annually,
- an 709% increase in exhaust emissions annually,
- an 5,967 increase in probable accidents each year,
- the need to annually dispose of 2,746 used truck tires, and
- an additional truck traffic load of 1,333 heavy vehicles each day.

[For a similar case where] rail is a possible transportation alternative, the annual changes with a river vessel-to-rail shift are:

- fuel use grows by 33%
- emissions jump by 470%
- probable accidents grow by 290%”

In terms of national security, two further comments follow: (1) The Mississippi Basin is protected from most hostile foreign intrusions, although adroit terrorist attacks could slow river passage. Central America and the Caribbean straits, particularly the Windward and the Florida, encircle the Gulf of Mexico and the River's estuary,

safeguarding the strategic port of New Orleans. (2) The United States Navy is considering building a dual-use barge vessel that would engage in trade in peacetime and contribute to the Military Sealift Command Fleet in times of national emergency. Thus, available river facilities could shift to augment ocean freight during such periods.

Nonetheless, the River contains limitations as well as advantages. Note in particular the Atchafalaya River challenge to the Mississippi above Baton Rouge (McPhee 1987; Madrigal 2011), a battle between Mother Nature diverting waters away from the mainstream and directing these westward into Texas, and the Army Corps of Engineers heroically attempting to prevent this “pirating” by erecting cement bulwarks to keep the river where it now locates, saving waters for ports in the New Orleans area.

Floods are occasional to the River, created at upriver locations by rapid spring snowmelt and heavy rains. For the lower elevations where the flow slows and sediment falls to elevate channel bottoms, the water rises relative to, and sometimes over, the banks, those eroding due to these overflows (Madrigal 2011). With the multitude of river bends for the entire length, the inner sides tend to build up with bottom sediment while the outer sides erode away, causing new channels forming and a consequent flooding.

For the total of the Mississippi and a third of the Missouri and some of the Ohio, dirt levees on banks attempt to hold back rising waters, these bulwarks managed by the Army Corp of Engineers, the Corps struggling to force the river to conform, a constant and expensive task. Where possible, the Engineers have erected weirs or underwater structures that angle upstream, guiding flows to the main channel to minimize tides drifting outwardly, thus deepening the middle’s depth to allow for barge trafficking. Also, dredging helps to maintain a promised twelve-foot deep navigation channel required for freight.

Other drawbacks to river traffic and to the work of the Corps should be added to this portrayal. The River and its tributaries suffer significant pollution due to fertilizer and industrial runoff, and dams and levees have largely destroyed fish and fowl habitats along shorelines. Low-waters caused by drought and excessive usage by farms and cities have some times brought low streams, limiting barge passage. Finally, as noted above for the Atchafalaya but elsewhere as well, the rivers and the Corps/Coast Guard compete against each other for control over the directions of streambed flow, the eventual victor yet to be decided.

For the intent of this essay’s Part Two relative to showing the global importance of barges and of the River’s watershed in general, the author is once again suggesting the Mississippi/Missouri/Ohio admits to North American wealth and power in excess to other regional climes -- a rich, unifying, and pivotal facility that extends this essay’s contention that the United States, indeed, is uniquely blessed in its river resources and transportation hubs. These assets should hold for America a continued global leadership if its waterways are wisely conserved and administered by its several levels of governments and by its private utilizers.

Part Three: American Security in Eurasian Balancing and the Grand Strategy Debate

This part will show two strategic features, ocean waters essential to both: first, to reveal insights into the strategic nature of North American and Eurasian power balances, and second, to describe the intertwining Eurasian balances within the present US security debate, in both sections, the concern over the extent of US naval offshore balancing over either ocean flank of Eurasia.

The reader should be reminded that classical geopolitics admits to the protected US location and its environment as a factor of security, its distance, isolation, and resources revealing this placement and once more showing evidence for declaring the middle part of North America as a fitting global heartland. Strategic balancing, in contrast, exposes a neo-realist posting, a structural configuration of Great Power maneuvering and channeling. The current balancing of power shows a security advantage for the Americans, their strength not only extending onto the Continent via its marine but also it siding with whichever local ally it may choose. Both international-relations models exhibit the importance of waters in their expressions.

(1) North American strategic balancing toward Eurasia

Eurasian balancing: Following that earlier article's focus on recognizing Earth's sole heartland in North America, the great nations of Eurasia will continue their traditions of strategic balancing within their own continent and on its outer margins, yet with the author's description of omitting Eurasia's former internal pivot, Russia, that state now being ordinary and not superior as heartland to the other Great-Power Eurasian states, China, Japan, and Germany. The United States, distant and isolated beyond two-ocean expanses, also shares Great-Power status and interests, and it, too, balances among the leading states on Eurasia but from a distance and to fulfilling its own economic and security interests as, stated once more, on the globe's sole heartland of North America. The power emits primarily from its navy and its monopoly of global marine strength. It must be noted, too, that this strategic balancing among all five Great Powers conforms only to the Eurasian location and not to the American, for the United States has traditionally enjoyed its insular isolation set aside from Eurasia.

America as maritime, its security resting on a favorable Eurasian balance: The United States' destiny is ocean-based, its geography almost dictating this reality: abundant water for drinking and food cultivation; deep-water coastal and river ports, the best of the Western Hemisphere; vast internal river and coastal waterways, in length equal to all other nations' riverine routes combined; two-ocean exposures on either side of its continent, a uniqueness not shared by others; no need for a standing army to defend its immediate frontiers from attack, thus a focus instead on maritime strength; the US ability to extend its marine onto the Eurasian shores, balancing Eurasian forces to its reward; and finally, US security itself resting upon a viable favorable Eurasian balance among the continent's Great Powers, America gifted in its powerful navy to accomplish this mission. To repeat that latter facet, US security relies upon a favorable balance to America upon Eurasia; its defense does not base in a "fortress America" itself but instead in a projection of maritime power outwardly. In sum, North America depends upon *water* for its prosperity and its protection, this good-fortune deriving from this blessing found in its environment.

America differs from other Great Powers: Within this milieu of Great-Power balancing upon the vast stretches of Eurasia, America differs from the rest – it alone defines as a true global naval power, reflective of its insular nature amidst water. As this distant American naval power, its threat to others lessens -- it avoids being opposed merely because it has become a rising global hegemon. By being foreign to Eurasians as a resident American, it

would be more trusted in gathering local allies because it would be less likely to absorb their territories into joining far away lands (Levy and Thompson 2010). This reality awards it more flexibility – it can “dabble from afar” -- balancing or bandwagoning the countries of the continent to its preference from a distant posting. Specifically, the balancing is global, entailing sea-power in addition to land-power. No longer holding a Eurasian slant, this alone awards the United States a strategic pivot that is not threatening to others. The American uniqueness, the author asserts, puts an end to the previous cyclic rise-and-fall of European hegemony – the European cycle no longer pertaining and a global one of longer length arising in its stead -- setting another reason for estimating an extended life for the United States as global hegemon within an American unipolar balancing configuration.

Eurasian checkerboard stalemate: Here, a further description merits our attention relative to the power balances playing out upon Eurasia, that turning on the author’s assumption that the territorial configurations of the continent’s Great Nations translate to an inherent disunity that also favors United States security. In terms of distance, the resident countries cannot easily join. And in classical geopolitics, such a divergence among those countries defines as a checkerboard positioning of “my neighbor my enemy, the neighbor of my neighbor my friend.” A similar premise may arise as an Orwellian pan-regional menace, again, one state set against its neighbor. Accordingly, the threat of a united Eurasia, of a Great Power alliance set in opposition to America and poised to endanger via a maritime invasion, stands very remotely. From the surrounding seas, the United States faces no peril.

Two strategic regions dominate: Accordingly, two strategic regions, North America and Eurasia, will continue dominating world affairs. But in the case of the United States, the security purpose lies in continuing its heritage of preventing Eurasian entanglements from intruding onto the Western Hemisphere, envisioned in the dictates of Monroe’s Doctrine. A powerful and dominant navy will assist in this purpose. And in isolating Eurasia from America, the United States will in turn be able to perform actively for its safety on that Grand Continent because of its maritime ability to command the “global commons,” and thus, to intervene by “offshore balancing” to further its security and economic favor on the fringes of the great Eurasian spread.

North America’s waters, with all three levels intertwined and contributing, have elevated the US to global hegemony: The author believes this American placement as the primary global heartland offers good advantage, a strategic lever for extending its influence beyond the United States and onto Eurasia, a maneuverability stemming in part to *water* in its several different forms, pure, riverine, and blue, or, expressed more specifically, human need, Mississippi watershed, and military control of global oceans. More than for the other Great Powers, the United States has gained its hegemonic authority through its possession of, in addition to its position within, North America’s water reserves. Command over waters in their several appearances has helped elevate the United States to its present status as global hegemon, a setting of strength and mobility that no other Great Power can equal. This reality, repeated throughout this essay, requires repeating because of its geopolitical and neo-realist insights.

In sum, a global pivot resides in North America, its heartland leverage conferring a strategic maneuverability over the Great-Power balances upon Eurasia than lends to American security and autonomy. The utility of water that America possesses facilitates this primacy.

(2) The arising US security debate:

Intertwined within these perspectives of Eurasian balancing, the United States at present appears to be on the edge of altering its security approaches toward this Grand Continent. A primary focus of this probable transition settles upon the location of American billeting of its navy in respect to Eurasia, this in addition to reducing costs of such positioning and to lessening commitments to traditional allies there. Accordingly, the several strategies being considered will be examined and evaluated below, followed by the author's assessment of which strategy might be the more appropriate for balancing our security and financing requirements relative to our offshore naval balancing adjacent the coasts of Eurasia.

The contemporary US strategy, kept consistent and bipartisan throughout the post-war era, could be labeled "preponderance" or "primacy," one of maintaining American global hegemony (Layne 1997), and in particular, toward preserving its leverage over Eurasian Great-Power balances. Three brief describers in general frame this approach: (1) Resist territorial expansion of Russia and China and discourage Japanese and German rearmament. (2) Continue bi-polar and later unipolar balances favorable to American global leadership; avoid emergence of a multipolar configuration. (3) Tie Japan and Germany within a *Pax Americana* trading and investment regime, rewarding to both nations, and possibly induce the same ties and rewards for Russia and China. (4) Costs of containment and of deficit trade can be met with fiscal care; the occasional high prices would still benefit the country's defense. (5) Continue naval involvement close in to Eurasian waters for orchestrating favorable regional balances, the Americans promising to remain in places that would protect alliance interests.

Limitations: (1) Outlays for Eurasian interventions have drained the country, experienced in national debt and in ill-conceived ventures into Vietnam and Iraq as well as into trade imbalances and out-sourcing of US jobs. (2) Attempts at social engineering and democratizing, all missteps on infertile soils, will surely lead to bankruptcy and decline and should end. (3) Difficulties will follow toward designing strategies for first intervening and then withdrawing from rogue countries and chaotic lands once begun. The ideal of "selective engagement," urging care in deciding overseas territories to assail, has proven unmanageable. (4) A carefully-tuned US retrenchment would compel friendly states to commit more toward their own protection. Accordingly, some military, economic, and political distancing from Eurasia would be advisable.

Before the author examines alternative versions of policy, it should prove profitable to state several of the diverse opinions behind the various arguments before we enter directly into proposals for settling on a new grand strategy:

- The United States must remain, some contend, the ultimate global stabilizer -- it has little choice. In particular, dangers lie in certain maritime domains, the East/South China seas in addition to those in the Baltic, Black, and Arctic, with strategic choke points at risk as well. The US Navy must be able to stabilize these and other threats, the costs of policing carefully met without bankruptcy. In sum, global stability depends upon American activism, and this must be continued. Retrenchment would deliver voids filled by violence and aggressions against US interests.
- Not true, others charge. Rather, US bankruptcy stands the more likely outcome and threat, losses in Eurasian and oceanic involvements reaching too far. Better to invest wealth locally by retrenching overseas commitments homeward. Leave stabilizing Eurasia to our allies.
- Should the United States resist a rising China, a "Thucydides trap" of eventual war

between the two powers? Will China emerge a challenger to the United States, soon to replace America as global hegemon? Or could the two coordinate as allies in condominium fashion, a geopolitical theory of Great-Power alignment to control their own influence spheres without rivalry? These queries remain unresolved at present and risk distortion when factored into the proposals listed below.

Christopher Layne (2012) and John Mearsheimer and Stephen Walt (2016) predict a Chinese rise coupled with a US decline, whereas Stephen Brooks and William Wohlforth (2015/2016) and Michael Beckley (2011/2012) envision a continued American primacy, the US actually extending its lead in the second author. Brooks and Wohlforth admit, nonetheless, to a measured Chinese ascendancy, China as an “emerging potential superpower” but still one less powerful and no rival to the United States for the immediate future. Within this latter calculation, Japan, Russia, and Germany continue as regional Great Powers, but China their superior.

Graham Allison (2017) is certain of inevitable conflict between an emerging China and a resisting United States, alleging historic examples including this from the Athenian general: “What made war inevitable was the growth of Athenian power and the fear which this caused in Sparta.” But Arthur Waldron (2017) argues Allison misinterprets the war, citing leading scholars (Donald Kagan and Ernst Badian) who have “long ago proved that no such thing exists,” the ancient conflict arising from other sources.

- How durable in passage of time would a US retrenchment away from Eurasia be? And how distant – to Guam, Hawaii, San Diego? Can our alliances with Eurasian friends be resumed, once abandoned, if active American involvement in Eurasia again becomes warranted? Might former allies (Japan, Germany, South Korea, Poland) bandwagon toward Russia and/or China instead and against an unreliable America?
- Can Eurasian allies be persuaded to pay heavier costs in defending themselves and in stabilizing their regions? Could they contribute to such?

This background described, now on to the contemporary debate over an appropriate revised US grand strategy to replace the present plan of primacy. For this, the author utilizes an outline by Frank Hoffman (2012) of four grand strategies currently under academic and some political discussion, and these followed with his synthesis of a “forward partnership” suggestion. Utilizing this template, these alternatives follow:

- **Strategic restraint** – A neo-isolationism that urges priority for homeland defense and nearly complete withdrawal from bases and alliances in Eurasia. A multipolar structure replaces the current US hegemony. Advocates call for: (1) Retrenchment of military spending and of billeting of forces away from Eurasia, shifting burdens to allies. In particular, calls for reduced American presence in the Middle East. Alliance attachments with NATO and Japan should weaken. (2) Still, a continued command of oceans and air spaces such that military forces can be reinserted against dangers to regional stabilities. (3) Avoiding national bankruptcy merits paramount consideration over Eurasian involvement.

Liabilities point to: (1) A likelihood of emboldening challengers entering pivotal regions without effective resistance, encouraged by US withdrawal. (2) Return of an American presence in areas once held but later deserted will be tough to reestablish. (3) Global turmoil could surely ensue without the stabilizing role of the United States. (4) Predicted American bankruptcy is exaggerated.

- **Offshore balancing** – Also withdrawal of US forces away from Eurasia, but still not so distant as above, with yet a focus upon homeland security and prosperity and not upon democracy and “social engineering” in marginal lands. A return to Eurasia if dangers ensue (see Layne 2012 and Mearsheimer and Walt 2016). These

points follow: (1) Reduced military involvement on Eurasian rimlands, avoiding miscalculations stemming from Iraqi-like entanglements. (2) Billeting of armies back to America and distancing navies to secondary positions such as Guam and Hawaii. (3) Insistence that allies themselves stabilize their regions. (4) Repositioning of Great-Power balances will stabilize and pacify, ending American hegemony and giving rise to multi-polarity, assuming such should not engender North America.

Limitations include: (1) Will regional allies be sufficient in power to stabilize their lands without American assistance, or might they instead bandwagon toward challengers and forsake US alliances? (2) Forward bases and alliances, once forsaken, would be hard to reestablish, US credibility seen as unreliable. Thus, “burden shifting” to allies or “exploiting rivalries” among Eurasian states for US gains will not succeed, once attempted from afar. And finally, (3) a retreat from Eurasian waters could well destabilize Eurasia itself. Too, it would leave unresolved Russian, Iranian, and North Korea incursions, nuclear proliferation, terrorism, or climate change. In sum, a “come home and hope” strategy, sans US global leadership and participation, could create a world quite negative to traditional US security commitments.

- **Selective Engagement** -- A measured placing of American resources to best advantage, the United States still active in leading a stable international environment suitable to US interests but forsaking areas less important: (1) Continue active involvement in Western Europe, Eastern Asia, and the Persian Gulf, concentrating American resources for stabilizing these areas most vital to North America. Accordingly, emphasis toward regional coordination, in particular, NATO and the the Korean/Japanese and Gulf states security agreements. (2) Forward and flexible military presence offshore in these three areas, with less stress on stability, democracy, and other nation-building ambitions. (3) Prudent cutting of costs but not enough to jeopardize security.

Limitations number these: (1) Selecting intervention strategies and withdrawal tactics would still be burdensome, some leading to costly occupations. Yet, would there be occasions when US interventions in less-vital areas might be profitable? (2) Can alliances hold together alone just with shared burdens and promised commitments? Will other Great Powers remain satisfied with US hegemony? (3) Will US resources stay available in the capacity of global policeman? Has the nation over-extended its global involvement? With these queries, negative answers would predominate.

- **Assertive interventionism** -- As the most aggressive, interventionist, and costly of the grand designs, this option directs to retaining global primacy at all costs, pursuing dominance both in Eurasian and in peripheral balances: (1) The US must continue as Earth’s indispensable nation, the sole guarantor of global stability. Costs will equal rewards. (2) Stability would be enhanced via promotion of democracy and nation building, assuming democracies and prosperous states are more peaceful and thus more reflective of US interests. (3) Forward billeting of American forces best assures Eurasian stability and cooperation. (4) Unilateral activism will show a US commitment, whether or not allies contribute to the American mandate.

Limitations: (1) Once again, high costs of interventions and of potential failures do not equal the expenditure. Bring American resources home and avoid depression by building a domestic infrastructure more apt to protecting the homeland. (2) Unnecessary entanglements in non-vital lands entail prohibitive costs and local stalemate, neither serving American needs. These wasted resources are

avoidable. (3) Erecting democracy and prosperity from outside seldom accords success in less developed areas lacking these traditions and resources.

- **Forward partnering** - Hoffman's synthesis, his stirring the better parts of offshore balancing and selective engagement, offers an assessment of priorities combined with conserving domestic resources, these tied to freedom of action rendered from offshore balancing: (1) Continuation of alliance commitments, with improved joint efforts to locate and resolve regional costs, problems, and threats pro-actively. (2) Forward positioning of modest US military forces in regional stations, these sufficient enough to welcome back larger forces whenever warranted. (3) Again, focus on naval control of the global commons, giving immediate response to areas in jeopardy. (4) Improved sharing of burdens among alliance partners will partially answer costs. Above all, stay reasonably active in Eurasian affairs, those attached closely to US security.

Limitations: (1) Deciding on profitable interventions will remain difficult, requiring sensitive leadership and application. Such has not always been the case in the past. (2) Heavy outlays, despite careful planning, will yet burden stability for the United States. (3) Will Eurasian allies continue supportive of US interests; can they assist in controlling strife on the continent?

All five grand strategies, to various degrees, remain supportive of offshore-balancing, of continuing US activism over the two-oceans, and of extending its ubiquitous navy onto strategic areas for profitable leverage. Except for the "assertive interventionism" stance, the other options question continuance of an alleged too-extensive American global policing, all favoring some level of retrenchment and a better selection of overseas entanglements. They also side against "social engineering" and implanting democracy in emerging states, instead adhering to more pragmatic objectives.

Among the strategies exhibited above, with all showing some good logic and attachment to past policy traditions, the author finds Hoffman's synthesis, "assertive interventionism," the more logical, for these reasons: (1) The United States could well be "condemned" to staying active in world affairs, its sea-power leverage essential for international stability as well as for aligning with allies and for security of the Western Hemisphere. (2) American prosperity should continue vibrant such that costs of overseas trade and investment obligations can be maintained, if careful budgeting ensues. (3) China's rising power, as likely challenger to America, may well be remote if not exaggerated; the two might not be the inevitable warriors some have predicted and they could even align. But were China to become a belligerent challenger, America would be ready. (4) With retrenchment, some voids could transpire, possibly encouraging Russia, and perhaps China and others, to broaden their territorial impact. But, a careful placement of allied forces in strategic areas, with ready enforcements, could limit this danger. (5) Loosening American ties to NATO and to the EU could release Germany to resume its previous activism. A similar image conforms to Japan as well, where pulling back the US navy to Guam and Hawaii could diminish the two countries Mutual Security Agreements so important to US strategic interests in east Asia. In sum, best to stay active.

The author rests with this final conclusion on grand strategies: that envisioning the present geographies of oceans and continents, these infused within the resources and constraints of water, the grand strategy of "assertive interventionism" provides what is best for American security and perhaps best for global stability and progress in the years ahead. It would re-enforce once more and even more strongly the author's vision and suggestion of a North American heartland.

Conclusions

Four initial conclusions can be raised, all reflective of the importance of *water* in showing North America as a more suitable global heartland than Mackinder's original Eurasian placement:

- Pure water should continue adequate for national needs for the immediate future, at least in comparison to other Great Powers, assuming the country's leadership and financial resources can improve infrastructure for water delivery and perhaps investment for de-salting ocean waters economically. The author does not foresee scarcities prompting national political and economic instabilities. Consequently, human need for pure water should be satisfied in North America, providing a necessary resource for this updated global heartland.
- The same sufficiency for inland river and coastal barge transport, again predicting an appropriate leadership and expenditure for maintenance and strengthening of the passageway's infrastructure and praying that Mother Nature will not win its battle against the Army Corp's struggles against the Mighty Mississippi and its wily ways. Drought could hamper river flow and thus barge passage; erosion of earthen banks, sediment, and flooding offers additional restraints. Nonetheless, the author assumes dangers will be resolved due to the River's importance to the country and to its citizen's ability to weather crises through their innovativeness in policy and technology.
- North America should stay involved in Eurasian balancing, again, our republic has no alternative. Maintaining Monroe's thesis of preventing Eurasian immersion in America also is fundamental to protection. Both depend upon assuring its offshore-balancing aptitude.
- Hoffman's "assertive interventionism," the author believes, offers the more realistic grand strategy of the several options described above. It ranks as the most rational one that will evolve as an acceptable security policy. As outlined in the conclusions for Part Three, the United States appears marked for intervening-to-stabilize Eurasia via its marine offshore balancing; the author sees no other choice. The American pivotal position, its natural and technological wealth, and the necessity for retaining its hegemonic authority over the Eurasian nations yet will enable this determination. Such a capacity should maintain for some extended period America's residence on Earth's sole heartland.

These several factors re-enforce one another; pure and river waters promote the ability to offshore balance astride Eurasia from a distance, this protecting the United States heartland from that continent's threats.

For assessing these conclusions joined in unison and all relevant to water, advantages the United States has inherited and should protect, it would not be difficult to predict the neo-realist "unipolar moment" persisting for still some time into the future, reflective of the position and resources, and in large part, of the wealth in water that North America possesses. This calculation should likewise reinforce the main points of the earlier article outlined in the opening pages of this essay and one that this essay follows (Kelly 2017), to repeat, of the North American heartland locating distant and isolated from the Grand Continent of Eurasia, but one revealing the ability to extend its balancing authority among the Great Powers on that continent and to configure those forces to American security and profit. This truism clearly reflects the insights rendered to statesman and student by the facilities of classical geopolitics and neo-realism, these both tied to the availability and position of water.

Despite this heritage of protective position and of resources including water, the most logical threats to American security and prosperity will come from the country's own internal failures and neglect and likely not from any external danger. Political, class, and race polarization, mal-distributions of wealth, neglect of environment, poor and even

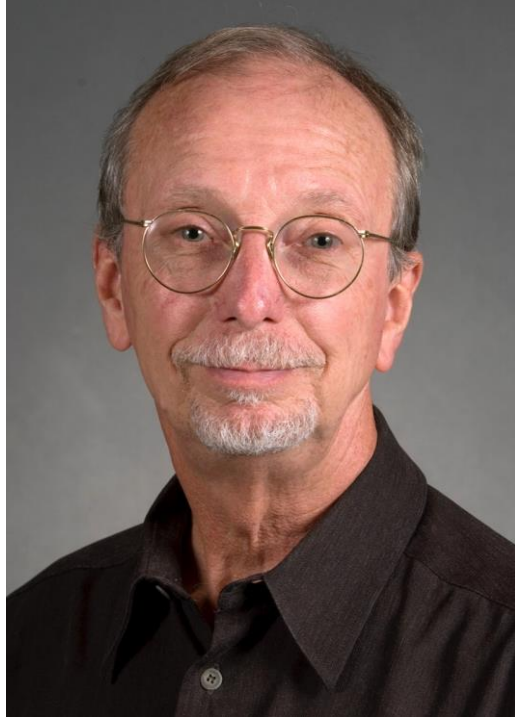
corrupt leadership, the potential for failed misadventures in Eurasia and elsewhere, in addition to not settling other difficulties such as investing toward adequate pure water, river maintenance, and naval authority, spell the best chance for American decline and thus, insecurity. The country's water sources may not be enough to restore the necessary health. One hopes, instead, for a continuance of the traditional wisdom that has led America in the past to its global respect and leadership – a reflection of and a responsibility to the gifts that geography has brought to its lands and waters.

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Sources

- Allison, Graham (2017) *Destined for War: Can America and China Escape the Thucydides Trap?* New York: Houghton Mifflin Harcourt.
- Batmanghelidj, F. (1997) *Your Body's Many Cries for Water*. Vienna, VA.: Global Health Solutions, Inc.
- Beckley, Michael (2011) "China's Century? Why America's Edge Will Endure," *International Security* 36/3, 41-78.
- Brooks, Stephen and William Wohlforth (2015) "The Rise and Fall of the Great Powers in the Twenty-first Century: China's Rise and the Fate of America's Global Position," *International Security* 40/3, 7-53.
- Cannon, Kathleen (2006) "Water as a Source of Conflict and Instability in China," *Strategic Analysis* 30(2), pp. 310-326.
- Engelke, Peter and Russell Sticklor (2015) "Water Wars: The Next Great Driver of Global Conflict?" *The National Interest* (September 15), pp. 1-3.
- "Environmental Impacts of a Model Shift" (1991), Minnesota Department of Transportation, Ports and Waterways Section, pp. 1-16.
- Famiglietti, Jay (2014) "The Global Groundwater Crisis," *Nature Climate Change* 4(11), 945-948.
- Friedman, George and Allison Federkasten (2017) "Water and Geopolitical Imperatives," *Mauldin Economics* (February 27), 1-6.
- Frostenson, Sarah (2017) "America has a water crisis no one is talking about," *Vox* (May 9), 1-6.
- Gerace, Michael (1991) "Between Mackinder and Spykman: Geopolitics, Containment, and After," *Comparative Strategy* 10/4, 347-364.
- Goldenberg, Suzanne (2014) "Why Global Water Shortages Pose Threats of Terror and War," *The Guardian* (February 9), 1-5.
- Hanley, Paul (2014) *Eleven*. Victoria, Canada: Friesen Press.
- Ferris, Sarah and Peter Sullivan (2016), "Clean Water Crisis Threatens United States," *The Hill* (April 26), 1-8.
- Hoffman, Frank (2013) "Forward Partnership: A Sustainable American Strategy," *Orbis* 57(1), 20-40.
- "How the United States Uses Water" (no date), Grace Communication Foundation, 1-2.
- "inland Waterways of the United States," *Wikipedia* 2016.

- Janson, David (2014) "The Geopolitics of Water Scarcity," *Stratfor*, pp. 1-10.
- Kelly, Phil (2017) "Recognizing a North American Heartland: A More Suitable Fit for Mackinder's Thesis," *Geopolitics, History, and International Relations* 9/1, 215-240.
- Kelly, Phil (2016) *Classical Geopolitics: A New Analytical Model*. Stanford: Stanford University Press.
- Kirk, William (1965) "Geographical Pivots of History, an Inaugural Lecture," Leicester: Leicester University Press.
- Layne, Christopher (2012) "This Time It's Real: The End of Unipolarity and the *Pax Americana*," *International Studies Quarterly*, 1-11.
- Layne, Christopher (1997) "From Preponderance to Offshore Balancing, America's Future Grand Strategy," *International Security* 22/1, 86-124.
- Levy, Jack and William Thompson (2010) "Balancing on Land and Sea: Do States Ally against the Leading Global Power?" *International Security* 36/1, 86-124.
- "List of Rivers by Length" (2017) *Wikipedia* (January 14), 1-18.
- Mackinder, Halford (1919) *Democratic Ideals and Reality: A Study in the Politics of Reconstruction*. New York: Holt.
- Mackinder, Halford (1904) "The Geographical Pivot of History," *Geographical Journal* 23, 421-44.
- Madrigal, Alexis (2011) "What We've Done to the Mississippi River: An Explainer," *The Atlantic* (May 19), pp. 1-13.
- McPhee, John (1987) "Atchafalaya: The Control of Nature," *The New Yorker* (February 23), pp. 1-89.
- Mearsheimer, John and Stephen Walt (2016) "The Case for Offshore Balancing: A Superior U.S Grand Strategy," *Foreign Affairs*, 70-83.
- Morrisette, Jason and Douglas Borer (2004-2005) "Where Oil and Water Do Mix: Environmental Scarcity and Future Conflict in the Middle East and North Africa," *Parameters* (Winter), 86-101.
- Parry, Chris (2014) *Super Highway: Sea Power in the 21st Century*. London: Elliott and Thompson Limited.
- Schwartz, Judith (2016) *Water in Plain Sight: Hope for a Thirsty World*. New York: St. Martin's Press.
- Smil, Vaclav (2008) "Water News: Bad, Good and Virtual," *American Scientist* (September-October), 399-407.
- Social Progress Imperative (2017) *Social Progress Index 2017*.
- Spykman, Nicholas (1944) *America's Strategy in World Politics: The United States and the Balance of Power*. New York: Harcourt, Brace, and Company.
- Theisen, Ole Magnus, Helge Holtermann, and Halvard Buhaug (2011/2012) "Climate Wars? Assessing the Claim that Drought Breeds Conflict," *International Security* 36/3, 79-106.
- United Nations Development Programme (2006) "Human Development Report" <http://hdr.undp.org/hdr2006/report.cfm#>.
- University of Florida Institute of Food and agricultural Sciences (2013) "U.S. water supply not as threatened as believed, study finds," *ScienceDaily* (January 30), 1-3.
- Veenstra, Albert and Theo Notteboom (2011) "The Development of the Yangtze River Container Port System," *Journal of Transport Geography* 19, 772-781.
- Waldron, Arthur (2017) "There is no Thucydides Trip," *SupChina* (book review of the Allison book).
- Waltz, Kenneth (1979) *Theory of International Politics*. New York: McGraw-Hill.
- Wirtschafter, Jacob (2017) "Egypt fretting over endangered Nile River," *USA Today* (October 4), 8A.
- World Health Organization (2006) "Water: A Human Right," <http://hdr.undp.org/external/hdr2006/water/10.htm>.



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