

## The Failure of the U.S. High-Tech War on Drugs

Shortly after his 2009 inauguration, U.S. President Barack Obama renewed the U.S. commitment to Plan Mérida, a \$1.7 billion assistance program to Mexico, with a heavy emphasis on militarized policing modeled after Plan Colombia. With drones guiding military-police raids, the United States supplied Mexican law enforcement agencies with electronic signals technology, ground sensors, voice recognition gear, night-vision goggles, cell-phone tracking devices, data analysis tools, computer hacking kits, and airborne cameras that could read license plates from miles away.<sup>1</sup> This aid was in addition to surveillance aircraft satellites, ion scanners, ballistic identification systems, and over a dozen Sikorsky Black Hawk helicopters that were deployed in a 2010 operation that supposedly killed drug kingpin Nazario Moreno Gonzalez (AKA “El Chayo”), though Nazario was reported to have been killed again in March 2014.<sup>2</sup>

The Obama administration’s policy in Mexico epitomized a belief in high-tech military solutions to social and political problems reminiscent of the U.S. government’s approach to terrorism. This approach built on a long-tradition of what historian Michael Adas has called techno-hubris 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 Thomas Park Hughes put it, and where technological innovation has helped to create immense wealth, and was considered a crucial measure of superiority over nonwestern peoples.<sup>3</sup> Author Neil Postman characterized the United States as a technopoly, in which the deification of technological innovation substitutes for cultural or spiritual depth, and in which technology is considered the main solution to social problems. The danger of totalitarianism stems from a society run

1. Dana Priest, “U.S. Role at Crossroads in Mexico’s Intelligence War on the Cartels,” *The Washington Post*, April 27, 2013; Andrew Cockburn, *Kill Chain: The Rise of the High-Tech Assassins* (New York, 2015), 106.

2. Jesse Franzblau, “A Dark Legacy: Hillary Clinton’s Role in the Mexican Drug War,” *Counterpunch*, March 3, 2016; “National Southwest Border Counternarcotics Strategy Implementation Update,” 2010, last accessed February 17, 2021, [https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/swb\\_implementation10\\_0.pdf](https://obamawhitehouse.archives.gov/sites/default/files/ondcp/policy-and-research/swb_implementation10_0.pdf).

3. Michael Adas, *Dominance by Design: Technological Imperatives and America’s Civilizing Mission* (Cambridge, MA, 2006), 6, 7; Thomas Parke Hughes, *American Genesis: A Century of Invention and Technological Enthusiasm* (New York, 1989), 1–2.

by technocrats possessing boundless faith in military gadgetry and machines adopted for social control purposes as in the waging of the War on Drugs.<sup>4</sup>

Diplomatic historians have largely ignored the significance of both drug control and technology to the history of U.S. foreign policy.<sup>5</sup> The sub-field of drug history has filled the lacuna for the former, though not the latter, largely evading a discussion of technology.<sup>6</sup> In his book *Forces of Habit*, David T. Courtwright discusses the advent of a “psychoactive revolution,” rooted in the transoceanic commerce and empire-building of the early modern period, in which new technologies enabled people to “alter their ordinary waking consciousness,” and stimulate psychoactive pleasure in a way “no emperor, despot or potentate of the ancient world, however, wealthy could have matched.” This, in a society that had managed, by the twentieth century, to have “refine[d] and mass market[ed] an impressive array of psychoactive pleasures.”<sup>7</sup> No historian to date, however, has examined the flip side—how drug prohibitionists sought to counteract the psychoactive revolution through adoption of novel policing and social control technologies that failed. Nor has anyone attempted to place these efforts in the larger context of the U.S. empire and its over-reliance on information and space-age technologies such as satellite surveillance, GPS, and drones, which were also adopted in the War on Drugs.

Technology is defined by the *Oxford English Dictionary* as “machinery and equipment developed from the application of scientific knowledge.”<sup>8</sup> The over-reliance on it in fighting the War on Drugs has been combined with an under-reliance on the human component. Law enforcement officers have neglected to address the roots of the drug problem and have dehumanized their targets in a manner that has led to human rights abuses—like in other wars. Myles Ambrose, the U.S. Customs Commissioner in the early 1970s, characteristically referred to drug smugglers as “creeps” and stated that “we don’t go in for sociological roundtables.”<sup>9</sup> The smugglers, meanwhile, have been able to appropriate policing and other technologies along with other crafty maneuvers to evade capture, which has repeatedly frustrated law enforcement. The War on Drugs is thus a good lens for understanding the limits of U.S. international policing capabilities and the perils of an over-reliance on social control technologies, which have bred dystopian outcomes.

4. See Neil Postman, *Technopoly: The Surrender of Culture to Technology* (New York, 1992).

5. The neglected importance of technology was elucidated by Walter LaFeber in “Technology and U.S. Foreign Relations,” *Diplomatic History* 24, no. 1 (2002): 1–19.

6. See Matthew Pembleton, *Containing Addiction: The Federal Bureau of Narcotics and Origins of America’s Drug War* (Amherst, MA, 2017); Daniel Weimer, *Seeing Drugs: Modernization, Counterinsurgency, and U.S. Narcotics Control in the Third World, 1969–1976* (Kent, OH, 2011); William O. Walker III, *Opium and Foreign Policy: The Anglo-American Search for Order in Asia, 1912–1954* (Chapel Hill, NC, 1991).

7. David T. Courtwright, *Forces of Habit: Drugs and the Making of the Modern World* (Cambridge, MA, 2001), 2.

8. *Oxford English Dictionary*, third edition (Oxford, 2009), s.v. “Technology.”

9. Quoted in Andrew Tully, *The Secret War Against Dope* (New York, 1973), 52.

THE FAILURE OF SCIENTIFIC POLICING IN THE CLASSIC ERA  
OF NARCOTICS CONTROL

As befitting a country that has been at war for much of its history, fascination with military weaponry runs deep in U.S. history and culture. From the Civil War through World War I, dime novels reached hundreds of millions of readers celebrating the archetype of the lone inventive genius who saves U.S. society from foreign villains through the development of magic new weapons. These weapons have ranged from explosive filled projectiles and shells, to newly cultivated viruses, to anti-gravity radio planes, to rocket and liquid helium pistols—as in the influential Buck Rogers comic series of the 1920s and 1930s.<sup>10</sup> A counterpart to these stories was the serialized crime-fighter series, “Dick Tracy,” about an ace detective who uses forensics science, a radio watch, and later a spacecraft to solve crimes, and “Craig Kennedy, Scientific Detective,” running from 1912–1935 in which the “American Sherlock Holmes” makes use of a knowledge of chemistry and gadgets like lie detector tests, gyroscopes, plethysmographs (deception tests), and portable seismographs.<sup>11</sup>

Many U.S. drug warriors in the “classic” era of narcotic control (1930s–1960s) grew up reading these stories and bought into the mystique surrounding scientific policing and military gadgetry. Charles Siragusa, a legendary Italian Federal Bureau of Narcotics (FBN) officer with ties to the CIA, once suggested a novel method of tailing suspects by dusting people, vehicles, money, or contraband with radioactive powders and using a Geiger counter (an instrument for detecting radiation) to track them.<sup>12</sup> FBN director Harry J. Anslinger expressed interest in developing methods of inserting chemical markers into ingredients used in heroin manufacturing, which would permit seized heroin to be tracked back to its point of origin.<sup>13</sup>

From the 1930s onwards, the War on Drugs relied heavily on electronic listening devices which were first approved in drug cases in 1934 by U.S. Secretary of the Treasury Henry Morgenthau, a prime mover behind the federal ban on marijuana. Morgenthau said that “we do not propose to be sissies,” suggesting that civil liberties were not going to be prioritized.<sup>14</sup> The subsequent

10. See H. Bruce Franklin, *War Stars: The Superweapon in the American Imagination*, revised edition (Amherst, MA, 2008); H. Bruce Franklin, *Robert A. Heinlein—America as Science Fiction* (New York, 1980).

11. Garyn G. Roberts, *Dick Tracy and American Culture: Morality and Mythology, Text and Context* (Jefferson, NC, 2003); Arthur B. Reeve, *Craig Kennedy—Scientific Detective, Vol 1: The Poisoned Pen and the Silent Bullet* (New York, 2010). See also discussion in Geoffrey C. Bunn, *The Truth Machine: A Social History of the Lie Detector* (Baltimore, MD, 2012), 113.

12. Pembleton, *Containing Addiction*, 107; Charles Siragusa, as told to Robert Wiedrich, *The Trail of the Poppy: Behind the Mask of the Mafia* (Englewood Cliffs, NJ, 1966).

13. Pembleton, *Containing Addiction*, 107.

14. “Morgenthau Favors Tapping of Wires in Treasury Agents ‘War on Narcotics,’” *The New York Times*, October 15, 1934, box 146, Subject Files: Bureau of Narcotics and Dangerous Drugs, Record Group 170: Records of the Drug Enforcement Administration (hereafter RG 170), U.S. National Archives, College Park, MD (hereafter USNA); Pembleton, *Containing*

passage of the Communications Act made the wiretapping of telephones illegal, though U.S. President Franklin Roosevelt gave Federal Bureau of Investigation (FBI) Director J. Edgar Hoover executive authority to wiretap when necessary involving the defense of the nation.<sup>15</sup>

Much of the early wiretapping equipment featured a head set and an instrument for picking up dials and numbers and clips for cutting in on the line.<sup>16</sup> In the 1930s, Western Electric Company (later part of AT&T), a pioneer in the development of radar and sonar systems, developed a \$335 portable observing set adopted by the FBN. It preserved the record of calls dialed on a line under observation in a single area by means of a single circuit high speed pen register and a pulsing arrangement together with conductor clips connected with one side of the line. The number dialed was recorded by a series of dots and spaces.<sup>17</sup>

By the 1940s, the FBN was able to plant a concealed microphone in the premises of a suspect and connect a wire to an observation post in which agents could listen through a receiver and record the conversation with radio equipment.<sup>18</sup> Senate hearings subsequently uncovered the existence of an olive-in-a-martini bug, where the olive served as the transmitting unit and the toothpick as the antenna. With the invention of the transistor, FBN agents could also plant a miniature post-sized bug that could be placed under a chair, TV set, or even in lipstick, and a dart bug containing a tiny transmitter which could be embedded in the window or door-frame of an otherwise inaccessible building.<sup>19</sup>

FBN agent James Mulgannon was characteristic in his belief that “listening devices and telephone taps were of inestimable value to law enforcement officers when used in proper channels.”<sup>20</sup> In his memoir, he recounts the implementation of those devices through the pipes of apartment complexes and discusses

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*Addition*, 107. On Morgenthau, see Herbert Levy, *Henry Morgenthau Jr.: The Remarkable Life of FDR's Secretary of the Treasury* (New York, 2010).

15. William Turner, *Invisible Witness: The Use and Abuse of the New Technology of Crime Investigation* (Indianapolis, IN, 1967), 176, 177. See also Samuel Dash, Richard F. Schwartz and Robert E. Knowlton, *The Eavesdroppers* (New Brunswick, NJ, 1959).

16. “Morgenthau Favors Tapping of Wires in Treasury Agents ‘War on Narcotics’”; Turner, *Invisible Witness*, 180, 181.

17. C.H.L. Sherman to Mr. Anslinger, Ottawa, October 2, 1934, box 146, Subject Files: Bureau of Narcotics and Dangerous Drugs, RG 170, USNA. On Western Electric’s history, see Stephen B. Adams and Orville R. Butler, *Manufacturing the Future: A History of Western Electric* (New York, 1999).

18. J.F. Farley Admiral U.S. Coast Guard, Memo for Frank J. Wilson, Acting Chief Coordinator, Treasury enforcement Agency, Washington D.C., June 25, 1948 box 146, Subject Files: Bureau of Narcotics and Dangerous Drugs, RG 170, USNA; Garland Williams to Harry J. Anslinger, Bureau of Narcotics, September 17, 1946, box 146, Subject Files: Bureau of Narcotics and Dangerous Drugs, RG 170, USNA.

19. Turner, *Invisible Witness*, 187, 188; Brian Hochman, “Eavesdropping in The Age of the Eavesdropper; or, the Bug in the Martini Olive,” *Post45*, February 3, 2016, last accessed February 17, 2021, <https://post45.org/2016/02/eavesdropping-in-the-age-of-the-eavesdroppers-or-the-bug-in-the-martini-olive/>; John Neary, “The Big Snoop,” *Life*, May 20, 1966, 38–47.

20. James Mulgannon, *Uncertain Glory* (New York, 1972), 137.

the utility of the Marquis Regent testing kit which used a mixture of formaldehyde and concentrated sulfuric acid dripped into the substance being tested to identify opium, heroin, and other illicit substances.<sup>21</sup>

Despite these and other innovations, the drug traffic continued to flourish. Drug smuggling was a “very ingenious and resourceful business,” according to Harry Anslinger. “All the tricks and ruses of the professional magician, all the devices and inventions of Houdini himself, seem tame and unimaginative besides the innumerable dodges and disguises thought up by the tribe of international drug traffickers.”<sup>22</sup> Houdini would have no doubt been impressed by the concealment of illegal narcotics in neckties, fountain pens, watches, cosmetics, door-knobs, and chandeliers, among other places. The pockets of trousers, handkerchiefs, and sheets of paper were also in some cases saturated with a concentrated solution of a narcotic, thus assuring a supply in case of detention.<sup>23</sup>

Despite all the investment in policing technologies, the media reported on the wide availability of illicit drugs through the 1960s, quoting from kids who stated that they “were like water, you don’t have trouble getting them.”<sup>24</sup> The reason was that the demand for the drugs remained high. Treatment and prevention programs were underfunded and frequently coercive or ineffective, schools often lacked innovative curricula, leaving kids bored, police corruption was pervasive, and U.S. allies were corrupt.<sup>25</sup> The techno-scientific and law enforcement approach, though doomed to fail, remained enduring.

#### TECHNO-FIX TO THE PROBLEM OF THE “ADDICTED ARMY”

During the late 1960s, a new moral panic about drugs emerged after stories started coming out about the addiction of U.S. soldiers serving in Vietnam.<sup>26</sup> The administration of U.S. President Richard Nixon responded characteristically by adopting an antidrug strategy that relied heavily on new social control technologies rather than attempting to address the roots of the problem or to end the war.

On June 18, 1971, following the release of a Congressional report making the exaggerated claim that ten to fifteen percent of U.S. soldiers were using

21. Mulgannon, *Uncertain Glory*.

22. Harry J. Anslinger and William Tompkins, *The Traffic in Narcotics* (New York, 1953), 141.

23. Anslinger and Tompkins, *The Traffic in Narcotics*, 172.

24. Robert P. Goldman, “Dope Invades the Suburbs,” *The Saturday Evening Post*, April 4, 1964, 19–25; Matthew Lassiter, “Impossible Criminals: The Suburban Imperatives of America’s War on Drugs,” *Journal of American History* 102, no. 1 (2015): 126–140.

25. See Nancy Campbell et. al, *The Narcotic Farm: The Rise and Fall of America’s First Prison for Drug Addicts* (Lexington, KY, 2021); Paul Goodman, *Growing Up Absurd: Problems of Youth in the Organized System* (New York, 1962); Douglas Valentine, *The Strength of the Wolf: The Secret History of America’s War on Drugs* (London, 2006); Alfred W. McCoy, *The Politics of Heroin: CIA Complicity in the Global Drugs Trade*, rev ed. (New York, 2003)

26. Jeremy Kuzmarov, *The Myth of the Addicted Army: Vietnam and the Modern War on Drugs* (Amherst, MA, 2009).

heroin, the Nixon administration sent Dr. Jerome Jaffe, head of the newly created Special Action Office of Drug Abuse Prevention (SAODAP), to institute a urinalysis testing program in Vietnam called Operation Golden-Flow. Dubbed “the Grand Inquisitor of the national anti-drug crusade” by drug war critic Dr. Thomas Szasz, Dr. Jaffe was a liberal pharmacologist who served as director of the Illinois Department of Mental Health’s Drug Abuse program. He had played a part in the creation of the Free Radical Assay Technique (FRAT), which he considered a contribution to science “equivalent to the discovery of X-Rays and a cure for tuberculosis.”<sup>27</sup>

The FRAT was developed by Syva Corporation, a research institute in Palo Alto, California jointly owned by Syntax Laboratories and Varian Instruments, whose sales came to total over \$40 million. Under the FRAT, a technician would deposit the soldier’s urine sample in a lab into an oxidizing agent, transfer it to a second cup containing a morphine antibody, and then draw the fluid into a capillary tube placed in the well of a spectrometer (a scientific instrument used to separate and measure spectral components of a physical phenomenon). An operator pressed a button and thirty seconds later the machine could trace out a reading, leading to a positive or negative identification for heroin. The army subsequently adopted a more sophisticated procedure known as thin layer chromatography (TLC) and gas liquid chromatography (GLC) to confirm positive tests and then replace FRAT. The latter techniques involved separating mixtures into individual components using laboratory techniques to help identify the compound and substance purity.<sup>28</sup>

Historian Nancy Campbell characterized the urinalysis tests as a part of the “technology of suspicion,” which flowed from the military to U.S. society, and paved the way for greater social control.<sup>29</sup> The main beneficiaries were the Syva Corporation and labs contracted by the army: Reference Lab in Washington, D.C.; United Medical Lab in Portland, Oregon; and Biochemical Procedures in North Hollywood, California, which charged \$1.68 per sample and created demand for expensive new testing equipment. Journalist Michael Getler wrote in *The Washington Post* that the “worldwide increase of urine sample taking appears

27. Kuzmarov, *The Myth of the Addicted Army*, 129; Thomas Szasz, *Ceremonial Chemistry: The Ritual Persecution of Drugs, Addicts, and Pushers* (New York, 1973), 120.

28. Dana Adams Schmidt, “Army Expanding Drug Abuse Test: Urinalysis Program Set for U.S. and Europe,” *The New York Times*, July 12, 1971; Dana Adams Schmidt, “Nixon’s Drug Control Plan Introduced into Congress,” *The New York Times*, June 19, 1971, 40; “Unmasking Addicts Among the Troops—Heroin Detector Mass-Screening GIs in Vietnam,” *Medical World News*, July 16, 1971; “Spin Labels and Assays,” *Chemical and Engineering News*, February 22, 1971, reprinted in *Drug Abuse in the Military: Hearings Before the U.S. Senate, Committee on Armed Services*, 92nd Congress, Second Session, September 19, 1972 (Washington, D.C., 1972); Abbie Hoffman, *Steal This Urine Test: Fighting Drug Hysteria in America* (New York, 1987), 178, 179.

29. Nancy D. Campbell, “Technologies of Suspicion: Coercion and Compassion in Post-Disciplinary Surveillance Regimes,” *Surveillance and Society* 2, no. 1 (2004): 78–92.

to be creating a sort of mini-military industrial complex in the field, with processors reporting a surge in sub-contracts for items like shipping containers.”<sup>30</sup>

These comments underscore the capitalist, profit-oriented imperative underlying the boom in new social control technologies. Hippie Abbie Hoffman wrote of urine as the “literal and figural gold rush of the 1980s,” as testing evolved, like wiretapping before it, into a multi-million-dollar industry. One of the more frightening machines, “coming right out of George Orwell’s 1984,” he said, was a computer-like device which measured brain wave data as influenced by drugs.<sup>31</sup>

Most soldiers resented the tests in Vietnam because a positive identification of heroin meant ten extra days in-country in an army treatment program considered little more than a brutal incarceration.<sup>32</sup> To help pass the test, some soldiers diluted their systems with alcohol, quit cold turkey in advance, or purchased negative samples on the “black market” for clean urine that had developed. Michael Cook, a chromatographer responsible for compiling test data, referred to the laboratory at Tan Son Nhut as a “circus” where “chaos prevailed.”<sup>33</sup> The technology was still imperfect and there was poor management commensurate with the broader military breakdown.<sup>34</sup>

Favoring the expansion of drug testing into schools and other institutions, Dr. Jaffe was a zealous proponent of methadone maintenance, a synthetic substance designed to wean patients off heroin.<sup>35</sup> Dr. Roger Smith, a criminologist at the University of California, Berkeley, remarked: “We’re increasingly placing our faith in chemicals, gadgets and technology to control behavior which we define as deviant. The primary focus on the national level seems to be the imposition of more and more social control.”<sup>36</sup>

This social control extended to the development of high-tech surveillance equipment to fight drug traffickers. U.S. police forces in this period came to deploy tear and pepper gas against drug suspects, helicopters with “night sun” lights that could illuminate the area of a baseball field at three to six hundred feet, infrared detection, sniper and other rifles capable of penetrating a brick wall, and walkie talkies formerly used by the army.<sup>37</sup> The Law Enforcement

30. Michael Getler, “GIs Urine Tests Produce Lab Boom,” *The Washington Post*, September 13, 1971.

31. Hoffman, *Steal This Urine Test*, 176, 180.

32. Dr. Richard Kunnes, *The American Heroin Empire: Power, Profits and Politics* (New York, 1972), 34, 169.

33. Author Interview with Michael Cook, March 2010.

34. See David T. Courtright, *Soldiers in Revolt: GI Resistance During the Vietnam War* (New York, 1975).

35. Kuzmarov, *The Myth of the Addicted Army*, 110; Dorothy Belkin, *Methadone Maintenance: A Technological Fix* (New York, 1973). Under Jaffe’s direction, Nixon funded 73,000 methadone treatment slots in the United States.

36. Kuzmarov, *The Myth of the Addicted Army*, 111.

37. Patty Hirota, “New Police Technologies,” *Science for the People*, March/April 1983, 25–29; Anthony Platt and Lynn Cooper ed., *Policing America* (Englewood Cliffs, NJ, 1974);

Assistance Administration (LEAA) budget increased from \$63 million in 1969 to \$1.75 billion in 1973, giving incentive for the private sector to manufacture cutting edge policing technologies.<sup>38</sup> Drug expert Richard Kunnes wrote that “surveillance equipment for the home drug front is a particularly easy transfer and expansion of Vietnam technology.”<sup>39</sup> As an example, the RPC Corporation of El Segundo, California developed a “bioluminescent heroin sniffer” that made use of a plankton which would emit certain electronic signals when it smelled heroin.<sup>40</sup> It was modeled after the infamous people sniffer machines developed by General Electric (GE) that were used to hunt the “Vietcong” by detecting their urine.<sup>41</sup>

In 1973, despite all the highly sophisticated policing technology, the Drug Enforcement Administration (DEA) acknowledged that it was intercepting merely fifteen percent of drugs crossing the Mexican border, the main hub for drugs following the end of the Indochina War.<sup>42</sup> The ingenuity of traffickers and the “insatiable North American nose” helped account for the low totals, along with the CIA’s obstructing the investigation of some of its key “assets.”<sup>43</sup> Egil Krogh, a deputy assistant to Nixon who oversaw the War on Drugs, suggested that enforcement was like “squeezing a balloon. You squeeze it in one place and it will bulge out in another.”<sup>44</sup>

“NOT LESS TECHNOLOGY BUT MORE”: THE WAR ON DRUGS  
SINCE NIXON

The horrors of the Vietnam War prompted a generation of activists to rethink the role of technology and society. Historian Matthew Wisnioski notes that “not since the machine breaking uprisings of the early 19<sup>th</sup> century had so many citizens perceived technology as a force to be resisted.”<sup>45</sup> The U.S. Army,

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Elizabeth Hinton, *From the War on Poverty to the War on Crime: The Making of Mass Incarceration in America* (Cambridge, MA, 2016), 146; Turner *Invisible Witness*, 208, 212.

38. Hinton, *From the War on Poverty to the War on Crime*, 146.

39. Kunnes, *The American Heroin Empire*, 36.

40. Kunnes, *The American Heroin Empire*, 35.

41. “Applied Science: Sniffing Out the Enemy,” *Time Magazine*, June 9, 1967.

42. The DEA was the successor to the Federal Bureau of Narcotics established by the Nixon administration in 1973.

43. See Kuzmarov, *The Myth of the Addicted Army*; Douglas Valentine, *The Strength of the Pack: The Personalities, Politics and Espionage Intrigues that Shaped the DEA* (Walterville, OR, 2010); and Peter Dale Scott and Jonathan Marshall, *Cocaine Politics: Drugs, Armies and the CIA in Central America* (Berkeley, CA, 1998) which details the case of Mexico’s intelligence chief, Miguel Nazer Haro, a CIA asset implicated in a drugs-car smuggling ring.

44. Kuzmarov, *The Myth of the Addicted Army*, 119; “Special Report on Peter Bourne and ODAP,” February 5, 1977, box 41, Peter Bourne Papers (hereafter PBP), Jimmy Carter Presidential Library, Atlanta, GA (hereafter JCL).

45. Matthew Wisnioski, *Engineers for Change: Competing Visions of Technology in 1960s America* (Cambridge, MA, 2012), 4; Steven E. Jones, *Against Technology: From the Luddites to Neo-Luddism* (New York, 2006).

however, had concluded from its humiliating defeat in Vietnam that it “needed not less technology but more.”<sup>46</sup> 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 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.”<sup>47</sup>

The Pentagon went into high gear after Vietnam trying to fulfill Sullivan’s technocratic fantasy, which was extended to the fight against drugs. U.S. President Jimmy Carter’s administration (1977–1981) deployed fixed radar equipment and tactical enforcement selectivity teams (TEST), for example, that made use of new computer software to develop profiles of traffickers and prevent the smuggling of illicit drugs in cargo. It further contracted with Spectral Data Corporation to develop photomosaic maps in collaboration with the National Aeronautics and Space Administration (NASA) indicating the location of poppy fields, which were defoliated by Bell helicopters with the chemical herbicide 2,4 D.<sup>48</sup>

On the Mexican border, the Carter administration extended a sixty-five-mile electronic fence, modeled after Vietnam’s electronic battlefield, in which acoustic sensors were linked with computerized police command centers and drones.<sup>49</sup> U-2 spy planes were also sent to test infrared filter combinations on poppy fields photographed from high altitudes at various stages in the growth

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

47. Noam Chomsky, *At War with Asia: Essays on Indochina* (New York, 1969), 91, 92; Paul Dickson, *The Electronic Battlefield* (Bloomington, IN, 1976), 41.

48. Federal Response to Drug Trafficking in the Southeastern United States, Review of 1979 Activities, box 37, PBP, JCL; “ODAP: Intelligence on Narcotics Control and Interdiction,” September 23, 1977, Box 43, Mexico, PBP, JCL; “Operational Eradication Efforts in Mexico: Cautious Optimism Advised,” Report, Comptroller General of the United States, December 1975, box 40, Mexico, PBP, JCL; “Report on Mexican Eradication,” April 25, 1978, box 40, Mexico, PBP, JCL. See also Daniel Weimer, “The War on Plants: Drug Control, Militarization, and the Rehabilitation of Herbicides in U.S. Foreign Policy from Ranch Hand to Plan Colombia,” in *Proving Grounds: Militarization, Landscapes, Weapons Testing and the Environmental Impact of U.S. Bases*, ed. Edwin Martini III (Seattle, WA, 2015), 143. 2,4 D was manufactured by Dow and included ingredients formerly used in Agent Orange. In 2015, the World Health Organization (WHO) determined that it was “possibly carcinogenic to humans.” See “Herbicide 2,4-D ‘possibly’ causes cancer, World Health Organisation study finds,” *The Guardian*, June 22, 2015, last accessed February 17, 2021, <https://www.theguardian.com/environment/2015/jun/23/herbicide-24-d-possibly-causes-cancer-world-health-organisation-study-finds>.

49. Dickson, *The Electronic Battlefield*, 138; Kunnes, *The American Heroin Empire*, 34.

cycle to be able to determine when they would blossom. At the main fields targeted in Yuma, Arizona, workers harvested the crop the night before the planned sting, however, slipping back into Mexico freely.<sup>50</sup>

The administration of U.S. President Ronald Reagan (1981–1989) followed Carter's by establishing a scientific board devoted to the War on Drugs, which sponsored development of data encryption systems and scanners capable of detecting drugs in sea, land, and air cargo containers along with 3D radar on naval ships.<sup>51</sup> A 1987 report prepared for the Senate Committee on Appropriations stressing the importance of technical innovation to drug interdiction spotlighted the use of seismic, infrared, and magnetic remote ground sensors along the U.S.-Mexican border, which could detect soil disturbances, heat emissions, and metal, and were connected to computer base stations that possessed secure communications and data links. X-ray machines, airborne sensors, and advanced radar systems were also adopted for drug interdiction along with radar surveillance aircraft, which could lock on and track targets using a laser-enhanced TV and an aerostat mounted radar (a tethered balloon supporting a radar antenna) in the Bahamas, that provided the Customs Department with surveillance information extending off the Florida coast.<sup>52</sup>

In 1983, however, Customs seized only one percent of all drug flights, at a time that sixty to eighty tons of cocaine were being smuggled into the United States each year.<sup>53</sup> Part of the cartels' success stemmed from their ability to appropriate cutting edge policing technologies to their own advantage. Max Mermelstein, an American liaison to the Cali cartel, bragged in his memoir that in the 1980s his gang had the most sophisticated radio scanners, receivers, and transmitters, which enabled them to track all police communications. They set up a monitoring station in the penthouse of a high rise in Haulover Cat off Miami Beach equipped with a high-powered telescope and night vision glasses for visual observation, and kept spotter planes in the air when a haul of cocaine was coming in.<sup>54</sup> Legendary smuggler Barry Seal further bragged to a Pentagon panel that he had used "pocket sized digital encryption devices to send coded

50. Ben S. Rich and Leo Janos, *Skunk Works: A Personal Memoir of My Years at Lockheed* (Boston, MA, 1994), 190.

51. George C. Wilson, "Agencies Intensify Battle to Secure Key Roles in Antidrug Effort," *The Washington Post*, April 28, 1987; Naval War College, War Gaming Department, Report of Drug Interdiction Game, 1988, September 12–16, 1988, box 2, Counter-Terrorism and Narcotics, National Security Council, Ronald Reagan Presidential Library, Simi Valley, CA (hereafter RRL).

52. United States Congress, Office of Technology Assessments, "The Border War on Drugs," March 1987 (Washington, D.C., 1987); Gerald Godshaw, Ross Koppell, Russell Lancoast, "Anti-Drug Law Enforcement Efforts and their Impact: for U.S. Customs Service," box 26, Richard Williams Papers, RRL.

53. Godshaw, Koppell, Lancoast, "Anti-Drug Law Enforcement Effort and their Impact for U.S. Customs Service," National Drug Policy Board, Progress Report, 1987, July 1988, box 26, Richard Williams Papers, RRL.

54. Max Mermelstein, as told to Robin Moore and Richard Smitten, *The Man Who Made it Snow* (New York, 1990), 153, 154.

telephone messages” and fitted his aircraft with fuel bladders, secret trap doors, Loran C radar altimeters, and beacon interrogating digital radar and high frequency satellite communication devices used on Air Force B-52s, which enabled him to make over 1,000 drug flights without being intercepted.<sup>55</sup>

In the twenty-first century, drug cartels have amassed profits of over \$3 billion per year.<sup>56</sup> César Gaviria, the former President of Colombia, told a researcher that the Cali cartel had for years made use of sophisticated encryption techniques that were “far ahead of the methods we had in the government.”<sup>57</sup> It also amassed sophisticated spy cameras and private cellular networks run by solar power-generated antennae hidden in remote locations, and developed the ability to jam GPS signals, and even spoof homeland security drones.<sup>58</sup> When the Obama administration built an electronic fence in Arizona along the border, the Sinaola cartel used a more ancient technology, catapults, to launch drugs over the fence. Michael Braun, DEA chief of operations, told a reporter: “We’ve got the best fence money can buy, and they counter us with a 2,500-year-old technology.”<sup>59</sup>

These comments put in context the techno-hubris of U.S. drug warriors whose fancy gadgetry could be outwitted, in some cases, by pre-modern technology. Just like in Vietnam, in a war of men versus machines, the men were winning. The problem boiled down to the continued heavy demand for drugs in a society marred by increasing inequality and the singular minded focus on developing new social control technologies for policing, rather than attempting to try and help people who might have a drug problem, or adequately funding social programs capable of alleviating inequalities that drive young men into the drug industry. In his book *Chasing the Scream*, journalist Johann Hari relates an experiment undertaken by drug researcher Bruce Alexander, in which rats who are left in isolation ingest narcotic drugs given to them, while those who are

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55. Ambrose Evans-Pritchard, *The Secret Life of Bill Clinton: The Unreported Stories* (Washington, D.C., 1997), 319; Richard Odom, *Circle of Death: Clinton’s Climb to the Presidency* (Lafayette, LA, 1995), 63. Seal smuggled drugs as part of the CIA’s Contra supply operation in Nicaragua, which then-Arkansas Governor Bill Clinton helped cover up.

56. Dana Priest and William M. Arkin, *Top Secret America: The Rise of the New American Security State* (Boston, MA, 2011), 130, 131, 138.

57. Mosés Naím, *Illicit: How Smugglers, Traffickers, and Copycats are Hijacking the Global Economy* (New York, 2006), 21; Tom Wainwright, *Narcconomics: How to Run a Drug Cartel* (New York, 2017).

58. Naím, *Illicit*, 23; Lukas Mikelianis, “Drug Cartels Using Drones to Smuggle Drugs at Border,” *Fox News*, January 3, 2018, last accessed February 17, 2021, <https://www.foxnews.com/us/drug-cartels-using-drones-to-smuggle-drugs-at-border>; Danielle Muoio, “Here’s All the High-Tech Gear Cartels Use to Sneak Drugs Into the U.S.,” *Business Insider*, July 20, 2016, last accessed February 17, 2021, <https://www.businessinsider.com/cartels-use-tech-to-sneak-drugs-into-the-us-2016-7>.

59. Brian Anderson, “Catapults and Jalapenos: The Ingenious Smuggling Tech of the World’s Top Drug Kingpin,” *Motherboard*, June 18, 2012, last accessed February 17, 2021, <http://motherboard.vice.com/read/the-ingenious-smuggling-tech-of-the-worlds-top-drug-kingpin>; William Booth and Juan Ferero, “Semi-Subs Stealthily Plying the Pacific,” *The Washington Post*, June 6, 2009, A1, A7.

provided with games to play and other rats to interact with, do not.<sup>60</sup> The lesson is that the drug problem could be eradicated through better living conditions and human connections, rather than through more social control technologies.

U.S. beliefs in the superiority of military technology draw off European colonial traditions and the United States' history as a settler colonial state which effectively pacified the native population because it had the stronger weapons.<sup>61</sup> The country's drug warriors have long relished in their role as "technological Bonnies and Clydes," firm in their belief that the latest gadget will prevail against an enemy that comes in the form of natural grown plants or synthetic chemical substances that have been consumed by humans for a long, long time.<sup>62</sup> Physician Dr. Andrew Weil wrote in his 1972 book *The Natural Mind*: "That humanity at large will ever be able to dispense with artificial paradises seems very unlikely. Most men and women lead lives at the worst so painful and at best so monotonous, poor and limited, that the urge to escape, the longing to transcend themselves, if only for a few moments, is and has always been one of the principal appetites of the soul."<sup>63</sup> Seen in this context, the War on Drugs is the ultimate foreign policy quagmire, which lays bare the illusion about technological superiority upon which the "American Century" has been rooted.

60. Johann Hari, *Chasing the Scream: The Opposite of Addiction is Connection* (New York, 2016).

61. Michael Adas, *Machines as the Measure of Man: Science, Technology, and Ideologies of Western Dominance* (Ithaca, NY, 1999); Walter Hixson, *American Settler Colonialism: A History* (New York, 2015).

62. Michael Smith, "Recourse of Empire: Landscapes of Progress in Technological America," in *Does Technology Drive History? The Dilemma of Technological Determinism*, ed. Leo Marx (Boston, MA, 1994), 38.

63. Andrew T. Weil, *The Natural Mind: A New Way of Looking at Drugs and the Higher Consciousness* (Boston, MA, 1972), 27.