Realistically imagining the unimaginable – the civilian strategists crafting nuclear strategies in the Cold War Pentagon

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#### Introduction

When William W. Kaufmann joined the Pentagon as a consultant from RAND in 1961, he did not foresee that he would be among the first group of civilian strategists that would come to gain significant influence in Pentagon's decision-making process. After arriving at Pentagon, Kaufmann served under seven defense secretaries working first as a member of Secretary of Defense Robert McNamara's "Whiz Kids." In addition to being a trenchant thinker, Kaufmann was also an elaborate writer. He authored countless speeches, reports, and memorandums for the secretaries. Kaufmann labeled himself as a "ghost-writer" but ironically, he exerted considerable influence on shaping the Pentagon policy by having the independence to draft many speeches and policy memos for the secretaries. <sup>1</sup>

Secretary of Defense Robert McNamara, appointed by President John F. Kennedy, in 1961 hired many civilian strategists from RAND, the quintessential Cold War think tank. RAND, throughout the 1940s and 1950s, was the pioneer in conceptualizing the various nuclear strategies that the U.S. could adopt against a rising Soviet enemy. In the process, the institution invented many analytical tools, including systems analysis, to test out the many different strategies using real and hypothetical data. The historian S.M. Amadae calls systems analysis the repertoire of methods for crafting the most effective strategy that not only became the foundation of military decision-making but also the pillars of capitalist democracy.<sup>2</sup> As a result, the intellectual trajectory and political career of RAND strategists such as William Kaufmann who went on to the power stage at Pentagon is particularly worth examining. The strategists helped to reinforce the intellectual bulwark of RAND's rational choice theory and applied it in the context

<sup>&</sup>lt;sup>1</sup> Speech draft, "Choices for the 1980's", April 29, 1980, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>&</sup>lt;sup>2</sup> S.M. Amadae, *Rationalizing Capitalist Democracy* (Chicago: The University of Chicago Press, 2003).

of devising Pentagon's nuclear strategies. Many of the RAND strategists came from traditional disciplines such as political science but a lot more arrived with trainings in economics. Through their collective effort, they helped to transform what the best way was to approach the question of nuclear threat. With the support of McNamara, these civilian strategists gained intellectual autonomy within the military establishment and brought their new skills and knowledge to Pentagon. They fundamentally reshaped Pentagon's policy-making.

Despite coming from an intellectual background of international affairs and political science, Kaufmann re-educated himself at RAND by working closely with his economics-trained colleagues. Even though he had always been interested in the debate on nuclear exchange, Kaufmann never favored nuclear planning because he did not believe the U.S. would ever fight a nuclear war due to its catastrophic outcome for both sides. He preferred to focus on more pragmatic matters, namely conventional force planning. At RAND, Kaufmann absorbed the systems analysis and other rational choice theory tools that were founded on the principle of logic and realism. He found them fascinating because by applying data and models, the systems analysis and other economics-devised apparatus allowed the strategists to take a pragmatic approach and test out their various hypotheses.

I argue that Kaufmann's absorbing of the economics-based decision-making method bolstered his belief in the ultimate unfeasibility of a nuclear exchange. However, when he later moved on to Pentagon, he realized that the question was not that simple. Since he joined the Department of Defense, the institution had always devoted time to the study of nuclear strategies, despite the doubt of the majority of the Secretaries of Defense that Kaufmann served believing that the employment of nuclear weapons should never be on the table. Devoting so much time and effort to the study of nuclear strategies might seem a bit contradictory and ludicrous.

One possible explanation was that the civilian strategists had lost touch with the reality because they did not recognize the limitations of nuclear strategies. The nuclear weapons should and would never be launched and therefore nuclear strategies should never be a viable military option worth pursuing in real life. The journalist Fred Kaplan in his book *The Wizards of* Armageddon argued that the civilian strategists were theorists at best because they relied too much on quantitative analysis with a dearth of data to contrive the impossible scenario of thermonuclear exchange.<sup>3</sup> However, I argue that Kaufmann, as one of the civilian strategists serving across seven defense secretaries, differed from some other RAND strategists because he was realistic about nuclear strategies for three reasons. First, Kaufmann recognized that since it was the U.S. responsibility to maintain international peace and order, the nuclear weapons would always be part of the nation's military strategy because of their enormous deterrence power. He did not deny the existence of nuclear weapons and he was realistic to assume they were going to be a powerful projection of the country's military might. Second, Kaufmann was also convinced that nuclear weapons should never be used in real life because the havoc they would wreak upon the entire world. Third, he did not believe the U.S. should continue building up its nuclear stockpile. On the contrary, the U.S. should invest in its conventional forces, a more feasible and worthwhile option in Kaufmann's opinion.

Almost all RAND strategists believed that nuclear weapons should never be eradicated because they were a military necessity. However, toward the Reagan era, several moved toward the right in asserting that the U.S. should rely on nuclear weapons as an integral part of its overall military strategy.<sup>4</sup> As a result, they supported the Reagan defense buildup in the 1980s. However, this thesis argues that even though Kaufmann embraced the RAND paradigms early in

<sup>&</sup>lt;sup>3</sup> Fred Kaplan, *The Wizards of Armageddon* (New York: Simon & Schuster, 1983), 390-391.

<sup>&</sup>lt;sup>4</sup> Andrew May in discussion with the author, November 2017.

his career, he differed from these RAND strategists because he was realistic in recognizing the limitations of nuclear strategies and the inefficient investment in building up the nuclear stockpile. Kaufmann was central to the articulation of nuclear strategies under the secretaries he served because of his role as their "ghost-writer." However, deep at heart, he was never fully convinced at these conceived thermonuclear exchange scenarios. Once he was institutionally separate from the Pentagon by moving to the Brookings, he was bolder in arguing that the Pentagon should invest more in conventional as opposed to nuclear forces. For Kaufmann, fighting a conventional war was the more favorable choice.

Kaufmann's realism extended beyond the question of nuclear weapons. Although he was convinced that the U.S. should help to maintain international peace and order, he also recognized the limits of U.S. power. Since Kaufmann did not believe in the actual deployment of nuclear weapons, he analyzed the military scenario relying on mostly conventional forces. He articulated in his later years that the U.S. should prioritize European over Asian contingencies because the U.S. conventional force was not enough to counter worldwide contingencies. This could possibly be a result of the U.S. debacle in Vietnam, an issue that Kaufmann had not discussed in depth in his writings. His relative silence could be due to the fact that he had not done much work for Vietnam in Pentagon. Nonetheless, the Vietnam War possibly persuaded Kaufmann that despite the U.S. commitment to international peace, it could not be involved in every small conflict. Kaufmann's real assessment of the military strength and weakness of the U.S. demonstrated that the civilian strategists, despite them never participated in actual military combat, did not lose touch with reality on all fronts. Their roles in Pentagon were of paramount importance to this country pursuing a future feasible and enduring military strategy.

## Chapter 1

# The beginning of a civilian strategist

"The theory that the most powerful weapon in the military arsenal should dominate plans and preparations may not after all be appropriate when the dominant weapon possesses such frightening potentialities as the thermonuclear bomb." – William W. Kaufmann, introduction to Military Policy and National Security.<sup>5</sup>

William W. Kaufmann's intellectual journey in nuclear strategy began at Yale's Institute of International Studies. After graduating with a degree in international studies at Yale College in 1939, Kaufmann spent an undistinguished one year on Wall Street. When World War II started, Kaufmann was drafted and he subsequently joined the Army Medical Corps. It was an uneventful career at best, and Kaufmann despised it. Returning from the war, he obtained his Ph.D. in international studies again at Yale. Recognized as one of the brightest students in the department, Kaufmann joined the Yale faculty and the staff at the Yale Institute of International Studies. The Institute in the 1940s was a vibrant community of international relation scholars centered around the director Frederick Dunn.<sup>6</sup> The scholars aimed to conduct rigorous analysis of the American foreign policy. It was here that Kaufmann met the renowned nuclear strategist Bernard Brodie, who became a friend and mentor.

Bernard Brodie was the pioneer of nuclear deterrence theory in the 1940s. His influential book *The Absolute Weapon: Atomic Power and World Order* published in 1946 introduced the concept of nuclear deterrence. Brodie argued that the utility of nuclear weapons resided in the threat of their deployment as opposed to actual launch. Brodie came to the realization that nuclear weapons had limitations precisely because of the catastrophe they could bring. The U.S. and the Soviet would both fear using them first since they understood perfectly that they would

<sup>&</sup>lt;sup>5</sup> William Kaufmann, "The Introduction," in *Military Strategy and National Security*, ed. William Kaufmann (Princeton: Princeton University Press, 1956), 9.

<sup>&</sup>lt;sup>6</sup> Fred Kaplan, *The Wizards of Armageddon* (New York: Simon & Schuster, 1983), 19, 186-188.

have to suffer the consequence – a nuclear retaliation. "Strategic bombing, which used to be deprecated on grounds of its presumed ineffectiveness may in the future have to be restrained because it has become all too efficient." Learning from Brodie and trained in the same intellectual framework, Kaufmann grasped the foundations of such a deterrence theory.

Kaufmann was very much a realist. He believed wars could not be simply avoided if the countries threatened each other to fight with nuclear weapons – the rationale behind the nuclear deterrence theory. He was also skeptical toward atomic disarmament that would force the U.S. and the Soviet Union to completely give up nuclear weapons. Disarmament was extremely difficult to enforce as it required the most rigorous inspection between countries. "If nations wish to fight they will find ways and means of doing so," Kaufmann wrote in 1950.8 However, he did not completely rule out the chances of a nuclear disarmament. He emphasized that both the U.S. and the Soviet were rushing to research and develop new forms of destructive nuclear weapons, "absorbing resources at an accelerating rate." Consequently, countries should continue to negotiate for nuclear disarmament. Meanwhile, the U.S. needed a more practical approach to determine the strategies of winning a potential nuclear war. Similar to his mentor Brodie, Kaufmann became drawn to the problem of whether nuclear deterrence theory was feasible. He concluded nuclear deterrence was such a complex issue that it was virtually impossible to solely rely on the threat of nuclear weapons to deter enemy aggression.

In January 1954, the incumbent Secretary of State John Foster Dulles articulated the Eisenhower administration's nuclear strategy of "massive retaliation" in a speech at a Council on Foreign Relations dinner. Dulles declared, "We need allies and collective security. Our purpose

<sup>&</sup>lt;sup>7</sup> Bernard Brodie, "Nuclear Weapons: Strategic or Tactical?" Foreign Affairs 32 (January 1954): 227.

<sup>&</sup>lt;sup>8</sup> William Kaufmann, "Disarmament and American Foreign Policy," *Foreign Policy Reports* (September 1, 1950): 91. William W. Kaufmann Personal Papers, Box 2, Folder 4, JFK library.

<sup>&</sup>lt;sup>9</sup> William W. Kaufmann, "Crisis in Military Affairs," World Politics 10, no. 4 (1958): 600. doi:10.2307/2009278.

is to make these relations more effective, less costly. This can be done by placing more reliance on deterrent power and less dependence on local defensive power... Local defenses must be reinforced by the further deterrent of massive retaliatory power." This signified that the U.S. would retaliate with a force much more significant than that which it was attacked, including nuclear weapons. The point of the strategy was to make the enemy understand the possible consequence of any attack on the U.S. because the U.S. maintained a second-strike capability. The nuclear weapons that the U.S. possessed served as an effective deterrent for any first strike against the U.S. Kaufmann found this strategy of massive retaliation completely implausible. As a result, he viewed Dulles' speech as a brilliant opportunity for him to express his opposition and solidify his ideas into a cohesive theory. Kaufmann immediately turned to work and produced his essay "The Requirement of Deterrence" published in 1954.

This influential essay was viewed as Kaufmann's entrance into the circle of civilian strategists. Kaufmann argued that the over-dependence on nuclear weapons was ultimately ludicrous because it lacked "an air of credibility." He wrote,

Assuming a knowledge of the antagonist's identity, there are three main areas in which credibility must be established: the areas of capability, cost, and intentions. The enemy must be persuaded that we have the capability to act; that, in acting, we could inflict costs greater than the advantages to be won from attaining his objective; and that we really would act as specified in the stated contingency.

Analyzing the doctrine of massive retaliation from these three angles, Kaufmann concluded that the policy failed to fulfill all three requirements. The U.S. had shown that it would not be willing to deploy nuclear weapons in fighting a small-scale war, as demonstrated in the case of Korea. Given the historical precedents, it was unlikely that the U.S. would fight an all-out nuclear war with the Soviets. Consequently, it could not hope that a nuclear threat would deter the Soviets

<sup>&</sup>lt;sup>10</sup> John Foster Dulles, "The Evolution of Foreign Policy," Before the Council of Foreign Relations, New York, N.Y., *Department of State, Press Release No. 81* (January 12, 1954).

<sup>&</sup>lt;sup>11</sup> William Kaufmann, "The Requirement of Deterrence," in *Military Strategy and National Security*, ed. William Kaufmann (Princeton: Princeton University Press, 1956), 18.

from launching an attack in the first place. One aspect worth noting was Kaufmann's scrutiny of the cost versus benefit rationale. He argued that both the U.S. and its enemy had to believe that the utility of a strategy should outweigh the cost in order to make the strategy seem real and feasible. Kaufmann was referring to the strategic cost instead of traditional economic cost. Nonetheless, weighing the trade-offs was a fundamental approach in economic thinking and rational decision making. It demonstrated that Kaufmann assessed situations in a way that was very similar to that of an economist. He would find the economics methodology easy to grasp and adopt later when he moved to RAND.

In addition, in this essay, Kaufmann advocated rebalancing military power and strengthening conventional forces, with less reliance on both strategic and tactical nuclear weapons. <sup>12</sup> Kaufmann, similar to his mentor Bernard Brodie, <sup>13</sup> expressed his endorsement of "limited war" – a concept first proposed by Captain Basil Liddell Hart before the advent of nuclear weapons. Hiroshima and Nagasaki further confirmed Hart's theory, "Any unlimited war waged with atomic power would be worse than nonsense; it would be mutually suicidal." <sup>14</sup> Kaufmann believed that the U.S. could fight and survive a limited war without employing any nuclear weapons. As a result, he concluded that the country should strengthen its conventional forces in order to fight a war with minimal cost. One such example was the Korean War. "It is

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<sup>&</sup>lt;sup>12</sup> Strategic nuclear weapons refer to those that target strategic enemy areas such as military bases or cities. They include ICBMs, SLBMs, and heavy bombers. Tactical nuclear weapons are not strategically-delivered and are usually battlefield short-range nukes that are used during regional military theaters. Hans M. Kristensen, "Non-Strategic Nuclear Weapons," *Federation of American Scientists* Special Report No.3, May 2012, https://fas.org/\_docs/Non\_Strategic\_Nuclear\_Weapons.pdf.

<sup>&</sup>lt;sup>13</sup> Rough around the same time, Brodie published "Unlimited Weapons and Limited Wars" that advanced the same argument as Kaufmann did in the essay. Two years later, when Kaufmann sent his edited copy of *Military Strategy and National Security* to Brodie for review, Brodie completely forgot about Kaufmann's essay published two years earlier. He exploded and accused Kaufmann of plagiarism. Kaufmann wrote back humbly and edited to include many references to Brodie's work. Despite so, the relationship between the two deteriorated. Later even when both worked at RAND's social science division in Santa Monica, they remained distant and barely socialized. See Kaplan 194.

<sup>&</sup>lt;sup>14</sup> Lawrence Freedman, *The Evolution of Nuclear Strategy* (London: The Macmillan Press, 1981), 99.

probably in the military realm that the richest resources of deterrence still lie. If we show a willingness and ability to intervene with great conventional power in the peripheral areas, after the manner of Korea, we will have a reasonable chance of forestalling enemy military action there." Kaufmann argued that the Korean War, despite its costliness, was nonetheless fought as the best possible outcome given the United States' military capability at that time. <sup>16</sup> The country achieved its purpose by fighting a limited war with conventional forces and no nuclear weapons. Even though the United States still suffered a significant number (137,000) of casualties, "a hundred Koreas would still be cheaper than an American-Soviet exchange of atomic and hydrogen blows." Since the exchange of atomic weapons would inflict momentous calamity upon both countries, in comparison, Kaufmann concluded that fighting a conventional war would always be more desirable.

Kaufmann further elaborated his endorsement of limited warfare in another essay "Limited Warfare" published in 1956. "Limited warfare affords all these benefits, not at a trifling cost by any manner of means, but at a cost far smaller than a modern nuclear conflict would entail." In addition to employing strategic reasoning to supporting his theory, Kaufmann also made reference to the necessary economic cost required to successfully fight a limited war—"adequate preparation means incurring a greater economic cost of the military establishment." Specifically, he was confident that the U.S. could expand its current military budget three times more than what it was at that time. If so, spending extra dollars to achieve increased assurance on

<sup>&</sup>lt;sup>15</sup> William Kaufmann, "The Requirement of Deterrence," in *Military Strategy and National Security*, ed. William Kaufmann (Princeton: Princeton University Press, 1956), 29.

<sup>&</sup>lt;sup>16</sup> Kaufmann believed the Korean War could be fought with less cost if the United States had "sufficiently well trained, supplied, and numerous contingents in the Far East to stabilize the front near the Thirty-eighth Parallel at the outset of the war." See "Limited Warfare".

William Kaufmann, "Limited Warfare," in *Military Strategy and National Security*, ed. William Kaufmann (Princeton: Princeton University Press, 1956), 107.
 Ibid.

winning another limited war was desirable. More importantly, Kaufmann made an astute observation in this essay that pre-war estimates of numbers were ultimately numbers on paper that were subject to change. "But attitudes based upon prewar estimates and calculations can change very rapidly once a conflict has begun. War, in fact, is a process so dynamic that it positively invites the resort to increasingly destructive expedients." It was important to keep this in mind as ironically Kaufmann came to rely more heavily on these "estimates and calculations" to game out military scenarios later in his career.

On the same note, he also rejected the employment of tactical nuclear weapons and fighting a limited nuclear war if the U.S. could avoid it. Kaufmann conceded that in Europe, for instance, using tactical nuclear weapons could prove to be necessary because this would help to ensure the safety of the U.S.'s NATO allies.<sup>20</sup> Nonetheless, Kaufmann did not endorse tactical nuclear weapons wholeheartedly. The concept of limited nuclear war was supported by Henry Kissinger in his book *Nuclear Weapons and Foreign Policy* published in 1957. In the work, Kissinger endorsed the United States fighting and surviving a limited nuclear war by building up a basket of different military capabilities, including strategic air power, tactical nuclear weapons and conventional military forces. Since the U.S. possessed an advantage in its industrial prowess, it should utilize this asset to its fullest by employing battleground nuclear weapons. Though not as powerful as strategic bombs, the tactical nuclear weapons were "sufficiently destructive so that manpower cannot be substituted for technology, yet discriminating enough to permit the establishment of a significant margin of superiority." He invoked the case of the Korean War in that Communist were able to substitute their disadvantage in technology with ample manpower,

<sup>&</sup>lt;sup>19</sup> Ibid 112

<sup>&</sup>lt;sup>20</sup> Kaufmann cited his mentor Bernard Brodie on this idea. See pg. 132 of "Limited Warfare".

<sup>&</sup>lt;sup>21</sup> Henry Kissinger, Nuclear Weapons and Foreign Policy (New York, Harper & Brothers, 1957), 194.

implying that the U.S. might have ended the stalemate in the Korean peninsula faster had it employed tactical nuclear weapons.

Kissinger's argument, though it appeared plausible, struck Kaufmann as unconvincing and misguided. In 1958, Kaufmann wrote a meticulous and thorough critique of Kissinger's essay in which he attacked the theory of limited nuclear war. <sup>22</sup> By exercising rigorous logical reasoning in examining Kissinger's approach, Kaufmann discovered inconsistencies in Kissinger's argument. For instance, he believed Kissinger's conclusion that the U.S. could fight a limited nuclear war was false. The U.S. could establish its position clearly to the Soviet that it would use nuclear weapons to secure victory. However, by threatening to use nuclear weapons against the Soviet to avoid suffering a first-strike, it invoked the logic of massive retaliation. This was precisely the doctrine that Kissinger strived to disapprove. <sup>23</sup> However, most importantly, Kaufmann castigated Kissinger's lack of acknowledgement of military budget and resource constraint in analyzing different military policies. He argued,

...it must face the task of distributing our limited military resources in such a way as to achieve the optimum ability to cope with a very uncertain future. Obviously we cannot have everything in this realm, rich as we are. We must pick and choose, not only among different objectives, but also among different ways of reaching the same goal. In this kind of calculation, the cost of particular measures becomes crucial both as a determinant of whether or not we can afford them at all and as a criterion of their worth compared with some alternative method of achieving the same effects. <sup>24</sup>

Given the limited resources that the U.S. could allocate to different defense capabilities, it was imperative to outline the cost and benefit of each option in order to maximize the expected utility

<sup>&</sup>lt;sup>22</sup> Kaufmann's review was one of the few, if not the only, negative reviews of the book. It proved that the review would cost Kaufmann's probable influence in the Nixon administration when Kissinger achieved insurmountable influence being the Secretary of State – "I wrote a review of Henry's book…for which Henry never forgave me." In addition, Brodie also accused Kissinger of plagiarism in his book for arguing against strategic nuclear weapons. Kissinger humbly apologized to Brodie in letters. William Kaufmann, interview by Dr. Lawrence Kaplan and Dr. Maurice Matloff, *Office of Secretary of Defense Historical Office*, July 14, 1986. Professor Marc Trachtenberg in discussion with the author, October 2017. Box 1, Bernard Brodie papers, UCLA.

William W. Kaufmann, "Crisis in Military Affairs," World Politics 10, no. 4 (1958): 597. doi:10.2307/2009278.
 Ibid., 583.

of a particular set of military commitments. However, Kissinger neglected to have any discussion on "amounts, costs, and expected effects." <sup>25</sup>

Kaufmann concluded that Kissinger's book lacked the essential component of examining the feasibility of the set of strategies that the book itself sought to establish. Kaufmann's critique demonstrated a shift in his conceptualization of costs and benefits in crafting defense policy. He stressed that it was critical for strategists to weigh each option against the budget to achieve the greatest outcome. Such an approach coincided with one of the integral pillars of economics — maximizing utility given a set of budget constraints. Although Kaufmann had no background in the study of economics, he nonetheless exhibited the same set of perspectives as someone trained in economics. In contrast to "The Requirement of Deterrence", Kaufmann displayed a more profound understanding of economics and rational analysis in this critique of Kissinger. Such an intellectual shift undoubtedly had to do with his brief stay at RAND from 1956 to 1960.

### Kaufmann's brief tenure at RAND

"Essentially we regard all military problems as, in one of their aspects, economic problems in the efficient allocation and use of resources." – Charles Hitch, The Economics of Defense in the Nuclear Age.<sup>26</sup>

As Kaufmann expanded his influence in the civilian strategist circle, he was recruited by RAND, the embodiment of Cold War strategic analysis in the 1950s. First approached by Hans Speier, the director of RAND in 1951 to work as a full-time staff at RAND, Kaufmann turned down the offer as he felt obliged to stay at the Yale Institute out of loyalty for Ted Dunn, the

<sup>&</sup>lt;sup>25</sup> Ibid., 584.

<sup>&</sup>lt;sup>26</sup> Charles Hitch and Roland N. McKean, *The Economics of Defense in the Nuclear Age* (Cambridge: Harvard University Press, 1960), as cited in Lawrence Freedman, *The Evolution of Nuclear Strategy* (London: The Macmillan Press, 1981), 176.

director.<sup>27</sup> In 1951, Kaufmann joined a group of six Yale professors who followed Dunn to Princeton and established the Center of International Studies there.<sup>28</sup> However, Kaufmann never found himself quite at home at Princeton, and in 1956, he accepted Speier's offer and moved to Santa Monica to become a full-time consultant at RAND.

RAND, though initially established by the Air Force as a continuous cite for scientific research and strategic analysis during World War II, gradually expanded its influence through the defense circle to be the backbone of defense analysis. By the time Kaufmann had joined in 1956, RAND already expanded to have over 400 full-time researchers. Prior to 1949, however, hardware analysis was RAND's bread-and-butter – "technical staff including engineers, mathematicians, physicists, and computer scientists comprised 78 percent of the research staff, while political scientists and economists accounted for only 5 percent." However, RAND believed that the actual design of nuclear bombers or other weapon systems were wasting its staff's talents. As a result, in the 1950s, RAND's focus of research shifted from scientific research and nuclear studies, such as developing the newest nuclear-powered aircraft, to contemplating the impossible (nuclear warfare), using the concept of rational decision making – systems analysis.

Systems analysis was a comprehensive methodology developed by RAND scientists that strived to approach all warfare problems in the most rigorous quantitative way. The historian David Jardini described it as a "mathematically rigorous means of choosing among alternative

<sup>&</sup>lt;sup>27</sup> Kaplan, The Wizards of Armageddon, 189.

<sup>&</sup>lt;sup>28</sup> The director Ted Dunn disagreed with the new Yale president, A. Whitney Griswold over the orientation of the Institute. Dunn was a realist, working with the influential RAND corporation to conduct policy studies and make policy recommendations. However, Griswold was an academic conservative who wanted the Institute to remain detached from policymaking. See Kuklick's discussion on the history of the Institute on pg. 85 of *Blind Oracles*.

<sup>29</sup> Andrew May, "The RAND Corporation and the Dynamics of American Strategic Thought, 1946-1962" (PhD diss, Emory University, 1998), 28.

<sup>&</sup>lt;sup>30</sup> S.M. Amadae, *Rationalizing Capitalist Democracy*, 40.

<sup>&</sup>lt;sup>31</sup> Also this was due to RAND's failure in hardware studies. See Amadae pg. 40.

future systems characterized by complex environments."<sup>32</sup> It involved choosing the best means to achieve an end, such as asking which bombers or how many planes were necessary to destroy a certain area. The two necessary conditions arising from the approach were to always ask the right questions and to allow each question to be answered quantitatively.<sup>33</sup> Gradually, however, the RAND researchers began to rely more on methodology from other disciplines, such as psychology and economics, in addition to a pure quantitative approach. Therefore, contrary to some commonly held beliefs, RAND's contribution to strategic studies lay not so as much in their pioneering of different strategic concepts such as counterforce or mutually assured destruction (MAD) but more in their invention of the methodology to devise and assess competing strategies. These tools were influenced heavily by the study of economics, in particular econometrics and game theory. It was an "all-embracing conceptual framework"<sup>34</sup> that the historian Amadae in her book *Rationalizing Capitalist* called "RAND's unique product."

The organization of RAND was best characterized as fluid and incoherent. Despite its heavy reliance on systems analysis, RAND also realized the shortcomings of this approach as a lot of warfare questions could not be simply solved by data. The insights of the political scientists, psychologists and anthropologists, the social scientists, were also important when it came to assessing various war scenarios. As a result, RAND formally established its social science department in 1948, headed by Charles Hitch and Hans Speier. Tensions existed between the scientists who were in the nuclear, engineering, and mathematics divisions and the social scientists; each group suspected the work of the other and believed their findings were not

<sup>&</sup>lt;sup>32</sup> David R. Jardini, "Out of the Blue Yonder: The Transfer of the Systems Thinking from the Pentagon to the Great Society, 1961-1965," in *Systems, Experts, and Computers*, edited by Agatha C. Hughes and Thomas P. Hughes (Cambridge: the MIT Press, 2000), 317.

<sup>&</sup>lt;sup>33</sup> May, "The RAND Corporation and the Dynamics of American Strategic Thought, 1946-1962," 54.

<sup>&</sup>lt;sup>34</sup> Freedman, *The Evolution of Nuclear Strategy*, 179.

comprehensive and conclusive. This exacerbated the disconnection between different divisions. In addition, RAND's organization was very loose in that researchers from each division could freely conduct their own research and even move across different departments. Such an approach, however, created a favorable environment for bright and curious minds such as Kaufmann to work with researchers from other divisions and learn about their methodology.

Kaufmann, thrust into this cauldron of systems analysis and other various economic tools, took advantage of the fluidity within RAND and engaged extensively with the rest of the RAND community who all made an indelible imprint on Kaufmann's intellectual journey. Kaufmann worked closely with Charles Hitch, Alain Enthoven, Albert Wohlstetter, Andrew Marshall, Henry Rowen, Daniel Ellsberg and Thomas Schelling. Even though Kaufmann was not educated in an economics background, being surrounded by these prominent RAND scholars, he "began interestingly to hover around the economics division at RAND," according to journalist Fred Kaplan. These bright economists focused on applying the tool of systems analysis to nuclear warfare, a hot topic at RAND (also its bread-and-butter at this time) and in the defense circle. Andy Marshall, for instance, worked on calculating the economic cost that certain strategic bombing options would deliver to the Soviet economy. Albert Wohlstetter, the Columbia-trained mathematician, focused on determining which bombers would wreak the greatest havoc to the Soviet Union given each of their economic cost. 35 Kaufmann re-educated himself through these scholars and absorbed their reliance on calculus, probability, and game theory to analyze various nuclear options.<sup>36</sup> As Wohlstetter himself defined the strategists, "What these men had in

<sup>&</sup>lt;sup>35</sup> Ibid., 206

<sup>&</sup>lt;sup>36</sup> Ibid., 199. Game theory became an important if not quintessential pillar of RAND's economic branch. As Amadae summarized on p.76, "The innovation of game theory was its dependence on an axiomatically defined concept of human rationality and a context in which two parties select strategies that enable them to maximize their expected utilities...Von Neumann and Morgenstern developed the rational rules of engagement for a situation with two players and a zero-sum outcome, which seemed exploitable for the new challenges posed by atomic bombs in a bipolar Cold War." S.M. Amadae, Rationalizing Capitalist Democracy, 76.

common is that they were dealing with actual operational, design, and plans data. They were not basing evaluations on simple models and *a priori* guesses as to the performance of the interacting strategic offense and defense of both sides."<sup>37</sup> Despite Kaufmann being still skeptical at thermonuclear exchange and more interested in conventional force planning than strategic force planning,<sup>38</sup> he nonetheless devoted more time to studying nuclear strategy, perhaps fascinated by the methodology employed by the RAND strategists with whom he was working.

As Kaufmann continued to work on his own deterrence theory, he realized that the task of devising a single cohesive nuclear deterrence theory was overwhelming. In an unpublished RAND working paper "The Crisis in National Security" edited by Charles Hitch, for instance, Kaufmann elaborated on the difficulty of involving any kinds of nuclear weapons in warfare because it would easily escalate into uncontrollable thermonuclear exchange. "Decisions will seem novel, complex, and portentous. And they will have to be made hastily, under the pressure of events, with very little foreknowledge of their consequence." However, Kaufmann appeared to believe that through rational systematic analysis, the U.S. might be able to establish a compelling deterrence posture by relying on models that extended well beyond the nuclear arsenal. He elaborated,

As the real deterrents have become the ready forces of the nation rather than its war potential, the planners have had to concern themselves, not with the gross elements of power, but with the delicate and difficult problems of actual resource allocations, force size and composition, deployments, and strategy. In fact, it is probably no exaggeration to say that deterrence has now evolved to the point where it is a constant and kind of bloodless war in which the antagonists design their forces, test their strategies, and calculate effects

<sup>76</sup> 

<sup>&</sup>lt;sup>37</sup> Albert Wohlstetter, "On the Genesis of Nuclear Strategy: Letter to Michael Howard (1968)," in *Nuclear Heuristics: Selected Writings of Albert and Roberta Wohlstetter*, ed. Robert Zarate and Henry Sokolski (Carlisle Barracks: Strategic Studies Institute, 2009), 240.

<sup>&</sup>lt;sup>38</sup> William Kaufmann, interview by Dr. Lawrence Kaplan and Dr. Maurice Matloff, *Office of Secretary of Defense Historical Office*, July 14, 1986.

<sup>&</sup>lt;sup>39</sup> "The Crisis in National Security," ed. Charles Hitch, unpublished RAND working paper, April 18, 1958, cited by Marc Trachtenberg in *History and Strategy* (Princeton: Princeton University Press, 1991), 26.

much as though they were in actual conflict...The margin for miscalculation has gone down as the complexity of the deterrent, and its stress on ready forces, has risen.<sup>40</sup>

As demonstrated in these few lines, Kaufmann understood that having a cohesive and effective set of deterrence strategies proved to be extremely challenging. However, given the constraint of the military budget, the defense department could allocate resources among different commitments to achieve the most successful defense posture. <sup>41</sup> By this point, after spending two years working at RAND, Kaufmann had clearly absorbed the prevailing RAND methodology to analyze nuclear strategies – the various rational decision-making tools including systems analysis and cost-benefit studies.

#### Counterforce and Kaufmann's transition into defense establishment

"On the face of it, one must doubt whether such a system would compete favorably with land-based capabilities on a cost-effectiveness basis." – William Kaufmann in Letter to General White on Polaris.<sup>42</sup>

Kaufmann's career at RAND was fundamentally transformed by his involvement in the study of counterforce in 1959. Bernard Brodie was credited with first devising such a strategy in the 1940s and subsequently introduced the theory to RAND when he became a full-time consultant there. Though the theory initially did not impress the RAND intellectual circle, Andrew Marshall and his mentor Herbert Goldhamer studied the idea in depth and published their analysis relying on game theory in *The Deterrence and Strategy of Total War, 1959-61, A* 

<sup>&</sup>lt;sup>40</sup> Unpublished RAND working paper, "The Evolution of Deterrence, 1945-1958," William W. Kaufmann Personal Papers, Box 2, Folder 5, JFK library.

<sup>&</sup>lt;sup>41</sup> Kaufmann in particular highlighted the importance of allocating budget to research and development, "...but the magnitude of budgets is by no means the only criterion of effectiveness in this realm, and anyway, what is relevant in that connection is how our effort has compared in real terms with that of the Russians...Even more striking and disturbing than the budgets, however, has been our record with respect to research and development." Ibid., 35.

<sup>42</sup> Letter, William Kaufmann to General Thomas White, February 18, 1960. William W. Kaufmann Personal Papers, Box 1, Folder 1, JFK library.

Method of Analysis in 1959.<sup>43</sup> Around the same time, Air Force Chief of Staff Thomas White commissioned RAND to conduct a comprehensive study named Strategic Offensive Forces (SOF). The study involved almost all of RAND intellectual community with a simple objective: to devise a set of U.S. military strategies if the entire theory of nuclear deterrence failed. Marshall and Goldhamer hoped the theory of counterforce would make way into the study and they narrowed down on the articulate Kaufmann to be the spokesman for counterforce.

Though initially skeptical toward the idea, Kaufmann was convinced eventually because the theory fitted perfectly into limited war, the idea he had advocated since Princeton. As Kaufmann had written in 1956, "Ideally, one might wish to see a war confined as to area, targets, weapons, manpower, time, and tempo." Counterforce proved to be strategy that could place such a set of limitations upon the belligerents. Kaufmann's definition of the counterforce strategy was a combination of active and passive defenses, counter-military strikes, and avoidance of indiscriminate city-busting. The rationale was to directly target the enemy's military capabilities as opposed to cities, viewed as the economic powerhouse of the enemy. Since the U.S. would not strike cities, it could hope that the enemy would not attack U.S. cities as well. The nuclear exchange would therefore be "contained" to only military and not urban civilian targets. Again, this approach went back to Kaufmann's rationale underlining his belief in limited warfare. As early as in 1954, he argued "If the Soviet Union should launch a strategic bombing strike against the air bases and industrial centers of the United States, this act would set the pattern for the remainder of the war." According to the theory of counterforce, by adopting a

<sup>&</sup>lt;sup>43</sup> Kaplan, The Wizards of Armageddon, 214.

<sup>&</sup>lt;sup>44</sup> William Kaufmann, "Limited Warfare," in *Military Strategy and National Security*, ed. William Kaufmann (Princeton: Princeton University Press, 1956), 112.

<sup>&</sup>lt;sup>45</sup> Andrew May, "The RAND Corporation and the Dynamics of American Strategic Thought, 1946-1962," 355.

<sup>&</sup>lt;sup>46</sup> William Kaufmann, "Limited Warfare," in *Military Strategy and National Security*, ed. William Kaufmann (Princeton: Princeton University Press, 1956), 113.

"no-cities" strategy, the U.S. could set the boundary of the war so the Soviet would not attack American industrial centers; that is, its cities.

On the other hand, such a strategy left the U.S. the room to attack the enemy cities if necessary in case the enemies did not adopt a "no-cities" approach. Kaufmann advocated for the maintenance of a strong reserve force as a "constant monitor," so that the U.S. could strike enemy cities when it deemed it to be necessary. In addition, if both sides tacitly agreed on nocities, the U.S. would essentially guarantee the safety of its mainland because the U.S. cities would be off-limits. It could then continue to support its NATO allies without the fear of suffering a retaliatory attack on its own cities in the continental United States from the Soviet Union. The theory of counterforce, therefore, helped to bolster the U.S. commitment to its NATO allies. This was something that Kaufmann believed was of paramount importance. As Kaufmann himself declared, "A second peacetime requirement is that the forces of countries vulnerable to Communist aggression should be supported and strengthened wherever possible, even when the countries in question refuse to ally themselves with the United States."<sup>47</sup> It demonstrated that Kaufmann placed great emphasis on the protection of its own allies. If counterforce allowed the U.S. to achieve that, Kaufmann found the theory able to link all his ideas together.

Kaufmann's writings on counterforce caught the attention of Air Force General Thomas White in 1960. "The Puzzle of Polaris" was Kaufmann's critique on Navy's overreliance on Polaris submarine nuclear missiles as the backbone for deterrence. It was originally a letter sent to George Tanham, who led RAND's Washington DC office, and Tanham forwarded the letter to General White. The Polaris submarine system was the crown jewel of Navy in the 1950s. Each

<sup>&</sup>lt;sup>47</sup> William Kaufmann, "Limited Warfare," 115.

submarine was equipped with sixteen nuclear missiles. Easily hidden in the water, the submarine system could serve its purpose as both an offensive weapon to strike the enemy and a deterrence apparatus to show the U.S.'s military might. The Navy believed the system had no vulnerability compared to the Strategic Air Command (SAC) bases that Air Force controlled. 48 In the 1940s. the Air Force had an almost complete monopoly in ballistic missiles. When Eisenhower administration came in, it wished to cut down the existing military budget. Striving for "a bigger bang for the buck" military capability, the administration favored the nuclear weapons that promised to wreak a havoc much more significant than other systems. Coupled with the doctrine of massive retaliation, the renewed interest in nuclear weapons sparked a new round of interservice rivalry among the services. The Navy hoped to develop a fleet-based intermediate range ballistic missile (IRBM) that could deliver significant nuclear payload. This became the Polaris submarine system.<sup>49</sup> Aiming to use the system to divert funding away from the Air Force, the Navy hoped to regain influence in the administration. Consequently, now with Kaufmann's critique on Polaris to strengthen his theory on counterforce, Air Force quickly gave their blessings to this idea that could potentially diminish the Navy's rising influence gained from Polaris. It was natural for the Air Force to support Kaufmann's theory of counterforce.

In a more formal letter drafted to White explaining his theory greater in depth, Kaufmann argued that Polaris itself had several limitations due to its low accuracy and yield. Once missiles were launched, the Soviets could quickly locate and destroy the submarine. More importantly, Kaufmann believed that the Polaris system was in direct opposition to his own theory of counterforce. Kaufmann explained that if the U.S. relied solely on Polaris as strategic force,

<sup>&</sup>lt;sup>48</sup> Ironically, the SAC vulnerability was proved by Wohlstetter's and Hoffman's RAND studies. See Kaplan 233.

<sup>&</sup>lt;sup>49</sup> Donald MacKenzie and Graham Spinardi. "The Shaping of Nuclear Weapon System Technology: US Fleet Ballistic Missile Guidance and Navigation: I: From Polaris to Poseidon," *Social Studies of Science* 18, no. 3 (1988): 425-26, http://www.jstor.org/stable/285232.

allies might doubt the willingness of the U.S. to defend them. The submarines were invisible, an advantage claimed by the Navy, so they could not serve as physical evidence of the U.S. strategic force. Such a detrimental effect to NATO allies was what Kaufmann always wanted to avoid. Moreover, he wrote, "In fact, placing our bets essentially on Polaris would appear almost to invite the Soviets to engage in limited aggression. Certainly the risks would look far less against a submerged, city-busting system than against a widely dispersed, protected, land-based system which appeared capable of conducting a counterforce campaign." If the U.S. chose to rely on only Polaris for counter-city attack, the Soviet could choose to destroy all of the submarines and the missile on them, wiping the U.S. out of its retaliatory options. On the contrary, a more dispersed, land-based force would be more defensible and the U.S. could subsequently launch a counterforce campaign with its strategic force. Therefore, the Polaris submarine system proved that it could not be used as the "backbone of deterrence." S1

In addition to strategic rationale, Kaufmann also relied on the RAND tradition of costeffectiveness study to examine the values of Polaris. "Precisely how much of Polaris we should
acquire to perform these functions is much less clear, especially considering the cost of the
system compared with that of land-based capabilities. However, pending a cost-effectiveness
study, it is certainly easy to visualize a modest place for Polaris in the over-all strategic force."

Kaufmann understood that a persuasive strategy proposal needed to be supported by cost-benefit
analysis and data. As the letter was circulated among the Air Force generals, General Parrish
hoped RAND could conduct a more in depth systematic study on counterforce. Kaufmann
became the natural leader for the project. Back in Santa Monica, Kaufmann recruited two young

<sup>&</sup>lt;sup>50</sup> Letter, William Kaufmann to General Thomas White, February 18, 1960. William W. Kaufmann Personal Papers, Box 1, Folder 1, JFK library.

<sup>&</sup>lt;sup>51</sup> Ibid.

<sup>52</sup> Ibid.

econometricians to help him with crunching the numbers into models. The result was astonishing. Compared to the Navy's city destruction scenario and SAC's Optimal Mix strategy, the counterforce strategy would save 100 million lives in the event of a nuclear war.<sup>53</sup> Equipped with these numbers as hard evidence, Kaufmann could more easily argue for his theory of counterforce and convince the Air Force generals.

Kaufmann understood that in order to convince the military establishment, he needed to adopt the prevalent RAND methodology of employing economics tools to justify his theory as opposed arguing purely on a logical and rational ground. He applied the systems analysis and other RAND-developed economic methods to study the theory of counterforce, proving that it was the optical choice. The shift in his intellectual paradigm toward economic thought undoubtedly had to do with his tenure at RAND. At the same time, even though he had worked on nuclear strategies since he joined RAND, Kaufmann always believed that nuclear exchange should be avoided at all cost. His endorsement and support of counterforce proved that he did not intend for nuclear weapons to wreak havoc upon civilian targets, even in the worst-case scenario. Deep down his heart, he remained a pragmatic realist who believed in the unfeasibility of fighting a nuclear war. The methodology he acquired at RAND reinforced that perception.

### Chapter 2

# The Overhaul of Pentagon under McNamara

"I will still rank McNamara as the first among those four (referring to the four secretaries of defense he served under), even though he caused an enormous amount of animosity." – William Kaufmann, interview in 1986.<sup>54</sup>

<sup>53</sup> Kaplan, The Wizards of Armageddon, 242.

<sup>&</sup>lt;sup>54</sup> William Kaufmann, interview by Dr. Lawrence Kaplan and Dr. Maurice Matloff, *Office of Secretary of Defense Historical Office*, July 23, 1986.

Even though William Kaufmann had contact with the Defense Department before 1960, the projects he worked on were mostly RAND-commissioned work for the Air Force. His study of counterforce laid the foundation for his entrance into the hall of power. However, it was the arrival of Robert McNamara as Secretary of Defense in 1961 that opened the door for civilian strategists like Kaufmann. Probably the single most important Secretary of Defense in transforming the Pentagon, McNamara initiated rational defense management in the department, something he brought from his tenure at the Ford Motor Company. While he was the president of Ford, McNamara ensured that power was concentrated at the top of the management and the result of his system "redirected resources and effort on a large scale...maintained financial discipline among the parts of a far-flung and disparate company," and increased sales figures at Ford. Armed with these management insights, McNamara was ambitious to transform the Pentagon and eliminate all sorts of inefficiency.

The position of Secretary of Defense was created under the National Security Act of 1947 that put the Navy, the Army, and the Air Force into the National Military Establishment under the command of the Secretary. However, in reality, the Secretary had limited power to command the military. He or she also had difficulty curtailing the inter-service rivalry between the three branches. Each service competed for additional funding from the Congress and the Budget Bureau. President Eisenhower was aware of the challenges facing the Secretary, and he pushed through further reforms in 1958 that placed the Secretary of Defense second in command of the military after the President.<sup>57</sup> It significantly buttressed the power of the Secretary. This was the context when McNamara joined the Department of Defense in 1961.

<sup>55</sup> Ibid

<sup>&</sup>lt;sup>56</sup> Debrorah Shapley, *Promise and Power* (Boston: Little Brown & Co, 1993), 67.

<sup>&</sup>lt;sup>57</sup> Ibid., 89-90.

McNamara's experience in military strategy prior to his arrival at Pentagon was minimal. Although he served in the Air Force during World War II, his duty was primarily in statistical control, not combat duties. However, despite having minimal exposure to military planning, he was a voracious reader and fast-learner. Before assuming his position in 1961, McNamara read Charles Hitch's book *The Economics of Defense in the Nuclear Age* and admired it enormously. As a result, McNamara recruited Hitch to be his DoD controller and hired a group of RAND strategists to be his consultants, known as the "Whiz Kids," first coined for a group of management science experts at Ford who helped McNamara transform the operations of the company. When he moved to Pentagon, McNamara sought to organize a similar group of bright minds to help him restructure the department. At age forty-three, William Kaufmann became one of these "Whiz Kids" in 1961. However, he decided against becoming a full-time employee at Pentagon because he enjoyed the freedom and independence of being a part-time consultant. He resigned from RAND in 1961 and took a teaching job at MIT. From 1961 until he quit Pentagon entirely in 1981, Kaufmann split his time between Cambridge and Washington D.C.<sup>58</sup> While serving under McNamara, he was assigned primarily to take the job of drafting McNamara's speeches.

Once in power, McNamara initiated his transformation of Pentagon. As Kaufmann succinctly summarized in his book *The McNamara Strategy*, McNamara revolutionized the Pentagon in two ways: "He redesigned the military strategy and forces of the United States. At the same time, he installed an entirely new method of making decisions within the Pentagon." McNamara directed Hitch to implement the program of Planning-Programming-Budgeting (PPB) that was based on his earlier book *The Economics of Defense in the Nuclear Age*. The

<sup>&</sup>lt;sup>58</sup> Kaufmann's interview on July 14, 1986.

<sup>&</sup>lt;sup>59</sup> William Kaufmann, *The McNamara Strategy* (New York: Harper & Row, 1964), 3.

historian Jardini labels the book a "sacred text" because it advocated for "the implementation for quantitative systems analysis techniques to aid policy makers in choosing the most efficient alternative allocations and methods."60 PPB quickly gained prominence in the policymaking circle as a "a prime feature of DoD economic practice until the first term of the Nixon presidency."61 It eventually expanded even to domestic social programs such as the Great Society under the Johnson administration. 62 The system itself was a series of procedures that weighed the cost of each defense-related decision, from choosing the right basket of missiles to determining the kind of military apparel, against its benefit in numbers. Before the program, each service was allotted a budget, and the leaders within each service decided which weapons they should purchase. However, PPB took a top-down approach: evaluate the military objectives first and then decide on which weapon systems to invest in based on a careful economic and accounting system. Such a systematic approach helped to ensure the Secretary of Defense and his civilian staff would have direct control over all defense options without having to consult with individual services. It enabled the unification of all military services and eliminated any possible inefficiency in allocating limited resources. 63 More importantly, the program guaranteed McNamara maximum centralized control over all the services, one of his conditions to Kennedy when he agreed to serve as Secretary of Defense.

Kaufmann was never directly involved in PPB but he nonetheless absorbed the methodology while working as a part-time consultant at Pentagon. Later in 1969, for instance, he hosted a PPB study group at MIT evaluating the effectiveness of PPB in decision-making and

<sup>&</sup>lt;sup>60</sup> David R. Jardini, "Out of the Blue Yonder: The Transfer of the Systems Thinking from the Pentagon to the Great Society, 1961-1965," 319.

<sup>&</sup>lt;sup>61</sup> Michael A. Bernstein, *A Perilous Progress: Economists and Public Purpose in Twentieth-Century America* (Princeton, Princeton University Press, 2004), 98.

<sup>&</sup>lt;sup>62</sup> For more discussion on PPBS in domestic social programs, see Jardini's "Out of the Blue Yonder."

<sup>63</sup> William Kaufmann, The McNamara Strategy, 189.

how Pentagon could improve the program in the future.<sup>64</sup> They concluded that PPB brought significant positive benefits to the department, resulting in improved allocation of resources.

The down side of the program, however, as acknowledged by the participants, was that it created "a high cost in terms of organizational hostility and resistance." This was a troubling issue for McNamara ever since he took over the office. The antagonism between him and the chiefs of staff grew over time. The military leaders did not believe in the legitimacy and credibility of the civilian strategists because unlike actual officers in uniforms and holding weapons, the Whiz kids were studying everything on paper. To exacerbate the situation, McNamara had "steel in backbone" and was never hesitant to challenge the chiefs of staff to assert his authority as the head of Pentagon. The combination of power struggle and ideological difference between the civilians and military only heightened the existing antagonism between the two. Kaufmann acknowledged that he was one of these strategists who "really got under the skin of senior service officers." of the service officers."

# Kaufmann as McNamara's speechwriter

"I do not believe we should embark upon a course of action that is almost certain to destroy our Nation when that course of action can be avoided without substantial penalty to us." – Robert McNamara, testimony before the Subcommittee of the Committee on Appropriations in 1964.

McNamara's strong belief in the integral role that budget planning should play in devising nuclear strategy could be witnessed in his speeches throughout the years. For instance, in a speech to the Select Committee of Defense Ministers on July 29, 1965, he reiterated his

<sup>&</sup>lt;sup>64</sup> Letter, William Kaufmann to Professor Bator and Millikan on PPB study groups, January 1969, William W. Kaufmann Personal Papers, Box 2, Folder 8, JFK library.

<sup>&</sup>lt;sup>66</sup> Kaufmann's interview on July 14, 1986.

<sup>&</sup>lt;sup>67</sup> As cited by William Kaufmann in *The McNamara Strategy*.

belief in the "interrelationships between strategy, forces, and budgets." <sup>68</sup> Kaufmann drafted the speech and probably shared McNamara's outlook because of his years at RAND. As McNamara's speechwriter, Kaufmann was given wide freedom to determine the content of the speech, receiving little guidance beforehand. As Kaufmann himself stated, "I always avoided trying to get guidance, and for the most part was lucky in that respect." <sup>69</sup> This was quite significant as Kaufmann, a part-time civilian strategist, was influential in shaping McNamara's policy stances by writing his major speeches. Even Kaufmann's mentor Brodie observed that many McNamara's doctrines Kaufmann quoted in his book *The McNamara Strategy* were probably his own. "His own contribution has not been small, not least as one who has helped prepare speeches and papers for the Secretary. One wonders how many of the words that Kaufmann quotes from McNamara are originally out of Kaufmann." <sup>70</sup> Kaufmann's intellectual power was borrowed not only for its effective way of words but also its strategic thinking capability.

Kaufmann's disbelief in the actual deployment of nuclear weapons, whether strategic or tactical, was reaching the top level of Pentagon. Also because of his skepticism toward nuclear warfare, Kaufmann had even more interest in conventional force planning. For example, in 1961, when assigned the task of drafting the new Basic National Security Policy (BNSP),<sup>71</sup> Harry Rowen asked Kaufmann to prepare the section on conventional force while having Daniel

<sup>&</sup>lt;sup>68</sup> William Kaufmann, "Draft for presentation by Secretary of Defense Robert S. McNamara at a meeting before the Select Committee of Defense Ministers regarding the technical means for the U.S. and its allies to communicate their nuclear planning and consultation information more effectively," *U.S. Declassified Documents Online*, 19 July 1965, accessed 28 Jan. 2018, http://tinyurl.galegroup.com/tinyurl/5r6qsX.

<sup>&</sup>lt;sup>69</sup> Kaufmann's interview on July 14, 1986.

<sup>&</sup>lt;sup>70</sup> Bernard Brodie, "A Review of William W. Kaufmann's, The McNamara Strategy," *The RAND Corporation*, March 1965, accessed Jan 12, 2018.

<sup>&</sup>lt;sup>71</sup> BNSP was a guidance paper prepared by the National Security Council that outlined the "national strategy and priorities." According to Enthoven, "BNSP was a vague and general document that provided little real guidance on how defense dollars should be spent." Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough?* (New York: Harper & Row, Publishers, 1971), 14.

Ellsberg to complete the section on strategic nuclear force. Ellsberg himself was somewhat surprised, since Kaufmann was the more qualified candidate for addressing nuclear strategic force planning. Ellsberg suspected that it was due to the fact that his own views on counterforce were in line with those of Rowen's. Nonetheless, Kaufmann was satisfied with working on conventional force planning, something he had been more passionate about since his RAND years. More importantly, he found the opportunity to renew his support for conventional force buildup by being McNamara's speechwriter. This was due to McNamara's own skepticism at the possibility of fighting a general nuclear war as well and thus his support for building up the conventional force.

McNamara also shared Kaufmann's reservation toward deploying nuclear weapons. As Kaufmann elaborated, "whether I was talking with Acheson, Nitze, or McNamara, or whomever, that their eyes might light up for 10 or 15 minutes, and then they would think, 'Oh, my God, no. There are too many risks, too many uncertainties." <sup>73</sup> Kaufmann was referring to the deployment of nuclear weapons. McNamara had a "deep abhorrence of nuclear weapons" and thought their destructive power made them unlikely to be actually used in battlefields. As a result, McNamara wished to contain all potential conflicts within the non-nuclear theater. <sup>74</sup> Yet, McNamara was also aware of his responsibility as the Secretary of Defense. He had to ensure that nuclear weapons remained part of the country's military strategy because of their enormous deterrence power.

If nuclear weapons served primarily as a strategic deterrent rather than the chief apparatus for fighting a war, McNamara and Kaufmann both believed the U.S. and its NATO

<sup>&</sup>lt;sup>72</sup> Daniel Ellsberg, *The Doomsday Machine* (London: Bloomsbury Publishing, 2017), 120.

<sup>73</sup> Ibid.

<sup>&</sup>lt;sup>74</sup> William Kaufmann, *The McNamara Strategy*, 88.

allies should continue to rely on conventional forces. McNamara attempted to make his stance clear to the NATO allies in his Athens speech in May 1962. The task of drafting the speech was assigned to Kaufmann. As usual, he received minimal guidance in the process. In this controversial speech, McNamara argued that the U.S. would primarily target the Soviet military targets, not their civilian cities. Such a position was the doctrine underlying the theory of counterforce, as advocated by Kaufmann early in his career. However, the speech was somewhat confounding because it "tried to convey too many messages to too many audiences," according to Kaufmann. At best, European allies were confused since McNamara both supported the continued expansion of nuclear stockpile as a deterrent apparatus but also expressed his endorsement of conventional buildup. The endorsement of conventional buildup in itself seemed to convey the message that nuclear weapons would not be the backbone of the NATO's defense establishment. This idea worried the allies significantly.

McNamara, however, believed the Athens speech was quite compelling. He asked his assistant Adam Yarmolinsky to modify it to be given at the commencement ceremony at University of Michigan, Ann Arbor a few months later. The job of declassifying the speech initially fell on Kaufmann, but he strongly advised against going public with the speech, probably because it could prove to be too controversial for the general public. 77 Daniel Ellsberg also reviewed Yarmolinsky's draft and shared the same doubt as Kaufmann. He expressed his reservation:

The language of the Athens speech and Yarmolinsky's draft version seemed strongly to suggest that the American government put confidence in the results of a coercive strategy in a nuclear war – avoiding

<sup>&</sup>lt;sup>75</sup> William W. Kaufmann, interview by Alfred Goldberg, *OSD History*, 14 May 1966, as cited in Lawrence S. Kaplan, Ronald D. Landa, and Edward J. Drea, *The McNamara Ascendancy 1961-1965 V.5* (Washington D.C.: Historical Office of the Secretary of Defense, 2006), 306.

<sup>&</sup>lt;sup>76</sup> Lawrence S. Kaplan, Ronald D. Landa, and Edward J. Drea, *The McNamara Ascendancy 1961-1965 V.5* (Washington D.C.: Historical Office of the Secretary of Defense: 2006), 306.

<sup>&</sup>lt;sup>77</sup> Jane E. Stromseth, *The Origins of Flexible Response* (New York: St. Marks Press, 1988), 48.

Soviet cities while threatening them with reserve forces as we attacked Soviet military forces. Any such confidence was bound to look bizarre, absurd. <sup>78</sup>

Concluding that "Bill's version was better worded and its logics followed more clearly," Ellsberg used it as the basis for the Ann Arbor speech. As expected by Kaufmann, the speech "produced a substantial reaction," most of them negative. <sup>79</sup> Alain Enthoven, the Assistant Secretary of Defense for Systems Analysis under McNamara, explained that McNamara's position attracted much criticism because it was viewed as lacking resolve. <sup>80</sup> The NATO allies, especially Charles de Gaulle who was constructing France's own nuclear force, were also indignant because McNamara's support of centralized control and opposition to national nuclear forces were insulting to the British and French. However, McNamara decided to go with the speech in Athens because he understood the disastrous outcome of a nuclear war. "McNamara's view of deliberation, control, and 'no-cities'" was "a last desperate hope to make the best of a catastrophe," according to Enthoven. <sup>81</sup> Unfortunately, the public was not able to grasp this underlying political message in McNamara's speech. This further proved to Kaufmann and other civilian strategists that completely ruling out the option of nuclear weapons would not be feasible.

However, McNamara did not agree with Kaufmann completely on the theory of counterforce. One of his concerns was that the Russians would not simply avoid attacking the urban targets, as the U.S. assumed they would. In fact, this might cause them to do quite the contrary. The same doubt was shared by a couple of other RAND strategists, including Daniel Ellsberg. He was not at all impressed by the number of lives that the counterforce strategy

<sup>&</sup>lt;sup>78</sup> Daniel Ellsberg, *The Doomsday Machine*, 181.

<sup>&</sup>lt;sup>79</sup> William Kaufmann, *The McNamara Strategy*, 120.

Alain Enthoven, "1963 Nuclear Strategy Revisited," in *Ethics and Nuclear Strategy*, ed. Harold P. Ford and Francis X. Winters, S.J. (Maryknoll: Orbis Books, 1977), 75.
 Ibid., 76.

claimed to be able to save. 82 Yet, McNamara did not cross out the theory of counterforce completely, and he kept the option open as a potential choice. It was logical to conclude that Kaufmann, as McNamara's speechwriter, favored the position and helped to keep the option of counterforce on the table as an alternative to massive retaliation, on one hand, and to notions of limited nuclear war, on the other.

## **Kaufmann as a Pentagon consultant**

"So I just came to feel that realistically, whatever the potential utility of nuclear weapons might be, their use just wasn't in the cards." – William Kaufmann, interview in 1986.83

Kaufmann's book *The McNamara Strategy* was a detailed proclamation of McNamara's military strategy through presenting McNamara's speeches and writings. Kaufmann was asked to write the book and suspected that it was "an advance publication for McNamara's run at the vice presidency" for the election of 1964. Probably because of this, the book expressed great admiration for McNamara's wisdom and policies. As Bernard Brodie observed with chagrin in a review, "Once or twice a faint trace of criticism is allowed or perhaps rather forced to appear, but one feels it is mostly for the sake of the record." After Kennedy's assassination in 1963, McNamara's political ambitions tanked.

Kaufmann continued to work as a part-time consultant at the Office of Secretary of Defense. Also around this time, he began to take a small role in Vietnam War studies. He interviewed returning officers and produced writings and analysis reports for McNamara. However, in 1964, McNamara reached a consensus with the Chiefs – the civilian strategists

<sup>82</sup> Daniel Ellsberg, The Doomsday Machine, 121.

<sup>&</sup>lt;sup>83</sup> Kaufmann's interview on July 14, 1986.

<sup>&</sup>lt;sup>84</sup> Bernard Brodie, "A Review of William W. Kaufmann's, The McNamara Strategy," March 1965, The Rand Corporation, accessed Jan 12, 2018.

would stay out of Vietnam War because it was operational. Reciprocally, the Chiefs would not give the strategists as much of a hard time in force planning and budgeting as they had before. Nonetheless, Kaufmann pursued an independent project with a statistician in 1968 after the Tet offensive. He produced a report that showed B-52 bombing was not at all effective as some reports had claimed before. The report was reviewed by McNamara and "this seemed to be the final straw as far as McNamara's willingness to support the bombing." Kaufmann's influence to McNamara was evident.

However, this did not mean that the military leaders played no role in crafting the major strategies. In fact, Kaufmann acknowledged that almost all the strategy ideas originated in the military. Some of them might have been put into writings simultaneously at RAND, but military had floated the ideas even years before. Nonetheless, a fundamental ideological difference existed between the military personnel and the civilian strategists – the stance toward the deployment of nuclear weapons. The services believed strongly, along with NATO, that the United States should rely on nuclear weapons as its strategic defense option. 86 General Curtis LeMay, for instance, insisted that since the U.S. conventional force was largely overwhelmed in capacity by the Soviet's, the U.S. and its NATO allies should logically resort to using nuclear weapons to win a war. In a way, McNamara shared a similar attitude. He was aware that the U.S. and NATO ultimately had to rely on the threat of nuclear weapons as deterrence against the Soviets because relying solely on conventional forces was simply too expensive and politically unattainable. On the other hand, Kaufmann was more convinced on fighting with conventional military. He had always supported using convention buildup in central Europe, as he had made clear in the Athens speech he drafted for McNamara. The Cuban Missile Crisis in October 1962

<sup>85</sup> Kaufmann's interview on July 23, 1986.

<sup>&</sup>lt;sup>86</sup> William Kaufmann, *The McNamara Strategy*, 38.

only reinforced Kaufmann's conviction that conventional force buildup was absolutely necessary: "presidents just want to keep as far away from nuclear weapons as they possibly can." This was not to say that he advocated disarmament. Quite on the contrary, he did not believe in eradicating all nuclear stockpile in Europe. He believed having the nuclear option or at least its threat and strengthening conventional troops could go side by side. He had reiterated many times over that the U.S. could "get a much higher confidence in conventional defense in central Europe than is now the case." 88

In addition to his focus on conventional force planning, another NATO-relevant issue that Kaufmann spent much time working on was the deployment of tactical nuclear weapons. Ever since his days RAND, Kaufmann had been drawn to the debate on the viability of tactical nuclear forces (his review of Kissinger's book focused a great deal on this issue). While he was at Pentagon, Kaufmann helped to composed a Draft Presidential Memoranda (DPM) on tactical nuclear forces in 1964. The DPMs were all prepared by the Systems Analysis Office with the exception of this particular one. <sup>89</sup> Kaufmann summarized his position on tactical nuclear weapons in a 1967 report:

The argument that nuclear weapons would permit great economies of manpower has also proved deceptive. Whatever the possibilities for increased dispersal and lower troop densities where ground forces are armed and supported with nuclear weapons, these economies are more than offset by the rapid rate at which tactical nuclear exchanges would literally consume manpower. The net effect, as best we can judge, is that nuclear warfare on the ground requires more troops than non-nuclear warfare, and that the side with the greater reserves is the likelier to dominate the battlefield, even if he is somewhat inferior in numbers of nuclear weapons. <sup>90</sup>

Kaufmann questioned the effectiveness of tactical nuclear weapons. Since they could destroy conventional troops at an astonishing rate, each side would need an incredible amount of

<sup>&</sup>lt;sup>87</sup> Kaufmann's interview on July 14, 1986.

<sup>88</sup> Ibid

<sup>&</sup>lt;sup>89</sup> Jane E. Stromseth, *The Origins of Flexible Response*, 57.

<sup>&</sup>lt;sup>90</sup> Four lectures, "The Search for Security," 1967, William W. Kaufmann Personal Papers, Box 2, Folder 6, JFK library.

additional manpower to boost its existing manpower, a not quite feasible option for the U.S. given the Soviet Union's large number of conventional troops. When writing about different military options in the event of a strategic nuclear exchange, Kaufmann explained, "Where to invest our resources among these possibilities depends on the level of expenditures we are prepared to make. But we have learned that as we increase our expenditures and capabilities we run into the phenomenon of diminishing returns so familiar to economists." RAND's influence on Kaufmann was once again visible as he employed an essential economic principle – the law of diminishing returns. The puzzle that Kaufmann attempted to solve was to understand how much the U.S. should invest to win a nuclear exchange and the number of lives it could save if it had an alternative. However, since the cost was enormous in fighting a nuclear war, the benefit did not outweigh the cost. Kaufmann therefore believed that nuclear option would not be viable. The deployment of tactical nuclear weapons should not be advanced.

## The civilian strategists under McNamara

"I think I valued my independence... I just found that, although a rather wearing arrangement, a more comfortable one than working full time." – William Kaufmann, interview in 1986.92

Kaufmann decided to take a part-time role as a consultant in Pentagon when he left RAND in 1961. Aside from enjoying the independence, Kaufmann believed that an internal consultant who worked full-time might find it difficult to provide the most honest and objective analysis. For instance, the PPB study group Kaufmann had organized in 1969 underscored the importance of independent consultants. They concluded that the efficient implementation of PPB depended on "sufficient outside analysis to challenge the conventional wisdom and, again, to

<sup>91</sup> Ibid.

<sup>92</sup> Kaufmann's interview on July 14, 1986.

widen the range of choice."<sup>93</sup> They highlighted the importance of having a detached and impartial outside opinion when making important allocation decisions. The consultants could subsequently communicate their opinions and recommendations to Pentagon's decision-makers: "we would do well to understand and try to improve the art and how effectively to communicate its results to the busy executive."<sup>94</sup> Albert Wohlstetter, another prominent RAND strategists, expressed a similar reason for not becoming full-time at Pentagon:

I have a view of the ideal role of a science adviser which suggests that it's most effective if the adviser can detach himself from the flux of day-to-day decision, and the obligations to deal with the operational matters...Since I've always wanted to work on very basic issues and policy, one of the best ways of doing that, in my view, is not to try to affect it from point to point and day to day, but to stand back and do a thorough study on the question as you define it, rather than as it may be being asked at the time, and then to present your results to people who have the responsibility – but not to have the responsibility for decision yourself. 95

Wohlstetter's concern slightly differed from that of Kaufmann's because he thought working as a member of the civilian staff in the Pentagon would entail entangling day-to-day operational responsibilities. This might distract him from efficiently devoting effort to analyzing the bigger question, the strategic question.

Kaufmann, however, believed that in order to contribute productively, the consultants needed to "plunge in" and work as closely with the staff in DoD as possible. As Kaufmann explained, "...by the time I got heavily involved I found that it had to be a rolling kind of operation that dealt continually and on increasingly confidential terms with staff. Unless you were really willing to get your hands dirty in their problems, you probably were not going to be very useful or have a great deal of influence on decisions." Therefore, Kaufmann made sure

<sup>&</sup>lt;sup>93</sup> Memorandum, PPB Meetings of February 12, 1969 Summary, February 1969, William W. Kaufmann Personal Papers, Box 2, Folder 8, JFK library.

<sup>&</sup>lt;sup>94</sup> Abstract, "Military Estimates and Foreign Policy: an Introduction," July 22, 1966, William W. Kaufmann Personal Papers, Box 2, Folder 9, JFK library.

<sup>&</sup>lt;sup>95</sup> Albert Wohlstetter, interview by Dr. Maurice Matloff, *Office of Secretary of Defense Historical Office*, August 19, 1986.

<sup>&</sup>lt;sup>96</sup> Kaufmann's interview on July 23, 1986.

that he was not engulfed by unnecessary operational assignments. Yet, it was crucial for him to dive in and work alongside with the Pentagon staff. In doing this, he was able to maintain a degree of objectivity and critical distance by being based outside of the Pentagon. His independent project of B-52 bomber studies in Vietnam War exemplified this necessary condition. His honest opinion about suspending the B-52 program, backed by real numbers, successfully persuaded McNamara's decision to abandon it.

Another strategist provided insight into the civilian strategists' role. Alain Einthoven, contrary to both Wohlstetter and Kaufmann, was the Assistant Secretary of Defense for Systems Analysis under McNamara. When asked whether he believed the civilian strategists had maximum freedom working full-time in Pentagon, he emphasized "absolutely." McNamara and his deputy secretary tried their best to grant the strategists as much intellectual autonomy as possible. 97 They worked very hard to ensure that the strategist would and could provide the most impartial judgement of policies without being swayed by military politics. The strategists could pursue studies that they saw fit without being forced to conclude one thing or another. It was remarkable. McNamara helped to create an environment for a strategist like Kaufmann to flourish intellectually.

However, the civilian strategists' work had problems that Kaufmann believed could be fatal. He expressed his concern that there was a major limitation in systems analysis. This was more prominent in the studies done for the Vietnam War. Despite McNamara and the Chief's compromise in which the civilians would not touch on Vietnam, the Systems Analysis office did end up conducting a lot of analysis for the Vietnam War. They did not receive much attention and their recommendations were not taken. Nonetheless, Kaufmann claimed that the "Whiz

<sup>&</sup>lt;sup>97</sup> Alain Enthoven in discussion with the author, December 2017.

Kids" in the Systems Analysis office "quickly become micro-analysts." Getting easily lost in narrow problems, Kaufmann believed, these people probably would not have "come up with any great vision about how to deal with this problem." In fact, this was one of the more serious problems Kaufmann saw in the Office of Secretary of Defense. As he stated, the Secretary of Defense "can't avoid decisions like, "Will I buy F-16s or F-15s?" But mostly he needs help and wants help on the very large issues of how many things should he buy." This echoed Wohlstetter's concern that civilian strategists could be caught in small operational questions. They should spend time working on the broader strategic question. Perhaps this was the implicit reason that Kaufmann decided against working full-time in the Pentagon despite being granted maximum intellectual autonomy there. It was remarkable that Kaufmann saw through the shortcomings of systems analysis. His realistic assessment of this tool demonstrated that he was sharp and observant about not just the merits of nuclear strategy but also the methodology to theoretically devise them.

## Chapter 3

#### Kaufmann after McNamara

"I think we must find a concept that is economically more feasible than either counterforce or damage-limiting on a massive scale, and more credible to our allies (and possibly to potential enemies) than assured destruction alone." – William Kaufmann in "The Defense Budget for FY 1972 and the General Purpose Forces." 100

As McNamara became engulfed in the Vietnam quagmire in the later part of his tenure at Pentagon as Secretary of Defense, he faced increasing criticism from both sides of the aisle. The

<sup>98</sup> Kaufmann's interview on July 23, 1986.

<sup>99</sup> Ibid

<sup>&</sup>lt;sup>100</sup> Defense budget report, "The Defense Budget for FY 1972 and the General Purpose Forces", 1972, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

bipartisan hatred toward McNamara as the man who was responsible for the escalation of Vietnam War gained momentum as the press and public uncovered the real situation in Vietnam. McNamara himself was torn over the war – "hawk or dove" – and he increasingly became more disillusioned with the American participation in Vietnam. His opposition toward the war effort became more visible and his affinity toward Bobby Kennedy, the emerging left-leaning challenger to Lyndon B. Johnson for the election of 1968, more intense. Sensing this, President Johnson decided to nominate McNamara as the World Bank president, an empty promise that was meant to dump McNamara. At the same time, McNamara was also overwhelmed by the entire Vietnam episode and decided to resign. He officially left the Pentagon on February 29, 1968, ending a distinguished career of seven years that made lasting impact on this institution. 102

Kaufmann's journey after McNamara's departure was convoluted. When the Nixon administration came in, Kaufmann's security clearance was removed and he ended up spending a few months at the Brookings Institute setting up a defense analysis group. The exact reason for this episode is not known. At the request of Henry Kissinger in 1970, Kaufmann came back to the policy making circle and bounced through NSC, CIA and finally arrived back at Pentagon. He worked especially closely with future Secretary of Defense James Schlesinger at the Budget Bureau, the CIA and the two were close friends because of their common tenure at RAND. 103 Nonetheless, Kaufmann's agency in the policy making circle diminished significantly after McNamara. When Henry Kissinger became one of the most powerful figures under Nixon, Kaufmann's earlier fallout with the Secretary of State came to impair his influence. For instance,

<sup>&</sup>lt;sup>101</sup> Debrorah Shapley, *Promise and Power*, 410.

<sup>102</sup> Ibid.

<sup>&</sup>lt;sup>103</sup> Kaufmann's interview on July 23, 1986.

when Kaufmann was working on the posture statement<sup>104</sup> for incumbent Secretary of Defense Elliot Richardson, Kissinger asked others to kick Kaufmann out of the project. This was due to Kaufmann's earlier strong critique of Kissinger's book *Nuclear Weapons and Foreign Policy* in 1957.<sup>105</sup> Kaufmann reflected that Kissinger never really forgave him because of his review of the book and it ultimately costed Kaufmann his influence in the Nixon era.

Kaufmann's work under the Nixon administration mostly revolved around budget planning, quite a shift from his role under McNamara. When working for McNamara, Kaufmann helped to shape defense doctrine and policy by drafting the majority of McNamara's speeches. When his power was curtailed with the advent of Nixon era, he began to work on operational budget planning as opposed to overall military strategy. He spent a few months working for Brookings on defense budget studies. In a memorandum to Henry Owen, the director of foreign policy study at Brookings, in May 1970, Kaufmann laid out his projection of the entire federal government for years leading up to fiscal year 1975. <sup>106</sup> It was important to note that this was an astounding task for Kaufmann, who had only learned about conducting budget studies probably after he started as a part-time consultant at Pentagon under McNamara in 1961. In June of 1970, armed with his analysis, he appeared before a Senate hearing to present his projections on defense budget. Incorporating the cost of Vietnam, he hoped to "focus on how we can choose from among the many defense options available to us." <sup>107</sup> In a supplement to this testimony.

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<sup>104 &</sup>quot;The annual Army Posture Statement is an unclassified summary of Army roles, missions, accomplishments, plans, and programs. Designed to reinforce the Secretary and Chief of Staff of the Army posture and budget testimony before Congress, the APS serves a broad audience as a basic reference on the state of the Army." "Army Posture Statement," Army Strategic Documents and Resources, accessed February 12, 2018. https://www.army.mil/info/references.

<sup>&</sup>lt;sup>105</sup> See Chapter 1 of the thesis.

<sup>&</sup>lt;sup>106</sup> Memorandum, "Future Federal Budgets" by William W. Kaufmann to Henry Owen, May 21 1970, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>&</sup>lt;sup>107</sup> Senate statement, "Statement of William W. Kaufmann before the Subcommittee on Economy in Government of the Joint Economic Committee," June 5, 1970, William W. Kaufmann Personal Papers, Box 2, Folder 3, JFK library.

Kaufmann outlined the items in a proposed \$10 billion savings from the Pentagon's Asian contingency plan and the specific weapon systems that he recommended be replaced by the twelve new weapon systems. The testimony earlier and the supplement both involved his projected force reduction and the cost savings in dollar terms. <sup>108</sup> Kaufmann grew more interested in budget studies during the Nixon era. <sup>109</sup> He now possessed the legitimacy to testify before Congress on budget projections. The cost and benefit analysis skills and the PPB program he learned at RAND and at McNamara's Pentagon allowed him to assume a new identity – one that was no longer writing about nuclear strategies but answering the more pragmatic operational questions. At this point, equipped with the capability to conduct budget studies, Kaufmann was able to link regional operational questions with the country's overall military strategy.

Despite being delegated to a less strategic role, Kaufmann attempted to argue for his proposed strategic doctrine and reiterate his policy stance in his writings on defense budgets. In a defense budget analysis article written in 1972, amid the table projections, he wrote that "I see no objective basis for changing the judgement of the 1960s that the general purpose forces have resumed their traditional function as the main source of national military power." He then proceeded to delve into the specific numbers on how the Pentagon could save dollars by shifting the numbers allocated to the conventional forces within each service. On the issue of tactical nuclear weapons, Kaufmann also used this opportunity to censure the deployment of tactical nuclear weapons, a position that he had taken since his RAND years. He maintained that "I am skeptical about the feasibility of substituting tactical nuclear forces, or air and naval power, for

<sup>&</sup>lt;sup>108</sup> Senate testimony, Supplement to a Senate testimony, 1970, William W. Kaufmann Personal Papers, Box 2, Folder 3, JFK library.

<sup>&</sup>lt;sup>109</sup> This is debatable. See footnote 11.

<sup>&</sup>lt;sup>110</sup> Defense budget report, "The Defense Budget for FY 1972 and the General Purpose Forces", 1972, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>&</sup>lt;sup>111</sup> See Kaufmann's stance on tactical nuclear weapons in his early career in Chapter 1 and 2 of this thesis.

our conventional land forces – whether in Asia or Europe – even though annual savings of \$10 billion could be achieved thereby."<sup>112</sup> Justifying his argument by specific numbers, Kaufmann argued that the Pentagon could modernize the existing weapon systems for more efficiency instead of relying on tactical nuclear weapons. In these two cases, Kaufmann tried to rely on defense budget numbers to reiterate his general stance on conventional force buildup and reduced reliance on tactical nuclear weapons. He was no longer arguing from a pure strategic or even political perspective. By incorporating concrete figures, Kaufmann was able to invoke the RAND rational choice theory and the cost and benefit analysis to corroborate his argument. He was adopting a new methodology to present his argument and was successful in equipping it with legitimacy and pragmatism.

However, on the flip side, it was remarkable that Kaufmann's career took such an interesting turn at that moment and revolved around budget planning instead of nuclear policy. Through his brief tenure at RAND and under the tutelage of McNamara who was all about the cost-benefit analysis, Kaufmann adopted the economic approach in his later years as a consultant to federal government. Possibly because he had lost his influence in shaping the strategic thinking of the administration, Kaufmann had to resort to conducting budget analysis and projections to gain more influence in the policy-making circle. The budget data and projections served as the supporting evidence for the various hypothetical military policies that Kaufmann was advocating. It reinforced my argument that Kaufmann himself was pragmatic in understanding how to make his voice heard. These reports became Kaufmann's vehicle for

<sup>&</sup>lt;sup>112</sup> Defense budget report, "The Defense Budget for FY 1972 and the General Purpose Forces", 1972, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>&</sup>lt;sup>113</sup> This hypothesis was further supported by a discussion with Professor Marc Trachtenberg. When he conducted an interview with Kaufmann and attended a lecture by him at MIT on budget planning, Professor Trachtenberg claimed that Kaufmann was not particularly enthusiastic about the topic. He appeared quite dull and disinterested in doing budget number calculations and projections. Professor Marc Trachtenberg in discussion with the author, October 2017.

laying out his own strategic thinking and hoping that they would reach the decision-makers at the top.

In addition to inserting his own analysis of the administration's nuclear strategy,

Kaufmann also composed an insightful piece to critique the organizational structure within

Pentagon. In this remarkable document, Kaufmann employed economic thinking, very proper for
this occasion, to discuss the existing loopholes in the organization of social science consultants
within Pentagon. He referred to the Pentagon non-civilian personnel as "consumers" of social
science research and the civilian strategists themselves as "producers". He noted that "demand
and supply simply are not meshing in any meaningful sense." He further expressed his
frustration in the following statements:

Consumers do not seem to be very interested in what is being produced, while producers are not particularly sensitive to what the consumers want. Indeed, we have the impression that the producers – because they see themselves representing the unchallengeable virtues of science – cannot even understand why many consumers reject or ignore what the producers say they should purchase, and instead simply regard the producers as another interest group. <sup>114</sup>

The first thing worth noting was the analogy Kaufmann used in his argument. He employed the concept of supply and demand, the underlying theory of economics, a social science subject itself. Symbolically, Kaufmann presented his discerning observation of the existing tension between the civilian strategists and the military personnel. He commented that the strategists could not understand why they were not taken seriously by the decision-makers. The consumers of the research, most likely the military personnel and the top decision-makers, saw the results of the strategists' research as not convincing. Also due to budget constraints, the administration needed to make sure they were using their limited resources to get the most out of the strategists. Kaufmann then concluded his memo with a list of concrete organizational reforms the DoD

<sup>&</sup>lt;sup>114</sup> Memorandum, "Organization for Research in DoD and the Social Sciences: Some Hypothesis," August 1970, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

could undertake to alleviate the tension including evaluation of ongoing programs and easier launch of pilot studies based on research proposals. Kaufmann's proposition outlined in this penetrating and acute analysis of the organizational structure came from possibly his extensive years spent working for the decision-makers. It demonstrated that while working as a consultant at Pentagon, Kaufmann was always observant and reflective. He was honest and logical in pointing out the flaws currently exist within Pentagon and he was not hesitant to codify them. At this moment in 1970, as an outside observer who was no longer working in Pentagon and partaking in critical decision-making, Kaufmann picked up the power to examine the Pentagon structure and offer his disinterested insights.

On the same note, Kaufmann also ironically became the spokesman for systems analysis in the Pentagon. He appeared before the Subcommittee on Economy in Government of the Joint Economic Committee on September 1969. During this hearing, Kaufmann listed out the benefits of systems analysis and the PPB program implemented in Pentagon. Hoping that the program would spread to other government agencies, Kaufmann even offered his opinions on how to successfully improve the program. He suggested the creation of research institutions at universities, for instance. The universities should encourage students who wished to participate in the public sector to major in "harder disciplines — such as economics or some part of science and engineering" as opposed to political science, which was the discipline that Kaufmann himself came from. This was worth noting because Kaufmann assumed the role of spokesman for systems analysis in testimony before Congress. He possessed enough legitimacy to defend the effectiveness of the program, possibly because of his background at RAND and his years

<sup>&</sup>lt;sup>115</sup> Senate statement, "Statement of William W. Kaufmann before the Subcommittee on Economy in Government of the Joint Economic Committee," September 30, 1969, William W. Kaufmann Personal Papers, Box 2, Folder 3, JFK library.

served under McNamara. At the same time, it once again demonstrated Kaufmann's strong belief in social science subjects, particularly economics. After McNamara had left office, Kaufmann inherited McNamara's endorsement of systems analysis. He attempted to build on it and expand McNamara's legacy further beyond just the Pentagon.

## Kaufmann under Schlesinger

"I think Jim was much less interested in the cost benefit analysis, even though in many ways he was equally well trained, if not better trained, than McNamara."—William Kaufmann in an interview in 1986. 116

Kaufmann, though he admired McNamara as the most effective Secretary of Defense, was closer to Schlesinger because of personal friendship. James Schlesinger was the director of strategic studies at RAND until 1969 and he came from the same intellectual background as most of the other RAND strategists. According to journalist Fred Kaplan, "Everything about him spelled "defense intellectual" – the slightly jaded sensibility, the whiff of arrogance, the pipepuffing affection of cool insouciance." A trained economist, he learned the various RAND strategic doctrines from Andy Marshall and befriended Kaufmann during his RAND years. Schlesinger hired Kaufmann as his consultant when he worked as the national security director in the Budget Bureau, the CIA, and then as the Secretary of Defense in 1973. After spending a few years outside of DoD, Kaufmann was finally put back to Pentagon as the speechwriter and advisor to Schlesinger, a position almost identical to his work under McNamara in the 1960s.

Though Schlesinger embodied the personality of "defense intellectual" that McNamara adored, his career as Secretary of Defense differed from that of McNamara. One sharp distinction between the two, according to Kaufmann, was Schlesinger's cordial approach toward

<sup>&</sup>lt;sup>116</sup> Kaufmann's interview on July 23, 1986.

<sup>&</sup>lt;sup>117</sup> Fred Kaplan, *The Wizards of Armageddon*, 357.

the Chiefs. He understood how to compromise as opposed to challenging them directly. In fact, Schlesinger criticized McNamara's authoritarian approach toward the military personnel, according to Kaufmann. Schlesinger himself was able to achieve a great working relationship with the Army and Air Force generals, if not the Navy admiral (Kaufmann commented that the Navy was very difficult to reach consensus with). Nonetheless, Kaufmann also recognized that the Schlesinger years were largely a continuation of McNamara's because of its adoption of similar strategic doctrines and reliance on employing the same analytic tools – systems analysis. Schlesinger hired Andy Marshall to be the director of the net assessment office. He also continued McNamara's effort to increase NATO's conventional force buildup. Yet, Schlesinger was more successful at enlisting the NATO allies' support for increasing the conventional force, something that McNamara had repeatedly tried to persuade the allies to commit to, facing significant backlash in the process. Schlesinger was able to work better with other people. On the other hand, this meant possible reduction of centralized authority, one aspect that McNamara valued significantly.

On the policy front, the Schlesinger Pentagon's overall nuclear strategy stemmed from the National Security Decision Memorandum – NSDM-242. The document argued for a more flexible response to conventional or unconventional attacks from the enemy. It outlined a wideranging set of nuclear options for the U.S. that it could use to retaliate. However, it did not call for massive retaliation or complete destruction that aimed to launch all nuclear weapons against the enemy in case of a small provocation. For instance, if the Soviet Union launched a small-scale attack against the U.S., the U.S. could choose to launch a nuclear second-strike or retaliate

<sup>&</sup>lt;sup>118</sup> Kaufmann's interview on July 23, 1986.

<sup>&</sup>lt;sup>119</sup> Fred Kaplan, *The Wizards of Armageddon*, 372.

<sup>&</sup>lt;sup>120</sup> Kaufmann's interview on July 23, 1986.

with conventional forces. In the eyes of its advocates, this strategy significantly reduced the possibility of an all-out nuclear war that would wipe out the entire world.

It was worth noting that this strategy did not differ much from the "flexible response" defense doctrine implemented by President Kennedy in 1961. The manifestation of flexible response in nuclear strategy was mutual assured destruction (MAD). The MAD adopted by Secretary of Defense McNamara was based on the theory of deterrence. Since both the United States and the Soviet Union were aware of the catastrophic consequence of fighting a nuclear war, that mentality would deter both sides from launching nuclear weapons. As a result, both countries would choose not to fight with nuclear weapons as they were certain of the calamity that entailed. The NSDM-242 shared the similar flexible response doctrine and it proved that Schlesinger's nuclear strategy inherited elements from that of the McNamara years.

Despite the policy being compelling on paper, Kaufmann remained unconvinced. He much preferred the theory of counterforce because it was all in or all out. "If you were going to use nuclear weapons, Kaufmann thought, you might as well go for broke or forget about it." <sup>121</sup> Therefore, when Schlesinger made this NSDM-242 public in a speech in January 1974, Kaufmann was not particularly enthusiastic. Nonetheless when Schlesinger's first articulation of the policy stirred controversy, Kaufmann rushed back to Washington from his weekly teaching at MIT to formalize this strategic theory, known as the "Schlesinger doctrine." Instead of focusing on possible small-scale retaliation against a possible nuclear attack, Kaufmann stressed the idea of a more flexible response, a continuation of McNamara's doctrine and one that "few would object in principle." <sup>122</sup> Kaufmann was being pragmatic and realistic on how to best present the country's nuclear strategies to make the U.S. appear strong and powerful. Once again, Kaufmann

<sup>&</sup>lt;sup>121</sup> Fred Kaplan, The Wizards of Armageddon, 369-374.

<sup>&</sup>lt;sup>122</sup> Ibid., 374.

helped to shape defense policy doctrines by being the speechwriter for Secretary of Defense, even though at this time he saw his idea not completely in line with that of his sponsor.

#### Kaufmann under Brown

"In IQ terms, I suspect Harold was by far the brightest of the bunch. I suspect that even McNamara might admit that." – William Kaufmann in an interview in 1986. 123

After Schlesinger left Pentagon, Kaufmann worked briefly with the subsequent Secretary of Defense Donald Rumsfeld. Unfortunately, Rumsfeld proved to be very difficult to work with. Kaufmann noted that Rumsfeld "spent more time worrying about the corridors than he did about the planning. Quite candidly, he used to drive me crazy with his absolutely insane nitpicking about speeches and things." Yet, Rumsfeld spent a very short period of time at DoD, a brief 16 months. The next Secretary of Defense Harold Brown under Jimmy Carter was a lot easier to work with for Kaufmann. Though Kaufmann himself admitted that he had done the most work for Harold Brown, the two never got close. According to Kaufmann, the reason was that Brown "was a very reclusive person, and not an easy person to talk with." Kaufmann's workload under Brown exploded finally to the point that he felt he was being "burned out" that he had to quit. He was drafting the annual defense report in addition to drafting memos and speeches.

The nuclear strategy of the Carter administration did not deviate significantly from its predecessors. When Carter first came into the office, he very much remained skeptical toward nuclear weapons. However, when Brown and Carter were briefed on NSDM-242, they realized that the doctrine retained logical sense. As was true of previous secretaries, Brown was aware that nuclear weapons were never meant to be launched, despite believing that they should remain

<sup>&</sup>lt;sup>123</sup> Kaufmann's interview on July 23, 1986.

<sup>124</sup> Ibid.

<sup>125</sup> Ibid.

in the repertoire of responses to Soviet aggressions. As Harold Brown proclaimed in a congressional committee, "it would be the height of folly to put the United States in a position in which uncontrolled escalation would be the only course we could follow." As a result, Brown endorsed the flexibility inherent in the NSDM-242 because he was convinced that all-out nuclear weapons would be catastrophic for both sides. When Kaufmann was delegated the task of drafting the posture statement for FY 1981 that called for a flexible second-strike involving not simply the nuclear options, Brown added a few sentences:

My own view remains that a full-scale thermonuclear exchange would constitute an unprecedented disaster for the Soviet Union and for the United States. And I am not at all persuaded that what started as a demonstration, or even a tightly controlled use of the strategic forces for larger purposes, could be kept from escalating to a full-scale thermonuclear exchange. 127

Harold Brown then handed the document back to Kaufmann to let him continue expressing his rationale. Brown was a realist just like Kaufmann. Even though he was personally convinced about the unfeasibility of a thermonuclear exchange, he also understood that as the Secretary of Defense, he needed to let nuclear forces stay in the country's overall military strategy. Kaufmann, however, shared the same doubt about nuclear weapons as Brown. They were a demonstration of the country's military might despite them never should be and would be launched. Under Harold Brown, William Kaufmann once again possessed more power in shaping defense posture. His opinion was borrowed and valued more by him serving as Brown's speechwriter and special consultant.

More importantly, Kaufmann appeared to be more vocal in criticizing the administration's mistakes than before. In a speech made in 1979 at the U.S. Air Force Academy in Colorado Spring, he pointed out the "bloopers" made by the DoD including "SALT, proposals

<sup>&</sup>lt;sup>126</sup> Harold Brown, Hearings, Senate Foreign Relations Committee, *The SALT II Treaty*, Pt. 1, July 1979, P. 113, as cited in Fred Kaplan, *The Wizards of Armageddon*, 383.

<sup>&</sup>lt;sup>127</sup> Harold Brown, DoD, Annual Report, Fiscal Year 1981, Jan. 29, 1980, pp. 127-30, as cited in Fred Kaplan, *The Wizards of Armageddon*, 386.

for nuclear modernization in Europe, NATO standardization, and POMCUS (the acronym for Prepositioned Overseas Material Configured to Unit Sets)."128 On the issue of SALT and nuclear non-proliferation, Kaufmann had always been skeptical toward the effectiveness of such a treaty. He compared the negotiation to "general rules of the highway rather than speed limits." The result of such rules only caused the drivers to seek more loopholes for more reckless behavior. It did nothing to curb nuclear weapon competition but only encouraged the U.S. and the Soviet Union to find the grey areas and deploy nuclear weapons. He also chastised the administration's proposal to deploy nuclear weapons in case of a surprise Soviet attack on Europe. Kaufmann equated this thinking to Dulles's doctrine of massive retaliation, the concept that he denounced earlier in his career. 129 Finally, Kaufmann also reprimanded the lack of macro-level analysis in the Pentagon, arguing that many had gotten lost in micro-level analysis. "We have a fair number of tree-men. But our forest-men are in short-supply. And one of the best, Jim Schlesinger, is leaving government next week." <sup>130</sup> This was a concern that Kaufmann always had toward the consultants at Pentagon. 131 He believed the systems analysts tended to be engulfed in microstudies but ignoring the overall strategic picture. Kaufmann's criticism in this speech was very unusual and unlike him. He had always remained quite humble and mellow, even toward Henry Kissinger. The timing was important because this was near the end of Kaufmann's years at Pentagon. It suggested that by this moment, Kaufmann disagreed with many DoD's decisions and reflected on the many organizational flaws within the department. He saw a great number of

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<sup>&</sup>lt;sup>128</sup> Speech draft, Speech draft to the U.S. Air Force Academy in Colorado Spring, August 17, 1979, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>129</sup> See Chapter 1 of the thesis.

<sup>&</sup>lt;sup>130</sup> Speech draft, Speech draft to the U.S. Air Force Academy in Colorado Spring, August 17, 1979, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>&</sup>lt;sup>131</sup> See the last section in Chapter 2.

organizational reforms advanced during the McNamara's years being annulled. 132 His disillusionment probably pushed him to leave the stage of power.

# Kaufmann in Pentagon

"I still like to think of myself as a historian." – William Kaufmann in an interview in 1986. 133

Kaufmann had always remained reflective throughout his years at RAND and Pentagon. Through RAND, he received a complete re-education on systems analysis and the study of economics. His years at Pentagon were intercepted with constant reflection on the organizational structure and operations within the government agency. Kaufmann reflected retrospectively that his work in the 60s was the most exciting because the administration was "on the frontier." Even though each subsequent administration promised to bring a fresh start, Kaufmann saw them as mostly "a slightly different writeup of something that had been said 20 years before." <sup>134</sup> The Nixon era was very bumpy for Kaufmann and he was delegated to conducting mostly budget studies, a subject that Kaufmann might not be as interested in as it seemed. However, he proceeded with it hoping to gain influence and making his voice heard. Yet, after spending almost two decades around the policy-making circle, Kaufmann understood that nuclear weapons were never the solution to the stalemate between the United States and the Soviet Union. <sup>135</sup> The DoD was no longer the same as it was during its golden period under McNamara. The next segment of Kaufmann's career was spent at Brookings. As an independent academic, Kaufmann

<sup>&</sup>lt;sup>132</sup> Speech draft, "Choices for the 1980's", April 29, 1980, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

<sup>&</sup>lt;sup>133</sup> Kaufmann's interview on July 23, 1986.

<sup>134</sup> Ibid

<sup>&</sup>lt;sup>135</sup> Speech draft, "Choices for the 1980's", April 29, 1980, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

was able to offer more stringent criticism of the administration, more bold and honest than he was before when he was working within.

## Chapter 4

### Kaufmann joined the Brookings

"As a practical matter, the national income is not infinite and defense can never have it all." – William Kaufmann Defense in the 1980s. 136

After serving for seven defense secretaries, Kaufmann finally felt "burned out" and decided it was time to move on. He officially left the Pentagon in 1980 and joined the group of military scholars at Brookings Institute. He also retired from MIT and took up a teaching position at Harvard Kennedy School of Government. Throughout his tenure at Brookings, Kaufmann spent the majority of his time publishing analysis of the Reagan administration's military policy and defense budget. He was an astute critical thinker; he employed the cost-and-benefit analysis to determine whether the current military budget was sound. The RAND tradition he had inherited became part of his scholarly identity at this moment.

In *Defense in the 1980s*, Kaufmann provided an insightful analysis of the Carter defense five-year plan submitted in 1981 and used it as the baseline model to calibrate whether further defense budget increases would be necessary. Using economic cost and benefit analysis, he concluded that an additional \$140 billion added to the Carter defense program would be more than sufficient to support worldwide contingencies, \$55 billion less than the Reagan proposal. Moreover, he argued, "while the Carter defense program and the Reagan amendments appear to make good progress toward meeting what might be termed the standard or median dangers, they do relatively little to insure against a more testing yet not implausible set of dangers – dangers, it

<sup>&</sup>lt;sup>136</sup> William Kaufmann, *Defense in the 1980s* (Washington D.C.: The Brookings Institution, 1981).

should be added, that are more likely to be nonnuclear than nuclear in character." <sup>137</sup> First of all, Kaufmann explained his basic rationale for evaluating the military budget: was the budget allocated effectively to support a basket of military capabilities that could defend the country against any enemy aggressions? He took the approach of analyzing the country's overall military strategy while also getting down to details on individual contingency plans. He employed very specific numbers for each scenario to examine where would the country's top military priorities lie and subsequently how much would those cost. Second, Kaufmann reiterated his belief that the country faced a more serious nonnuclear threat than nuclear catastrophe. This was important because unlike some of the other strategists who believed the country was facing an imminent nuclear war, Kaufmann remained a staunch realist who was not persuaded at all by the threat of nuclear attack. He therefore urged the military establishment to face reality and devote more resources to strengthen the conventional force instead of producing the nuclear weapon systems that were still in developmental phase at best.

While at Brookings, Kaufmann also had the freedom to devote more time to studies in conventional force planning, something he had always been more passionate than nuclear force planning since his RAND years. He published *Planning Conventional Forces 1950-80* in 1982 that outlined his doctrinal thinking and approach to conventional force planning. He observed that "a look at the last thirty years suggests that the need for strong conventional forces is an idea whose time has finally come." Kaufmann was referring to the Pentagon's over-reliance on strategic nuclear force during the past thirty years of Cold War. Kaufmann had always advocated for a stronger conventional military because the odds of fighting a nuclear war was very slim. On

<sup>137</sup> Ibid 39-40

<sup>&</sup>lt;sup>138</sup> William Kaufmann, *Planning Conventional Forces 1950-80* (Washington D.C.: The Brookings Institution, 1982), 25.

the contrary, countries most likely would engage in skirmishes that would rely on their conventional force. Korean War served as such an example. Therefore, Kaufmann explained that it was absolutely crucial for the country to devote resources to conventional buildup as opposed to investing in nuclear arsenal.

In addition, Kaufmann cited George Santayana's quote that "those who cannot remember the past are condemned to repeat it." Santayana's quote illustrated the perspective of a historian. Kaufmann himself even admitted in an interview that "I still like to think of myself as a historian." The quote demonstrated that Kaufmann loved to reflect on the past. He believed that by examining the past mistakes that the Pentagon had made, the administration could ensure that it would not repeat them. He positioned himself as a realist. This was the rationale that he used to illustrate his argument that it was futile for the Pentagon to attempt to establish a versatile and effective all-purpose conventional force that could serve all military objectives. Such an effort was undertaken twice before in Pentagon's history, once under Truman and once under Kennedy. Both times the effort failed because the U.S. simply could not afford it. The all-purpose force was favored by many policy-makers before because it allowed the U.S. to make timely and forceful response to any worldwide contingency. It was a manifestation of flexible response.

However, Kaufmann reflected upon these past two failed attempts and argued despite the idea sounding great on paper, it was not feasible to implement it in real life because of the difficulty to train the forces, the significant economic cost, etc. Kaufmann therefore recognized that there were "practical limits on conventional force flexibility" <sup>141</sup>. The U.S. could not hope to

<sup>139</sup> Ibid., 26.

<sup>&</sup>lt;sup>140</sup> Kaufmann's interview on July 14, 1986.

<sup>&</sup>lt;sup>141</sup> William Kaufmann, *Planning Conventional Forces* 1950-80, 26.

meet all military contingencies with a versatile conventional force. The ideal situation would be to keep a large strategic reserve force in continental U.S. and the U.S. could quickly deploy them to anywhere around the world when necessary. However, because of strategic reasons, the U.S. needed to station its troops in certain areas, such as Europe and Korea. Therefore, the U.S. lost the flexibility of transporting them to a different location in a short period of time out of military necessity. Simply adding more forces would not be feasible because of economic constraint. To solve this problem, he concluded that the U.S. should prioritize certain geographic locations, namely Europe and seek to meet any force requirement there first. The reason for choosing Europe was probably due to the fact that this was the most strategically vulnerable location since it was next to the Soviet Union, the U.S.'s archenemy. Nonetheless, Kaufmann acknowledged the unfeasibility of Pentagon's ambition in building an all-purpose conventional force. Perceiving the shortcomings of such an unrealistic goal because he saw that this effort failed twice before, Kaufmann proposed his solutions to alleviate the problem. At his time in Brookings, Kaufmann remained as an insightful analyst who always possessed a pragmatic vision of the limitations of Pentagon's capability.

# The Reagan and Weinberger defense buildup

"Thus, not inconsiderable resources could be applied to the reduction of the budget deficit. Indeed, as much as 20 percent of the burden could be removed by sensible restraint in the growth of the defense budget." – William Kaufmann in Reasonable Defense in 1986. 142

When Ronald Reagan became the president in 1981, he presided over the largest peacetime defense budget increase in history – a 39 percent increase in defense budget compared

<sup>&</sup>lt;sup>142</sup> William Kaufmann, Reasonable Defense (Washington D.C.: The Brookings Institution, 1986).

to the previous eight. <sup>143</sup> The substantial defense buildup had always been advocated by Reagan as he was a staunch anti-communist who believed in the vulnerability of U.S. defense. Reagan enlisted Casper Weinberger as his most supportive ally and his Secretary of Defense.

Weinberger's relationship with Reagan traced all the way back to the latter's tenure as the governor of California. Serving under Reagan as his finance director, Weinberger helped Reagan to balance the state budget and achieved an eventual state budget surplus. Later, Weinberger joined the Nixon administration as deputy director of the Office of Management and Budget and Secretary of Health, Education and Welfare in 1973. His connection with Reagan had been close even during his time at Washington, and Reagan offered him the position as head of Pentagon when he became the president in 1981.

The official defense strategy of the Weinberger Pentagon was summarized in the document "Defense Guidance." The document was drafted by the RAND alumni, Andrew Marshall, Fred Ikle, and Richard Perle, the Assistant Secretary of Defense for International Security Policy. The journalist Fred Kaplan summarized the strategy outlined in the document succinctly as "to fight and win a protracted nuclear war." It was unsurprising that the official strategy still involved imagining the unimaginable given that its chief architects came from RAND, the institution that placed the most emphasis on devising nuclear strategy. The influence of RAND civilian strategists continued in the Reagan era.

However, Reagan's policy contradicted his own stance on nuclear weapons. Despite increasing the defense budget and preparing to fight a limited nuclear war, President Reagan abhorred the use of nuclear weapons under all circumstances. He found especially nuclear

<sup>&</sup>lt;sup>143</sup> Daryl G. Kimball, "The Nuclear Arms Control Legacy of Ronald Reagan," *Arms Control Association*, July 1, 2004, https://www.armscontrol.org/act/2004 07-08/Reagan.

<sup>&</sup>lt;sup>144</sup> Fred Kaplan, *The Wizards of Armageddon*, 387.

weapons targeting civilians unfathomable. He opposed the doctrine of Mutually Assured Destruction (MAD), a RAND-devised policy installed in the Pentagon since the end of McNamara years. Reagan despised MAD because it called for mutual destruction of both sides in case a nuclear weapon would be fired. The consequence would be too catastrophic to contemplate and therefore the strategy too theoretical to enforce.

Even though Reagan despised the use of nuclear weapons, he was also skeptical toward the SALT treaty and nuclear freeze because it did nothing to reduce the nuclear stockpile. Rather, it sought to keep the number of nuclear weapons stable at both superpowers. To seek a solution to the increasing nuclear stockpile, Reagan initiated the controversial Strategic Defense Initiative (SDI), known colloquially as the "Star War" program. In essence, it was a research and development program that sought to build a defense system against nuclear missile attack. The program itself might seem counter-intuitive given that Reagan opposed the use of nuclear weapons. However, by having a strong defense system against nuclear missiles, Reagan hoped it would convince the Soviets that their nuclear weapons were futile against the U.S., thereby giving them an incentive to reduce their nuclear stockpile. The president even advocated for the sharing of SDI technology with the Soviet Union in the hope that both sides would eventually abandon their nuclear projects. 145 The rationale for investing in SDI and living in a nuclear-free world, however, appalled the conservative Republicans and Reagan's own advisors. Except for the Secretary of Defense Weinberger, almost all tried to persuade Reagan that abandoning nuclear weapons all together was unfeasible. But the president would not listen – he and Weinberger both believed in SDI and the elimination of nuclear weapons at all cost.

<sup>&</sup>lt;sup>145</sup> The sharing was opposed by almost every single one of Reagan's advisors, including Weinberger who almost always sided with the president.

Despite being outside of the policy-making circle at Brookings, Kaufmann was still heavily involved in the major military policy debate during this controversial time. The Reagan defense buildup concerned Kaufmann, and it was one of the debates that Kaufmann became heavily involved with. "Calculated underfunding of U.S. military programs in the past is no excuse for overfunding them in the future," 146 such was his criticism of the Reagan buildup in his book *Defense in the 1980s*. Throughout 1980s, Kaufmann continued to express his concern about the drastic defense buildup and the expensive SDI program. For instance, in *1985 Defense Budget*, Kaufmann reiterated his belief that the U.S. defense budget was bloated. He wrote that "the original reasons for a surge in U.S. military preparations have evaporated and have not been replaced." Kaufmann was referring to the perceived vulnerability of the U.S. military strength against the Soviet Union. Most of the additional spending, Kaufmann believed, was invested in modernizing the weapon system as opposed to altering the force structure. Consequently, Kaufmann saw that the dollars spent were at the wrong places and the administration was not getting the most bang for the buck.

One significant aspect of the buildup was that the strategic nuclear force received the most drastic increase in investment. The procurement cost for strategic nuclear forces increased by 182 percent from 1980 to 1985. 148 As a comparison, the conventional force budget increased by a meager 87 percent in the same period. Undoubtedly, the Reagan Pentagon placed their bet on strategic nuclear force, including initiating the "Star War" program. However, the irony remained that despite the heavy investment into nuclear forces, no one had the legitimacy to claim that such buildup would prove to be hugely successful and effective. Kaufmann wrote:

<sup>&</sup>lt;sup>146</sup> William Kaufmann, Defense in the 1980s, 51.

<sup>&</sup>lt;sup>147</sup> William Kaufmann, 1985 Defense Budget (Washington D.C.: The Brookings Institution, 1984), 5.

<sup>&</sup>lt;sup>148</sup> William Kaufmann, *Reasonable Defense* (Washington D.C.: The Brookings Institution, 1986), 25.

There are, however, several reasons why military experience and judgment do not extend to the conduct of nuclear war. So far, no one has fought such a war, yet it is one of the tragic conditions of U.S. security that nuclear capabilities must be deployed and that judgements must be made about how best to design these capabilities for the deterrence of nuclear and possibly others types of conflict. Military experience and judgement undoubtedly have a role to play even in this strange arena. But here as elsewhere policymakers are entitled to more than assertions and conclusions. Logic and evidence are needed as well. <sup>149</sup>

Kaufmann highlighted a very significant argument here that military servicemen would not be sufficient in making a judgement call on assessing nuclear scenarios and strategies. Since none of them had ever fought in an actual nuclear war, they essentially were in the same position as other civilian strategists. However, for both servicemen and civilian strategies, Kaufmann called for them using rationality and logic to weigh the irrational scenarios of thermonuclear exchange. Kaufmann implicitly argued here that "logic and evidence" were crucial because when they were employed, the Pentagon should have realized that it should not have spent this much resources and efforts to construct the impossible nuclear wars.

### **Kaufmann during the Bush Administration**

"Choices are still possible. To govern is to choose." – William Kaufmann in Assessing the Base Force in 1992. 150

When the Bush administration came in 1989, Kaufmann continued to voice his support for budget cut in Pentagon. The new Secretary of Defense Dick Cheney was also concerned with the large budget deficits but had proposed reducing the number of military personnel instead of curtailing the number of weapon programs. In response, collaborating with a fellow Brookings scholar, Kaufmann produced a 100-page report that called for halting "a next generation of weapons that is now in the acquisition pipeline – at a cumulative cost of more than \$117

<sup>&</sup>lt;sup>149</sup> Ibid., 56.

<sup>&</sup>lt;sup>150</sup> William Kaufmann, Assessing the Base Force (Washington D.C.: The Brookings Institution, 1992).

billion."<sup>151</sup> The report gained traction in the administration during the early 1990s when the Soviet Union weakened its grip on Eastern Europe and the country itself was facing an imminent political and economic collapse. The Office of Management and Budget studied Kaufmann's report in depth and considered Kaufmann's recommendations. <sup>152</sup> Kaufmann's report made an impact on the administration's decisions because Cheney in 1992 scraped the expensive B-2 bomber and Seawolf submarine programs, <sup>153</sup> the programs that Kaufmann believed should be kept in "research and development, and not allowed to proceed to full-scale production."<sup>154</sup> As an objective outside scholar, Kaufmann's analysis and opinion were at least considered by the administration, and he continued to share his insights with the Pentagon even when he was outside of the policy-making circle.

The collapse of the Soviet Union, however, fundamentally changed Pentagon's defense planning and nuclear strategy. Now, the U.S.'s archenemy had disappeared. In the face of the Soviet Union's downfall, Kaufmann argued decisively that it was time for the Pentagon to significantly reduce its force, because its largest perceived security threat was gone. He analyzed the existing U.S. conventional and strategic forces to evaluate how much cost reduction the U.S. could achieve. For example, on ICBMs, Kaufmann wrote that "a cheaper alternative would be to cancel the rail-garrison MX, continue development of the Midgetman missile but without any commitment to produce it, and retain about 342 Minuteman III missiles in silos." <sup>155</sup> In addition,

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<sup>&</sup>lt;sup>151</sup> Thompson Knight Mark, "50 CUT BY PENTAGON CALLED SAFE," *Daily Press*, Nov 29, 1989. http://ezproxy.cul.columbia.edu/login?url=https://search-proquest-com.ezproxy.cul.columbia.edu/docview/342414015?accountid=10226.

<sup>&</sup>lt;sup>152</sup> Leonard Silk, "Economic Scene; A Master Plan for Military Cuts," *New York Times*, Nov 24. 1989. http://ezproxy.cul.columbia.edu/login?url=https://search-proquest-com.ezproxy.cul.columbia.edu/docview/427422274?accountid=10226.

<sup>&</sup>lt;sup>153</sup> Eric Schmitt, "Pentagon Plans Big Budget Cut, Saving Billions," *New York Times*, August 30, 1992. http://www.nytimes.com/1992/08/30/us/pentagon-plans-big-budget-cut-saving-billions.html?pagewanted=all. <sup>154</sup> Thompson Knight Mark, "50 CUT BY PENTAGON CALLED SAFE."

<sup>&</sup>lt;sup>155</sup> William Kaufmann, *Glasnost, Perestroika, and U.S. Defense Spending* (Washington D.C.: The Brookings Institution, 1990), 47.

he sought to explain the rationale behind strategic nuclear buildup in the past years. "After the expenditure of nearly \$2 trillion (in 1993 dollars)," he wrote, "the Pentagon has tacitly conceded that no one knows how to achieve a meaningful military advantage with strategic nuclear weapons and that the main, if not only, purpose of these weapons is to deter the use of nuclear weapons by others." The risk of "others" had been drastically reduced due to the collapse of the Soviet Union. Therefore, Kaufmann saw no point in continuing the radical defense buildup in nuclear forces initiated in the Reagan era. More importantly, he pointed out more directly the reality of nuclear weapons – they were never meant to be launched. At this moment, Kaufmann was a lot bolder and more resolute in announcing his belief in never using nuclear weapons. Perhaps when the U.S.'s largest security threat was gone, Kaufmann felt that the timing was perfect to call for a reduction of the crazy number of nuclear arms.

Another watershed moment came at the time of the Gulf War. In the wake of this new conflict, Kaufmann observed perceptively that the U.S. did possess a military comparative advantage in tactical air operations but he also acknowledged that other underdeveloped countries could quickly catch up. He was extremely pragmatic in arguing that the U.S. could not possibly hope it would always have its military superiority or rely on technological advances to maintain its advantage. His realistic assessment of the technology myth was a continuation of his earlier thoughts. Even as early as 1980, he had called that countering the Soviet with the solution of "newer and more sophisticated weapons systems" was an illusion. <sup>157</sup> The new technology would bring the U.S. short-term benefit but it was costly to invent and maintain. Also, as

<sup>&</sup>lt;sup>156</sup> William Kaufmann, Assessing the Base Force, 44.

<sup>&</sup>lt;sup>157</sup> Speech draft, "Choices for the 1980's", April 29, 1980, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

Kaufmann pointed out here, it ran into the risk of being caught up and surpassed by other countries.

As a result, he provided his solution to alleviating international conflict: "it is also not prudent to ignore the opportunity to create an international security arrangement that is inherently more efficient than unregulated national competition." Referring to creating an international cooperation pact that could reduce the instances of conflicts, Kaufmann attempted to tackle the problem from its root. However, Kaufmann, being a realist, certainly recognized the difficulty of such a design and he provided several necessary arrangements that had to be implemented for this cooperative security option to be viable. For instance, on the nuclear forces front, he believed it was virtually impossible to eliminate all nuclear forces because the "detail, intrusiveness, and reliable effectiveness well beyond the other provisions of the cooperative security arrangement." He again displayed his sound judgement and pragmatic stance in recognizing the unfeasibility of eliminating all nuclear weapons. Instead, he argued that the stockpile could be reduced to the point that they were present mainly as a retaliatory force should a nuclear attack be launched against the country. This was the proposal that Kaufmann had always supported since his Pentagon years.

#### Conclusion

In 1980, Kaufmann stood before a group of young cadets at Air Force Academy and delivered a powerful and sarcastic speech on the realities of U.S. military stalemate with the Soviet Union. He discussed the several illusions that the Pentagon had engulfed itself with in the past few decades. The foremost was the obsession with nuclear weapons. He mocked, "the

<sup>&</sup>lt;sup>158</sup> William Kaufmann, Decisions for Defense, 68.

<sup>&</sup>lt;sup>159</sup> Ibid., 71.

reality is that we might as well be stockpiling widgets or Micky Mouse watches for all the good those warheads will do us in Central Europe, the Persian Gulf, or Southwest Asia."<sup>160</sup> He saw no point in having the U.S. overinvesting in its nuclear stockpile. Relying on nuclear weapons to gain a military advantage was not the solution. To these aspiring cadets, Kaufmann was keen to offer his most realistic assessment of the absurdness of frantic nuclear buildup. Unfortunately, Kaufmann believed this was the illusion that Pentagon had buried itself under for so long.

As one of the most effective articulators of the logic of nuclear strategies on behalf of Pentagon, Kaufmann served under seven defense secretaries and drafted countless speeches and writings for them. He adopted the RAND-devised rational choice theory tools including systems analysis during his tenure at RAND and trained himself to think more as an economist when he joined the Pentagon. However, when the various strategies were analyzed carefully with these methodology, they proved that conventional warfare was always the more favorable choice, as Kaufmann had tirelessly argued throughout his years. At the same time, however, Kaufmann also understood that nuclear weapons were an integral part of a country's military capability and they could never be completely eradicated. The seeming contradiction proved that Kaufmann was realistic in evaluating the country's nuclear weapons. They should always be present because of their enormous deterrence power but should also never be used and overly invested in.

Kaufmann differed from his early RAND colleagues because he was more pragmatic in assessing the limitations of nuclear strategies, especially during the Reagan era. Once he left the Pentagon, he was also willing to offer his insightful and sharp criticism of Pentagon's organizational flaws. He even criticized some strategists' overreliance on systems analysis in that it could get them lost in small details. Kaufmann realistically perceived the shortcomings of the

<sup>&</sup>lt;sup>160</sup> Speech draft, "Choices for the 1980's", April 29, 1980, William W. Kaufmann Personal Papers, Box 2, Folder 2, JFK library.

civilian strategists' own analysis. Furthermore, Kaufmann was not hesitant to criticize the Reagan administration for spending money on wrong investments, namely nuclear buildup. Since Kaufmann was very convinced that nuclear weapons would not be used in real battle, he believed that investment could be better utilized if they were spent on enlarging the conventional forces. This was going to be the backbone of U.S. military strength when fighting an actual war.

However, one might point out that the two battles prior to the Gulf War that the U.S. fought in – the Korean War and the Vietnam War – were both failures by fighting with solely conventional forces. To Kaufmann, however, the Korean War was a success because the U.S. had achieved its objective of deterring the North Korean aggression and protecting the South Korean ally. Yet, the Vietnam quagmire was more compelling as a historical precedent. Kaufmann barely mentioned the Vietnam War in his writings and disavowed his role in any of its policy-making. The silence was revealing. I would argue that this was because the episode reconfigured his understanding of U.S. power. Kaufmann had never doubted the U.S.'s role as the world policeman. He declared in his speech to the cadets: "Few doubt the desirability of having our forces patrol the Arabian Sea or their obligation to see that the oil flows without interruption from the Persian Gulf."161 However, he did not mean unconstrained interference in regional affairs. He continued, "Those, for the most part, are regarded as legitimate policing beats." <sup>162</sup> Kaufmann decisively pointed out that the U.S. should not fight contingencies in every corner of the globe. Having a practical assessment of U.S. military strength, Kaufmann believed that the country could not spread itself thin across the world but should identify the most viable security threat. Therefore, the country should consider its priorities and in Kaufmann's opinion, this was Europe. Kaufmann's stance on realism was that he understood the bottom line of U.S.

<sup>161</sup> Ibid.

<sup>162</sup> Ibid.

obligations without exaggerating the U.S. capability. This was something that a lot of decision-makers had failed to see, even to this day. He demonstrated that civilian strategists were not theorists who overly relied on rational choice theory. They had not lost touch with the reality.

#### **Works Cited**

### **Primary sources**

- Bernard Brodie papers, UCLA Library, Los Angeles, California, USA.
- Binkin, Martin and William Kaufmann. *U.S. Army Guard and Reserve*. Washington D.C.: The Brookings Institution, 1989.
- Brodie, Bernard. "Nuclear Weapons: Strategic or Tactical?" *Foreign Affairs* 32, no. 2 (1954): 217-29. doi:10.2307/20031022.
- Brodie, Bernard. "A Review of William W. Kaufmann's, The McNamara Strategy." *The RAND Corporation*. March 1965. Accessed Jan 12, 2018.
- Dulles, John Foster. "The Evolution of Foreign Policy." Before the Council of Foreign Relations, New York, N.Y., *Department of State, Press Release No. 81* (January 12, 1954).
- Ellsberg, Daniel. The Doomsday Machine. London: Bloomsbury Publishing, 2017.
- Enthoven, Alain. "1963 Nuclear Strategy Revisited." In *Ethics and Nuclear Strategy*. Edited by Harold P. Ford and Francis X. Winters, S.J. Maryknoll: Orbis Books, 1977.
- Enthoven, Alain C. and K. Wayne Smith. *How Much Is Enough?* New York: Harper & Row, Publishers, 1971.
- Hitch, Charles and Roland N. McKean. *The Economics of Defense in the Nuclear Age*. Cambridge: Harvard University Press, 1960.
- Kaufmann, William. 1985 Defense Budget. Washington D.C.: The Brookings Institution, 1984.
- Kaufmann, William. *Assessing the Base Force*. Washington D.C.: The Brookings Institution, 1992.
- Kaufmann, William W. "Crisis in Military Affairs." *World Politics* 10, no. 4 (1958): 600. doi:10.2307/2009278.
- Kaufmann, William. Defense in the 1980s. Washington D.C.: The Brookings Institution, 1981.
- Kaufmann, William. "Draft for presentation by Secretary of Defense Robert S. McNamara at a meeting before the Select Committee of Defense Ministers regarding the technical means for the U.S. and its allies to communicate their nuclear planning and consultation information more effectively." *U.S. Declassified Documents Online*. 19 July 1965. Accessed 28 Jan. 2018. http://tinyurl.galegroup.com/tinyurl/5r6qsX.
- Kaufmann, William. Glasnost, Perestroika, and U.S. Defense Spending. Washington D.C.: The

- Brookings Institution, 1990.
- Kaufmann, William. The McNamara Strategy. New York: Harper & Row, 1964.
- Kaufmann, William. *Military Strategy and National Security*, Edited by William Kaufmann. Princeton: Princeton University Press, 1956.
- Kaufmann, William. *Office of Secretary of Defense Historical Office*. By Dr. Lawrence Kaplan and Dr. Maurice Matloff. July 14, 1986.
- Kaufmann, William. *Office of Secretary of Defense Historical Office*. By Dr. Lawrence Kaplan and Dr. Maurice Matloff. July 23, 1986.
- Kaufmann, William. *Planning Conventional Forces 1950-80*. Washington D.C.: The Brookings Institution, 1982.
- Kaufmann, William. Reasonable Defense. Washington D.C.: The Brookings Institution, 1986.
- Kissinger, Henry. Nuclear Weapons and Foreign Policy. New York, Harper & Brothers, 1957.
- Mark, Thompson Knight. "50 CUT BY PENTAGON CALLED SAFE." *Daily Press*. Nov 29, 1989. http://ezproxy.cul.columbia.edu/login?url=https://search-proquest-com.ezproxy.cul.columbia.edu/docview/342414015?accountid=10226.
- Schmitt, Eric. "Pentagon Plans Big Budget Cut, Saving Billions." *New York Times*. August 30, 1992. http://www.nytimes.com/1992/08/30/us/pentagon-plans-big-budget-cut-saving-billions.html?pagewanted=all.
- Silk, Leonard. "Economic Scene; A Master Plan for Military Cuts." *New York Times*. Nov 24. 1989. http://ezproxy.cul.columbia.edu/login?url=https://search-proquest-com.ezproxy.cul.columbia.edu/docview/427422274?accountid=10226.
- William W. Kaufmann Personal Papers, JFK Library, Boston, Massachusetts, USA.
- Wohlstetter, Albert. Office of Secretary of Defense Historical Office. By Dr. Maurice Matloff. August 19, 1986.
- Wohlstetter, Albert. "On the Genesis of Nuclear Strategy: Letter to Michael Howard (1968)." In *Nuclear Heuristics: Selected Writings of Albert and Roberta Wohlstetter*. Edited by Robert Zarate and Henry Sokolski. Carlisle Barracks: Strategic Studies Institute, 2009.

## **Secondary sources**

Amadae, S.M. *Rationalizing Capitalist Democracy*. Chicago: The University of Chicago Press, 2003.

- Bernstein, Michael A. A Perilous Progress: Economists and Public Purpose in Twentieth-Century America. Princeton, Princeton University Press, 2004.
- Freedman, Lawrence. The Evolution of Nuclear Strategy. London: The Macmillan Press, 1981.
- Jardini, David R. "Out of the Blue Yonder: The Transfer of the Systems Thinking from the Pentagon to the Great Society, 1961-1965." In *Systems, Experts, and Computers*. Edited by Agatha C. Hughes and Thomas P. Hughes. Cambridge: the MIT Press, 2000.
- Kaplan, Fred. The Wizards of Armageddon. New York: Simon & Schuster, 1983.
- Kaplan, Lawrence S., Ronald D. Landa, and Edward J. Drea. *The McNamara Ascendancy 1961-1965 V.5*. Washington D.C.: Historical Office of the Secretary of Defense, 2006.
- Kimball, Daryl G. "The Nuclear Arms Control Legacy of Ronald Reagan." *Arms Control Association*. July 1, 2004. https://www.armscontrol.org/act/2004 07-08/Reagan.
- Kuklick, Bruce. Blind Oracles. Princeton: Princeton University Press, 2013.
- MacKenzie, Donald and Graham Spinardi. "The Shaping of Nuclear Weapon System Technology: US Fleet Ballistic Missile Guidance and Navigation: I: From Polaris to Poseidon." *Social Studies of Science* 18, no. 3 (1988): 425-26. http://www.jstor.org/stable/285232.
- May, Andrew. "The RAND Corporation and the Dynamics of American Strategic Thought, 1946-1962." PhD dissertation, Emory University, 1998.
- Shapley, Debrorah. *Promise and Power*. Boston: Little Brown & Co. 1993.
- Stromseth, Jane E. *The Origins of Flexible Response*. New York: St. Marks Press, 1988.
- Trachtenberg, Marc. *History and Strategy*. Princeton: Princeton University Press, 1991.