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The Improbable Militarist: Jimmy Carter, the Revolution in Military Affairs and Limits of the American Two-Party System

Abstract

Jimmy Carter is known for championing peace and pro-democracy causes in his post-presidency and is widely respected as a moral leader. Few Americans, however, are aware of the fact that in his last two years, Carter presided over a huge increase of the military budget that amounted to the largest in history to that point and promoted the adoption of fancy new military technologies which would be applied in wars waged by his successors. This paper examines Carter's foreign policy and his embrace of the so-called Revolution in Military Affairs (RMA), which aimed to reinvigorate American military power after Vietnam through the embrace of the digital revolution, and development of new precision guided weapons, stealth bombers and drone warfare capabilities. Neglected in many academic studies, the RMA, with its emphasis on precision-guided strikes and "smart weapons," built on long-standing techno-fanaticism in U.S. culture which prioritized technical solutions to major social problems, in this case the prospect of American imperial decline after Vietnam. It in turn complemented Carter's human rights agenda in its aim of facilitating a more "activist foreign policy" by fostering the illusion that future wars could be waged cleanly and with limited collateral damage.

Keywords

Revolution in Military Affairs, human rights, precision bombing, technology, war, Jimmy Carter, Pentagon

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Cover Page Footnote

Jeremy Kuzmarov is a Lecturer at Tulsa Community College and the author of three books on US foreign policy, including most recently: "The Russians are Coming, Again: The First Cold War as Tragedy, the Second as Farce" with John Marciano (Monthly Review Press, 2018).

“Administrations come and go but the Pentagon remains at the head of the table.”
–I.F. Stone, investigative journalist.

In February 1991, the U.S. military, employing an arsenal of high-tech weapons that included Chrysler M-1 “Abrams” tanks capable of firing depleted uranium going 45 miles per hour, cruise missiles guided by internal computers programmed with precise target coordinates, unmanned aerial vehicles (UAVs) and stealth F-117 aircraft fighters which took advantage of new technology reducing an aircraft’s radar cross-section and infra-red signature, crushed the Iraqi army following its occupation of Kuwait. In the spirit of triumphalism that followed, Gen. Barry McCaffrey perceptively commented that “the war didn’t take 100 hours to win, it took fifteen years.”¹

Following the end of the Vietnam War, the Pentagon had embarked on a crash-program to revitalize its fighting forces and to incorporate new technologies fit for the information age to ensure greater military efficiency while transitioning to an all-volunteer force. Proponents of the so-called revolution in military affairs (RMA), including prominent defense intellectuals like Albert Wohlstetter and Andrew Marshall, the head of the Pentagon’s in-house think tank, believed that new precision guided weapons and a reinvigoration of air power supremacy could help the U.S. to maintain its global hegemony after Vietnam by decisively defeating its enemies with reduced manpower expenditure and limited “collateral damage.” The secret war in Laos remained a key model as a war waged predominantly by proxy and through the air, with few American casualties and little political fall-out.²

The 1970s was a watershed in American political history as the country could have gone in two directions. Building off the momentum of the 1960s social movements, Democratic candidate George S. McGovern promoted a progressive economic vision and the scaling back of defense spending and overseas military commitments in the wake of the Vietnam debacle. Never again, he said in his convention speech, should American boys be sacrificed for a corrupt Asian dictatorship. Like his political hero Henry Wallace, McGovern’s platform scared financial and political elites who coordinated a vigorous counter-offensive, with conservative Democrats and labor leaders backing Richard Nixon in the 1972 election.³ Neoconservative intellectuals simultaneously initiated what one analyst called a “scorched earth” campaign designed to “reverse the verdict” of the 1960s, championing the reassertion of American military power as a moral counter-force to communism and mechanism for overcoming the economic crises of the

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- The author would like to thank David Gibbs, Alfred W. McCoy, the late Fred Branfman and the staff at the Jimmy Carter and McFarlin Libraries.

¹Quoted in Andrew Bacevich, *The New American Militarism: How Americans Are Seduced by War* (New York: Oxford University Press, 2005), 35. Cruise missiles can be defined as flying bombs powered by small jet engines.

² Fred Branfman, *Voices from the Plain of Jars*, rev. ed. foreword by Alfred W. McCoy (Madison, WI: University of Wisconsin Press, 2013).

³See Hunter S. Thompson’s classic, *Fear and Loathing on the Campaign Trail ’72* (New York: Straight Arrow Books, 1973) and Thomas J. Knock, “Come Home America: George S. McGovern,” in *Vietnam and the American Political Tradition: The Politics of Dissent*, ed. Randall B. Woods (New York: Cambridge University Press, 2003).

1970s, including waning economic competitiveness, energy shortages and stagflation (inflation and unemployment).⁴

Jimmy Carter's presidency proved crucial to the recrudescence of American military power after Vietnam. Dominated by members of the Trilateral Commission, an executive advisory committee to trans-national finance which envisioned a tri-polar world order led by the U.S., Germany and Japan, the Carter administration (1977-1981) abandoned campaign pledges to cut defense spending by \$7 billion, and initiated budgetary increases that in his last year amounted to the largest in history during peacetime to that point.⁵ Money for research and development and the purchase of new aircraft and army equipment nearly doubled and Pentagon support for research in the universities increased by nearly 70 percent after a brief decline due to Vietnam-related protests.⁶

Under the direction of Defense Secretary Harold Brown, Air Force Secretary during the Vietnam War (1965-1969), former President of California Institute of Technology and Director of the Livermore nuclear weapons laboratory at Berkeley, heavy investment was made in the development of Laser-guided bombs (LGBs), space based satellite systems and fighter planes equipped with complex avionic systems consisting of large radars to detect enemy planes and computerized fire control. Funding for missiles increased \$485 million or 63.5 percent, leading to the development of the Patriot Air Defense Missile system which gained fame in the Persian Gulf War, along with Tube-launched, optically tracked, wire-guided (TOW) antitank and "Tomahawk" cruise missiles built by General Dynamics. They were accurate within a 100-foot range from 1,500 miles and possessed on-board computer guidance systems that allowed it to duck around hills and make necessary course corrections while eluding enemy radar.⁷

In promoting these new weapon systems, some named after victims of genocide, Carter's presidency was crucial to the unfolding revolution in military affairs, which drew on long-standing cultural fantasies of a war waged by machines and reshaped American foreign policy in the years thereafter.⁸ Neglected in many academic studies focused on the Carter era and human rights⁹, the RMA, with its emphasis on precision-guided strikes and "smart weapons," actually

⁴Bacevich, *The New American Militarism*, 72, 73; John Ehrman, *The Rise of Neo-conservatism* (New Haven: Yale University Press, 1995).

⁵"Defense Spending: The Trend is Upward," in *U.S. Defense Policy: Weapons, Strategy and Commitments*, 2nd ed. Congressional Quarterly Inc. (Washington, D.C.: U.S. Government Printing Office, 1981), 5; *Trilateralism: The Trilateral Commission and Elite Planning for World Management*, ed. Holly Sklar (Boston: South End Press, 1980).

⁶The Berkeley Study Group, "Resurgent Militarism in Academia," *Science for the People*, Issue on Militarism and Science, July/August 1981, 6; Zbigniew Brzezinski, Memo for the President, "Themes for Your Foreign Policy Debate," October 21, 1980, Jimmy Carter Presidential Papers, National Security Affairs, Zbigniew Brzezinski Material (hereafter Zbig), box 16, 1980 campaign, Jimmy Carter Presidential Library, Atlanta, Georgia (hereafter JCL).

⁷James Fallows, "America's High-Tech Weaponry," *The Atlantic Monthly*, May 1981, 21; Frank L. Jones, "A Hollow Army Reappraised: President Carter, Defense Budgets, and the Politics of Military Readiness," Strategic Studies Institute, U.S. Army War College, Carlisle, PA, October 2012; Andrew Cockburn, *Kill Chain: The Rise of the High-Tech Assassins* (New York: Henry Holt, 2015), 32; John Antonides, "The Cruise Missile: Off and Running on a New Arms Race," *Seven Days*, May 9, 1977, 10, 11; Alexander R. Vershblow, "The Cruise Missile: The End of Arms Control," *Foreign Affairs*, 55, 1 (October 1976).

⁸H. Bruce Franklin, *War Stars: The Superweapon in the American Imagination* (Amherst, MA: University of Massachusetts Press, 2008).

⁹Daniel Sargent for example in a top-down overview of U.S. foreign policy in the 1970s (*A Superpower Transformed*. Oxford University Press, 2014) omits discussion of the RMA, Carter's arms build-up and the covert

complemented Carter's human rights agenda in its aim of facilitating a more "activist foreign policy" by fostering the illusion that future wars could be waged cleanly and with limited collateral damage.¹⁰ The RMA also went hand in hand with neoliberal ideology in its displacement of human labor - in this case soldiers and pilots who might question the purpose of their mission - by machines in an effort to sustain access to capitalist markets and American global hegemony.¹¹

Feeding off Ronald Reagan's campaign rhetoric, conservative pundits have criticized Carter's "flaccid approach to security issues" which they suggest added "momentum to America's post-Vietnam strategic decline."¹² Academics like Dave Schmitz and Vanessa Walker yearning for a liberal hero by contrast praise Carter's human rights policy, which they differentiate with Reagan's restoration of an aggressive anticommunism.¹³ Replicating the partisan divide in U.S. politics, these analyses are flawed in failing to consider the large-scale commitment to remilitarization under Carter along with his expansion of the U.S. military base network in the Middle East. Edward Keefer in a 2017 biography of Harold Brown published for the Secretary of Defense Historical Office finds great continuity between the later years of Carter's administration and Reagan's first term. He wrote that Carter "became a reluctant convert to increased defense spending" and "brought into production new weapons including stealth aircraft, precision bombs and modern digital technology," which "prepared the foundation for President Reagan and Secretary of Defense Caspar Weinberger's military buildup and revolution in defense."¹⁴ Military analyst Thomas Ricks analogously praises the visionary quality of Brown and his associate William J. Perry for embracing the digital revolution then emerging in Silicon Valley and transforming "everything from how targets would be hit (with precision weapons) to

dimensions of U.S. foreign policy. So does Barbara J. Keys in *Reclaiming American Virtue: The Human Rights Revolution of the 1970s* (Belknap: Harvard University Press, 2014). The RMA is also neglected in Betty Glad's *An Outsider in the White House: Jimmy Carter, His Advisers, and the Making of American Foreign Policy* (Ithaca: Cornell University Press, 2009); Scott Kaufman's *Plans Unraveled: The Foreign Policy of the Carter Administration* (DeKalb: Northern Illinois University Press, 2008) and Gaddis Smith, *Morality, Reason and Power: American Diplomacy in the Carter Years* (New York: Hill & Wang, 1986). These works all miss out on one of the most important stories of the era. James Peck's book *Ideal Illusions* (New York: Metropolitan Books, 2010) is illuminating in showing how the human rights movement was coopted by the U.S. government - a story that is missed in many books focused on the human rights movement - however, Peck also neglects the significance of the RMA.

¹⁰See Noam Chomsky, "Human Rights: A New Excuse for U.S. Intervention," *Seven Days*, May 23, 1977, 21-23.

¹¹ David Harvey, "The Fetish of Technology: Causes and Consequences," *Macalester International*: Vol. 13, Article 7. Available at: <http://digitalcommons.macalester.edu/macintl/vol13/iss1/7>; David Harvey, *A Brief History of Neoliberalism* (New York: Oxford University Press, 2007).

¹² Joshua Muravchik, "Our Worst Ex-President," *Commentary Magazine*, February 1, 2007. Dale Herspring, *The Pentagon and the Presidency: Civil-Military Relations from FDR to George W. Bush* (University Press of Kansas, 2005) repeats the claim that Carter was "soft on defense" (p. 249).

¹³ David F. Schmitz and Vanessa Walker, "Jimmy Carter and the Foreign Policy of Human Rights: The Development of a Post-Cold War Foreign Policy," *Diplomatic History*, 28, Vol. 28, 1 (January 2004) on page 117 claim that documents at the Carter presidential library "show Carter and his administrations' complete commitment to his human rights policy and how deeply embedded it was in all aspects."

¹⁴ Secretary of Defense Historical Series, Harold Brown, *Offsetting the Soviet Military Challenge, 1977-1981*, vol. ix, ed. Edward Keefer, with foreword by Erin Mahan (Washington, D.C.: Historical Office, Office of the Secretary of Defense, 2017), xi, xiii.

how U.S. aircraft would avoid being hit (stealth technology) which meant making some U.S. jets almost invisible to radar.”¹⁵

Ricks’ analysis, however, obscures the fact that heavy investment in fancy military technology helped warp the U.S. political economy by devaluing investment in civilian manufacturing and social programs while helping to facilitate the illusion that war in the digital age could be carried out cleanly, with the adoption of surgical strikes that could reduce collateral damage.¹⁶ Many of the weapons systems furthermore were geared for a conventional war against a now-defunct superpower rather than nationalist guerrillas or asymmetrical terrorist threats, and have hence proved ineffective in winning wars.¹⁷

Despite a professed commitment to advancing human rights, America’s thirty ninth president can be seen to have squandered a golden opportunity to reorient U.S. foreign policy in a more progressive direction after the scandals of Vietnam and Watergate. He helped re-invigorate American militarism as part of a “limited liability empire” in which common citizens do not have to play a direct role, and to institutionalize a permanent warfare state most insidiously by framing it in a humanitarian veneer.¹⁸ This was consistent with the liberal internationalist tradition dating back to Woodrow Wilson, which always packaged U.S. militarism as a force for humanity.¹⁹

Jimmy Carter is an improbable champion of militarism as his post-presidency has been characterized by peace and pro-democracy activism and he expressed pride in being the first president since Herbert Hoover not to have American ground forces die in combat.²⁰ Carter’s worldview derived from the progressive wing of the Christian evangelical movement, which embraced a tolerant outlook on race, cared about the poor and oppressed and often opposed war.²¹ Seizing on the spirit of antiwar and human rights activism bred by the 1960s social movements, Carter had expressed desire to cut down on arms sales to foreign dictatorships, cut the number of foreign military advisers to less than a thousand and cut the CIAs budget by a third.²² However, Carter lacked the political conviction and courage to fight back against the

¹⁵ Thomas E. Ricks, “A Shout-out for Two Key Things Harold Brown Did as Defense Secretary Under Carter: A Forgotten Legacy,” *Foreign Policy*, December 11, 2017, <http://foreignpolicy.com/2017/12/11/a-shoutout-for-2-key-things-harold-brown-did-as-defense-secretary-under-carter/>

¹⁶ See Seymour Melman, “America’s Permanent War Economy,” In *Warfare Welfare: The Not So-Hidden Costs of America’s Permanent War Economy*, ed. Marcus G. Raskin and Gregory D. Squires (Washington, D.C.: Potomac Books, 2012), 139-165; Jeremy Kuzmarov, “The Responsibility of Intellectuals Redux: Humanitarian Intervention and the Liberal Embrace of War in the Age of Clinton, Bush and Obama,” *The Asia-Pacific Journal*, Vol. 11, Issue 24, No. 1, June 16, 2014.

¹⁷ See Cockburn, *Kill Chain*.

¹⁸ Paul A. Kramer, “Power and Connection: Imperial Histories of the United States in the World,” *American Historical Review* 116 (December 2011): 1348-1391.

¹⁹ Tony Smith, *Why Wilson Matters: The Origins of Liberal Internationalism and Its Crisis Today* (New Jersey: Princeton University Press, 2017).

²⁰ See Douglas Brinkley, *The Unfinished Presidency: Jimmy Carter’s Journey Beyond the White House* (New York: Penguin, 1999); Jimmy Carter, *Keeping the Faith: Memoirs of a President* (Fayetteville: The University of Arkansas Press, 1995), 70; Smith, *Morality, Reason and Power*, 242.

²¹ See Randall Balmer, *The Redeemer: The Life of Jimmy Carter* (New York: Basic Books, 2014).

²² Lars Schoultz, *Human Rights and United States Policy Towards Latin America* (Princeton, NJ: Princeton University Press, 1981), 247, 248, 249, and 250; Michael Klare, “Carter’s Arms Policy,” *NACLA*,

pressure mounted by conservative lobby groups financed by military industry like the Committee on the Present Danger (forerunner of the Project of the New American Century), which promoted alarmist and as history proved grossly erroneous proclamations about Soviet military capabilities and pushed hard for remilitarization.²³ His foreign policy was ultimately shaped by hawkish voices in Congress like Sam Nunn (D-GA) and Cold Warriors in his administration like Harold Brown, who had presided over the most sustained bombing campaign in history (3.2 million tons of bombs over Indochina) as Secretary of the Air Force.²⁴

Carter himself was always enthralled by military gadgetry having been trained by the Navy under Hyman Rickover and he apparently loved to examine the blueprints of the military's latest spy satellites.²⁵ As Governor of Georgia, Carter had supported Nixon's bombing of North Vietnam, and had urged people to flash their headlights in solidarity with Lt. William Calley after the My Lai massacre.²⁶ His close ties with Lockheed Martin, Georgia's top employer alongside Coca-Cola, was exemplified by his taking a three-week trip through Latin America aboard a Lockheed plane.²⁷

Carter had been groomed for power following his appointment to the Trilateral Commission, which was set up by David Rockefeller, Chairman of Chase Manhattan Bank, with the goal of reordering of the global system after Vietnam. Financed by Committee on the Present Danger member David Packard, chairman of Hewlett-Packard and a former Deputy Defense Secretary as well as other leading military contractors like Bechtel Co., the Trilateral Commission promoted renewed American hegemony along with that of Germany and Japan, and a world of interdependent trade beneficial to multinational corporations in response to Nixon's move towards protectionism.²⁸

Carter's chief domestic adviser called him the first "neoliberal president," fiscally moderate and socially progressive. Many of his economic policies, including deregulation of the trucking, oil and banking industries, lifting oil price controls, free trade, support for right-to-

<https://nacla.org/article/carters-arms-policy>; Joseph J. Trento, *Prelude to Terror: the Rogue CIA, the Legacy of America's Private Intelligence Network* (New York: Carol & Graf, 2005).

²³See Jerry Sanders, *Peddlers of Crisis: The Committee on the Present Danger and the Politics of Crisis* (Boston, MA: South End Press, 1983). The Committee on the Present Danger's members included CIA directors William Colby and William Casey, Dean Rusk, Paul Nitze, author of NSC-68, Norman Podhoretz, Mellon heir Richard Mellon Scaife, Henry "Scoop" Jackson, "Senator from Boeing" and Russian historian Richard Pipes who had helped subvert détente as part of the notorious Team B.

²⁴ See Tom Hayden, "Jimmy Carter: The Unchanging of the Guard," *Rolling Stone*, March 10, 1977; Glad, *An Outsider in the White House*; Brian Auten, *Carter's Conversion: The Hardening of American Defense Policy* (Columbia: University of Missouri Press, 2008).

²⁵ Fred Kaplan, *Dark Territory: The Secret History of Cyberwar* (New York: Simon & Schuster, 2016), 17.

²⁶ Carter's views on Vietnam are discussed in *Trilateralism*, ed. Sklar and Noam Chomsky, "The Carter Administration: Myth and Reality," *Australian Left Review*, 1 (62), 1977, 62.

²⁷ Nicholas Horrock, "Carter, as Governor, Got Free Rides on Planes of Lockheed and Coca-Cola," *New York Times*, April 1, 1976, 20. Lockheed spokesmen said they just happened to be going to the same countries Carter was visiting by "coincidence" and so offered him a ride.

²⁸*Trilateralism*, ed. Sklar; Michael T. Klare, *Beyond the Vietnam Syndrome: U.S. Interventionism in the 1980s* (Washington, D.C.: Institute for Policy Studies, 1981), 5, 6.

work legislation and cutting the capital gains rate tax for business, helped to advance corporate power.²⁹

Carter's closest adviser, Zbigniew Brzezinski, was a Rockefeller protégé who made the case for the Vietnam War on CBS television. He wrote *Between Two Ages: America's Role in the Technetronic Revolution* (1970) which considered the acceleration of production owing to growing scientific and technical knowledge as crucial to consolidating a Tri-polar world order led by the U.S. with other advanced nations "who were at the forefront of scientific and technological innovation."³⁰ Considering the New Left movement as an "infantile disorder," Brzezinski was a key supporter of the RMA, which was designed to apply the benefits of the electronics, computing and communications revolutions to ensure greater military efficiency and prevent future Vietnam quagmires. His outlook fit with a long tradition of technological optimism rooted in a society whose "most notable and character forming achievement for almost three centuries has been to transform a wilderness into a building site," as historian Michael Adas put it, and where technological innovation and technical aptitude was considered a crucial measure of superiority over nonwestern peoples.³¹

The Vietnam War had shattered the illusions of the "Greatest Generation" that technology could engender a more utopian society and sparked a deep revulsion for the misapplication of science during the Cold War. In the spirit of Norbert Wiener - the world's foremost mathematical analyst who in 1947 penned a letter in the *Atlantic Monthly* vowing not to support "irresponsible militarists"- activists formed groups like "Computer People for Peace," "Engineers for Social Responsibility" and "Science for the People," which pledged not to participate in war research or weapons production.³² Historian Matthew Wisnioski notes that "not since the machine breaking uprisings of the early 19th century had so many citizens perceived technology as a force to be resisted."³³

The U.S. army concluded from its humiliating defeat in Vietnam, however, that it "needed not less technology but more," as historian Alex Roland noted. "It was not that smart

²⁹ See Robert Sherrill, *The Oil Follies of 1970-1980: How the Petroleum Industry Stole the Show (and much more besides)* (Garden, City: My: Doubleday, 1983); Thomas Frank, *Listen Liberal!* (New York: Harper, 2016); Noam Chomsky, "The Carter Administration: Myth and Reality," *Australian Left Review*, No. 62, 10; Burton I. Kaufman and Scott Kaufman, *The Presidency of James Earl Carter Jr.* 2nd ed. (Lawrence: University of Kansas Press, 2006); Steve Fraser, *The Age of Acquiescence* (Boston: Little & Brown, 2015), 360; "Jackson in Wisconsin Assails Carter and Udall on the Right-to-Work Legislation," *New York Times*, March 31, 1976, 21. For negative consequences of Carter's policies on African-Americans, see Keeanga-Yamahtta Taylor, *From #Black Lives Matter to Black Liberation* (Chicago: Haymarket Books, 2016).

³⁰Zbigniew Brzezinski, *Between Two Ages: America's Role in the Technetronic Era* (New York: Penguin, 1970). For a sympathetic portrait, see also *Zbig: The Strategy and Statecraft of Zbigniew Brzezinski*, foreword by Jimmy Carter, ed. Charles Gati (Baltimore: John Hopkins University Press, 2013).

³¹Michael Adas, Michael Adas, *Dominance by Design: Technological Imperatives and America's Civilizing Mission* (Cambridge, MA: Harvard University Press, 2006), 6, 7. Direct quote attributed to Thomas Parke Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm* (New York: Penguin, 1989), 1-2.

³² Norbert Wiener, "A Scientist Rebels," *The Atlantic Monthly*, January 1947, 46; Steve J. Heims, *John Von Neumann and Norbert Wiener* (Cambridge, MA: MIT Press, 1984), 345-346.

³³ Matthew Wisnioski, *Engineers for Change: Competing Visions of Technology in the 1960s* (Cambridge, MA: MIT Press, 2011), 4; Steven E. Jones, *Against Technology: From the Luddites to Neo-Luddism* (New York: Routledge, 2006).

weapons were bad; rather they were not smart enough.”³⁴ Leonard Sullivan, Deputy Director of Defense Research and Engineering for Southeast Asia, believed that Robert S. McNamara’s electronic battlefield - which ringed the Ho Chi Minh Trail with electronic sensors and land mines that emitted signals via Lockheed radio relay aircraft, balloon antennas and radar stations to B-52 pilots - had “opened up some very exciting horizons as to what we can do five or ten years from now. When one realizes that we can detect anything that perspires, moves, carries metal, makes a noise or is hotter or colder than its surroundings, one begins to see the potential...Eventually we will be able to tell when anybody shoots, what he is shooting at... to get a ‘year 2000’ vision of an electronic map with little lights that flash for different kinds of activities.”³⁵

The Pentagon went into high gear after Vietnam trying to fulfill Sullivan’s technocratic fantasy in which greater military efficiency was to be combined with a reduction in manpower expenditure. Benefiting from the participation of legions of active-duty soldiers and veterans, the Vietnam antiwar movement had helped to affix to the Vietnam War a high political cost and to transform the post-World War II victory culture into one that was more pacifist oriented.³⁶ Return to the isolationism of the 1930s was not an option, however, in an era of ever-expanding corporate-oligopolistic power. Amidst an increasingly competitive global economy in which the U.S. share of global GDP had fallen, multinational corporations invested \$168 billion abroad in 1978 up from \$52 billion in 1966 and 137 American banks held a total of 761 foreign branches with combined assets of \$3.5 billion.³⁷ The United States also had amassed 865 overseas military bases by this time, which could only be safeguarded through violence.³⁸

The conundrum for policy makers was how to sustain a permanent warfare apparatus amidst rising public skepticism. The solution sought out was a technological one – something unsurprising in lieu of American history. From the time of Robert Fulton, who invented the torpedo and submarine explosives during the American Revolution, American culture celebrated scientific geniuses who spurred economic development and protected national security. The U.S. was never directly impacted by the mechanized slaughter of modern war like Europeans and did not experience the same epiphany regarding how science could be applied for destructive ends.³⁹ Foreshadowing the RMA, Air Force founder “Hap” Arnold announced in August 1945 secret experimentation with “Buck Rogers things,” such as missiles that could hit any target in the

³⁴ Quoted in Robert Tomes, *U.S. Defense Strategy from Vietnam to Operation Iraqi Freedom* (New York: Routledge, 2007), 64.

³⁵ Noam Chomsky, *At War with Asia: Essays on Indochina* (New York: Vintage Books, 1969), 91, 92; Paul Dickson, *The Electronic Battlefield* (Bloomington: Indiana University Press, 1976), 41.

³⁶ See Tom Engelhardt, *The End of Victory Culture: Postwar America and the Disillusioning of a Generation*, rev ed. (Amherst, MA: University of Massachusetts Press, 2007); David T. Cortright, *Soldiers in Revolt: GI Resistance During the Vietnam War* (Chicago: Haymarket Books, 2005); Marilyn B. Young, “Resisting State Terrorism: The Anti-Vietnam War Movement,” in *War and State Terrorism: The United States, Japan and the Asia Pacific in the Long Twentieth Century*, ed. Mark Selden and Alvin Y. So (New York: Rowman & Littlefield, 2004), 235-251.

³⁷ *The Deepening Crisis of U.S. Capitalism*, ed. Harry Magdoff and Paul Sweezy (New York: Monthly Review Press, 1981), 163, 165. The share of foreign earnings of the thirteen largest U.S. banks had grown from 18.8 percent to 49.6 percent in 1976, an increase of 164 percent.

³⁸ James R. Blaker, *United States Overseas Basing* (New York: Praeger, 1990); The Editors, “U.S. Military Bases and Empire,” *Monthly Review Magazine*, March 1, 2002.

³⁹ Michael Adas, *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance* (Ithaca: Cornell University Press, 1989).

world.⁴⁰ Rogers was a comic hero whose character developed rocket and liquid helium pistols and other high-tech gadgets to defeat enemies like the Red Mongols in 2430 A.D.

The most influential science fiction writer of the Cold War, Robert Heinlein celebrated the defeat of evil forces by super-weapons like a radioactive dust. In *Starship Troopers* (1959), he featured a super-elite force, which uses a GPS equivalent, night vision goggles and personal computers connected to satellite network to defeat the “Bugs,” who reflect a society built on self-sacrifice and cooperation ruled by Commissars. In the epic battle, the narrator puts on a powered armor suit that enables him to jump over a house and come down to a feather landing and fire a shoulder-mounted nuclear weapon after assessing his enemy while running at lightning speed.⁴¹

Heinlein’s writings had helped inspire the creation of the Defense Advanced Research Projects Agency (DARPA) by the Eisenhower administration in 1957 after the Soviet launching of the Sputnik space satellite. It promoted advances in rocketry and ballistic missiles and awarded contracts to scientists for development of fantasy weapons like radar death rays, and magnetic missile shields in space as well as other Frankenstein creations such as attack drones and killer-robots.⁴² The Carter administration near-doubled the budget of DARPA, which reflected Albert Einstein’s warning after the use of the atomic bombs about the “horrendous failure of Western civilization in its use of science and technology.”⁴³

One of DARPA’s key innovations in the 1970s was the Laser-guided bomb (LGB), which made use of advances in laser technology during the 1960s and were fitted with light sensors that reflected laser radiation coming from a target whose coordinates were displayed by computer.⁴⁴ LGBs had been credited with destroying the seemingly indestructible 540 by 56 foot Thanh Hoa Bridge and 8,500 foot Long Bien (Paul Doumer) Bridge along the Ho Chi Minh Trail during Nixon’s Christmas bombing, although a Pentagon analysis of 200 combat drops concluded that they got only about 30 or 40 percent hits on very large target areas, with the misses tending to be by thousands of feet.⁴⁵ The supposed success in Vietnam stimulated intensified research by DARPA and companies like Lockheed Martin, Hughes aircraft, and Texas Instruments, resulting in the development of the Paveway II light-sensing LGB, which became operational during the 1986 bombing of Libya.⁴⁶

⁴⁰ Franklin, *War Stars*, 156.

⁴¹ Robert A. Heinlein, *Starship Troopers* (New York: G.P. Putnam’s Sons, 1959), 184.

⁴²See Annie Jacobsen, *The Pentagon’s Brain: An Uncensored History of DARPA, America’s Top Secret Military Research Agency* (Boston: Little & Brown, 2015).

⁴³ Einstein quoted in Chris H. Gray, *Postmodern War: The New Politics of Conflict* (New York: The Guilford Press, 1997), 235.

⁴⁴ Tomes, *U.S. Defense Strategy from Vietnam to Operation Iraqi Freedom*, 61.

⁴⁵Stephen P. Randolph, *Powerful and Brutal Weapons: Nixon, Kissinger and the Easter Offensive* (Cambridge, MA: Harvard University Press, 2007); David A. Koplow, *Death by Moderation: The U.S. Military’s Quest for Useable Weapons* (New York: Cambridge University Press, 2010); Testimony of Pierre Sprey, former special assistant to assistant secretary of defense,” In “Performance of High-Technology Equipment in Operation Desert Storm,” April 22, 1991, Hearings Before the Committee on Armed Services, House of Representatives, 102nd Congress, 1st Session (Washington, D.C.: U.S. G.P.O., 1991), 550, 572; Pierre M. Sprey, “Evaluating Weapons: Sorting the Good from the Bad,” In *The Pentagon Labyrinth: From 10 Pentagon Insiders, Retired Military Officers and Specialists with Over 400 years of Defense Experience*, ed. Winslow T. Wheeler (Washington, D.C.: World Security Institute, 2011), 111..

⁴⁶Paul Gillespie, *Weapons of Choice: The Development of Precision-Guided Munitions* (Tuscaloosa: University of Alabama Press, 2006); Drew Middleton, “Mass Produced Precision Guided Weapons are Said to be Revolutionizing

A 1976 RAND Corporation study said that LGBs provided the “morally attractive and mutually beneficial possibility of disabling military targets without collateral damage,” thus offering the political leadership a variety of military options to “fit the tone and interest of the political discourse.”⁴⁷ These comments fit with a tradition dating back to Billy Mitchell, Hap Arnold’s mentor, in which lethal offensive weapons are conceived of as capable of limiting the devastation of war; an illusion necessary to temper wide-scale antiwar sentiment that had developed in response to Vietnam. Henry Rowen, chairman of the national intelligence council and a former RAND Corporation president, testified before Congress in September 1975 that “the increasing precision possible in the delivery of weapons...is making possible the substitution of small weapons for large ones [which would] do a great deal to help set limits to the scope and level of conflict. And the prospect of being able to take more effective action, with less collateral damage, will enhance the deterrence of a significant range of action against our interests.”⁴⁸

In a 1974 essay, Albert Wohlstetter, the doyen of the defense intellectuals and a guru to neoconservative policy makers such as Paul Wolfowitz and Richard Perle, emphasized the need for the U.S. to exploit what he called the “revolution in microelectronics,” and make use of “less expensive, small packages of reliable sensors, powerful data processors, and communications.” This could reduce the inefficiencies and uncertainties that had plagued combat in Vietnam, including in its huge expenditure of material, needless destruction and indeterminate duration. Wohlstetter touted the potential of an “expanding family of precision guided munitions” to permit the “much more effective and discriminating application of force in an increasingly wider variety of political and operational circumstances.” He enthused about the ability of these new super-weapons to “transcend notions of war as gratuitous murder,” and to accomplish important military purposes “and yet contain the destruction.”⁴⁹

Wohlstetter’s ideas and those of contemporaries like Brzezinski and Andrew Marshall bear comparison with liberal intellectuals on the eve of World War I who believed that war in the machine age could serve positive humanitarian and democratic ends; an illusion that soon thereafter was dispelled.⁵⁰ They also resembled Captain Alfred Thayer Mahan, the famed military strategist who believed poison gases would make war more humane by incapacitating soldiers rather than allowing them to die an agonizing death from bayonet wounds.⁵¹

Vannevar Bush, the president of MIT and director of scientific planning in World War II, influentially suggested in a 1945 report, *Science: The Endless Frontier* that science could

Military Doctrine and Tactics,” *New York Times*, February 23, 1976, 15; Malcolm W. Browne, “Invention That Shaped the Gulf War: The Laser Guided Bomb,” *New York Times*, February 26, 1991; Testimony of Pierre Sprey, former special assistant to assistant secretary of defense,” In “Performance of High-Technology Equipment in Operation Desert Storm,” April 22, 1991, Hearings Before the Committee on Armed Services, House of Representatives, 102nd Congress, 1st Session (Washington, D.C.: U.S. G.P.O., 1991), 550.

⁴⁷Gillespie, *Weapons of Choice*, 127. The RAND Corporation is the Air Force’s in-house think-tank.

⁴⁸Gillespie, *Weapons of Choice*, 128.

⁴⁹Albert Wohlstetter, “Threats and Promises of Peace: Europe and America in the New Era,” *Orbis*, 17 (Winter 1974); Bacevich, *The New American Militarism*, 161, 162.

⁵⁰ See Randolph Bourne, *War and the Intellectuals: Collected Essays, 1915-1919*, ed. Carl Resek (New York: Harper & Row, 1964).

⁵¹ Hugh R. Slotten, “Humane Chemistry or Scientific Barbarism? American Responses to World War I Poison Gas, 1915-1930,” *The Journal of American History*, 77, 2 (September 1990), 486.

function as the equivalent of the old geographic frontier except that it would never close because the exploitation of nature was boundless.⁵² Considering post-war atomic fears to have been “exaggerated” by “prophets of doom,” Bush enthused during the Korean War about innovations in air power which resulted in “the ratio of Red casualties going up compared to ours fifty to one and prompted them to ask for an armistice.” The key lesson was that “if we are really well armed, the reds will not force a world war on us.”⁵³

Wolfowitz and his other proponents of the RMA drew similar lessons after Vietnam even with the American defeat. Their emphasis on reducing the destructiveness of war by reliance on precision-guided weapons was adopted to counter left-wing arguments pertaining to the necessity of reducing military budgets and scaling back overseas influence. The RMA meshed with Carter’s human rights policy in its conviction that war could be made more humane. It also echoed Japanese military doctrines of the 1930s which extolled precision bombs that destroyed the *U.S.S. Arizona* in a single strike that went down one of its funnels.⁵⁴ Over time, prominent liberal intellectuals came to embrace the RMA which undergirded their championing of humanitarian intervention.⁵⁵ The two concepts drew off deep cultural fantasies about the ability of super-weapons to save humanity, going well with science fiction writing of the era in which the U.S. annihilated enemies that produced weapons of mass destruction through use of newly discovered drugs and other inventions and a global Phoenix or assassination program which later came to realization under the War on Terror.⁵⁶

The American military escalation in the 1960s had contributed to a dramatic buildup of Soviet forces, which surpassed the number of American missiles in the early 1970s, prompting alarmist calls in the defense community to redress the balance.⁵⁷ Retired General Maxwell Taylor warned in *Foreign Affairs* about growing stratification between wealthy countries and the Third World poor, suggesting that the U.S. may “expect to fight for our national valuables against envious have-nots.”⁵⁸ This motive at heart underlay the military-technological revolution which resulted in the development of famous weapons like the Chrysler M-1 Abrams tank,

⁵² Vannevar Bush, *Science The Endless Frontier – A Report to the President by Vannevar Bush, Director of the Office of Science Research and Development, July 1945* (Washington, D.C.: U.S. Government Printing Office, 1945); Paul Boyer, *By the Bomb’s Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon Books, 1985), 303.

⁵³ Vannevar Bush, “A Few Quick,” Washington, D.C. November 5, 1951, RG 330, Records of the Secretary of Defense, Research and Development Board, box 428, National Archives, College Park Maryland.

⁵⁴ James P. Stevenson, *The Pentagon Paradox: The Development of the F-18 Hornet* (Annapolis: Naval Institute Press, 1993), 280.

⁵⁵ See Michael Ignatieff, *Virtual War: Kosovo and Beyond* (New York: Viking Press, 2000); Michael Ignatieff, “America’s Empire is an Empire Light,” *New York Times*, January 10, 2003; *Critical Perspectives on the Responsibility to Protect*, ed. Philip Cunliffe (New York: Routeledge, 2012).

⁵⁶ Franklin, *War Stars*, 217. This was the theme of USAID land reform expert and probable CIA agent Roy L. Prosterman’s story, “Peace Probe,” *Analog Magazine*, July 1973. The program succeeds because of the development of a special drug extrapolated from chimpanzees that induces heart failure in an Argentine General who promotes germ warfare and places secret agents in the U.S. to secure atomic secrets through blackmail.

⁵⁷ John Edwards, *Superweapon: The Making of MX* (New York: W.W. Norton, 1982), 46; Tom Gervasi, *The Myth of Soviet Military Supremacy* (New York: Harper & Row, 1986).

⁵⁸ Quoted in James W. Gibson, *The Perfect War: The War We Couldn’t Lose and How We Did* (New York: Vintage Books, 1986), 454.

Hughes “Apache” and Sikorsky “Black Hawk” helicopters, Martin laser-guided torpedoes and artillery shells (“copperheads,”) and General Dynamics F-16 lightweight bomber.⁵⁹

The Nixon doctrine had provided a blueprint for post-Vietnam strategy in its emphasis on using surrogate troops and coordinating air and sea operations in support of allied ground forces or quick surgical assaults by American shock troops lofted abroad by huge jumbo jets and backed by abundant airpower.⁶⁰ Many government-owned military plants were privatized in the 1960s and the lure of lucrative contracts encouraged technical innovation in the private sector. Computers were now integrated into weapon systems with the invention of micro-processors having allowed for a drastic reduction in computer size. “Smart weapons” were laser-guided or capable of detecting electronic signals and selecting and attacking a target through mathematical calculation undertaken by computer chips located inside them. Defense Secretary Harold Brown (1977-1981), Pentagon Director of Research and Development under McNamara believed that if smart weapons had been invented earlier “the air campaign against North Vietnam would have had a different effect.”⁶¹ These comments reflect an inability to grasp the socio-historical forces shaping the outcome of Vietnam and a dominant belief that high-technology could avenge the “lost war” by ensuring future victories.⁶²

A prodigy who obtained his physics doctorate at the age of twenty-two, Brown had belonged to the elite group of scientists associated with the Livermore nuclear laboratory at Berkeley, Cal Tech and the Defense Department and Air Force who possessed an “almost religious-like devotion to the Cold War arms race,” as historian David Noble put it. These “Whiz Kids” considered thermonuclear and other high-tech military hardware as “weapons of life” capable of deterring Soviet aggression and preserving national and international security, fitting with deeper cultural norms.⁶³

Possessing a tremendous talent for details relating to technical and budget issues, Brown had championed defoliation and jet fighter innovations during the Vietnam War and biological warfare testing and pushed for an escalation of the bombing of North Vietnam “without concern for civilian casualties,” according to the Pentagon Papers. At one point, Brown turned his back

⁵⁹Michael Klare, “Resurgent Militarism” in *Trilateralism*, ed. Sklar; *U.S. Defense Policy: Weapons, Strategy and Commitment*, 13-14; “Air Force Today,” *Airman*, December 1975, 17-32; *The Militarization of High Technology*, ed. John Tirman (Cambridge, MA: Ballinger Publishing Co., 1984); Harold Brown, Department of Defense Annual Report, 1979 (Washington, D.C.: U.S. G.P.O., 1979), 148-150; William D. Harwood, *Raise Heaven and Earth: The Story of Martin Marietta People and Their Pioneering Achievements* (New York: Simon & Schuster, 1993), 449, 450.

⁶⁰Klare, “Resurgent Militarism,” in *Trilateralism*.

⁶¹Kenneth P. Werrell, *Chasing the Silver Bullet: U.S. Air Force Weapons Development From Vietnam to Desert Storm* (Washington, D.C.: Smithsonian Books, 2003), 153; Harold Brown, *Thinking About National Security Defense and Foreign Policy in a Dangerous World* (Boulder, CO: Westview Press, 1983).

⁶²Jacobsen, *The Pentagon's Brain*. Brown was not alone in this attitude. Conservatives Phyllis Schlafly and Admiral Chester Ward referenced Napoleon's folly in rejecting Robert Fulton's offer to build him the world's first steamboat and General Hindenberg's rejecting the American Holt Tractor company's offer in World War I to build a revolutionary weapon putting armor-plate and machine guns on a tractor in lambasting McNamara and other “Pentagon gravediggers” for aborting Eisenhower-era strategic weapons developed by “American inventive genius.” Refusal to promote gigaton and neutron bombs and the Dynasoar orbital spacecraft embodied liberal weakness that helped fuel America's humiliation in Vietnam at the hands of a “30th rate power.” Phyllis Schlafly and Chester Ward, *Strike from Space: A Megadeath Mystery* (Alton, Illinois: Pere Marquette Press, 1965), 102.

⁶³David Noble, *The Religion of Technology: The Divinity of Man and the Spirit of Invention* (New York: Penguin, 1999), 112.

on two RAND Corporation researchers when they reported the Strategic Hamlet program was not working, showing his unwillingness to understand what was going on and antipathy towards contrarian views. A contemporary said Brown was scientifically oriented but rather cold like McNamara, never showing interest in the lives or feelings of his employees, let alone those living on the receiving end of the weapons he championed.⁶⁴ Journalist Roger Morris characterized Brown as a “reliable organizational man” who displayed “mindless acceptance of the universe beyond his well-equipped laboratory.”⁶⁵

Striving to control world sea-lanes and maintain status as a “Pacific Power” after Vietnam, the Carter administration at Brown’s urging built more than 90 new naval ships at a rate 70% greater than the Nixon-Ford administrations, and adopted an “offset strategy” designed to regain strategic advantage over Warsaw Pact forces and other geopolitical rivals through synergistic application of new technologies.⁶⁶ Considerable advances were made in subsonic cruise missiles propelled by Williams’ turbo-fan jet engine and equipped with a radio altimeter and Terrain Contour matching (TERCOM) guidance system which worked by loading a digital map into the cruise missile computer that allowed for the avoidance of obstacles. Invested with the ability to fly close enough to the ground to go undetected, they possessed a warhead that was ten times more powerful than the Hiroshima bomb.⁶⁷

Seven hundred million dollars was budgeted for development of Remotely Piloted Vehicles (RPVs) which were valued for their ability to perform “high-risk and politically sensitive missions more practically and inexpensively than piloted aircraft.”⁶⁸ Edward Teller, the hydrogen bomb creator and prototype of Dr. Strangelove, considered RPVs equivalent to “radars and computers in 1935” in their potential.⁶⁹ Teledyne Ryan (later Northrop), Lockheed and Boeing models flight tested at the secret Area 51 military base in Nevada were equipped with TV cameras and a laser designator for target-spotting as well as 35-pound guided projectiles.

⁶⁴ Jacobsen, *The Pentagon’s Brain*; George C. Wilson, “Army Conducted 239 Secret, Open Air Germ Warfare Tests,” *Washington Post*, March 9, 1977; Interview with Leonard Sullivan, May 4, 1999, http://history.defense.gov/Portals/70/Documents/oral_history/OH_Trans_SullivanLeonard5-4-1999.pdf; *Offsetting the Soviet Military Challenge, 1977-1981*, ed. Keefer, 218; Herbert Marcuse, *One Dimensional Man* (Boston: Beacon Press, 1964).

⁶⁵ Roger Morris, “Harold Brown: Competence Isn’t Enough,” *Washington Star*, January 9, 1977, 30.

⁶⁶Richard Van Atta et al. “Transformation and Transition: DARPA’s Role in Fostering an Emerging Revolution in Military Affairs, Vol. 1 – Overall Assessment,” Institute for Defense Analyses, Paper P-3698 (Alexandria Virginia, 2003), S2, 10; Zbigniew Brzezinski, Memo for the President, “Themes for Your Foreign Policy Debate,” October 21, 1980, Zbig, box 16, 1980 campaign, JCL; Klare, *Beyond the ‘Vietnam Syndrome,’* 59, 60. Bernard Weinraub, “Harold Brown Says U.S. Will Strengthen its Forces in Asia,” *New York Times*, February 2, 1978, 7; John F. Lehman Jr. *Command of the Seas: Building the 600-Ship Navy* (New York: Charles Scribner & Sons, 1988), 384.

⁶⁷ Tomes, *U.S. Defense Strategy from Vietnam to Operation Iraqi Freedom*, 174; *Cruise Missiles: Technology, Strategy Politics*, ed. Richard K. Betts (Washington, D.C.: The Brookings Institute, 1981); Robert C. Aldridge, “More Pentagon Mischief,” *The Nation*, June 14, 1975, 710.

⁶⁸“Status of the Remotely Piloted Aircraft Programs,” Report to the Congress by the Comptroller General of the United States, February 18, 1977 (Washington, D.C.: U.S. G.P.O., 1977). On cruise missile development, see Tomes, *U.S. Defense Strategy from Vietnam to Operation Iraqi Freedom*, 174; *Cruise Missiles: Technology, Strategy Politics*, ed. Richard K. Betts (Washington, D.C.: The Brookings Institute, 1981).

⁶⁹William Wagner, *Lightning Bugs and Other Reconnaissance Drones* (Armed Forces Journal International: Aero Publishers, 1982).

DARPA also developed a miniaturized drone the size of a horsefly known as the Insectothopter.⁷⁰

Major Jack Clifton, coordinator of the army RPV program stated that “we intend to use these birds as an integral part of our artillery... We’re trying to remove the individual as much as possible from the battlefield.” This echoed the view of Harold Brown who had championed drones as Air Force Secretary and Secretary of State Cyrus Vance who had enthused over the bombing of North Vietnam as LBJ’s Deputy Defense Secretary. They and many others envisioned that war in the post-Vietnam era would become a “contest between machines – which do not bleed, die, get addicted to drugs, shoot their officers or refuse to fight,” as Robert Barkan, a former Bell Telephone Laboratories engineer wrote in *The New Republic*, referencing the breakdown of the U.S. army in Vietnam. “A pilot flying an RPV bombing run from a swivel chair in an underground control center doesn’t look out his cockpit window at the death and destruction below and wonder, ‘Why am I doing this?’ He doesn’t watch the flak coming at him and swear that he’ll never fly again. He feels no more compunction than the engineer who designed the machine.”⁷¹ The drone was thus the perfect vehicle for perpetuating the American imperial project in an era when a considerable portion of the public no longer believed in its tenets or wanted to fight for it.

Drone development contributed in turn to the belief among air power enthusiasts like John A. Warden III, an architect of U.S. military strategy in the Persian Gulf War that Billy Mitchell’s vision of an “air only campaign” could succeed under certain circumstances.⁷² A 1975 study entitled *New Horizons II* provided eight long-term steps for the Air Force to maximize technological progress that included taking full advantage of signal and data processing and computer technology advances, developing a survivable space system, investing in laser weapons and the development of all-weather aircraft, improving heavy lift capability and developing a digitalized, worldwide cartographic memory bank.⁷³

Innovations like electro-optical viewing, low altitude and night targeting infrared and automated air missile launch systems, and improved warning capability and maneuverability added to a perception of omnipotence in conjunction with advances in computerized safety features and flight controls. Pilots could now punch in coordinates of an enemy tank derived from computer and relay information on a dime to an airborne command post that could call in air strikes calculated through mathematical algorithms. Laser spot trackers and cameras enabled not only the pinpointing of camouflaged targets but also provided instantaneous target damage

⁷⁰Robert Wallace and H. Keith Melton, *Spycraft: The Secret History of the CIA's Spytechs: From Communism to Al Qaeda*, with Henry R. Schlesinger (London: Dutton, 2008), 448; Annie Jacobsen, *Area 51: An Uncensored History of America's Top Secret Military Base* (Boston: Little & Brown, 2011); John Taylor, *Robot Aircraft Today* (New York: Collier Books, 1977).

⁷¹James W. Canan, *The Superwarriors: The Fantastic World of Pentagon Superweapons* (New York: Weybright and Talley, 1975), 324, 326, 327. Brown and Vance’s support for RPVs is detailed in Ben R. Rich and Leo Janos, *Skunk Works: A Personal Memoir of My Years at Lockheed* (Boston: Little & Brown, 1994), 264-267.

⁷²David R. Mets, “The Long Search for a Surgical Strike: Precision Munitions and the Revolution in Military Affairs,” School of Advanced Air Power Studies, Maxwell Air Force Base, Alabama, October 2001; John A. Warden III, *The Air Campaign: Planning for Combat* (Washington, D.C.: National Defense University Press, 1988).

⁷³Col. James E. Strub, “Research Horizons: Where the Air Force ought to be Going,” *Air University Review*, November-December 1976, 16-25; Andrew Cockburn, *The Threat: Inside the Soviet Military Machine* (New English Library, 1985), 194.

assessments eliminating the need for follow-up reconnaissance.⁷⁴ B-52 bombers meanwhile were modified to carry cruise missiles with computerized guidance systems that could hit targets as far as 1,500 miles away. New jet fighters were also developed like the Fairchild Republic (later Northrop-Grumman) A-10 Warthog, a workhorse of the 1st Persian Gulf and Kosovo wars which could fire 4,200 rounds of 30-millimeter armor-piercing shells a minute and had quick-turn capability to avoid enemy ground-fire.⁷⁵

Over two billion dollars were budgeted throughout the 1970s for electronic weapons and radar planes that could “see” up to 200 miles behind enemy lines along with the Lockheed F-117 “stealth bomber” designed with curves and sharp angles to deflect radar beams. Made from Fibaloy, a composite developed by Dow Chemical Co, *Time Magazine* characterized the F-117 as a “death machine out of Darth Vader’s workshop.” Air Force Secretary Edward C. Aldridge said it would “strengthen the cause of peace.”⁷⁶ Elusive even for the Hawk missile’s powerful tracking system, stealth technology was later incorporated into helicopters, cruise missiles and RPVs.⁷⁷ Harold Brown was among its greatest enthusiasts. He claimed after leaking news of it on the eve of the 1980 election that stealth was “of such great military significance” it would “alter the military balance.”⁷⁸

In 1979, the Pentagon brought together six prime contractors (Westinghouse, Honeywell, Hughes, Texas Instruments, IBM and TRW) and many more subcontractors in high-speed integrated circuits to enhance chip manufacturing for military purposes. The Carter administration was willing to spend over \$30 million over six years to bring military standards to the state of the art, which DARPA Director George Heilmeier said would make a “magnitude of difference in U.S. weapons capabilities.”⁷⁹ The Pentagon also at this time financed creation of a multi-launch rocket system (MLRS) that could fill the air with small steel fragments (“steel rain”) and anti-tank missiles equipped with infra-red guidance that could saturate an area the size of six football fields with 7,200 grenade fragments capable of piercing light armor at a range of 20 miles.⁸⁰ The CIA’s Office of Technical Services was developing digital imaging and the first filmless camera, and the Pentagon in 1977 directed the military to exert more research and

⁷⁴ “Air Force Today,” *Airman*, December 1975, 17-32; *U.S. Defense Policy: Weapons, Strategy and Commitment*, 13-14; Jerome W. Klingaman, “Light Aircraft Technology for Small Wars,” in *Low Intensity Conflict and Modern Technology*, ed. Lt. Col. David J. Dean, foreword by Newt Gingrich (Maxwell AL: Air University Press, June 1986); Harwood, *Raise Heaven and Earth*, 551, 558; Tom Jacobus, “Cope Elite,” *Airman*, March 1979; “New Eyes for the Giant,” *Airman*, December 1979;

⁷⁵ Greg Easterbrook, “All Aboard Air Oblivion,” *Washington Monthly*, September 1981 in Dina Rasor ed. *More Bucks, Less Bang: How the Pentagon Buys Ineffective Weapons* (Washington, D.C.: Fund for Constitutional Government Project on Military Procurement, 1983), 60; Kenneth P. Werrell, “The Weapon the Military Did Not Want: The Modern Strategic Cruise Missile,” *The Journal of Military History*, 53, 4 (October 1989), 433.

⁷⁶ Tim Weiner, *Blank Check: The Pentagon’s Black Budget* (New York: Warner Books, 1990), 73, 74; Jim Schefter, “Invisible Bomber – Secrets of the Plane that Radar Can’t See,” February 1983, CIA Crest System National Archives, College Park Maryland.

⁷⁷ Van Atta et al. “Transformation and Transition: DARPA’s Role in Fostering an Emerging Revolution in Military Affairs,” 14; Wagner, *Lightning Bugs and Other Reconnaissance Drones*; Rich and Janos, *Skunk Works*, 3.

⁷⁸ “Stealthy Politics,” *Baltimore Sun*, September 7, 1980, NLC-133-232-7-8-1, CREST System, JCL.

⁷⁹ Alex Roland with Philip B. Shirman, *Strategic Computing: DARPA and the Quest for Machine Intelligence, 1983-1993* (Cambridge, MA: MIT Press, 2002).

⁸⁰ Gary Chapman, “The New Generation of High-Tech Weapons,” in *Computers In Battle – Will They Work?* ed. David Bellin and Gary Chapman (New York: Harcourt Brace, 1987), 83; Frank Barnaby, “Microelectronics at War,” in *The Militarization of High Technology*, ed. Tirman.

training efforts into chemical warfare. A new generation of interceptor missiles and a non-nuclear kill vehicle was further created as part of a revolution in ballistic missile defense that made use of new sensor technologies and the development of super-computers by Lockheed that could make 500 million calculations per second.⁸¹

Robert Gates wrote in his memoirs that the “perception of U.S. strategic power and strength in the first half of the 1980s was in fact Ronald Reagan reaping the harvest sown by Nixon, Ford and Carter.” Carter “sustained every major strategic modernization program while beginning at least one important new one [stealth technology].”⁸² Harold Brown played an influential role in the Strategic Arms Limitation Treaty (SALT) II negotiations in helping to protect the U.S. lead in and future development of nuclear and conventional armed cruise missiles and in retaining the right for the U.S. to deploy the M-X (missile experimental).⁸³ Carter had approved production of the M-X against the wishes of dovish Congressmen like Senator Mark Hatfield (R-OR) and even CIA Director Stansfield Turner. Vice President Walter Mondale considered the M-X the “most terrible weapon ever devised.” Costing \$33.3 billion over ten years, it had a 300-kiloton yield, 20 times stronger than that of the atomic bomb used to destroy Hiroshima. Its internal computer used chip technology to guide it within thirty feet of a target after a journey of thousands of miles.⁸⁴ The M-X required construction of 4,600 hardened concrete shelters and thousands of miles of roads between shelters in the valleys of Utah and Nevada. This made the engineering marvel among the biggest construction projects in the American history (bigger than the Panama Canal and Alaska pipeline).⁸⁵

Carter in principle was opposed to an expansion of the nuclear arsenal and appointed as chief SALT negotiator Paul Warnke, who considered the arms race as the “mindless mimicry of two apes on a treadmill.”⁸⁶ Carter nevertheless wound up initiating the biggest nuclear buildup in two decades and promoted a nuclear tipped advanced radiation warhead for the army’s LANCE tactical missiles, otherwise known as the “neutron bomb” which could attack fixed or non-fixed targets. The potential “people killer” could in theory lessen inhibition against the use of nuclear weapons, though was nixed after protests when a plan to deploy it in Europe was announced.⁸⁷

⁸¹ Wallace and Melton, *Spycraft*, 86; Ken Lawrence, “The History of U.S. Bio-Chemical Killers,” *Covert Action Information Bulletin*, Summer 1982; Auten, *Carter’s Conversion*.

⁸² *Offsetting the Soviet Military Challenge, 1977-1981*, ed. Keefer, 592; Robert M. Gates, *From the Shadows: The Ultimate Insider’s Story of Five Presidents and How They Won the Cold War* (New York: Simon and Schuster, 1996).

⁸³ The Senate though failed to ratify the SALT II treaty because it was seen as too beneficial to the USSR by hawks. See Dan Caldwell, *The Dynamics of Domestic Politics and Arms Control: The SALT II Treaty Ratification Debate* (Columbia: University of South Carolina Press, 1991).

⁸⁴ Jimmy Carter to Senator Mark Hatfield, July 6, 1979, Zbig, box 43, folder missiles, JCL; Stansfield Turner, “MX Is A Serious Mistake,” *Washington Star*, March 29, 1981; Wade Boese, “U.S. retires M-X Missile,” Arms Control Association, October 1, 2005, https://www.armscontrol.org/act/2005_10/OCT-MX.

⁸⁵ John Edwards, *Superweapon: The Making of MX* (New York: Norton, 1982), 20, 21. Mondale still backed the M-X.

⁸⁶ Smith, *Morality, Reason and Power*, 74.

⁸⁷ Bert Lance to Zbigniew Brzezinski, Memo for the President, June 21, 1977; Zbigniew Brzezinski, Memo for Secretary of Defense, June 23, 1977, “Enhanced Radiation Warhead for Lance Missile,” Zbig, Box 10, Enhanced Radiation Warhead, JCL.

At the behest of the Senate's "laser lobby," Harold Brown directed the military to explore the use of directed energy weapons (DEWs) such as the particle beam which could destroy its target by transferring energy to it in the form of a concentrated beam of atomic or subatomic particles and high energy lasers in space. Their roots could be traced to science fiction writings like H. G. Wells' *The War of the Worlds* and the *Buck Rogers* series in which light beams and death rays were used to kill people.⁸⁸

Prior to his death from cancer in 1977, space program creator Werner Von Braun, who had been recruited under the infamous Operation Paperclip, warned that "space war would be collective suicide, total ruin even for the one who started it."⁸⁹ The Pentagon nevertheless persisted in advancing space-based satellites designed for photo-mapping and military communications, along with Navstar, the precursor to Global Positioning System (GPS) in which satellites circling the earth at an altitude of 11,000 miles sent out signals allowing for users to determine their positions and velocity in three dimensions anywhere in the world in any weather.⁹⁰ The Carter administration gave Vought aerospace firm, later bought by a division of Lockheed Martin, a \$58.7 million contract for developing miniature homing vehicles, or space based rockets that could strike a target locked by heat-seeking sensors. Brown redirected high energy laser research to emphasize space-based applications. In a precursor to Reagan's Star Wars, DARPA further promoted development of space-based laser battle stations armed with DEWs designed to defend U.S. satellites or defeat an attack by Inter-Continental Ballistic Missiles (ICBMs). Killer satellites were capable of hunting down and destroying enemy satellites along with alien spacecraft presumably, as a *New York Times* reporter joked!⁹¹

Reflecting the zeitgeist of the times, the Pentagon staged a tri-service show of "smart weapons" at the White Sands missile range New Mexico in mid-1978 where Congress, the press and military hierarchy witnessed an F-4 Phantom unload a five-hundred-pound laser guided bomb that incinerated a fuel target and Navy A-7 attack jet packing a television-guided Walleye missile destroy a camouflaged structure. From a ridge a half mile from the grandstand, two soldiers then aimed a laser designator device at a tank seven miles off in the desert and put three bursts of laser beams on the tank. Six miles to the rear behind a mountain, a computer linked to the laser designator aimed a 155-milimeter howitzer in the direction of the tank and fired a copperhead flying shell guided by sensors which destroyed the tank. After the show was over, Harold Brown and his right hand man for research and development, William J. Perry said they had staged the demonstration to show the world that despite the mounting criticism of the U.S.

⁸⁸Donald R. Baucom, *The Origins of SDI, 1944-1983* (Lawrence: University Press of Kansas, 1992), 101-103, 109; Frances Fitzgerald, *Way Out There in the Blue: Reagan, Star Wars and the End of the Cold War* (New York: Simon & Schuster, 2000), 124. Paperclip had involved the recruitment of Nazi scientists.

⁸⁹ Jack Manno, *Arming the Heavens: The Hidden Military Agenda for Space, 1945-1995* (New York: Dodd, Mead & Co, 1995), 177.

⁹⁰Phil Stanford, "The Automated Battlefield: Smart Bombs and Missiles Stand-Off Bombers...." *New York Times*, February 23, 1975, SM1; Fallows, "America's High-Tech Weaponry" and "Muscle Bound Superpower," *The Atlantic Monthly*, October 19, 1979, 59; "Eyeing the Future: Project Forecasting Honing Today's Technological Edge for Tomorrow's Air Force," *Airman*, December 1985.

⁹¹Stanford, "The Automated Battlefield;" Paul F. Walker, "Precision-Guided Weapons," *Scientific American*, 245,1 (August 1981); Baucom, *The Origins of SDI, 1944-1983*, 109, 118; "U.S.S. Funds Killer Satellite Effort," *Aviation Week & Space Technology*, 108, 6 (February 6, 1978), 18, 19; Paul D. Stares, *The Militarization of Space: U.S. Policy, 1945-1984* (Ithaca: Cornell University Press, 1984), 206, 215. Brown later objected to Star Wars, an elaborate missile shield designed to block a Soviet nuclear strike, as impractical.

military it “remains strong... We are not second to anyone in military capability [though] as long as Soviet military expenditures continues to increase at a rate of four to five percent per year, it is necessary for us to take advantage of the technology of these precision-guided munitions.”⁹²

These comments capture the enthusiasm and confidence in technological advance as a means of revitalizing U.S. military power after Vietnam. The way Brown saw it, the U.S. had reached a historical turning point where “we must decide whether we intend to remain the strongest nation in the world. The alternative is to let ourselves slip into inferiority, into a position of weakness in a harsh world where principles unsupported by power are victimized, and to become a nation with more of a past than a future.”⁹³

Brown and Perry were challenged by a clique in the Pentagon headed by John Boyd, Vice-Commander of the Nakhon Phanom Royal Thai secret air base during the Vietnam War, who believed that weapon systems had become so expensive and complex to operate that fewer models were being built and they could not be deployed effectively. In Boyd’s conception “machines don’t fight wars, people do and they use their minds.” Top heavy military and Pentagon bureaucracy discouraged innovation.⁹⁴ Though nobly waging “bureaucratic guerrilla warfare,” from inside the “big green spending machine” and “Versailles on the Potomac,” the movement for military reform did not ultimately question the impetus behind the Cold War or America’s role as a global hegemon. Instead, it aimed to promote a leaner and more efficient smart-tech fighting machine, championing the F-16 “Fighting Falcon” and A-10 “warthog. Franklin “Chuck” Spinney, a Boyd protégé, told *Time Magazine* in 1983 that he was no enemy of military spending, he just “wanted the nation to get value for its dollar. My view is that our country has to be strong and that we have to have the military assets to ensure that strength.”⁹⁵ These comments epitomize the narrowness of political debate at a time when the antiwar left had been marginalized; a key development underlying the reinvigoration of the permanent warfare state.⁹⁶

George F. Kennan, the father of the containment strategy, stated in 1980 that not since World War II has there been “so far-reaching a militarization of thought and discourse in the capitol. An unsuspecting stranger, plunged into its midst, could only conclude that the last hope of peaceful nonmilitary solutions has been exhausted – that from now on only weapons, however used could count.”⁹⁷ The weapons-building binge coincided with the modernization of the all-volunteer force and efforts to revive the military’s image through better pay incentives and educational training programs and better inclusion of women and minorities, efforts to curtail the drug problem and through better public relations. Recruitment was bolstered by a massive advertising blitz and adoption of the advertising slogan: “Be all that you can be,” developed in 1979 by four-star General Maxwell Thurman, which coincided with programs to provide young people in an age of rising college tuition with technical skills necessary to operate complex

⁹² James Canan, *War in Space* (New York: Harper & Row, 1981), 57-58.

⁹³ Canan, *War in Space*, 1.

⁹⁴ Robert Coram, *Boyd: The Fighter Pilot Who Changed the Art of War* (Boston: Little & Brown, 2002).

⁹⁵ George J. Church and Christopher Redman, “Pariah at the Pentagon,” *Time Magazine*, March 7, 1983. See also James Fallows, *National Defense* (New York: Random House, 1981).

⁹⁶ On the implosion of the left, see David Barber, *A Hard Rain Fell: SDS and Why It Failed* (Oxford: University of Mississippi Press, 2007).

⁹⁷ Quoted in Smith, *Morality, Reason and Power*, 247.

automated systems that could translate into lucrative future careers.⁹⁸ Many military professionals were motivated by taking technical pride in his/her work at this time, rather than by the cause for which he/she was fighting in a major transformation.⁹⁹

To enhance the agility of ground forces, Carter directed Brown to create an elite Special Force Unit (Delta Force) which was deployed in a botched effort to rescue American hostages following the Iranian revolution (“Operation Eagle Claw”).¹⁰⁰ William J. Perry, the Pentagon’s director of research and development and engineering, said that if the Special Forces had access to the army’s new Blackhawk helicopter [instead of older models that crashed or had to be abandoned] Eagle Claw might “have been a different story.”¹⁰¹ Founder of a defense-electronics firm which developed digital image processing capabilities for aerial photography, Perry championed a \$5 billion airborne radar system called Assault Breaker that could peer far behind enemy lines and detect suspicious movement. An on-board computer processed information before selecting a target to be destroyed by guided missiles. Evolving into the Joint Surveillance Target Attack System (JSTARS) used in Gulf War I, the Breaker had the capacity to destroy “Soviet military divisions to prevent their exploiting a breakthrough of NATO defenses without the resort to nuclear weapons.” “Perry’s wet dream,” however could not actually tell the difference between armored vehicles and ‘lower value targets’ (trucks or automobiles) according to a Government Accounting Office probe, and was not designed to do so, making it a waste of taxpayer dollars.¹⁰²

Mesmerized by high-technology, Perry and other proponents of the RMA did not generally consider the human consequences of the weapons they championed or how political circumstances might impact military outcomes. A main fixation of these “one-dimensional” men was with developing greater capacity to see and track events at greater distances to set-up attacks with long range precision weapons, ground sensors considered extremely effective in the electronic battlefield and drones. Gen. William Depuy predicted in 1974 that in the future “what can be seen can be hit, what can be hit, can be killed.”¹⁰³ The catastrophe of Vietnam would thus never be repeated. The danger of Carter’s arms build-up was reflected, however, in the comments of a senior military officer who presented the 1986 bombing of Libya as an “opportunity to show how well the money is being spent on aircraft and weapons,”¹⁰⁴ suggesting like Walt W. Rostow before, that once the latter had been developed, they would have to be made operational somewhere.¹⁰⁵

⁹⁸ “General Thurman Dies,” *Soldiers Magazine*, May 1996; Bacevich, *The New American Militarism*.

⁹⁹ Mary Kaldor, *The Baroque Arsenal* (New York: Hill & Wag, 1981), 14.

¹⁰⁰ Tomes, *U.S. Defense Strategy from Vietnam to Operation Iraqi Freedom*, 61.

¹⁰¹ Perry quoted in Canan, *War in Space*, 62.

¹⁰² Cockburn, *Kill Chain*, 33-35. See also William J. Perry, *My Journey at the Nuclear Brink* (Palo Alto: Stanford Security Studies, 2015).

¹⁰³ Tomes *U.S. Defense Strategy from Vietnam to Operation Iraqi Freedom*, 25, 65, 78.

¹⁰⁴ Quoted in “U.S. Demonstrates Advanced Weapons Technology in Libya,” *Aviation Week and Space Technology*, April 21, 1986, 19.

¹⁰⁵ Rostow observed to Kennedy in March 1961: “We must somehow bring to bear our unexploited counter-guerrilla assets on the Viet-Nam problem: armed helicopters; other Research and Development possibilities; our Special Forces units. ... In Knute Rockne's old phrase, we are not saving them for the Junior Prom.” In David Milne, *America's Rasputin: Walt Rostow and the Vietnam War* (New York: Hill & Wang, 2008), 86.

Washington was keen generally to co-opt the human rights consciousness of the 1970s to its own interest, using human rights as a mechanism for restoring public faith in American benevolence and supporting a more “activist foreign policy” and “surge in high-tech armaments reminiscent of the early days of John F. Kennedy,” Noam Chomsky wrote.¹⁰⁶ This goal was achieved primarily by using a human rights discourse to condemn communist and revolutionary governments and insurgent movements opposed by the United States, alongside the adoption of the new technologies which could in theory render war politically costless and humane.¹⁰⁷

The Carter administration followed through on some aspects of its human rights rhetoric such as slashing the CIA's budget and cutting arms sales, however, as we have seen had no compunction about efforts to make American weapons more technologically advanced. Seventy five percent of security assistance still went to countries notorious for human rights violations, including Saudi Arabia which was sold M-60 tanks and laser guided bombs as private companies staffed by ex-Green Berets like the Vinnell Corporation trained its National Guard.¹⁰⁸ The Carter administration provided the Iranian Shah at least \$12 billion worth of high-tech weaponry, sold Egypt RPVs, and equipped Filipino dictator Ferdinand Marcos, Suharto of Indonesia, the Moroccan King, Omani Sultan, Thai security forces who massacred student demonstrators and Pol Pot's Kampuchean resistance forces after they had been expelled by Vietnam (Zbigniew Brzezinski considered the Vietnamese “illegal occupiers”). Carter also sent emergency assistance to Congolese paratroopers under Joseph Mobutu as they crushed leftist guerrillas in the diamond-rich Shaba Province, which produced cobalt and tantalum used in the manufacture of smart weapons and RPVs.¹⁰⁹

In March 1980, San Salvador Archbishop Oscar Romero sent a letter to Carter pleading with his administration to stop sending military equipment and advisers, which had the effect of making more acute the ‘injustices and repression against those groups who have often strived to obtain respect for their most fundamental rights.’ Secretary of State Cyrus Vance responded by claiming that the “revolutionary junta” was “moderate and reformist” and that military aid was helping professionalize the armed forces and the government “to defend and carry forward its

¹⁰⁶See Noam Chomsky, “Human Rights: A New Excuse for U.S. Intervention,” *Seven Days*, May 23, 1977, 21-23.

¹⁰⁷James Peck, *Ideal Illusions: How the U.S. Government Coopted Human Rights* (New York: Metropolitan Books, 2010).

¹⁰⁸ Robert M. Kimmitt to Zbigniew Brzezinski, “Military Assistance,” March 6, 1980, Zbig, Box 34, JCL; Bloomfield, “The Carter Human Rights Policy: Appraisal;” Konrad Ege, “Buying Oman,” *Counterspy Magazine*, February-April 1981, 22-26; *U.S. Defense Policy: Weapons, Strategy and Commitments*, 74-77; “Briefing Memo – Illustrated Middle East Arms Package;” Leslie Gelb to Secretary, “Middle East Arms Package, NLC-28, CREST System, JCL; Jeremy Kuzmarov, “Distancing Acts”: Private Mercenaries and the War on Terror in American Foreign Policy,” *The Asia-Pacific Journal*, Vol. 12, Issue 52, No. 1, December 22, 2014.

¹⁰⁹ Michael T. Klare, *American Arms Supermarket* (Austin: University of Texas Press, 1984), 124; Michael T. Klare & Cynthia Arnson, *Supplying Repression: U.S. Support for Authoritarian Regimes* (Washington, D.C.: Institute for Policy Studies, 1981), 54; Jason Brownlee, *Democracy Prevention: The Politics of the U.S.-Egyptian Alliance* (New York: Cambridge University Press, 2012); Mike Shuster, “U.S. Will Back Mobutu to Keep the Mineral Wealth Flowing,” *Seven Days*, April 25, 1977; Cyrus Vance to the President, “Determination Under Section 25 of the International Security Assistance Act of 1977 to Permit FMS Financing and Military Training for Zaire,” Zbig, Country File, Zaire, Box 57, JCL; Brad Simpson, “Denying the First Right: The United States, Indonesia and the Ranking of Human Rights by the Carter Administration, 1976-1980,” *International History Review*, December 2009. The Carter administration also supported the military dictatorship in South Korea and Ne Win's government in Burma under the rubric of the War on Drugs and provided a billion in annual military aid to Israel even when it had violated written assurances it would not use cluster bombs in Southern Lebanon after they had been used on a Palestinian refugee camp.

program of reform.”¹¹⁰ Less than a month later, Romero would be killed with the complicity of the “reformist” military officers equipped by the “human rights” president as El Salvador descended into civil war.

As the Matanza in El Salvador was unfolding, the Carter administration oversaw one of the greatest base construction efforts in history and created a rapid mobility force to the Middle East to stand guard over petroleum supplies as part of the “Carter doctrine,” a change away from dependence on the Shah and Saudis as regional Gendarmes. Considering Islam to be compatible with the Christian West, Brzezinski laid out a vision of an Islamic Tier running through Southern Asia, the Indian Ocean and Persian Gulf backed by hard U.S. military power, and spearheaded funding to anti-Soviet mujahidin fighters in Afghanistan through General Zia in Pakistan in order to precipitate a Soviet invasion designed to give them their Vietnam.¹¹¹ Carter’s policies overall contributed to ample human rights abuses. His military build-up should be considered in wider context as part of the reinvigoration of the U.S. empire in the post-Vietnam era and as an important prelude to the rise of neo-conservatism.

According to popular mythology, the fruits of Carter and Reagan’s arms buildup and the RMA were realized during the 1st Persian Gulf War when high-tech weapons systems drove Saddam Hussein’s armies from Kuwait and only one hundred American soldiers were killed, mostly from friendly fire. During 1991 Congressional hearings on the performance of high technology, chairman Les Aspin (D-WI) stated that there “had been a revolution in high technology weaponry underway for years,” and that its fruits had been “evident on the battlefield “symbolized by precision munitions entering buildings exactly through windows and garages.”¹¹² The RAND Corporation ranked laser and precision guided missiles used in the war with the introduction of “firearms, the phalanx, and the chariot as a defining moment in human history.”¹¹³ The post-war triumphalism obscured, however, that a hundred thousand Iraqis were killed, equivalent to the number in eight years of the Iran-Iraq War. Saddam remained in power and the country’s infrastructure was predominantly destroyed, creating a humanitarian catastrophe when economic sanctions were applied and backlash against the United States.¹¹⁴

Many of the wars’ signature weapons furthermore such as Patriot and Tomahawk Missiles and F-117 Stealth fighter did not perform well. Laser Guided Bombs had a success rate of under 1.5 percent in destroying bridges as 70 percent of bombs missed their targets. Twenty-two thousand civilians were killed in Baghdad alone, with tomahawk missiles striking apartment buildings, a swimming pool and non-military targets because of mis-navigation by their guidance

¹¹⁰ Letter Archbishop Oscar Romero to President Carter and Cyrus Vance letter to Archbishop Romero, March 11, 1980, Zbig, Box 20, El Salvador, JCL.

¹¹¹ G.W. Chowdhury to Dr. Brzezinski, July 17, 1979, Zbig, Country Files, Pakistan, box 37, JCL; Jimmy Carter, Letter to General Zia, February 7, 1980, Zbig, Country Files, Pakistan, Box 37, JCL, Robert Dreyfuss, *How the West Helped to Unleash Fundamentalist Islam* (New York: Metropolitan Books, 2005).

¹¹² Statement of the Honorable Les Aspin, In “Performance of High-Technology Equipment in Operation Desert Storm,” April 22, 1991, Hearings Before the Committee on Armed Services, House of Representatives, 102nd Congress, 1st Session (Washington, D.C: U.S. G.P.O., 1991).

¹¹³ George and Meredith Friedman, *The Future of War: Power, Technology and American World Dominance in the 21st Century* (New York: Crown Publishers, 1996), x.

¹¹⁴ Ramsey Clark, *The Fire This Time: U.S. War Crimes in the Gulf* (New York: Thunder’s Mouth Press, 1992); Robert Fisk, *The Great War for Civilization: The Conquest of the Middle East* (New York: Alfred Knopf, 2006). The stationing of military bases in Saudi Arabia to carry it out the war along with heavy collateral damage invoked the anger of Osama bin Laden and his Al Qaida network.

system.¹¹⁵ Space-based satellite and drone surveillance and Joint Surveillance Target and Attack Radar System (JSTARS), which could see some 19,305 square miles of terrain below in darkness and bad weather, created data overload and did not prevent intelligence failures like miscounting enemy troops in Kuwait. They also failed to locate mobile scud launchers in the Western Iraqi desert despite their being the highest-priority target of the war.¹¹⁶

Carter at times during his presidency had outlined a liberal alternative vision and even urged rethinking the culture of consumption driving an imperialistic foreign policy. However, he continued to arm oppressive governments, escalated the military's presence in the Middle East and advanced the RMA. His administration's military build-up coincided with attempts to channel the human rights activism of the 1960s into a reinvigorated movement for an activist foreign policy on the Kennedy-Johnson model directed against communist regimes, which violated human rights. Drawing on deep-rooted cultural fantasies about the transformative effect of technology and ability of super-weapons to vanquish evil, the RMA provided an ingenious means of sustaining America's global empire at a limited political cost. Defining an era in which machines were reducing human manpower and solidarity, it built on Vietnam's electronic battlefield in prioritizing surveillance technologies and computer-driven targeting and precision strikes which made war seem like a pinball video game.

Fred Branfman's 1972 book, *Voices From the Plain of Jars: Life Under an Air War*, had chronicled the emotional detachment of American pilots and other military personnel engaged in this form of warfare in Laos, a sideshow of the Vietnam War.¹¹⁷ Branfman infiltrated the top secret Nakhon Phanom Royal Thai base which housed giant super-computers in a heavily fortified underground bunker that received signals from electronic sensor and radar devices and were used to select the targets for bombing. The atmosphere inside, he said, resembled a stock-market exchange, where career-oriented officers ordered attacks on Laotian rice farmers without much second thought.¹¹⁸ "If the Nazi activities represented a kind of apex to an age of inhumanity, American atrocities in Laos are clearly of a different order," Branfman wrote. "Not so much inhuman as a-human. The people of Na Nga and Nong Sa were not the object of anyone's passion. They simply weren't considered. What is most striking about American bombing in Laos is the lack of animosity felt by the killers to their victims. Most of the Americans involved have little if any knowledge of Laos or its people. Those who do rather like them."¹¹⁹ Jimmy Carter's presidency should be remembered for helping to institutionalize the kind of warfare described by Branfman in which soldiers functioned as technicians, removed

¹¹⁵Testimony of Pierre Sprey, former special assistant to assistant secretary of defense," In "Performance of High-Technology Equipment in Operation Desert Storm," April 22, 1991, Hearings Before the Committee on Armed Services, House of Representatives, 102nd Congress, 1st Session (Washington, D.C.: U.S. G.P.O., 1991), 550.

¹¹⁶Testimony of Pierre Sprey, former special assistant to assistant secretary of defense," In "Performance of High-Technology Equipment in Operation Desert Storm," April 22, 1991, Hearings Before the Committee on Armed Services, House of Representatives, 102nd Congress, 1st Session (Washington, D.C.: U.S. G.P.O., 1991), 550, 572; Pierre M. Sprey, "Evaluating Weapons: Sorting the Good from the Bad," In *The Pentagon Labyrinth*, ed. Wheeler, 111; Keith L. Shimko, *The Iraq Wars and America's Military Revolution* (New York: Cambridge University Press, 2010); Cockburn, *Kill Chain*, 46.

¹¹⁷ Branfman, *Voices from the Plain of Jars*.

¹¹⁸Interview with Fred Branfman, Tulsa, Oklahoma, March 5, 2014. The features of the top-secret base are described in Corman, *Boyd*.

¹¹⁹Fred Branfman, "The New Totalitarianism" *Liberation*, February-March-April, 1971, 1-2.

from the scene of battle. It in turn helped facilitate a perception of American omnipotence and made waging war too easy, leading ultimately to disastrous overreach.