Jeffersonian and Hamiltonian Views of Nature in the Early American Republic

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It is well known that Thomas Jefferson and Alexander Hamilton differed in their respective views on the appropriate role of government in the American republic; however, their views on the natural environment are far less familiar. Accordingly, this article examines the Jeffersonian and Hamiltonian thinking on nature in the context of two prevailing views of the natural environment: an intrinsic view and an instrumental view. An intrinsic view values nature for its innate qualities without regard to its uses. An instrumental view, by contrast, values nature insofar as it serves mankind's purposes. The article concludes that although they differed on the role of nature in human life, both Jefferson and Hamilton accepted the instrumental view of nature—a view entirely consistent with the overwhelming majority of mainstream Enlightenment-era thinking. This shared understanding of the meaning of nature in the Enlightenment reflects Jeffersonian and Hamilton political views and suggests that their thinking was not as different as is commonly supposed.

The debate between Thomas Jefferson and his arch rival Alexander Hamilton on the proper role and extent of republican government is well known and exhaustively researched (Bartlett et al. 1969, 157-58; Brookhiser 1999; Chernow 2004, 390-93; Ellis 2000, 48-80; Harper 2000; Kennedy 1999; Malone 1972; McDonald 1979 and 2000; Randall 2003, 393-405; Tolson 2001). Jefferson's emphasis on the local nature of political power and his dream of small, rural, agrarian townships governed by men with interests tied to the community typically are counterpoised against Hamilton's notions of a strong central government that wields considerable political and economic power (Cunningham 2000; Diggins 1988; Elkins and McKitrick 1993; Ellis 2004, 214-21; Ferling 2004, 51-53; Hofstadter 1948; McDonald 1982). In historian Joseph Ellis's (1998) words,

...[t]he main story line of American history, in fact, cast Jefferson and Alexander Hamilton in the lead roles of a dramatic contest between the forces of democracy (or liberalism) and the forces of aristocracy (or conservatism). While this formulation had the

suspiciously melodramatic odor of a political soap opera, it also had the advantage of reducing the bedeviling complexities of American history to a comprehensible scheme... (8)

Ellis is correct; it is an oversimplification to present the history of the American republic as a stark contrast between two men with competing visions of the American political system. At the same time, however, casting the story in those terms offers a compelling and comprehensible portrait of early American political sensibilities (Beard 1929; Brands 1999; Cunningham 2000; Elkins and McKitrick 1993; Hartz 1955; Lerner 1987; McCoy 1908; Miller 1965; Wood 1969 and 1988; Zuckert 1996).

The nagging question remains whether the portrait smacks of too much melodrama and not enough substance—too much sizzle and not enough steak. Jefferson and Hamilton were opposed in their understanding of the *means* by which a republican form of government can be realized, but they were remarkably consistent in the *ends* they sought. To paraphrase Machiavelli's comments about Fortune being a woman who must be mastered and vanquished, these masters of the early American republic agreed that nature was a thing external to civilization that must be overcome, tamed, and brought into service of mankind (Machiavelli 1965, 122).

Despite the plethora of information available on Jeffersonian and Hamiltonian ideals for the American republic, the two thinkers' respective views on the natural environment are relatively obscure. Yet their perceptions of nature, like their insights into other areas of human thought and activity, shed light on their political thought. Although their understanding of the proper role of nature in human life differed, both Jefferson and Hamilton subscribed to an instrumental, or utilitarian, understanding of the natural environment—a view that reflected the Enlightenment's focus on the primacy of human reason. According to Enlightenment theorists, almost all problems that plagued mankind could be surmounted, or at least improved, through rational processes (Cassirer 1951; Crocker 1959).

Jefferson and Hamilton assumed as did most of their contemporaries that human beings must subject themselves to the unrelenting discipline of what today is called the Protestant work ethic, the goal of which is to master and eventually overcome obstacles posed by the natural environment through human labor and intense discipline. Neither Jefferson nor Hamilton considered the possibility that nature need not be overcome, that rationality might have limits in imposing order on the world, or that the excessive discipline of a market economy might create conditions leading to overproduction. Jefferson

feared the development of a consumer culture that could trivialize human efforts and undermine virtue, but he embraced most of the precepts of the Enlightenment without questioning their validity.

This article will explore the similarities in their thinking on nature to understand how Jefferson and Hamilton developed their respective positions on the environment. Far from a pedestrian enterprise, such an endeavor casts Jefferson and Hamilton in a new light, minimizing their political differences more than is generally acknowledged. They shared much, especially a commitment to Enlightenment values based on the efficacy of human reason as an end in itself. If their commonality is not as readily apparent as their much-heralded differences, the Jeffersonian-Hamiltonian rapprochement—intellectually, if not in actuality—can be appreciated in the context of their views on nature and the natural environment (Dunlap 1999; Farber 2000; Huston 2004; Lipschutz 2001; Macauley 1996; Marangudakis 2001; Morse 2003; Steinberg 2002).

Competing Views of Nature

In deciding how to think about natural resources then and now, a thoughtful observer should consider two possibilities: an intrinsic view and an instrumental view. According to the former perspective, the earth, its trees, rivers, and mountains are valuable for their intrinsic or innate value even if those features never contribute materially to the well being of mankind. Because no one can put a price tag on a beautiful mountain, an untamed forest, or the inherent promise of an unpolluted stream, mankind should not subject nature to the typical, rudimentary economic analyses that often justify human decisions. Environmentalists often discuss the intrinsic view of nature as a modern concept that travels under the name of "biocentrism," but thinkers such as Jean-Jacques Rousseau and Native American peoples, for example, embraced variations on biocentrism long before the dawn of the modern era (Rosenstand 1998; White 1967).

A second perspective—an instrumental or utilitarian view—posits that nature is "good" only insofar as it is useful in advancing man's goals. If it is not useful, nature is to be tamed and overcome. An unspoiled tract of land is not to be left alone if it can be owned and cultivated. After all, a destitute man is not concerned with aesthetic beauty when his needs are not met; he must have food to eat, clothes to wear, and shelter from the elements. Life is harsh and nature can be used to ameliorate life's vicissitudes; otherwise, nature has little value to human beings. In short, the choice is whether nature is an end in

itself, *intrinsically* valuable, or whether it is *instrumentally* valuable, that is, whether it is a means to an end. Environmentalists generally label this latter perspective "anthropocentrism" and derisively contrast it with biocentrism (Daly 1989; Devall and Sessions 1998; Norton 1995).

In light of these two choices, it is not difficult to discern where both Jefferson and Hamilton stood on the question of nature. The proper method for organizing a political economy produced numerous disagreements between the two men, but neither man disputed the idea that the natural environment ought to be used as a means of fulfilling human goals. Thus, although the two founders disagreed on the scope and role of human institutions, their views on the uses of nature were remarkably consistent. Jefferson viewed the earth and its accoutrements as the sine qua non for agricultural pursuits; as such, he spoke of land in almost mystical tones of reverence. Nonetheless, he spoke not of unimproved wilderness lands, but of lands that were cultivated by yeomen farmers who lived in small, decentralized villages where they participated in self-government. Yeomen farmers were virtuous men who protected their virtue by not compromising their values in economic pursuits. When a fellow moved away from his land to enrich himself in cities, he risked losing his virtue because he was no longer tied to the land, free to make a living, care for his family, and build a life as he saw fit. He must sell his labor in order to survive, and that Faustian bargain was anathema to Jefferson.

For his part, Hamilton agreed that land and the earth were the bases for living a well ordered human life; however, he argued that men could, and therefore *should*, expand their yields by pursuing manufacturing and commerce in lieu of farming alone. Virtue was not an issue. Rather, a man sought to cut the best deal he could. When he cut the best deal he could and his neighbors cut the best deals they could, everyone was more or less acting efficiently, which benefited everyone. Hamilton may not have known the cliché that "a rising tide raises all boats," but he certainly understood the sentiment.

Lest the reader mistake Jefferson as a budding Marxist and his rival as a Milton Friedman-style free market economist, it bears repeating that each man agreed that a regime, however it is structured and operated, is built by taming nature and using resources for the betterment of man. Jefferson contended that those resources are best used in agrarian pursuits, while Hamilton favored mercantilism. Nonetheless, they did not dispute the basic presupposition that nature is an impediment to mankind's progress and must be overcome and dominated. In short, Jefferson and Hamilton disagreed not in kind, but in degree, on the uses of natural resources. In embracing this instrumental view of nature, they placed themselves squarely within a long

line of Western thinkers who saw the natural environment as a raw, untamed wilderness in desperate need of human improvement.

Roots of the Two Environmental Perspectives

In a groundbreaking 1967 article, "The Historical Roots of Our Ecologic Crisis," Lynn White Jr. argued that the Western intellectual tradition developed through thousands of years of history with an implicit understanding of nature as instrumentally valuable to mankind. According to this view of nature, the earth is not intrinsically valuable, but is given to mankind by God to be used as human beings see fit. As a result, it is obvious and natural that men must establish dominion over nature, taming it and improving it as necessary to meet human needs. This emphasis on nature's utility and subservience to man has reverberated throughout Western culture since the beginning of recorded history, eventually creating an ecological crisis as man constantly consumes resources with little thought about damaging the ecosystem (White 1967).

This distinction between the instrumental and intrinsic schools of thought is profound and significant. An intrinsic view of nature requires its adherents to protect natural resources regardless of whether an economic benefit ever accrues to mankind. Ecosystems and biological diversity are so fragile and so poorly understood by human beings that we cannot begin to comprehend the damage done to the earth, and by extension its inhabitants, if resources are not protected (Daly 1989; Devall and Sessions 1998; Norton 1995; Peterson 1997). By contrast, an instrumental view represents a stark utilitarian perspective. Nature is only valuable if it can be used to satisfy human desires. The larger scale of ecosystems and global environmental change are such amorphous, long-term concepts that human beings need not focus on them. Instead, human beings should channel their efforts into using natural resources wisely in the short run. Although many commentators have condemned this view as myopic, it represents the traditional Western view of the natural environment (Holling 1978; Leopold 1949; Solow 1998).

The latter perspective can be seen throughout most Western philosophical writings since antiquity. Plato, for example, recognized nature as valuable because it served mankind. In his dialogue the *Phaedrus*, he reports that his teacher Socrates refused to travel beyond the boundaries of the city-state, Athens. The surrounding countryside was, for Socrates, a bore and unworthy of his attention. It could teach him nothing worth knowing. Only the affairs of men were important; nature served as a backdrop, and a poor one at that, to the human condition (Coates 1998, 23-39; Meyer 2001; Rosenstand 1998,

59). Although not every writer who has examined the Greek perspective on the natural environment has found such a stark contrast between the needs of human beings and the quest for environmental protection, the ancient Greek perspective nonetheless emphasized a strong anthropocentric, instrumental bias (Westra and Robinson 1997).

The Christian perspective also recognizes the instrumental character of nature. In the opening chapter of the Old Testament, as God creates the earth, He forms man in His own likeness. Man walked among the vegetation and creatures that God had created, and He "let them [men] have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the earth, and over every creeping thing that creeps upon the earth" (Genesis 1:26, Oxford 1977). God even says to man at one point, "Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth" (Genesis 1:28, Oxford 1977). Later, in Genesis 2:19-20, God solidifies man's exalted position as the highest earthly creature by allowing human beings to classify the things of the earth as they see fit:

So out of the ground the Lord God formed every beast of the field and every bird of the air, and brought them to the man to see what he would call them; and whatever the man called every living creature, that was its name. The man gave names to all cattle, and to the birds of the air, and to every beast of the field....

The Platonic and Christian perspectives greatly influenced the understanding of nature across centuries of Western history. By the time of the Enlightenment, the instrumental view of nature was considered so self-evident that no one before Rousseau, with the notable exception of St. Francis of Assisi, deemed it necessary to make a case for an alternate view of the nature. The seventeenth century French philosopher René Descartes, arguably the founder of modern philosophy, set the stage for the anthropocentric emphasis of the Enlightenment when he contended that only human thought—and, therefore, human values—matters. The famous expression "Cogito, ergo sum"—"I think, therefore I am"—suggests that anything that cannot think—trees, mountains, and lower orders of animals, for example—is subservient to anything that can think, man, because non-thinking entities may not be ontologically real (Rosenstand 1998, 60-61).

The instrumental perspective permeated the work of Enlightenment-era thinkers. When Thomas Hobbes wrote of the poor quality of man's life—

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"solitary, poor, nasty, brutish, and short"—in a pre-civil-government state of nature, his concept of life in the wild was unquestionably negative. Man's life in nature is unprincipled, without purpose, and ultimately frightening. In the parlance of a later age, nature "red in tooth and claw" must be overcome as soon as man can perfect human institutions. Accordingly, Hobbes' goal in writing his masterwork, Leviathan, was to set forth the most persuasive case possible for establishing human institutions that separated mankind from nature (Hobbes [1651] 1958, 107; Meyer 2001).

For John Locke, as for Hobbes, the answer to man's dilemma as a creature of nature was to create an artificial barrier between mankind and nature—a civil government based on mutual contractual obligations—that supplanted the barbaric, seemingly arbitrary rules of nature with the rational, well-ordered rules of man. Nature could not be improved completely—man still was subject to the cycle of birth, life, and death—but its imperfections could be lessened or avoided by embracing human inventions such as property rights, civil laws, and an institutional structure of manmade government. Nature was a beast that could be tamed through the wise application of human reason. Land, by extension, was be divided up into tracts, its bushes and trees plowed beneath the ground, its soil tended and planted, and its fruits harvested. The only reasonable limitation on man's use of land was the need to preserve resources for the use of others (Larkin 1930; Locke [1689] 1947).

One lone voice cried out against this prevailing view of nature. The iconoclastic French philosopher Jean-Jacques Rousseau, arguably the eighteenth century's greatest critic of the Enlightenment, argued vehemently for a different concept of nature than the one developed through the mainstream Western intellectual tradition. In Rousseau's ([1750] 1964) early essay "Discourse on the Origin and Foundations of Inequality Among Men," the Second Discourse, he presents a view of man that prefers to leave him "uncivilized" by the artifices and conventions of civil society:

Stripping this being [i.e., man], so constituted, of all the supernatural gifts he could have received and of all the artificial faculties he could only have acquired by long progress considering him, in a word, as he must have come from the hands of nature—I see an animal less strong than some, less agile than others, but all things considered, the most advantageously organized of all. (105)

Human beings become soft when they enter into the social contract. They become alienated from their surroundings and turn their backs on nature. In Rousseau's opinion, this "civilizing" impulse separated man and nature to the detriment of each. Instead of building a civilization based on social "progress," he argues for a different assessment of human existence. Man must not renounce his primitive impulses in favor of artificial creations that separate him from the world around him (Russell 1972, 684-701).

Although he praises nature's virtues to a greater extent than his contemporaries, Rousseau nonetheless implicitly accepts an instrumental concept of environmental values. "I see him satisfying his hunger under an oak, quenching his thirst at the first stream, finding his bed at the foot of the same tree that furnished his meal; and therewith his needs are satisfied," (Rousseau [1750] 1964, 105) he says of man as a metaphorical noble savage. Nature could satisfy man's needs, but nature was not to be manipulated and tamed, as most Enlightenment thinkers contended: "The earth, abandoned to its natural fertility and covered by immense forests never mutilated by the axe, offers at every step storehouses and shelters to animals of all species" (105).

In his later work, especially the *Confessions*, Rousseau ([1782] 1954) echoes this same romantic view of nature when he describes the thrill of living a rich, fulfilled life: "I need torrents, rocks, firs, dark woods, mountains, steep roads to climb or descend, abysses beside me to make me afraid" (167). The idea that fear is a healthy response to nature may strike modern ears as strange; however, Rousseau believed that a human life was enriched when it was lived honestly and was filled with genuine emotions, including fear. If man mutes all the effects of nature and divorces himself from the gamut of human emotions, he loses touch with the essence of his humanity; he is no longer aware of his mortality or the limitations inherent in a human life (Coates 1998, 67-81; 125-44).

Rousseau's idiosyncratic view of the natural environment was but a momentary pause in the Enlightenment's march toward dominion over nature—a discordant, lone voice among many others that sought to domesticate nature. The Romanticism prefigured by Rousseau would have to wait until the nineteenth century to reach full fruition (Coates 1998, 125-44). By the time that naturalists such as Thoreau and the Transcendentalists sprang onto the scene, the European view of nature had influenced the American psyche to a remarkable extent (Buell 1995; Smith 1987). In the meantime, the rationality of the age was unimpeded (Bloom 1972). It is little wonder, then, that Americans—and especially Jefferson and Hamilton, whatever their other philosophical disagreements—generally subscribed to a view of nature far more in line with the Platonic and Christian perspectives than with Rousseau's fondness for primitivism (Meyer 2001; Penna 1999).

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Jefferson and Hamilton on Nature: A Comparison

At first blush, Jefferson, who often penned the mellifluous prose of a hopeless romantic, would appear to be the ideal Founding Father to embrace Rousseau's idealistic view of nature. A country gentleman who professed to prefer the solitude of his books and the bliss of his Virginia lands to the bustle of public life, he constantly railed against the machinations of city slickers like Hamilton. When a man was uprooted from his land and herded into cities like so much cattle, not only did he lose his property and the source of his livelihood, but his virtue was imperiled as well (Miller 1993, 251). In the words of one commentator, "For Jefferson, how one relates to the land speaks volumes about one's virtue and character" (Ball 2000, 67).

Jefferson's concern is not for the land in and of itself, but for how the loss of land affects man's character. Ever the Lockean enthusiast, he famously remarked in a September 1789 letter to confidant James Madison that "the earth belongs in usufruct to the living" (quoted in Ball 2000, 64). This sentiment was as close as anything Jefferson ever wrote specifically about his views on nature. He undoubtedly enjoyed his excursions into the forests and mountains surrounding Monticello, but he hardly favored Rousseau's view that nature could or should exist absent human improvements. For Jefferson, the question concerned intergenerational equity. Living inhabitants must be able to use their land as they see fit without the "dead hand control" enshrined in English law. By embracing the rule against perpetuities, American jurists were ensuring that "the dead have neither powers nor rights over" uses of land and property (Ball 2000, 64; Ling 2004).

A careful reader who pores through Jefferson's writings, especially *Notes* on the State of Virginia, cannot help but notice the Virginian's utilitarian conception of his native land. With its abundant mountains, valleys, lakes, rivers, and streams, Virginia favored its inhabitants not because of its breathtaking, pristine beauty—although Jefferson took note of these fine, if superfluous, qualities—but because it offered citizens a bountiful harvest. It was an idyllic setting for Jefferson's conception of the simple yeoman farmer living off the land and reveling in his love of liberty (Barber 1995, 390-96; Ellis 2000, 41-42).

Hamilton, the stereotypical street-smart New Yorker of his day, also accepted the premise that nature was valuable insofar as it served man's purpose. In fact, for Hamilton, the problem with nature, and the reason he eschewed agricultural pursuits in favor of the pursuit of manufacturing, was that nature alone did not favor mankind's needs. Nature's yield could be

improved upon in no small measure through human ingenuity. Relying on a division of labor as well as technical and manufacturing innovations in machinery and scientific production techniques, he believed that a systematic program of mercantile exchange—the roots of the capitalist enterprise—could best agriculture in every instance. He prefigured the Industrial Revolution of the nineteenth century; indeed, Hamilton understood the basic premise of nineteenth century social, political, and economic progress: "scientific" principles and processes could improve the human condition (Barber 1995, 390-92; McDonald 1982).

The Jeffersonian-Hamiltonian perspectives on nature can be understood best by comparing their works to discern differences and similarities in their thinking. Because both Jefferson and Hamilton wrote and spoke about nature on many occasions, sometimes obliquely, their mature works—especially *Notes on the State of Virginia* and the "Report on Manufactures," respectively—provide a revealing glimpse into their thinking.

Thomas Jefferson and the Ideal of the Yeoman Farmer

Thomas Jefferson's philosophy of nature, as is the case with most of his thinking, is difficult to discern. The historian Henry Adams (1955) once observed that, "Jefferson's writings may be searched from beginning to end without revealing the whole measure of the man" (128). Another well-known commentator, observing Jefferson's elusive character and less-than-systematic thinking, dubbed him an "American Sphinx," almost impossible to penetrate or discover owing to the multitude of guises and pretensions he adopted throughout his long life (Ellis 1998). Moreover, the few principles that can be discerned from Jefferson's political philosophy seem quaint and unsophisticated by the standards of the twenty-first century (Bailyn 2003, 40-47; Kapstein 1997; Mayer 1994; Peterson 1970).

Despite these difficulties, during his time and in the century following his death, Jefferson influenced generations of Americans with his vision of the new nation, although that vision was, and still is, highly contested (Brodie 1974; Ellis 1998, 8; Peterson 1960). Whatever else may be said about the confusing labyrinth of Jeffersonian thought, he was a thoroughgoing Lockean, even if he did not embrace all of Locke's precepts. Like the great English philosopher who preceded him, Jefferson argued for decentralized political authority as a means of protecting both individual liberty and property rights, which he understood as similar rights extending along the same continuum (Banning 1988; Hofstadter 1948; Sheldon 1991; Wood 1988). By exercising local control, yeoman farmers—God's chosen people, as Jefferson ([1787]

1982) described them in Query XIX of *Notes on the State of Virginia*—can best ensure what today would be called their quality of life: "Those who labour in the earth are the chosen people of God, if ever he had a chosen people, whose breasts he has made his peculiar deposit for substantial and genuine virtue," (165) he wrote. By contrast, those persons engaged in commerce, crowded into large cities without room to live or space to roam, soon became diseased and suffered from "a degeneracy" that he deemed a "canker" (165).

According to one commentator, "[n]ature was Jefferson's myth for all purposes, a flexible idea that gathered together his deepest beliefs" (Miller 1993, 251). Yet, despite this belief in myth, tilling the soil and harvesting the land were not mere metaphors for Jefferson. Although certainly he embraced the myth of virtuous farmers who threw down their plows and reluctantly marched off with a sense of *noblesse oblige* to perform their civic duty a la Cincinnatus, more importantly he believed that agricultural pursuits kept citizens in touch with the communities. Democracy requires such a connection or all is lost, in Jefferson's opinion (Hofstadter 1962, 155-56; Morrisey 1986; Richardson 1997, 76-79; Sheldon 1991). In his only book-length work, *Notes on the State of Virginia*, he contends that "corruption of morals" is a natural consequence of moving away from an agrarian lifestyle. Corruption necessarily occurs as a

... mark set on those, who not looking up to heaven, to their own soil and industry, as does the husbandman, for their subsistence, depend on it for the casualties and caprice of customers. Dependence begets subservience and venality, suffocates the germ of virtue, and prepares fit tools for the designs of ambition. (Jefferson [1787] 1982, 165)

When a man must labor to satisfy customers, he invariably sets aside his principles to cater to the desires of the moneyed men. This relationship creates a dependency that robs the laborer of his virtue because he has fewer choices in deciding his own destiny. This view was an ironic inversion of the nineteenth century Marxist perspective where the producers exploit the masses. For Jefferson, it was the "customers"—which could be thought of in his day as the rich New England and New York merchants who supported Hamilton and the Federalists—that corrupted the masses of honest, hard-working tillers of the soil. By contrast, men who worked their own land and lived off its bounty could remain self-sufficient and virtuous, free from pernicious

influences found in America's large, already crowded cities, at least crowded by eighteenth century standards.

Jefferson's instrumental view of nature and the centrality of agricultural pursuits as the basis for civic virtue were reflected in many of the letters he wrote to his friends and admirers over the years (Vetterli and Bryner 1988). For example, he succinctly expounded on this view in correspondence that he sent to James Madison on the eve of the constitutional convention: "This reliance [on manufacturing] cannot deceive us," he observed, "as long as we remain virtuous; and I think we shall be so, as long as agriculture is our principal object, which will be the case, while there remain vacant lands in any part of America" (quoted in Padover 1939, 70). He reiterated this point numerous times in his long correspondence with Madison. "I think our governments will remain virtuous for many centuries; as long as they are chiefly agricultural," he remarked on one occasion (quoted in Richardson 1997, 76; emphasis added). Lest the reasons be obscured, he explained elsewhere that, "[in America] the immense extent of uncultivated and fertile lands enables every one who will labor to marry young, and to raise a family of any size" (quoted in Padover 1939, 71).

The connection between moral virtue and agriculture was a common theme in Jefferson's thinking. When men farmed their own lands and made their own decidedly local political decisions, they were realizing the dream of the Revolutionary generation. To the extent that nature yielded a bounty sufficient to sustain the yeoman farmer, man and nature harmoniously coexisted. When nature did not yield a sufficient bounty, then the agrarian life—and moral virtue—were threatened (Banning 1988; Diggins 1988; Morrisey 1986; Sheldon 1991).

A proper civic education was crucial to Jefferson's vision of the new American republic. A strong public education prepared citizens to defend their rights against ambitious despots who would establish a new form of monarchy. Although Jefferson generally refrained from mentioning Hamilton and the Federalists by name when he championed civic education, his concerns about Hamilton as a new American monarch always figured into Jefferson's support for agriculture and his well-known antipathy toward his rival. To counteract the corrupting influences of the Federalists and their ilk, Jefferson developed a plan for universal public education that featured primary and secondary schools. In these schools, young minds could be molded into model citizens—the voters and watchdogs of a future generation that would inherit the mantle from the founders. It is little wonder, then, that he chose as part of his epitaph his role in founding the University of Virginia (Richardson 1997,

76-79).

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From the outset, Jefferson assumed that educated yeoman farmers would take their rightful place as masters of the earth, harvesting its fruits to create fully functioning farms and plantations. In setting forth this idealized view of a proper life in the American system, however, he encountered at least two problems that he never satisfactorily resolved. First, in stressing the necessity of a strong public education, he recognized that not everyone would possess the ability or the interest in acquiring the kind of liberal, high quality education that he envisioned. This kind of "natural aristocracy" was not objectionable because, in Jefferson's view, the capable student would take advantage of the educational opportunities presented to him. He failed to see that it was the leisured class—that is, the well-to-do plantation owners and other "moneyed men" from the agricultural interests—that would be well-positioned to receive a sound education while poor, itinerant laborers and subsistence farmers who barely eked out a living would be forced to forgo an education. Jefferson's championing of egalitarian ideals, it seems, had its limits.

Moreover, young minds taught the most "scientific" advances of the day could hardly be expected to labor for themselves. The notion of undertaking backbreaking labor was anathema to a gentleman farmer of the Virginia aristocracy. Thus, the well-educated man of agriculture was not the simple, hard-working farmer who dirtied his hands in the soil of his native Virginia. He was the head of a large plantation that relied on slave labor to increase the yields from planting cash crops like tobacco and cotton. Accordingly, all the talk of simple yeomen farmers who cherished an "empire of liberty" and sought only to be left alone to labor in idyllic bliss was even in the eighteenth century little more than a myth (Fleming 1999, 37-39).

Jefferson bitterly denounced slavery in Notes on the State of Virginia, concluding that it damaged both master and slave because the institution reflected "a perpetual exercise of the most boisterous passions, the most unremitting despotism on the one part, and degrading submissions on the other" ([1787] 1982, 162). Yet, despite this firm statement of principles, the reality of American plantation life was far different. The vision of Jeffersonian America ultimately became a devotion to white liberty built on a cornerstone of black slavery (Jeffrey 2000, 27-29; Miller 1991; Winik 2001, 6-11). According to one commentator, "Jefferson's...devotion to human freedom (especially the freedom of the mind) led him to adopt in whole or in part the Lockean natural law teaching, but it was a classical Roman taste and temperament that led to his very un-Lockean agrarianism" (Jeffrey 2000, 27). Another commentator remarked that Jefferson "was a romantic with an almost bewildering inability to see the gap between his political ideas and American realities. In his own Virginia, the happy, independent, small farmer was a down-at-the-heel myth in a state dominated by large slaveholders like Jefferson" (Fleming 1999, 109).

Furthermore, because Jefferson refused to subscribe to Hamilton's view that agricultural wealth could be enhanced, and because he insisted that manufacturing should be rejected, he was forced to argue for the sufficiency of agricultural yields. This was not an easy task. Jefferson devoted many pages in *Notes* to extended descriptions of natural phenomena in his native state, probably to demonstrate the relative immensity of available natural resources. If the educated yeoman farmer could be made to see that agriculture would preserve his virtue and still not rob him of the good life, perhaps the corrupting Hamiltonians who sought to tempt him with promises of a flashier, more exciting livelihood would not dupe him.

Jefferson wrote most of Notes on the State of Virginia as a disinterested scientist would write, providing only brief commentaries and conclusions about the state's natural resources. The passion and eloquence so prominent in the Declaration of Independence and in his private correspondence was missing from the work. Thus, reading *Notes* is much like reading an early American almanac, and that was Jefferson's intention. He sought to record the available data on his home state with the precision and accuracy often absent from his other works. In one telling passage, however, he refers to the problems with nature in an uncultivated state owing to "the spontaneous productions of the forests and waste fields," which were barely sufficient "to support indifferently the domestic animals of the farmer" (Jefferson [1787] 1982, 56). In such cases, farmers must labor to increase their agricultural production. Even so, most farmers had little incentive to improve their lands because scarcity of resources was not a problem. Jefferson writes, "He therefore finds it more convenient to receive them from the hand of nature in that indifferent state. than to keep up their size by a care and nourishment which would cause him much labour" (56). In short, despite Hamilton's arguments against the inefficiency of farming absent manufacturing, Jefferson contended that natural resources were so abundant in Virginia that farmers did not need to exert themselves to meet their material needs. The land could easily meet those needs. Moreover, in the event that a farmer wanted to improve his lot, he could undertake additional labors as necessary and thereby extract even further wealth from his land.

The emphasis on an individual private landowner laboring to produce wealth captures the major theme in Jefferson's agrarian philosophy. Building on Locke's labor theory of value, Jefferson implicitly argued that nature was not valuable until man mixed his labor with it to produce something useful. The theory was not unique to Locke or Jefferson, but it did occupy a fundamental role in each man's thinking. In the typical Lockean articulation, the theory posits that because man "has a property in his own person," it is man's labor that creates value when it is mixed with something taken from the state of nature (Heywood 1994, 141-42). In *The Second Treatise of Civil Government*, Locke ([1689] 1947) remarks that, "Whatsoever then he removes out of the state that nature hath provided and left it in, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property" (134).

Explicit in this position is the idea that nature in and of itself has no meaning without human beings who create value when they labor to use a resource. Thus, in Locke's view—and, by extension, Jefferson's—land was transformed from an untapped, "wasted" resource in a state of nature into a valuable commodity when man used it. "As much land as a man tills, plants, improves, cultivates, and can use the product of, so much is his property," Locke ([1689] 1947) explained; "He by his labour does, as it were, enclose it from the common" (136).

Land that was not closed off was deemed to be part of the commons, but that idea later created a dilemma for environmentalists who did not share Jefferson's perspective on the integral role of private property rights in the American regime (Gates 1996; Horwitz 1986; Larkin 1930; Malone 1972). If land is sold off and developed as a private right, the natural, pristine beauty of the land often is spoiled. If it is not cut into smaller parcels and sold, it remains part of the public domain (Rosenbaum 1998, 297-98). Unfortunately, public domain land is often subject to what Garrett Hardin famously called in the twentieth century the "tragedy of the commons." Individual users of a publicly owned resource have an incentive to use as much of a resource as they can—even to the point of exhausting it—to satisfy their individual desires without regard for future uses by other parties (Hardin 1968).

Jefferson, of course, did not discuss such specifics. It is clear from his writings, however, that he believed that land was valuable when it was privately owned (Gates 1996, 97-120). In one letter to Madison, he observed that the earth was created as "a common stock for men to labour and live on," (quoted in Fleming 1999, 108) but the success of the new regime required that at least a small portion of land be granted as property to small farmers. "The small landowners," in Jefferson's opinion, "are the most precious part of a state" (108-09).

As for the amorphous, unformed, unimproved "nature," it was something to be treasured because it was useful. Thus, in *Notes* Jefferson described the physical characteristics of his home state, the indigenous plants, wildlife, and people there because that type of information was useful to know. Jefferson did not embrace agrarian pursuits because he was a closet environmentalist searching for a method of communing with the natural environment. On the contrary, when man co-existed with nature, taming it to suit his needs, he did not exist in an artificial environment like a city, where he could lose control of his labor, hence his individual rights.

Conspicuously absent from most of his work, at least from the perspective of the twenty-first century, was the idea of scarcity of resources. A critic might ask Jefferson how the land of Virginia—indeed, of the United States could sustain a population that grew beyond the abilities of the natural resources to meet its needs. To his credit, Jefferson touched on the question of population growth in Query VIII of the *Notes*. According to his calculations, the population of Virginia and the new nation in 1782 was relatively small. This conclusion required policy-makers to adopt a set of laws and regulations altogether different from those enacted across the Atlantic. "In Europe the object is to make the most of their land, labour being abundant," he observed, while "here it is to make the most of our labour, land being abundant" (Jefferson [1787] 1982, 85). Thus, agriculture was capable of yielding far more bountiful harvests than it did in the United States, but such efforts were unnecessary. "The indifferent state of [agriculture] among us does not proceed from a want of knowledge merely; it is from having such quantities of land to waste as we please," he forthrightly observed (85).

With this passing reference early in *Notes on the State of Virginia*, Jefferson cut to the heart of the matter. In his day, natural resources were abundant and inexpensive to acquire. In light of his intellectual heritage stretching back to antiquity, Jefferson simply could not envision the need to consider the environment as anything other than a means to an end. As long as men left enough material resources to share, why worry about scarcity or environmental degradation? At least for Jefferson, men who worked on farms and spent a good deal of their time within the natural environment would take steps, albeit perhaps belatedly, to protect the earth. It was in their best interests to protect their property. This base notion of conservation and land management, as unsatisfactory as it appears to environmentalists living two centuries later, was still a far cry from Alexander Hamilton's view of nature as something that is exploited and then left behind as soon as possible.

Alexander Hamilton and the Capitalist Enterprise

The context in which Alexander Hamilton wrote his major works, especially the "Report on Manufactures," was less reflective than the context in which Jefferson produced his philosophical and scientific reflections in *Notes on the State of Virginia*. Always the practical politician, Hamilton already had demonstrated himself adept at fusing political ideology and argument with political rhetoric in the midst of spirited partisan politics in *The Federalist Papers* three years earlier (Hamilton, Madison, and Jay [1788] 1961; Martinez and Richardson 2000, 315-21). So, too, in the "Report on Manufactures" did he mix politics and philosophy, although in that case he set forth a solid foundation for the fiscal health of the nation coupled with his inimitable pronouncements on policy goals (Chernow 2004, 374-79; McDonald 1982; Wood 1969 and 1988).

Better than almost every other American of the eighteenth century, Hamilton understood the conditions necessary for establishing a polity in which commerce could flourish (Allen 2004; Diggins 1988; Lind 1994; Mead 1996; Ostrom 1987; Roche 1969; Shankman 2003; Stourzh 1970; Yarbrough 1985). As an early champion of capitalism and, most famously, as the first Secretary of the Treasury, he constantly pushed for the adoption of public policies to marry private business and public institutions together. Government was designed to establish laws that allowed private entrepreneurs to meet market demands in a laissez faire atmosphere that eventually generated surplus wealth for everyone, in Hamilton's view. This placed him at odds with Jefferson, who feared the loss of virtue with the growth of manufacturing enterprises (McDonald 1982 and 2000, 27-33; Mead 2002, 177-80; Rossiter 1955, 108; Rubin 2000; Stourzh 1970; Walling 1995).

It is ironic that in his day Hamilton struck critics such as Jefferson as a proponent of big, powerful government that threatened to impede mankind's progress and severely curtail human freedom. "Our Bonaparte," Jefferson famously called Hamilton in a letter to Jefferson's son-in-law, Thomas Mann Randolph (quoted in Fleming 1999, 68). This characterization seems patently unfair today, or at least inaccurate. As the great capitalist of the Founding Era, today Hamilton would seem to be the quintessential free market economist of the modern University of Chicago school. Government plays an integral role in promoting economic concerns, Hamilton would tell us, but compared to the welfare state created by reform liberalism in the twentieth century, he appears as a libertarian of the highest order (Hoover 1994, 71-74). He envisioned a regime in which public policies cleared the way for manufacturers to produce goods that could be sold with minimal government constraints,

which would serve as little more than overly burdensome transaction costs. Thus, while Hamilton would seem to be a proponent of big government when compared with Jefferson's agrarian ideal, he was far more sophisticated in his understanding of the proper role of a regime than he might initially appear (Allen 2004; Dolbeare 1984, 154-57; Lind 1994; Shankman 2003).

Government was the means; economic progress was the end. When roads were not available to ship goods to market, government had a role in financing new road construction through taxation. When farmers wanted to block free trade policies or avoid payment of their lawfully incurred debts, government had to intervene to ensure that orderly financial transactions could occur (Plattner 1982). In the words of one commentator,

Hamilton wanted the United States to have banks, factories, a stock market...because he saw a future in which an industrialized continental-sized America would reduce England to a mere appendage. Alas, for Hamilton, it was a hard sell to farmers who were being told they were chosen of the earth, and warned that Federalist policies favored businessmen and discriminated against honest tillers of the soil. (Fleming 1999, 38-39)

Hamilton's vision ultimately proved to be prescient; the changed understanding of his program has less to do with the substance of his original arguments than with American's evolving understanding of government's role in the two hundred years since the founding (Allen 2004; Hoover 1994, 88-105; Lind 1994; McDonald 1982; Mead 1996; Ostrom 1987; Yarbrough 1985).

Hamilton's specific purpose in writing the "Report on Manufactures" was to address Congress and defend his support for manufacturing against the charge that he would undermine agricultural production—the "most beneficial and *productive* object of human industry," in his words (Hamilton [1791] 1984, 167; emphasis in the original). He had to tread carefully, for he was conscious of the charges leveled against him by critics such as Jefferson, who saw the pushy New Yorker as a would-be tyrant. Thus, Hamilton readily conceded that the farmers' views of nature were not fundamentally mistaken. Agriculture certainly was an important method of generating wealth; in fact, it remained the one true estate—the real estate (Mead 2002, 105-12; Shankman 2003, 331-39).

Much like Anthony, who came not to praise Caesar but to bury him, Hamilton opened his report by praising the role of agriculture before he moved to his second point, namely that he believed mankind to be capable of far greater yields than agriculture could produce:

It ought to be readily conceded that the cultivation of the earth—as the primary and most certain source of national supply—as the immediate and chief source of subsistence to man—as the principal source of those materials which constitute the nutrient of other kinds of labor—as including a state most favorable to the freedom and independence of the human mind—one, perhaps, most conducive to the multiplication of the human species—has intrinsically a strong claim to pre-eminence over every other kind of industry. (Hamilton [1791] 1984, 168; emphasis in the original)

After offering his arguably disingenuous support for agriculture and his faith in its potential for yielding bountiful harvests, Hamilton contended that manufacturing promised far greater gains than simple farming could ever hope to achieve. In Hamilton's view, depending only on the soil for human sustenance was a mistake because human ingenuity could accomplish far more than could be realized by depending on the vagaries of climate, weather, and soil composition to live. Owing to advances in technology, the creation of commercial markets, and the promise of future innovations, mankind could engineer ever-larger yields of wealth. Although he did not provide an exhaustive listing, Hamilton briefly enumerated a few reasons why human beings could produce wealth far beyond what the land could provide. He listed a number of "scientific" innovations: the division of labor; the use of machinery; additional employment of persons not generally included in the laboring class; emigration from other countries; furnishing a greater scope for the diversity of talents among men; offering a larger area for commercial enterprise; and creating markets, and thus, "a more certain and steady demand for the surplus produce of the soil" (168).

These factors, when combined, could greatly increase mankind's overall wealth, and hence the benefits that accrued to him. To ensure that his point was not misconstrued, Hamilton bluntly set forth the reasons why manufacturing should enjoy primacy over agricultural pursuits: "The bowels as well as the surface of the earth are ransacked for articles which were before neglected. Animals, plants, and minerals acquire a utility" that is left "unexplored" by agriculture (quoted in Brookhiser 1999, 94). This bold statement captured a great deal of the Hamiltonian enterprise. Jefferson's almost mystical faith in the bounty of the earth and man's connection to

agriculture already was obsolete. Manufacturing, broadly taken as the pursuit of commercial enterprises, allows men to use nature to its fullest extent, to extract every ounce of utility possible from available resources. In this way, Hamilton agreed with Jefferson that nature could and should be harvested to serve man.

The two founders differed on the extent to which nature was useful. For Jefferson, man was of nature; his task was to learn to live off the land in loosely organized, decentralized communities. Where Jefferson envisioned a community of individuals living in rural areas dependent on the soil, Hamilton wanted to separate man from nature and build centralized communities in large cities divorced from nature. In modern parlance, cities consolidate population centers and lower transaction costs, thereby increasing access to markets. After he is far away from the state of nature, man is well situated to exploit nature's bounty and experiment with increasing the yields through commercial enterprises (Ball 2000; Ling 2004; Mead 1996).

The "Report on Manufactures" was not Hamilton's first articulation of his central thesis that manufacturing and commercial enterprises improved citizens' lives and did not need to be antithetical to agricultural interests. Several years earlier, in "Federalist 12," he argued that the two interests were complimentary in a well-ordered regime:

The often-agitated question between agriculture and commerce has from indubitable experience received a decision which has silenced the rivalship that once subsisted between them, and has proved, to the entire satisfaction of their friends, that their interests are intimately blended and interwoven. (Hamilton, Madison, and Jay [1788] 1961, 92)

He goes on to say, "It has been found in various countries that in proportion as commerce has flourished land has risen in value. And how could it have been otherwise?" (92).

Hamilton did not dwell on virtue or the loss thereof in his defense of commercial enterprises. Such discussions had little place in the context of pecuniary endeavors. This insight does not suggest that Hamilton was completely immoral or amoral, although certainly that is the way that the Jeffersonians and the Republicans portrayed their nemesis. Instead, Hamilton believed that high-minded appeals to the "virtue" of the people were naïve and sentimental. At one point in his career, Hamilton asked, rhetorically, "[t]ake mankind as they are, and what are they governed by? Their passions.... One

great error is that we suppose mankind more honest than they are" (quoted in Richardson 1997, 51). Although he did not refer to Jefferson by name here, it is no great leap of faith to realize that he probably had the Sage of Monticello in mind. For Hamilton, "Our prevailing passions are ambition and interest; and it will ever be the duty of a wise government to avail itself of these passions, in order to make them subservient to the public good; for these ever induce us to action" (51).

Hamilton stripped away the masks that hid citizens' true character. People were not the simple, honest, well-meaning individualists yearning to be left alone and free of an obdurate centralized government that Jefferson supposed them to be. They were passionate, self-interested, often greedy creatures that had to be taken as they were without pretense. Accordingly, the "Report on Manufactures" avoided discussions of virtue and opted for an appeal to self-interest. Hamilton went on to explain how manufacturing protected man's "real interests" far better than agriculture did because manufacturing advanced those interests rather than injured them. If a worker could use his labor to produce two or three times the same commodities that a farmer could produce, would he not always choose the higher yield? The answer was intuitively obvious to Hamilton. The later divisions between capital and labor—between management and workers—were not foreshadowed in his work. Hamilton left it to nineteenth century thinkers such as Dickens, Marx, and Engels, and the Utopian Socialists to expound on the dark side of the capitalist system (Allen 2004; Brookhiser 1999, 93-95; Lind 1994; McDonald 1982; Shankman 2003).

Conclusion

For better or worse, the instrumental view of nature has served as the hallmark of the American tradition. This perspective can be seen clearly in the thinking of two American founders—Thomas Jefferson and Alexander Hamilton. Although each man entertained different ideas about the appropriate means by which men should interact with nature, they shared a common belief that the natural environment was not intrinsically valuable, but its fruits had to be harvested for the benefit of human beings. Jefferson believed that human beings must remain close to the land if they were to retain their moral virtue and their independence of thought and action. When men surrendered their land and congregated in large cities, desperately seeking a way to sell their wares, they surrendered their natural liberty and prostituted themselves to the moneyed interests in the cities.

Hamilton, by contrast, argued in favor of manufacturing—that is, commercial or mercantile endeavors—as the most efficacious method of increasing wealth and ensuring the continuation of an economically prosperous, and therefore politically healthy, regime. Hamilton did not consider virtue in his discussions of the economy. Such considerations properly belonged in the sphere of moral philosophy, not economic transactions. In his view, the question was whether manufacturing could help citizens—and he believed that it could—or whether another means of generating wealth was more efficient. Manufacturing benefits everyone, even those who till the earth, because it provides a market for agricultural goods and improves the entire economy.

As diametrically opposed as these perspectives on the proper state of the polity may seem, they share a common understanding of man as properly exercising dominion over the earth. Moreover, for all their brilliance in articulating a new political order, Jefferson and Hamilton were men of their times, and they lived toward the end of the eighteenth century Enlightenment. It was an era devoted to a mechanistic, naturalistic explanation of natural phenomena. After toiling under centuries of religious dogma, many Enlightenment thinkers reached out to the scientific process in the wake of Newton's discoveries in the natural sciences. Science told man that nature was well ordered; man had to but discern the patterns of nature and the secrets of the universe would be his (Cassirer 1951; Crocker 1959; Gay 1977).

How, then, would this investigation proceed? For both Jefferson and Hamilton, man must impose his will on the world. The endeavor began with the proper education in classical thinking and the ways of the world (Richardson 1997, 67-81). Afterward, a good citizen would set to work. Jefferson envisioned a network of farms cultivated by gentlemen farmers of which he was the intellectual progenitor. Hamilton countered with a view of men living in larger areas where they could conveniently trade with each other and engage in other mercantile enterprises. In any case, nature would be brought to heel.

The result of the Jeffersonian-Hamiltonian agreement is hardly surprising. Leaders of the early American republic, even proponents of agrarianism like Jefferson, embraced a notion that today is called "political economy." Governments are instituted to create the conditions for citizens to better their welfare through participation in a market economy. The nature and extent of the economy—rural or urban, agricultural or mercantile—might be open to debate, but the primacy of economic considerations was beyond dispute. If the natural environment had to be manipulated to serve those ends, so be it (Huston 2004).

It need not have been this way. As with Rousseau, the leaders of the American republic might have recognized the limits of the Enlightenment, arguing instead for a radically different view of man's interior life and the separate existence of nature (Russell 1972, 684-701). Natural man, left untainted by the dehumanizing effects of civilization, might have emerged as a prototypical Enlightenment figure. Human reason might have recognized that man exists apart from his environment, and the bifurcation is healthy for man and nature.

Alas, it was not to be. The intellectual heritage of the Enlightenment was too strong, and Rousseau, Marx, and Freud were too far in the future. For all their differences, in the end Jefferson and Hamilton agreed that good government meant civilization and progress, and in turn civilization and progress required nature to yield her bounty to man.

Modern environmentalists who argue for a new and radical understanding of nature as valuable in and of itself face an uphill battle when they look to the past for support. The instrumental view is firmly ensconced in the American psyche, and with little wonder. For a nation just embarking on a new experiment in republican government, it would have been surprising to find anyone desiring to protect the ecosystem when so few human needs were being met.

In the 1830s, Alexis de Tocqueville, that perspicacious commentator on the American political system, observed that Americans

... are insensitive to the wonders of inanimate nature and they may be said not to perceive the mighty forests that surround them till they fall beneath the hatchet. Their eyes are fixed upon another sight, the...march across these wilds, draining swamps, turning the course of rivers, peopling solitudes, and subduing nature. (quoted in Rosenstand 1998, 59)

Little has changed since that time. The instrumental perspective is well grounded in the American experience.

What, then, should or could change in light of the decades upon decades of the American tradition? Some commentators suggest that an environmentally conscious citizenry might embrace a different notion of natural resources. An instrumental view would still predominate if Americans adopted "green accounting" methods that attempt to translate non-market resources into the market language of neoclassical economics. Nonetheless, this broader perspective would move away from the exploitative view of nature found in the traditional instrumental school of thought (Daly 1989; Solow 1998).

Alternatively, the instrumental view might be jettisoned altogether in favor of the intrinsic view that examines environmental issues from a larger scale—beyond human time to the millions of years required to change an ecosystem (Holling 1978; Norton 1995). The most radical change would be to adopt a view often referred to as "deep ecology," a perspective that appreciates the inherent value of "life quality" in lieu of human beings always pursuing a higher standard of living by consuming an ever-increasing number and amount of scarce natural resources (Devall and Sessions 1998).

Despite the large body of literature that advances each of these perspectives, the traditional view of nature as instrumentally valuable is deeply rooted in American history and, consequently, difficult to circumvent (Opie 1998). Although Jefferson and Hamilton were hardly the first or only proponents of the instrumental view of nature, their influence as Founding Fathers at the inception of the polity makes them giants in the subsequent development of many nineteenth and twentieth century public policies. Their common agreement that the United States had to exploit nature—whether it pursued agriculture or manufacturing as the primary means of economic and political advancement—has been accepted by most mainstream Americans as a selfevident premise. The instrumental view originated many centuries earlier than it did on the North American continent, but it took hold in the New World owing to the unique blend of American individualism, Hamiltonian capitalism, and the relative abundance of natural resources. Environmentalists face a hard road if they hope to change modern Americans' perceptions in light of this long tradition and illustrious intellectual pedigree.

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