NUCLEAR WEAPONS AS THE CURRENCY OF POWER
Deconstructing the Fetishism of Force

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There are important similarities between the pattern of behavior Karl Marx identified with respect to commodities—a pattern he called “fetishism”—and the pattern of behavior identified in this article with respect to military force. Marx identified money as the mature expression of commodity fetishism; the author identifies nuclear weapons as the mature expression of the fetishism of force. As such, nuclear weapons function as the currency of power in the international system. This article lays out a theory of nuclear fetishism by adapting four themes that are characteristic of the pattern of behavior known as fetishism: materiality, historicality, efficacy, and reification. By applying these categories to the fetishism of nuclear weapons, the author shows that nuclear weapons represent a new social form consistent with, yet distinct from, other fetish objects.

KEYWORDS: Nuclear weapons; deterrence; nonproliferation; fetishism; international relations

“It is characteristic of our convictions, in strategy as in all affairs in life, that we tend to regard them as natural and inevitable. However, if we examine the history of the ideas contained in those convictions, we usually find that they have evolved in a definitely traceable way, often as the result of the contribution of gifted persons who addressed themselves to the needs of their own times on the basis of experience available to them. Our own needs and our experience being different, we are enabled by our study to glimpse the arbitrariness of views which we previously regarded as laws of nature, and our freedom to alter our thinking is thereby expanded.”

—Bernard Brodie, Strategy in the Missile Age

Nuclear weapons are plagued by paradox. The most fundamental paradox of nuclear weapons—the paradox from whence all others derive—is that they complete the logic of maintaining national security through force while at the same time leaving the United States more vulnerable than ever before. Exploiting nuclear technology does not carry with it protection against attack because launching a military attack on an opponent does not necessarily reduce the opponent’s ability to inflict unacceptable costs in return. Although military uses for the detonation of nuclear weapons have been proposed since the United States used them against Japan in World War II, such proposals have consistently appeared both undesirable and unrealistic. Even small-scale use has been
eshewed for fear of escalation and has been consistently rejected in favor of conventional alternatives. 4

In the late 1940s and early 1950s policy makers in the United States faced a dilemma. On the one hand, there were many reasons that a military strategy of employing nuclear weapons was not acceptable in the long term, including the possibility of nuclear retaliation from the Soviets. On the other hand, complete nuclear disarmament would have meant giving up the military advantage of being able to inflict large-scale destruction at a time when the Soviet Union posed an ever-greater conventional and nuclear threat. Unless the international community could cooperate to eliminate nuclear weapons, the United States would have to find a military justification for possessing those weapons, but it would have to be a justification that could preclude their detonation.

Nuclear deterrence not only provided a solution to the problem of what to do with nuclear technology, but it also held out the promise of increased national security. The practice of deterrence, as derived from rational deterrence theory, is defined as “the discouragement of the initiation of military aggression by the threat (implicit or explicit) of applying military force in response to the aggression.” 5 A successful nuclear deterrent does not require that a state actually detonate nuclear weapons in order to destroy enemy targets. It only requires that one’s enemy believes the threat to do so could be carried out and holds that belief with a high enough degree of certainty to make the possibility seem real. 6 Unlike nuclear disarmament, which would have required an unprecedented level of international cooperation and, due to the problems of verifying compliance, a high degree of trust, nuclear deterrence required neither trust nor cooperation. In theory, creating and maintaining a nuclear arsenal that could withstand an attack with the capacity to retaliate increased national security in two ways: it could be used to deter a nuclear attack, and could be used to deter conventional aggression as well.

Yet policies of nuclear deterrence did not escape the fundamental paradox of nuclear weapons. Policy debate about how to achieve a successful nuclear deterrent followed the closed loop of a Möbius strip, the critique of one course of action leading ineluctably to a conclusion in favor of the other, and vice versa. 7 This phenomenon is referred to as the “stability-instability paradox.” 8 On the one hand, maintaining a minimum arsenal with only as many weapons as were necessary to absorb a nuclear attack from the Soviet Union and retaliate with an “assured destruction” capability promoted stability between the superpowers because neither superpower had an incentive to launch an all-out nuclear attack. 9 However, the more invulnerable the retaliatory forces of both the United States and the Soviet Union became, and the more stable the balance was, the more likely it was that large-scale nuclear threats would be ineffective against limited forms of aggression. Thus, stability at the level of “mutual assured destruction” created instability at lower levels of violence.

On the other hand, maintaining a wide range of nuclear options, including tactical weapons for use on the battlefield, provided the possibility of retaliating proportionally to limited aggression. The capacity for a limited response to limited aggression made the threat of nuclear retaliation more credible. However, flexible options deployable at a variety of levels provided no reliable mechanism for controlling escalation and could in fact provide an incentive to launch a preventive attack. If the Soviet Union feared that a
limited conflict could escalate to all-out war, then it may have decided that it would be
to destroy as much of the U.S. arsenal as possible in order to limit the U.S. capacity
for retaliation in kind. Thus, creating stability at lower levels of violence could lead to
instability at the level of all-out war, closing the policy loop by bringing us back to the
solution of maintaining a minimum capacity for retaliation in kind.

If there is no escape from the paradox of nuclear deterrence, and therefore no
decisive resolution to the policy debate over the military requirements of deterrence, why
is its logic so persuasive? For more than half a century the practice of nuclear deterrence
has been treated as if it were both a natural and inevitable result of the existence of
nuclear technologies. Rather than attempt to escape or resolve the paradox of nuclear
weapons, in this article I posit an explanation for its existence and its persistence. I argue
that the recurrent paradox of nuclear weapons is a symptom of their status as fetish
objects. More specifically, I argue that the production of nuclear weapons as fetish objects
is the culmination of a pattern of behavior that I refer to as the fetishism of force.10 There
are important similarities between the pattern of behavior Karl Marx sought to identify
with respect to commodities—a pattern he called “fetishism”—and the pattern of
behavior I identify here with respect to military force.11 Marx identified money as the
mature expression of commodity fetishism; I identify nuclear weapons as the mature
expression of the fetishism of force. Money is the physical embodiment of a form of social
value, namely, wealth. Likewise, nuclear weapons are the embodiment of power. Just as
access to wealth in the form of money determines an individual’s opportunities and place
in a social hierarchy, access to power in the form of nuclear weapons determines a state’s
opportunities and place in the international order. In both cases, the physical form of the
fetish object is valuable because it serves as a carrier of social value. In other words, the
power of nuclear weapons is not reducible to their explosive capability. Nuclear weapons
are powerful because we treat them as powerful.

The existence of a fetish form can always be identified by its symptom. A fetishized
object always simultaneously completes and confounds the logic of its production, thus
producing a contradiction.12 In the case of commodity fetishism, money completes the
logic of the production of wealth through exchange and at the same time alienates the
working class from that wealth through the commodification of labor. The field of military
security requires the pursuit of ever more destructive weapons to achieve military victory
in war, yet that pursuit results in the production of nuclear warheads loaded on
intercontinental ballistic missiles that have the perverse effect of making war so
destructive that they cannot be said to produce security in a conventional sense. At the
same time that nuclear weapons embody the logic of power as synonymous with an ever-
greater capacity for destruction, they also confound the field of national security. The
recurrent paradox of nuclear weapons is a symptom that can be used to identify their
status as fetish objects.13

The identification of nuclear weapons as the ultimate expression of the fetishism of
force is more than an empirical claim, although the truth of the claim can be evaluated
with respect to empirical data. A fetish object is defined by a particular type of relationship
between appearance and truth (in which what is treated as if it were essential and thus
immutable is shown to contain the potential for transformation). Thus, to make the
empirical claim that an object has been fetishized is to simultaneously engage in a critical act of deconstruction. Seyla Benhabib refers to the “procedure of showing that what appears as a given is in fact not a natural fact but a historically and socially formed reality” as the method of defetishizing critique.14 Performing a defetishizing critique of U.S. nuclear policy and the discourse of rational deterrence theory exceeds the limits of what is possible to achieve in this article. In the pages that follow, I lay out a theory of nuclear fetishism that can subsequently be used to perform a defetishizing critique. Building from a model of fetishism originally developed by William Pietz, I adapt four recurrent themes that are characteristic of the pattern of behavior known as fetishism.15 By applying these categories to the fetishism of nuclear weapons, I show that they represent a new social form consistent with, yet distinct from, other fetish objects. In conclusion, I present some initial policy implications that can be derived from this reinterpretation of the relationship between nuclear weapons and human behavior and used to defetishize nuclear weapons.

The Theory of Nuclear Fetishism

William Pietz argues that the concept of fetishism as we know it developed out of the cross-cultural interaction between Portuguese traders and the peoples of Africa’s Atlantic coast nearly two centuries prior to its appropriation by major social theorists of the eighteenth and nineteenth centuries.16 Pietz locates the origin of the term in the efforts of the Portuguese traders to comprehend the willingness on the part of Africans to trade their gold for “trifles.” Because the Portuguese traders assumed their own system of mercantile exchange to be natural and correct, they perceived the Africans’ behavior as the product of a mistaken belief system. Africans’ “false” estimation of value stemmed from a failure to distinguish between the religious and economic value of objects. They incorporated the trifles they accepted in exchange for gold into their religious practice of wearing found objects, which they often tied around the neck or the ankle. These objects were believed to be imbued with the power to ward off disease or bring good fortune. The Portuguese traders referred to these objects as fetissos, a Portuguese word that was associated with magic and witchcraft and carried the connotation that the significance of the object in question was “manufactured” or “artificial” as opposed to natural and essential.17

The Portuguese traders in this narrative imagine that they have access to the true meaning of gold in its “natural” form—its natural form being its commodity form—and that they know that the value of the gold is far greater than the trifles for which the Africans trade it. From the Portuguese perspective, it is obvious that the meaning attributed to the objects in question by the Africans is not only not universal, but in fact mistaken. However, the same narrative could be retold with the Portuguese traders playing the role of fetishists in their pursuit of gold as the embodiment of wealth. Rather than producing a critical evaluation with the goal of exposing an object’s “real” value, the identification of a fetish object may also produce an awareness of the way in which all cultures create their own social objects. The purpose of this enterprise is not to uncover
the hidden truth of an object’s natural value, but rather to demonstrate how a socially and historically formed reality becomes reified and taken to be natural and therefore universal. By recognizing the human agency at work in the construction of reality, it becomes possible to imagine changes that might otherwise be considered unrealistic.\textsuperscript{18}

Importantly, denaturalizing a fetish object in theory does nothing in and of itself to deconstruct the meaning of that object in reality. It is possible to be aware that what is being treated as if it were natural is in fact a social construction, yet continue to behave as if it were natural and thus participate in a fetishistic process. In other words, as Slavoj Žižek put it, it is possible to be “fetishists in practice, but not in theory.”\textsuperscript{19} The fetish object exists not only at the level of what individuals think or know they are doing. Insofar as a fetish object is the result of a collective social practice, it confronts individuals at the level of behavior. Regardless of what individuals think or know, the fetish exists in what they actually do. Žižek explains this dynamic with reference to commodity fetishism. Commodity fetishists know very well that money is not valuable in and of itself. They realize that money is simply an expression of social relations, and who is entitled to what portion of the social product as represented by money is a function of market ideology. Yet, although individuals are very well aware that there are relations behind the relations between things, they continue to act as if money were the immediate embodiment of wealth as such. The illusion does not necessarily exist at the level of the knowledge of reality, but rather in the structuring of social reality itself. Each time that social reality confronts individuals by enabling or limiting their social activities, the conviction is reinforced that even if they do not believe, the belief is out there—everyone believes that someone else believes, and thus a behavior that might otherwise appear illogical is justified as rational.

The behavior of nuclear deterrence is explicitly justified and sustained with respect to the belief that others believe. Thomas Schelling lays out the logic in his explanation of the rationality of irrationality.\textsuperscript{20} He argues that the rationality of nuclear deterrence does not rest on whether or not it is rational to carry out an irrational nuclear attack, but rather on whether or not it is rational to make your opponent believe that you will do so. It was not important whether policy makers in the United States believed that they would actually carry out an irrational nuclear attack. The success of nuclear deterrence rested on the ability to make the Soviet Union believe in the credibility of the threat to do so. Thus it is possible to be aware of the fact that there is something about the power of nuclear weapons that exceeds the logic of rational approaches to international politics and yet continue to engage in the process of implementing a particular type of fetishistic deterrent policy.\textsuperscript{21}

The explicit recognition of a gap between what we believe about nuclear weapons and what we act as if we believe is a necessary feature of nuclear deterrence because it enables us to maintain the traditional association between military force and power. The dominant World War II–era discourse of international politics defined power in terms of control. For instance, power for the classical realist Hans Morgenthau could consist of anything that contributed to “the control of man over man.”\textsuperscript{22} Nuclear weaponry challenged the practice of treating military force as an embodiment of power because it
was no longer possible to maintain a logical association between the application of military force and the control of political outcomes. The fact of mutual assured destruction, in which nuclear adversaries both had the capability to launch a first strike and retaliate in kind, meant that superior military strength no longer prevented an adversary from inflicting retaliatory damage. Without the ability to secure the homeland, the application of military force could no longer be understood as conferring political control. Shifting the debate about military strategy from a focus on what violence could accomplish forcibly to what Schelling refers to as "the diplomacy of violence" allowed military strategists to maintain the association between military force and control. By predicking nuclear strategy on what could be accomplished through the threat of pain and destruction (the threat-value of nuclear weapons), as opposed to what could be accomplished through the efficient application of military strength (the use-value of nuclear weapons), the association between military force and control was reasserted at the level of perception. Deterrence is defined as the ability to dissuade as opposed to the ability to coerce. Both dissuasion and coercion are aspects of control. Thus, a successful strategy of deterrence was also a demonstration of military and political power. Nuclear strategy became a game of nerves in which control over perceptions of resolve, as opposed to skill and ingenuity in the application of force, was the determinate factor in political outcomes. Rather than producing useful weapons that could also be exploited for their threat-value, nuclear weapons were produced for the purpose of making a threat in spite of the implications of their use.

To understand what it means for nuclear weapons to be produced and reproduced as fetish objects, viewing them through the lens of Pietz's model of fetishism is useful. From his historical reconstruction of the idea of the fetish, Pietz derives four recurrent themes that are characteristic of the pattern of behavior known as fetishism and that I have adapted for the purposes of this analysis: materiality, historicality, reification, and efficacy.

Materiality

Fetishism is irreducibly material; it requires a physical presence, as opposed to a purely ideational or linguistic existence. Thus, fetishism always refers to a pattern of human behavior organized with respect to a material object: the African worshipping a trinket, or the capitalist exchanging a commodity. This configuration differentiates a fetish object from a symbolic object. A symbol is referential. Its purpose is communicative. A physical change in the status of a symbolic object does nothing to alter the nature of its social context. A fetish object, on the other hand, is essential to the functioning of the social context in which it is embedded. Nationalists do not require a flag, but capitalists require a commodity.

The destruction that can be wrought by nuclear weapons is required for them to be properly understood as an instrument of force and to mediate relations between states; states require nuclear weapons in order to practice nuclear deterrence. The significance of a nuclear weapon's capacity for physical destruction is that it pushes the logic of
accumulating power to its logical extreme. In that way, nuclear weapons are the ultimate expression of a historically particular fetish form, the fetishism of force. They are the most destructive force the world has ever known. The fact that a relatively small amount of fissile material can release a very large amount of explosive energy differentiates nuclear weapons from other explosive technologies. The combination of nuclear explosive technology with advanced missile systems maximized the capacity for physical destruction while minimizing the human presence necessary to engage in the act of destruction. All of these characteristics of their physical embodiment are significant for understanding how nuclear weapons embody the culmination of a socio-historical process that created and sustained a relationship between the capacity for destruction and the exercise of power.

Yet, it is not their capacity for destruction that is the source of their power. The act of large-scale nuclear destruction will not contribute to achieving rational political ends; only compliance with the threat of destruction will further those ends. The same way the materiality of money has no use-value apart from its exchange-value, the value of nuclear weapons resides in their threat- (exchange-) value rather than their use-value. In essence, their material form is nothing but a carrier of their social function. The particularities of their physical embodiment that make them desirable for consumption—properties such as their explosive yield—are not what make them appropriate carriers of social value. The same material properties that are germane to the physical embodiment of money—durability and scarcity—are the physical properties that provide the foundation for nuclear weapons to serve as the embodiment of power.

Money is treated as if it did not experience the wear and tear of physical exchange, and nuclear arsenals are treated as if their development and maintenance had no human or economic costs. Both objects are treated as if their material embodiment were not subject to the effects of time. Although individuals know very well that mechanisms exist to reproduce their material existence, as the ultimate expression of the development of commodity fetishism and the fetishism of force respectively, both objects function as if they consisted of an immutable substance. In this sense, what is specific about the durability of a fetish object is not that it is actually indestructible, but rather that its physical substance can be incorporated into a social process of “circulation” that is supported by a mechanism for its continual renewal.

One effect of behaving as if the material substance of the fetish object were indestructible is that it both enables and requires the costs associated with its production to be obscured. This was true of the human and environmental costs associated with the production and maintenance of nuclear weapons throughout the Cold War. Stephen Schwartz, referring to the human and environmental costs of the U.S. nuclear complex, argues the following:

Until the end of the Cold War, the environmental and public health costs of U.S. nuclear weapons generally received little attention and funding. This was partly because there were few systematic efforts underway to document or address the full extent of the problems and implement solutions. But it was also because few senior government officials felt comfortable raising concerns about real and potential hazards posed by the
production and testing of nuclear weapons at a time when those weapons were still considered a crucial factor in U.S.–Soviet relations. The AEC [Atomic Energy Commission] and DOE [Department of Energy] also did what they could to discourage discussion about these issues, to the point of lying about the dangers to not only the general public but also the workers in its own facilities.25

Consistent with what a theory of nuclear fetishism would predict, much of the information about human costs was purposefully hidden during the Cold War so as not to disrupt the fetishistic belief in the security provided by the U.S. nuclear program.26

The end of the Cold War created a new opportunity to recover data on financial costs associated with U.S. nuclear weapons programs. Throughout the Cold War the nuclear arsenal had been maintained, updated, and improved as if its existence were costless, creating the illusion that nuclear weapons were made of a permanently enduring, “sublime” substance. Costs were not scrutinized due to both a lack of transparency and the assumption that nuclear weapons were a cheaper form of security than conventional weapons (epitomized by the adage “more bang for the buck”). The first comprehensive historical analysis of nuclear weapons costs, completed under the aegis of the Brookings Institution in 1998, reveals that those costs were not only not scrutinized, but they were not systematically collected for much of the Cold War. A previously classified report on the Air Force atomic energy program found that, “From 1943 through 1951, there was no current, systematic account of Air Force atomic costs, since with some few exceptions no effort was made to distinguish these from other budget categories of which they formed a part.”27 In fact, in 1960 a recently retired Army general testified to a Senate subcommittee that, “We never build our forces in a budget sense in terms of military functions such as atomic retaliation, limited war capability, antisubmarine warfare, continental air defense. We don’t case our books in that form. So as a result, I never know, and I doubt personally that anyone knows, exactly what we are buying with our budget.”28 Not until nongovernmental organizations became interested in comprehensive nuclear weapons costs in the 1970s and 1980s were they isolated as a budgetary category and analyzed systematically.

When the first comprehensive analysis was complete, what researchers found was that, at a minimum, all costs associated with the U.S. nuclear weapons program from 1940 to 1996 totaled $5.5 trillion (expressed in inflation-adjusted 1996 dollars). Importantly, that number is the estimated total cost for everything associated with the U.S. nuclear weapons program, including, for example, the cost of dismantling nuclear weapons, “cleaning up” nuclear waste, compensating people harmed by nuclear weapons production, and testing activities. Approximately $4.5 trillion of that was spent strictly on the U.S. nuclear arsenal. Not only the dollar amount spent is significant, but relative budgetary allocations demonstrate that spending on the nuclear arsenal was exceptional. It was approximately one-quarter of all spending on national defense ($18.7 trillion); roughly equaled the net interest on the national debt ($4.7 trillion); and significantly exceeded government expenditures on such things as Medicare ($2.3 trillion), veteran benefits and services ($1.8 trillion), transportation ($1.6 trillion), international affairs including foreign aid ($1.2 trillion).
trillion), and general science, space, and technology ($600 billion). Throughout the Cold War, the U.S. government allowed nuclear weapons programs to exist outside typical cost-benefit concerns.

Also like money, it is the “scarcity” of nuclear weapons that makes them an appropriate carrier of social value. The degree of industrial and technological capability that is required to manufacture nuclear weapons makes them available to any state with the necessary level of development to produce them. Such capacity is not equally shared by states. With the progressive sophistication of industrialization, warfare developed into a contest of innovation and productive capacity only possible in the context of a particular political and economic structure. The sophisticated processes necessary for the production of nuclear weapons allow for their quantity to be controlled through the institutional mechanisms associated with the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the International Atomic Energy Agency (IAEA). The NPT regulates access to nuclear weapons for all signatories who are not recognized nuclear weapon states (defined in the treaty as those states that had tested a nuclear weapon prior to January 1, 1967) and calls for IAEA inspections to ensure that parties to these agreements do not divert plutonium or highly enriched uranium from nuclear power reactors to nuclear weapons programs.

**Historicality**

Historicality describes the practice of fetishism as the reproduction of an order of social relations, the logic of which can be traced to a singular historical event. The claim that an object has been fetishized includes the reconstruction of a narrative linking the emergence of a social order organized around a fetish object to a particular time and place. Identifying a given set of social practices as fetishistic, therefore, also involves revealing the historical character of a social order that was treated as if it were immutable. For instance, Marx describes commodity fetishism as developing in conjunction with and being specific to the emergence of modern capitalist culture. The commodity form, as expressed through the embodiment of social value in money, continually reproduces preexisting class inequality by making it both possible and necessary for humans to sell their labor as a commodity. Making human labor a commodity like any other—its value subject to the laws of supply and demand—makes class inequality appear both natural and inevitable. By treating the commodity form as a historically specific social construct, Marx challenges the claim of classical political economists to have discovered the natural laws that govern human economic behavior.

The hegemonic interpretation of the new technologies that had been used to produce the atomic bomb was developed by a small group of men associated with the RAND Corporation and was retrospectively unified under the label “rational deterrence theory.” It was at RAND that an explicit distinction between military use-value and threat-value became the basis for recommendations on nuclear policy. As research on nuclear weapons progressed, researchers had a tendency toward becoming both more quantitative and abstract in terms of the methods they employed, as well as progressively more ambitious in terms of what they set out to explain. Both tendencies were conducive
to the developing fetish. The application of new methodologies, such as systems analysis and rational choice, made it possible to isolate the analysis of military forces from the political context in which they were being developed and produced. By expanding the scope of the questions they were answering, researchers moved from the terrain of the battlefield, where the use of quantitative techniques to answer engineering questions was effective and appropriate, to political questions of motive that were less easy to quantify and depended upon a myriad of unverifiable assumptions. The tendency to abstract from the political context in which the weapons were being developed, while at the same time seeking to make progressively larger claims about the nature of that context, resulted in the attribution of an increasingly more determinant role to the weapons themselves. Concepts such as second-strike capability and counterforce targeting emphasized opportunities in the material environment as a rationale for action. It was possible to believe that war could be provoked by what were essentially military factors.30

Believing that the perception of military vulnerability could be used to justify a Soviet surprise attack was not unfounded, given the political context. The U.S. population had just lived through a contest of industrialized military force, including the Japanese bombing of Pearl Harbor, and was once again facing a hostile adversary. Such assumptions may have been appropriate to the particular historical context of the late 1950s, in which deterrence theory was developed. However, the ahistorical nature of the theory that was produced had the unintended consequence of fetishizing nuclear technology in the domain of ideas, unnecessarily constraining our imagination of the policy alternatives.

The identification of nuclear weapons as the ultimate expression of the fetishism of force belies the ahistorical claims of rational deterrence theory by locating the source of their power in the historically specific structure of the international system. The emergence of nuclear weapons is frequently invoked as marking a new beginning in international policy and military strategy. Insofar as their existence solidified the world order that emerged from World War II, an order in which a state’s status as a superpower was constituted by its ability to compete in the development and production of nuclear weapons, it did mark a transformative moment in world history. However, the narrative of a new beginning often obscures the continuity with the past. Threat-value is not unique to nuclear weapons, nor is inflicting pain and terror in pursuit of political ends.31 Just as all objects produced for human consumption have both a use-value and an exchange-value, all weapons have both a military use-value and a threat-value. Nuclear weapons had a role to play in an already well-developed logic of strategic bombing.32

Marx posits the exchange of commodities in a barter economy as existing prior to the existence of money, but capitalism was only “fully formed” once the existence of money made it possible for commodity fetishism to structure the entire economic system. Likewise, the fetishism of force can be observed in the logic of the bombing campaigns of World Wars I and II, but was only fully developed once the existence of nuclear weapons came to define and mediate the structure of the international community in the mid-1960s with the solidification of the new nuclear order.
In *Strategy in the Missile Age*, Brodie concerns himself with the development of strategic "air power," which he defines as "that force of aircraft and missiles which is operated more or less independently of ground and naval forces for generally independent purposes." The use of air power was already being debated and deployed during World War I. Brodie quotes a vision of air power from a British report delivered to the War Cabinet in August 1917 that foreshadows the conditions of nuclear deterrence:

> As far as can at present be foreseen there is absolutely no limit to the scale of its [air power’s] future independent war use. And the day may not be far off when aerial operations with their devastation of enemy lands and destruction of industrial and populous centres on a vast scale may become the principle operations of war, to which the older forms of military and naval operations may become secondary and subordinate.34

Brodie traces the development of this same logic in the work of General Giulio Douhet, the Italian air power theorist. Writing in the early 1920s, Douhet argued that command of the air was the key to success in war and that it was best achieved not through aerial combat, but by aggressive offensive bombing that would prevent the enemy from getting its air power off the ground.35 Success would then be secured by crippling an enemy’s ability to mobilize its army and navy and breaking the population’s will to fight. Brodie argues that as a test of Douhet’s thesis, World War II proved Douhet “wrong on almost every salient point he made.”36 His analysis of the effect of strategic bombing on German and Japanese cities, both in terms of industrial output and effect on morale, suggests that neither had a decisive effect on the outcome of the war. However, Brodie attributes the failures of World War II to the limitations associated with a lack of targeting accuracy and the size of available explosive technologies; therefore, he argues that the advent of nuclear weapons salvaged Douhet’s logic. Thermonuclear weapons, Brodie argues, make the limitations that undermined Douhet’s position irrelevant. The success of strategic bombing no longer needed to be called into question. As long as there is no adequate form of defense against nuclear attack, the logic of strategic bombing provides an unshakable, if paradoxical, basis for the practice of nuclear deterrence.

What is significant for the purposes of this discussion is not whether strategic bombing does in fact constitute a knockout strategy; what is significant is the story that Brodie tells about the development of the ideas behind air power and the connection he makes between Douhet’s thesis and the logic of nuclear deterrence. Far from providing a radical break with strategies of the past, nuclear weapons in fact complete the logic of strategic air power as it was developed and refined over the course of the world wars. Douhet’s logic contained the implicit distinction between use-value and threat-value on which the power of nuclear weapons is predicated. His theory of air power was predicated not on the ability to destroy an enemy’s capacity to fight, but rather on the ability to immobilize forces on the ground and induce surrender by sapping morale. It was the ongoing threat posed by command of the air, not only the efficient application of military force, that he counted on to secure victory. The narrative of city destruction from World War II, made vivid by photographs of decimated urban centers, has become an important...
part of the public imagination and sustains both the fear of nuclear war and the belief in the power of nuclear weapons.

Rational deterrence theory provided the intellectual framework through which Cold War U.S. nuclear policy was legitimated, and it provides the most coherent statement of the logic through which power came to be reified in the form of nuclear weapons. Interestingly, it is at approximately the same time that deterrence theory was fully articulated that the structure of the international hierarchy was codified with respect to the possession of nuclear weapons. Marc Trachtenberg identifies Thomas Schelling’s publication of *Arms and Influence* in 1966 as the climax of a vibrant debate over the practice of nuclear deterrence, after which the field stagnated. As codified in the NPT, states that tested nuclear weapons after January 1, 1967 cannot become *de jure* members of the nuclear “club.” The establishment of the nuclear hierarchy is thereby fixed to a particular moment in time. The hierarchy codified in the NPT also mirrors the structure of the United Nations. The charter of that organization deliberately privileges those five states that at the end of World War II were considered to be great powers. Although not all five powers possessed nuclear weapons at the time, the five recognized nuclear powers are also the five permanent members of the UN Security Council. Thus, it was in the late 1960s, once the relationship between the United States and the Soviet Union was defined by the practice of deterrence and the production of nuclear weapons was motivated by their threat-value alone, that the fetishism of force had matured and the international hierarchy was reified with respect to the possession of nuclear weapons. As fetish objects, nuclear weapons mediate and reproduce a structure of social relations defined historically by the originating event of World War II.

Efficacy

Fetish objects always act on the self-identity of the actor who possesses them. As Pietz describes it, the fetish object establishes “an intense relation to and . . . power over the desires, actions, health, and self-identity of individuals whose personhood is conceived as inseparable from their bodies.” This dimension is an important aspect of the African religious practice that Pietz describes in which the fetish was worn on the body and believed to have tangible effects, such as the ability to heal.

Nuclear weapons work on the self-identity of states in two ways: states are formally and informally classified with respect to their possession of nuclear weapons, and their possession provides security. Formally, the NPT classifies states as nuclear weapon states and non-nuclear weapon states. This classification differentiates them in meaningful ways with respect to what privileges and restrictions they enjoy with respect to that status. Informally, the possession of nuclear weapons is a constitutive element of great power status within the international system. During the Cold War, the United States and the Soviet Union were distinguished as “superpowers” by their ability to produce nuclear arsenals. While France, Britain, and China maintained nuclear arsenals that numbered only in the hundreds, at its peak the U.S. nuclear arsenal contained 32,000 deployed warheads. No one outside of Russia knows for certain how many nuclear weapons the Soviet Union
built, but the best unclassified estimate of the peak level of the Soviet stockpile is 45,000 warheads.\textsuperscript{41}

It is in this realm of informality that proliferators operate. States who desire the same recognition accorded the great powers also desire nuclear weapons.\textsuperscript{42} For example, it has been argued that India’s decision to acquire nuclear weapons cannot be explained with respect to strategic considerations alone. India’s decision to develop a nuclear capability was motivated by a desire for status within the international system. The problem with this argument is that this status is often interpreted as symbolic, and therefore not actual. However, a theory of nuclear fetishism suggests that the power that accrues to states with nuclear weapons based on that status is very real.\textsuperscript{43}

Most importantly, the possession of nuclear weapons works on the body of the state to provide security. The logic of deterrence describes how and under what conditions the threat of a nuclear attack dissuades military aggression. However, the security they provide is much like the healing effect of the Africans’ fetish objects. Nuclear weapons provide no material protection against attack. To be effective, nuclear deterrence requires that an opponent believe in the credibility of a retaliatory threat. The security that nuclear weapons provide operates at the level of belief that may or may not correspond to the level of reality.

\textit{Reification}

The fourth and final characteristic of fetishism, reification, refers to the process through which a social value is embodied in a discrete object, the presence of which is used to justify and facilitate the reproduction of a fixed structure of social relations. In the words of Slavoj Žižek, the dynamic at work consists of a misrecognition between a “structured network and one of its elements: what is really a structural effect, an effect of the network of relations between elements appears as an immediate property of one of the elements, as if this property also belongs to it outside its relation with other elements.”\textsuperscript{44} Thus, a fetish object is distinguished from other objects by two things. First, its physical presence mediates relations between individuals, serving to fix an established order of hierarchical relationships between actors, as opposed to being utilized or consumed. This fact is recognized and reflected in the logic through which the fetish object is conceptualized and named. Second, people behave as if the effectiveness of the object in mediating relations between people is both inevitable and a necessary response to the physical attributes of the object. This obscures the human agency involved in the physical and conceptual processes through which that object came into being and the collective complicity in accepting its presence as a form of mediation.

Thus fetishism is a circular pattern of behavior characterized by a tautological inversion of value. On the one hand, the fetish object has a determinate effect on the structure of social relations only because a given social community treats it as if it has a determinate effect on the structure of social relations. On the other hand, the value embodied in the fetish object confronts individual members of that community as an objective reality (think of the value of a dollar). Insofar as the object’s presence (or
perceived absence) reproduces a certain hierarchical structure of interactions between individuals, it is easy to treat the object as if its value were inherent in its physical embodiment—as if it would be valuable even outside its relation to the network of social relations that brought it into being. Each time an individual actor is confronted with the objective value of the fetish object, the dynamic through which the behavior of the community constructs the fetish object as valuable is reinforced.

A homologous dynamic of fetishistic reification can be observed in the divine power of a king, the commodification of gold, and the military power of nuclear weapons. Drawing on Hegel via Marx, Žižek describes the fetishistic misrecognition at work in the illusion that a monarch is divinely ordained:

‘Being-a-king’ is an effect of the network of social relations between a ‘king’ and his ‘subjects’; but—and here is the fetishistic misrecognition—to the participants of this social bond, the relationship appears necessarily in an inverse form: they think that they are subjects giving the king royal treatment because the king is already in himself, outside the relationship to his subjects, a king; as if the determination of ‘being-a-king’ were a ‘natural’ property of the person of a king.45

The presence of a king mediates a fixed structure of social relations. Although the power a king possesses is nothing more than an effect of the collective submission to his rule, that power appears to issue from his divine personhood. The illusion that the king is divinely ordained makes the division between ruler and ruled appear both natural and inevitable, reifying the social power of the collective in the form of the king and the structure of relations mediated by the king’s presence.

This same dynamic of fetishistic reification is at work in what Marx describes as the “mysterious character of the commodity form.”46 Commodities are “sensuous things which are at the same time supra-sensible or social.”47 Their sensuous characteristics make them useful for the purposes of consumption. Marx refers to this as their use-value. Their supra-sensible or social characteristics refer to their role in mediating a structured network of social relations. This is their exchange-value. Famously, Marx states that the commodity-form “is nothing but definite social relation between men themselves which assumes here, for them, the fantastic form of a relation between things.”48 But what does this mean for a relation between men to be replaced by a relation between things? The answer lies in an analysis of exchange-value and its expression in the form of money.

The exchange-value of any commodity is established through a system of equivalences. Exchange-value is always relative and reflexively determined. The value of commodity A is only expressed through its equivalence to commodity B, and vice versa. The fetishistic misrecognition occurs when the value of A no longer appears to be determined reflexively through its relationship to B, but rather that the physical substance of A always already had the property of being the equivalent of B. To clarify, imagine now that A is a certain quantity of money—say gold—and that B is another type of commodity. It would be as if there were something natural about the physical characteristics of gold that made it the equivalent of that other commodity—as if gold were valuable not as a result of a reflexively determined relationship in which X amount of gold is equal to Y
amount of commodity B because Y amount of commodity B is equal to X amount of gold, but that there was something inherent about gold that made it valuable even outside the network of relations that established it as commensurable with other objects.\textsuperscript{49} Returning to Žižek, he explains that “The value of a certain commodity, which is effectively an insignia of a network of social relations between producers of diverse commodities, assumes the form of a quasi-'natural' property of another thing-commodity, money: we say that the value of a certain commodity is such-and-such amount of money.”\textsuperscript{50} In other words, we act as if being valuable were an inherent trait of the substance of money in the same sense that being wet is an inherent trait of water, rather than treating the exchange-value of money as what it is, i.e., an expression of the social relations through which the relative value of various commodities are reflexively determined. It is precisely the point at which money achieves the status of a universal form of value, and thus can be exchanged for any other commodity, that access to income-generating capital becomes constitutive of social relations.

Now consider the power of nuclear weapons. It is commonplace to observe that nuclear weapons have a special aura, sometimes described as a psychological effect. This psychological effect seems to be at once a result of their physical characteristics, namely their capacity for rapid, large-scale destruction, and yet always eludes materialist explanation.\textsuperscript{51} I theorize this effect as a result of a process of reification through which their social form of value (properly attributable to the network of social relations between states) is treated as if it were a natural feature of the physical substance of the weapon.

Like commodities, weapons are sensuous things and at the same time supra-sensible or social. Their sensuous characteristics make them useful for exerting force. This is their military use-value. Their supra-sensible or social characteristic is their threat-value. Threat-value is analogous to exchange-value insofar as both forms of value are predicated on a social act in which two physically incommensurable actions or things are treated as if they were equivalent. Commodities are exchanged, and military actions are threatened. Like exchange-value, threat-value is always relative and reflexively determined. The (threat) value of action C is expressed through its equivalence to the value of action B, and vice versa. In other words, in order for military action C to be understood as having value as a threat, a second military action B (the value of which must be equal to or less than the value of action C) must have been threatened, and it must be possible for action C to be interpreted as a meaningful response to action B (meaning that there is a level on which the two actions can be understood as commensurable). In the language of deterrence theory, the perceived costs of a retaliatory attack must exceed the perceived benefits of aggressive military action for deterrence to be successful.

The fetishistic inversion occurs when the value of retaliatory action C no longer appears to be determined reflexively through its relationship to military aggression B, but rather that the physical substance of retaliatory action C always already had the property of being more costly than military aggression B. To clarify, imagine now that retaliatory action C is a nuclear attack and that B is military aggression by an enemy state. The process of fetishistic reification means that states act as if the threat of a nuclear attack (action C) were inherently valuable, as if the ability to deter military aggression (action B)
were a feature of the physical characteristics of nuclear destruction, rather than a feature of the social process through which actions are interpreted as meaningful with respect to one another. In other words, we act as if being threatening (and therefore powerful) were an inherent trait of the substance of nuclear weapons in the same sense that the quality of being explosive is inherent in their physical embodiment.

**Conclusion**

The perception of what it is acceptable to propose—which policies get taken seriously and which ones get laughed out of the room—is governed by unspoken assumptions about what it is possible to change, and what lies outside our ability to alter. Does the existence of nuclear technology determine that nuclear deterrence is an inherent feature of the international system of states? Or is it within the realm of human capability to successfully implement another policy alternative? Just because deterrence was considered to be the only realistic policy choice in the past does not necessarily mean that the same will be true in the future. To suggest that the Soviet Union would peacefully splinter, bringing an end to the Cold War, seemed unthinkable up until the moment it happened. Likewise, to suggest that prominent Cold War statesmen would come together to advocate for disarmament seemed improbable, if not impossible, but it too has become a reality. The decision by George Shultz, William Perry, Henry Kissinger, and Sam Nunn to speak out in favor of nuclear disarmament has helped to change the nature of what is taken for granted in policy circles, reviving the hopes of the established disarmament lobby and placing disarmament on the agenda of the Washington policy establishment. In a speech delivered in Prague on April 6, 2009, President Barack Obama announced the intention of his administration to pursue an agenda that embraces complete nuclear disarmament.

It is exciting to be thinking about problems of national security and nuclear nonproliferation at a time when the status quo is being criticized and questioned and variations on deterrence are not automatically assumed to be the only possible policy alternatives. However, I would like to suggest that this is also a time during which academics and policy makers should not limit themselves to reproducing the same Cold War-era debate between disarmament and deterrence. A transformation of U.S. nuclear policy may require not only that we question deterrence, but also that we question the underlying assumptions that focus our attention on the prohibition of nuclear weapons to the exclusion of policy initiatives that may not target nuclear weapons specifically but could have the effect of deconstructing their status as fetish objects.

If the logic of deterrence provides the conceptual foundation for nuclear fetishism, deconstructing the fetishism of force will require a decision to no longer practice deterrence in the sense we understand it today. However, arguments for nuclear disarmament sometimes unintentionally participate in the construction of nuclear fetishism by reproducing the association between nuclear weapons and power in two ways. First, historically, the discourse of disarmament has in common with the discourse of deterrence a rhetoric of nuclear fear. The problem with emphasizing the potential end to
nation and life as a reason for the abolition of nuclear weapons is that nuclear fear is also the primary justification for the continued practice of deterrence. Nuclear fear contributes in important ways to what Ward Wilson has identified as the “myth of nuclear deterrence,” which rests on a “belief that the threat to destroy cities provides decisive leverage.” This is consistent with and reinforces a perception of nuclear weapons as the embodiment of power. Secondly, there is no better way to produce desire than through prohibition. Being told that you cannot have something implies that you should want it. For nuclear abolition to be successful there must be policy alternatives that act on the desire of states to make nuclear weapons undesirable. That having been said, preliminary implications of a theory of nuclear fetishism support many of the disarmament initiatives that are already in existence, as well as point the way to new possibilities for policy and research.

Insofar as scarcity is a factor in maintaining the power of nuclear weapons, it is important to consider the ways in which the mechanisms that produce scarcity by regulating access to fissile materials and nuclear technologies also enhance the power and desirability of nuclear weapons. Were nuclear weapons to spread throughout the international system, rather than being restricted to a privileged few, they would be devalued. The meaning of being a nuclear power is dependent on the continued existence of non-nuclear powers. This is not to suggest that defetishizing nuclear weapons should be achieved by making them easily available. Nuclear weapons are dangerous, and there should be barriers to access. However, the way in which the current barriers are structured allows states that have chosen to acquire nuclear weapons since enactment of the NPT to place on public display the lack of authorized control over the international currency of power (in effect, they are printing their own money). It is precisely those states that are the most dissatisfied with their position in the international hierarchy that have the most incentive to proliferate. Importantly, this is because states that acquire nuclear weapons not only receive a symbolic form of recognition, but actually become more powerful because they are treated as more powerful. This suggests that barriers should be constructed in such a way as not to combine prohibition with unequal access. Creating an international fuel bank could contribute to defetishizing nuclear weapons if it appropriately equalizes access to fissile materials and comes with the same strings attached in terms of inspections for all participants.

The theory of nuclear fetishism also suggests that policies that provide disincentives for nuclear proliferation may not address nuclear weapons explicitly, but rather may be aimed at reformulating the association between authority and force as an organizing logic for the international institutions of the future; defetishizing nuclear weapons should include UN Security Council reform. This is a topic that has been under discussion for years, but it should also be placed on the agenda of groups that are interested in reducing the incentive for the acquisition of nuclear weapons. The fact that veto power on the Security Council is coincident with the possession of nuclear weapons makes nuclear weapons more desirable by linking them to the practice of legitimate authority. It also participates in the fetish process by sustaining the link to the originating event of World War II. Nuclear fetishism suggests that achieving nuclear zero will require understanding how the possession of nuclear weapons functions to sustain the current international hierarchy.
Removing their mediating presence will need to include important discussions about the most appropriate and realistic shape for the relationship between force and authority in the international institutions of the future.

Finally, a theory of nuclear fetishism suggests that the projects of recovering information on nuclear costs—both human and financial—that were largely obscured for reasons of national security during the Cold War may be the best means of defetishizing nuclear weapons. By this logic, nuclear zero is best achieved through an aggressive education campaign emphasizing that creating and maintaining nuclear arsenals is expensive and has high human costs associated with it, and that it is possible to construct international institutions that can reduce the risk of a worst-case nuclear breakout scenario. In other words, create a sense of urgency about the costs that are being incurred now, rather than emphasize the possibility of apocalyptic costs that may or may not be incurred at some point in the future.

Perhaps some day, the deactivated nuclear weapons on display in museums across the United States will be nothing more than a reminder of how powerful nuclear weapons used to be. This is a vision of the future in which nuclear weapons seem much like any other sacred object that was revered with fear and awe in the distant past. Visitors will wonder at how irrational it was to have actually threatened a large-scale nuclear attack and laugh at the ridiculous notion that nuclear weapons made us more rather than less secure.

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NOTES


6. See Spurgeon M. Keeny Jr. and Wolfgang K.H. Panofsky, “MAD vs. NUTS: The Mutual Hostage Relationship of the Superpowers,” *Foreign Affairs* 60 (Winter 1981/2), pp. 287–304. Since deterrent threats are predicated on the possibility of use, some may question the claim that deterrence provides a justification for the possession of nuclear weapons without the need to use them. Some theorists claim that establishing a credible nuclear deterrent requires the capability to fight and win a nuclear war. However, the primary objective is still to prevent the use of nuclear weapons.

7. McCanles, “Machiavelli and the Paradoxes of Deterrence,” p. 15. On the circularity of deterrence policy, see Michael C. Williams, “Rethinking The ‘Logic’ of Deterrence,” *Alternatives* 17 (Winter 1992), p. 78. According to Williams, “Thinking about the logic of strategy and deterrence has thus come to resemble a closed circle. No sooner has the question been resolved by one form of analysis than it is claimed to be resolved in a completely contradictory way by another.”


9. The ability to absorb a military attack and retaliate in kind meant that the United States and the Soviet Union were locked into a situation known as mutual assured destruction (MAD). The standard of destruction required for MAD is sometimes conceptualized as the point at which dropping yet another weapon of the same size will create relatively less destruction because there is simply less left to destroy. Another way in which it is conceptualized is the point at which doing more damage no longer increases an enemy’s perception of costs.


12. Slavoj Žižek, *The Sublime Object of Ideology* (London and New York: Verso, 1989), p. 21. Žižek describes this dynamic as a “point of breakdown heterogeneous to a given ideological field and at the same time necessary for that field to achieve its closure, its accomplished form.” (Emphasis in the original.)


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Border Fetishisms: Material Objects in Unstable Spaces (London: Routledge, 1998), pp. 183–207; Louis Althusser, 
“Ideology and Ideological State Apparatuses (Notes Toward an Investigation),” in Lenin and Philosophy, 
Dant, Material Culture in the Social World: Values, Activities, Lifestyles (Philadelphia: Open University 
Press, 1999); Arjun Appadurai, ed., The Social Life of Things: Commodities in Cultural Perspective 

16. Pietz, “The Problem of the Fetish, Part I.” More specifically, he argues that the idea of the fetish could 
only originate in the context of a cross-cultural interaction mediated by an emergent commodity 
form—a form that was in the process of being defined in opposition to the social and religious values 
of multiple extant non-capitalist cultures.

17. Ibid.

18. Fetishism is not a perversion of some underlying objective reality; whether one social reality is 
preferable to another is a normative choice. Defetishizing critique at this level is no longer a process by 
which truth is shown to exist behind fiction; it is a process of theorizing the existence of the fetish form 
itself.


22. Hans J. Morgenthau, Politics Among Nations; the Struggle for Power and Peace, 3d ed. (New York: Knopf, 

23. Snyder, Deterrence and Defense, p. 11.

coin has stamped upon its body that it is to serve as a means of exchange and not as an object of use. 
Its weight and metallic purity are guaranteed by the issuing authority so that, if by the wear and tear of 
circulation it has visibly become a mere carrier of its social function.”


26. Masco, Nuclear Borderlands, p. 196. This is the most compelling account of the ways in which nuclear 
fetishism obscured the costs of the U.S. nuclear program.

471–72 (formerly Top Secret; declassified in 1980), as quoted in Stephen I. Schwartz, ed., Atomic Audit: 
The Costs and Consequences of U.S. Nuclear Weapons Since 1940 (Washington, DC: Brookings Institution 

28. Ibid.

29. Ibid, p. 5. Thank you to Stephen Schwartz for guidance on accurately interpreting and articulating 
these data on nuclear costs.


32. Brodie, Strategy in the Missile Age. On this point see also Michael Sherry, The Rise of American Air Power: 
The Creation of Armageddon Source (New Haven: Yale University Press, 1987); and Lawrence Freedman, 


35. Ibid, p. 82.


(Spring 2005), p. 14. Tannenwald also divides the development of the taboo into two periods. The first 
period is when it forms, and the second is when it solidifies. She identifies the transition as occurring 
during the 1960s after the Cuban Missile Crisis.

38. Marc Trachtenberg, History and Strategy, Princeton Studies in International History and Politics 

40. Ibid.
45. Ibid., p. 25. Žižek quotes Marx as saying, “Such expressions of relations in general, called by Hegel reflex-categories, form a very curious class. For instance, one man is king only because other men stand in the relation of subjects to him. They, on the contrary, imagine that they are subjects because he is a king.”
47. Ibid., p. 165.
48. Ibid.
50. Ibid., p. 23.
51. See for instance, Jervis, *The Meaning of the Nuclear Revolution*, p. 176. Jervis refers to this as their psychological effect: “When I say that an effect is a psychological one, I mean that it is in some sense problematic, that we cannot determine the reaction solely from the physical stimulus itself. Between the stimulus and the response intervene factors that are hard to predict, that may vary from individual to individual, and that can be influenced without influencing the stimulus itself.”
55. Masco, *Nuclear Borderlands*, p. 4. According to Masco, “an imagined end to the nation, or the human species, energized the argumentative core of (post) Cold War nuclear discourse and continues to this day to enable social movements both for and against the construction of the U.S. nuclear complex. In other words, the nuclear politics of the Cold War, the steady discourse and counterdiscourse of nuclear/antinuclear commitments, has promoted a specific apocalyptic vision in the United States, one that made it difficult to see how the nuclear age has already impacted everyday lives.”
57. Thank you to Stephen Schwartz for providing the following information on opportunities for nuclear site-seeing in America: “The Intermediate-Range Nuclear Forces Treaty allowed for the ‘static display’ of a small number of Pershing 2 and SS-20 missiles. One of each is displayed in the National Air and Space Museum in Washington. The Bradbury Science Museum at Los Alamos National Laboratory displays bomb casings and deactivated warheads. The Strategic Air & Space Museum in Ashland, Nebraska features an Atlas ICBM outside its main entrance as well as the nose cone for a Titan II ICBM and a casing for the 10-megaton MK-36 hydrogen bomb. And the National Museum of Nuclear Science and History (formerly the National Atomic Museum) in Albuquerque has on display a number of retired nuclear warheads and delivery systems. In South Dakota, the National Park Service also now gives tours of a deactivated Minuteman ICBM silo and launch control facility, and a private group in Tucson gives tours of a deactivated Titan II ICBM silo.” For more on touring nuclear landmarks (worldwide), see Nathan Hodge and Sharon Weinberger, *A Nuclear Family Vacation: Travels in the World of Atomic Weaponry* (New York: Bloomsbury, 2008).