

BOOK REVIEW

Dawn of the Intercontinental Sniper: The Drone's Cascading Contribution to the Modern Battlefield's Complexity

PREDATOR: THE SECRET ORIGINS OF THE DRONE REVOLUTION. By Richard Whittle.
Henry Holt & Co., New York, 2014, pp 353. \$30.00.

Reviewed by Steven L. Schooner* and Nathaniel E. Castellano**

This is the story of the first armed drone ever to be flown by intercontinental remote control and used to kill human beings on the other side of the globe.¹

INTRODUCTION

Rarely do mainstream publishers offer heavily researched, non-fiction case studies involving national security, defense acquisition, and international law. Nor do most books in these disciplines leave readers eagerly anticipating a forthcoming action movie.² So kudos to author Richard Whittle for crafting a thrilling and highly informative history of technological innovation, government contracting, and weapons system development and deployment. This well-written and thought-provoking book offers anecdotes for examination of a plethora of complex issues in national security and international law. The military's senior service schools and academies would be well served to incorporate *Predator* into their reading lists. It is easy to imagine a semester-long

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1. RICHARD WHITTLE, PREDATOR: THE SECRET ORIGINS OF THE DRONE REVOLUTION 5–6 (2014).

2. It is difficult to avoid reference to popular culture when discussing a weapons system that many believed was named after an action movie:

Neal Blue wanted to call his pet project the Birdie, because “birdies go cheep, cheep, cheep.” Potential military and international customers, he was sure, would get the pun and appreciate the point that this was going to be a very inexpensive weapon Early one morning, [however, before a test flight, Cassidy] walked to the tail and smoothed on a sticker bearing the new appellation. Later, Cassidy and the Blue brothers would insist it was pure coincidence that an Arnold Schwarzenegger movie set in Central America and released within days of their first meeting . . . was also called *Predator*.

Id. at 46.

capstone seminar at the National Defense University (NDU) Eisenhower School³ based solely on the cornucopia of issues raised in this book.

This review essay introduces prospective readers to a handful of the captivating characters that propel the Predator saga; identifies some of the many interesting national security and international law issues raised in Whittle's book; offers a disturbing anecdote about the extent to which the government's post-millennial outsourcing has eroded the government's monopoly over the use of force; paints a pessimistic picture of the Defense Acquisition System; and concludes that a broad range of sophisticated readers will enjoy Whittle's excellent new book, *Predator*.

I. GREAT STORIES INVOLVE REMARKABLE PEOPLE

*This is the drone revolution's book of genesis, and like another creation story it opens near the confluence of the rivers Tigris and Euphrates. It begins with a boy in Baghdad.*⁴

Readers familiar with his first book, *The Dream Machine*, already know that Whittle believes effective storytelling depends upon animating compelling characters.⁵ Three examples amply demonstrate this point. First, the lyrical quote above introduces Abraham (Abe) Karem, a Baghdad-born Israeli engineer equipped with a unique combination of skill, confidence, interest in a niche-to-nascent field,⁶ and a fierce independent—or anti-establishment—streak.⁷ Karem's early interest in model gliders and his later inability to remain constrained by the bureaucracies of the Israeli Air Force and Israel Aerospace Industries led to his emigration to the United States and paved the way for the Predator's evolution.

3. "The Eisenhower School prepares selected military and civilians for strategic leadership and success in developing our national security strategy and in evaluating . . . and managing resources in the execution of that strategy." THE EISENHOWER SCHOOL, <http://www.ndu.edu/Academics/CollegesCenters/TheEisenhowerSchool.aspx>.

4. WHITTLE, PREDATOR, *supra* note 1, at 6.

5. RICHARD WHITTLE, THE DREAM MACHINE: THE UNTOLD STORY OF THE NOTORIOUS V-22 OSPREY (2010); see also Steven L. Schooner & Nathaniel E. Castellano, *Review Essay: Reading the Dream Machine: The Untold Story of the Notorious V-22 Osprey, by Richard Whittle, in Light of the Defense Acquisition Performance Study*, 43 PUB. CONT. L. J. 391 (2014).

6. "[H]e believed himself not only the best engineer in aeronautics but probably the best engineer of any kind in all of Israel . . . [H]e had been a model aircraft hobbyist since his teens, and . . . his specialty was a type of aircraft whose sole objective was endurance." WHITTLE, PREDATOR, *supra* note 1, at 15.

7. "Karem believed that RPVs were one type of aircraft a lone inventor could still develop in a garage . . ." *Id.* at 19.

Similarly, the Blue brothers,⁸ Linden and Neal, the eventual owners of the company that builds the Predator,⁹ lived lives made for entertaining biography. In college, the brothers were featured on the cover of *Life* magazine for their exploits piloting a four-seat, fabric-covered Piper aircraft through a forty-four stop, 110-day Latin American expedition.¹⁰ Remarkably, the brothers ultimately encountered the Nicaraguan rebels' efforts to overthrow the Sandinistas, an experience that convinced Neal Blue that GPS-guided flying bombs might be a useful covert weapon.¹¹ Theirs is a remarkable tale of kismet and moxie.

Finally, Whittle introduces Commander Kirk S. Lippold, who was serving as captain of the *USS Cole* when, on October 12, 2000, al Qaeda suicide bombers blew a hole in the side of his ship, killing seventeen sailors.¹² Lippold first visited the Central Intelligence Agency (CIA) headquarters at 6:30 a.m. on September 11, 2001. Shortly after 7:00 a.m., Lippold bemoaned the public's underestimation of Osama bin Laden: "I believe it is going to take a seminal event, probably in this country, where hundreds, if not thousands, are going to have to die before Americans realize we're at war with this guy."¹³ Not long after nine o'clock that morning, Lippold's CIA host remarked: "Kirk, I can't believe you said what you did this morning . . . I think the seminal event has just happened."¹⁴ Yet again, Whittle's writing exemplifies the adage: Truth is stranger than fiction.

II. TECHNOLOGICAL EVOLUTION AND DISAGGREGATION MAKES FOR STRANGE NATIONAL SECURITY POLICY

*[The Predator] enabled the U.S. government to hunt down . . . enemies of the state by remote control. Critics see it more darkly, as a weapon that the United States has wielded to assassinate people without accountability.*¹⁵

8. Not to be confused with the Blues Brothers of film and music fame.

9. *Id.* at 41–44. See generally *Unmanned Aircraft Systems and Sensors*, GENERAL ATOMICS, <http://www.ga.com/unmanned-aircraft-systems-and-sensors>; *Aircraft Platforms*, GENERAL ATOMICS, <http://www.ga-asi.com/products/aircraft/predator.php>.

10. WHITTLE, PREDATOR, *supra* note 1, at 33–34. See generally Di Freeze, *Linden Blue: From Disease-Resistant Bananas to UAVs*, AIRPORT JOURNALS, <http://airportjournals.com/linden-blue-from-disease-resistant-bananas-to-uavs/>; Yasha Levine, *The Billionaire Blue Brothers Behind America's Predator Drones*, OCCUPY.COM (Apr. 29, 2013), <http://www.occupy.com/article/billionaire-blue-brothers-behind-americas-predator-drones>; Charles Duhigg, *The Pilotless Plane that Only Looks Like Child's Play*, N.Y. TIMES (Apr. 15, 2007), http://www.nytimes.com/2007/04/15/business/yourmoney/15atomics.html?pagewanted=all&_r=2&.

11. WHITTLE, PREDATOR, *supra* note 1, at 41.

12. *Id.* at 229. For maritime and technology geeks, the authors recommend viewing the extraordinary time-lapse photography of the damaged *USS Cole*'s recovery at sea by the Norwegian heavy transport ship M/V *Blue Marlin*. See Photo Archive of *USS Cole* Recovery, PIANOLADYNANCY.COM, http://www.pianoladynancy.com/recovery_usscole.htm.

13. WHITTLE, PREDATOR, *supra* note 1, at 229–30.

14. *Id.* at 231.

15. Craig Whitlock, *Book Review: 'Predator: The Secret Origins of the Drone Revolution'* by Richard Whittle, WASH. POST (Sept. 18, 2014), <http://www.washingtonpost.com/opinions/book-review->

For many readers, this book offers a case study in innovation, describing the process through which creative people deployed both existing and rapidly evolving technologies to permit intercontinental remote piloting, surveillance, and weapons delivery. At the same time, *Predator* is accessible to readers intrigued by the proliferation and diversification of drones.¹⁶ Readers of this journal, however, may be more interested in Whittle's descriptions of the legal dilemmas that surrounded firing a missile at personnel threats on foreign soil and the CIA's role in targeting and killing terrorists.¹⁷

Although drones are commonly spoken of as a new technology, the concept of remotely piloted aircraft (RPA) is not new.¹⁸ The United States saw relatively little success using RPAs in the past, and the military was initially skeptical of Abe Karem's project. The turning point came when the CIA deployed one of Karem's early prototypes in Bosnia to take advantage of its capacity for real-time reconnaissance.¹⁹ After recognizing the Predator's ability to locate targets and experiencing the difficulty of guiding another aircraft's pilot to the target displayed on the Predator's camera feed, the next logical step, as Whittle describes it, was to arm the Predator with missiles of its own. This upgrade fundamentally changed the drone's utility to the military and, arguably, irrevocably altered the nature of the modern battlefield.

predator-the-secret-origins-of-the-drone-revolution-by-richard-whittle/2014/09/18/072e8fe2-385d-11e4-bdfb-de4104544a37_story.html.

16. Although he concedes the usage is clunky, Whittle prefers the more accurate nomenclature *remotely piloted aircraft* (RPA) to the more common *unmanned aerial vehicle* (UAV). Then again, "[t]he word *drone* is not only handy, it is an easy and elegant way to describe any aircraft with no pilot inside." WHITTLE, PREDATOR, *supra* note 1, at 312 (emphasis in original).

17. The distinction between drone activities properly conducted by the CIA and those more appropriately handled by the DoD is often—and, often, inaccurately—lumped within the larger debate of distinguishing between authorities granted in 10 U.S.C. §§ 3001-16401 (2011) (Armed Forces) and 50 USC §§ 1-2901 (2011) (War and National Defense). That debate falls outside the scope of this brief review, but, for a comprehensive discussion of this convoluted and often misunderstood topic written by a former senior legal advisor for U.S. Special Operations Command Central, see Andru E. Wall, *Demystifying the Title 10-Title 50 Debate: Distinguishing Military Operations, Intelligence Activities & Covert Action*, 3 HARV. NAT'L SEC. J. 85, 87–88 (2011):

The Title 10-Title 50 debate is the epitome of an ill-defined policy debate with imprecise terms and mystifying pronouncements . . . , much in vogue among national security experts and military lawyers [It] is essentially a debate about the proper roles and missions of U.S. military forces and intelligence agencies. "Title 10" is used colloquially to refer to DoD and military operations, while "Title 50" refers to intelligence agencies, intelligence activities, and covert action. Concerns . . . or the "Title 10-Title 50 issues" . . . can be categorized into four broad categories: authorities, oversight, transparency, and "rice bowls" . . . [with] transparency and "rice bowls" . . . dismissed as policy arguments rather than legitimate legal concerns.

For a wealth of diverse opinion and analysis, see generally DRONE WARS: TRANSFORMING CONFLICT, LAW, AND POLICY (Peter L. Bergen & Daniel Rothenberg, eds., 2015).

18. For a detailed account of U.S. experimentation with drones since World War I, see Konstantin Kakaes, *From Orville Wright to September 11: What the History of Drone Technology Says About Its Future*, in DRONE WARS, *supra* note 17, at 359–87.

19. WHITTLE, PREDATOR, *supra* note 1, at 70–71, 81–82. The Predator was the first "endurance unmanned aerial vehicle," as it was officially designated, a so-called UAV able to fly twenty-four hours or more to conduct intelligence, surveillance, and reconnaissance missions. *Id.* at 2.

The Air Force primarily operates sturdy airborne weapons-delivery platforms, so it lacked missiles that would work on the light and relatively fragile Predator. The Army's more diaphanous fleet of helicopters offered at least one missile light enough for the Predator's small motor to carry, but also powerful enough to kill a tank and smart enough to follow a laser designator. "Its official name was the Heliborne-Launched Fire-and-Forget Missile. But to those familiar with it, the missile was known by an acronym describing what it delivered—Hellfire."²⁰

Selecting the missile may have been easy, but marrying the Hellfire to the Predator posed significant engineering and legal problems. On the legal and policy front, a committee of government lawyers had to decide whether arming the Predator would create a ground-launched cruise missile in violation of the 1987 Intermediate-Range Nuclear Force (INF) Treaty.²¹ Things got off to a rocky start when the State Department Legal Adviser opined that the armed Predator would constitute a cruise missile.²² The DoD General Counsel sought to change that opinion, while, in the meantime, the Air Force's under-the-radar "Big Safari" operation navigated the technicalities of arming (or "weaponizing") the Predator without actually arming it. Big Safari accomplished this by attaching the missile launcher to a detached wing—surely, a Predator unable to fly was outside the legal definition of cruise missile—and wiring it to the flight control computer in the Predator's fuselage to check whether the systems would work together once reconnected.²³ Fortunately, this approach was not long lived:

[G]overnment treaty experts abruptly decided that a lethal drone was permissible under the 1987 Intermediate-Range Nuclear Forces Treaty. The decision[] took months to reach, but the logic was simple—especially after [National Security Council] (NSC) counterterrorism chief and armed Predator advocate Richard Clarke weighed in. Clarke . . . pointed out that, by definition, a cruise missile had a warhead and the Predator didn't. The Predator was merely a platform, an unmanned aerial vehicle that had landing gear and was designed to return to base after a mission.²⁴

As those initial legal issues were resolved,²⁵ engineers, who were largely assisted by Hellfire experts from Redstone Arsenal in Huntsville,

20. *Id.* at 172.

21. *Id.* at 173.

22. *Id.* at 178.

23. *Id.*

24. *Id.* at 183.

25. Even if the workaround of this discreet international legal issue is sound, broader questions about the legality and sustainability of clandestine drone strikes remain:

A good case can be made that the use of drones to conduct targeted killings of terrorists is legal under international law, but it is more difficult to argue that the current program, which has apparently killed thousands of people in multiple countries over the last decade, is consistent with more basic rule-of-law principles . . . [that] all persons, including the govern-

Alabama,²⁶ soon successfully armed the Predator. But one monumental question remained: who would pull the trigger? In recounting the first deployment of the Predator in Afghanistan, Whittle reveals that no one knew the answer.

As no single agency was comfortable taking all of the responsibility, an elaborate scheme coalesced. As summarized by Air Force lawyers, Air Force Colonel Ed Boyle's initial Title 10 authorization to order the actual launch of a Hellfire was contingent upon CIA Director George Tenet's authorization to pull the trigger.²⁷ Whittle provides a nail-biting account of the Predator finding Taliban leader Mullah Mohammad Omar. The Predator trailed Omar's convoy for hours and circled overhead while lawyers debated whether the building Omar entered was a Mosque that risked prohibitively high collateral damage to attack. Ultimately, the opportunity to kill Omar was squandered when a Hellfire was shot at one of the cars in the caravan, killing an unidentified guard and creating such a chaotic scene that none of the targets could be identified. The account leaves the reader dispirited and disappointed in our leadership's communication skills.²⁸

On the one hand, "[t]he moment was historic. The Hellfire Predator was no longer just a concept. A new way of waging war had been inaugurated, a new way of killing enemies proven."²⁹ On the other hand, the Predator's success was bittersweet, as Omar escaped in large part due to miscommunication between the CIA and the military. The episode ends with Air Force Lieutenant General Wald's colorful exchange with the CENTCOM operations director: "If you were me, what do you think I'd want to know? . . . 'Who the [##\$%@] is running what?'"³⁰

As the book continues to account for the Predator's role in the early days of U.S. operations in Afghanistan, Whittle reveals how tweaking the trigger-pulling authority produced different results. For example, Whittle juxtaposes the

ment itself, are bound by laws that are publicly promulgated, equally enforced, independently adjudicated, and respect individual rights. If the U.S. government doesn't do a better job of explaining the application of law to the drone program, America's stature and influence in the world could be at risk No program, regardless of its effectiveness, can be sustained over time if it is not accepted as lawful by the majority of nations.

Jeffrey H. Smith & John B. Bellinger III, *Mr. President, We Need Rules for Drones*, POLITICO (June 26, 2014), http://www.politico.com/magazine/story/2014/06/drone-memo-108315_full.html#_VIRIIIdjpUQ.

The practice [of targeted drone strikes] of the United States is generally supported by international and domestic law, but there are no detailed substantive criteria for drone use outside of hot battlefields. As such, current U.S. drone policy provides an easy template for other empowered actors to deploy drones for targeted killing in multiple contexts with limited adherence to core legal principles and perhaps with even less transparency.

William Banks, *Regulating Drones: Are Targeted Killings by Drones Outside Traditional Battlefields Legal?*, in *DRONE WARS*, *supra* note 17, at 155.

26. WHITTLE, PREDATOR, *supra* note 1, at 191.

27. *Id.* at 245.

28. *See generally id.* at 245–260.

29. *Id.* at 259.

30. *Id.* at 260.

unsuccessful pursuit of Omar against the Predator's likely role in finding and killing Muhammad Atef.³¹ In pursuit of Atef, Combined Forces Air Component Commander Moseley did not hesitate to level buildings.³² Although not mentioned in *Predator*, it is instructive that within a month after the unsuccessful joint CIA–Air Force operation to pursue Omar, a joint mission between the CIA and the Joint Special Operations Command (JSOC) resulted in the successful raid of Omar's compound.³³ That mission also marked the first time the Predator provided air-to-ground fire support for a combat operation.³⁴ This context sheds new light on CIA and DoD drone operations, which, accurately or not, have painted a picture of laissez-faire management and oversight of firing authority.³⁵

31. As Whittle explains, any story of Atef's death must be taken with a grain of salt:

The nature and pace of military operations and the number of air strikes U.S. forces conducted in Afghanistan during October and November 2001 likely make it impossible—especially without access to relevant classified information that still exists—to verify any account of Atef's death But a number of former senior officers who were in the U.S. military chain of command at the time, and who have never before disclosed their recollections of this event, retain distinct and vivid memories of how they believe Atef died—and all of them agree that the role played by the Predator was central. What they believe about how Atef died, however, cannot be considered proven fact, for as one explained, “We didn't control the site, we didn't recover the body It's been confirmed by the process of elimination.”

Id. at 278–79.

32. *See id.* at 279–86.

33. Megan Braun, *Predator Effect*, in *DRONE WARS*, *supra* note 17, at 260–61.

34. *Id.* at 261.

35. A database of drone strikes collected by the New America Foundation allows for an incredible amount of empirical analysis of drone activity:

President Barack Obama made drones one of his key national security tools. By December 2013, he had already authorized 322 strikes in Pakistan, six times more than the number . . . carried out during President Bush's entire eight years Under Obama, the drone program accelerated from an average of one strike every forty days to one every four days by mid-2011.

Peter L. Bergen & Jennifer Rowland, *Decade of the Drone: Analyzing CIA Drone Attacks, Casualties, and Policy*, in *DRONE WARS*, *supra* note 17, at 13.

Moreover, a recent non-academic and highly accessible summary of these tensions explained:

[A] 2012 report [generated by] a team of law students from New York University and Stanford concluded that the dominant narrative in the U.S. about the use of drones in Pakistan—“a surgically precise and effective tool that makes the United States safer by enabling ‘targeted killing’ of terrorists, with minimal downsides or collateral impacts”—is false CIA-operated drones were nowhere near as discriminating toward noncombatants as the agency's leaders have claimed [E]stimates . . . put the civilian death toll in the hundreds

The CIA's position is that these nongovernmental counts are much too high and have been influenced, if inadvertently, by Pakistani government and Taliban propaganda Senator Dianne Feinstein, who chairs the Select Committee on Intelligence, . . . said that classified documents showed that civilian deaths caused by CIA drones each year were “typically in the single digits.”

Steve Coll, *The Unblinking Stare: The Drone War in Pakistan*, *NEW YORKER* (Nov. 24, 2014), <http://www.newyorker.com/magazine/2014/11/24/unblinking-stare>.

Disparate results between the CIA–Air Force and CIA–JSOC operations reveal the fallacy of viewing control over drone operations as a simple dichotomy between the CIA and the DoD. While congressional oversight of most DoD drone operations may be more robust than those of the CIA, moving drone operations from the CIA to the DoD may or may not result in greater congressional oversight if JSOC ends up managing the drone program.³⁶

III. OUTSOURCING AND THE GOVERNMENT’S MONOPOLY OVER THE USE OF FORCE

Deploying a new weapons system (a good, product, or supply)³⁷ such as the Predator bears little relation to the modern-era governmental outsourcing explosion³⁸ and might appear unrelated to the global proliferation of arms-bearing contractors, which tends to be dominated by the acquisition of services instead of supplies. It is well-established that contractors—employed by defense and civilian agencies to perform a wide spectrum of services spanning logistics support, weapons maintenance, transportation, interpretation, and arms-bearing security—routinely outnumbered uniformed military personnel in Iraq and Afghanistan. Throughout those conflicts, government policy officials maintained that both the military and civilian agencies respected the longstanding prohibitions against contractors performing inherently governmental functions.³⁹ Yet *Predator* subtly reminds us how dramatically the U.S. government has diluted the military’s longstanding monopoly over the use of force.

One of the authors of this review still chafes recalling the number of times early in the last decade when senior Air Force and DoD officials publicly and steadfastly denied that contractors were piloting drones and deploying weapons

36. For a full discussion of this issue, see Naureen Shah, *A Move Within the Shadows*, in *DRONE WARS*, *supra* note 17, at 160.

37. 48 C.F.R. § 2.101 (2014) (“*Supplies* means all property except land or interest in land.”); 48 C.F.R. § 37.101 (2014) (“*Service contract* means a contract that directly engages the time and effort of a contractor whose primary purpose is to perform an identifiable task *rather than to furnish an end item of supply.*”) (emphasis added); UCC § 2-105(1) (2012) (“‘Goods’ means all things . . . which are moveable at the time of identification to the contract for sale . . .”).

38. See, e.g., Steven L. Schooner & Daniel S. Greenspahn, *Too Dependent on Contractors? Minimum Standards for Responsible Governance*, 8 J. CONT. MGMT. 9 (2008).

39. See generally, OFFICE OF MGMT & BUDGET, EXEC. OFFICE OF THE PRESIDENT, REVISED CIRCULAR NO. A-76 (May 29, 2003); Office of Federal Procurement Policy Letter 11-01, Performance of Inherently Governmental and Critical Functions, 76 Fed. Reg. 56227 (September 12, 2011) (“The FAIR Act defines an activity as inherently governmental when it is so intimately related to the public interest as to mandate performance by Federal employees.”). See also Evan Sills, *Mission “Critical Function”:* *Improving Outsourcing Decisions Within the Intelligence Community*, 41 PUB. CONT. L.J. 1007 (2011); Anthony LaPlaca, Note, *Settling the Inherently Governmental Functions Debate Once and for All: The Need for Comprehensive Legislation of Private Security Contractors in Afghanistan*, 41 PUB. CONT. L.J. 745 (2011); Mohab Tarek Khattab, *Revised Circular A-76: Embracing Flawed Methodologies*, 34 PUB. CONT. L.J. 469 (2005); Dan Guttman, *Governance by Contract: Constitutional Visions; Time for Reflection and Choice*, 33 PUB. CONT. L.J. 321 (2004); David M. Walker, *The Future of Competitive Sourcing*, 33 PUB. CONT. L.J. 299 (2004); Steven L. Schooner, *Competitive Sourcing Policy: More Sail Than Rudder*, 33 PUB. CONT. L. J. 263 (2004).

systems in the battle area.⁴⁰ While the government may have preferred an alternative reality, *Predator* suggests that the frequent, contemporaneous, second-hand anecdotes to the contrary were credible. Whittle describes some of the complicated choreography designed to respect the seemingly arbitrary distinctions between contractor and military action:

One of the two General Atomics pilots . . . would sit or stand behind the military pilots, coaching them through any tricky situations. The General Atomics pilots and the other Air Force crews would fly the Predator on the roughly six-hour “ferry flights” necessary to get the drone to and from its base in Uzbekistan to the skies above the Taliban stronghold of Kandahar and other areas of interest in southern Afghanistan.⁴¹

Despite these intended bright-line distinctions between government and private sector actors, Whittle describes contractor personnel both flying Predators and firing missiles:⁴²

Contractor pilot Big, who had taken over for Swanson, turned the drone north for home.

As the Predator poked along, *Big was instructed to fly over Kandahar’s airport . . .* Boyle got CIA higher-ups to approve putting the Predator’s remaining Hellfire into the middle one of those three buildings. Getting rid of the second missile would reduce the Predator’s aerodynamic drag, . . . and the airfield was a valid target . . . Guay had given up the sensor operator’s seat to another Air Force enlisted man, who *after Big pulled the trigger* kept the laser designator on the structure and scored a direct hit.⁴³

Like many of the other significant national security policies discussed above, the government respected the rules when convenient, but accepted Machiavel-

40. Rebecca Rafferty Vernon, *Battlefield Contractors: Facing the Tough Issues*, 33 PUB. CONT. L.J. 393, 407, 414 (2004) (“Contractors may provide any service that is not inherently governmental [But] DoD policy prohibits contractors from taking a direct part in hostilities and operating in situations where international law might perceive them as combatants It is unclear at what point a contractor employee begins to ‘engage in hostilities.’”); Michael J. Davidson, *Ruck Up: Introduction to the Legal Issues Associated with Civilian Contractors on the Battlefield*, 29 PUB. CONT. L.J. 233, 253 (2000) (“The military is becoming increasingly dependent on U.S. civilian contractors to support its operations overseas [C]ertainly where a contractor’s employees each carries automatic individual weapons or they operate crew-served weapons and where they mirror a military organization in terms of uniforms and structure would serve to establish a quasi-military armed force characterization.”).

41. WHITTLE, PREDATOR, *supra* note 1, at 246; *see also id.* at 253 (“Swanson and Guay, with contractor pilot Big standing behind them, kept the Predator circling . . .”).

42. “A contractor pilot, radio call sign ‘Big,’ was flying Predator 3038 over Afghanistan on September 22” *Id.* at 244. On a separate occasion: “Minutes after Big relieved Ghenghis and took the controls of Predator 3037, . . . [he was cleared] to put the drone into an orbit above Takur Ghar” to investigate a downed Chinook full of Rangers. *Id.* at 295–97.

43. *Id.* at 263 (emphasis added).

lian compromises when necessary. Granted, in an era when tens of thousands of armed contractors populated the battle areas in Iraq and Afghanistan, the distinctions may be dismissed as insignificant or mere niceties. But the authors of this review prefer a government that acknowledges that difficult decisions, including ones that might breach existing, bright-line rules, may be necessary during contingency operations.

IV. SUCCEEDING *DESPITE* THE DEFENSE ACQUISITION SYSTEM

*[R]ed tape at the Pentagon prevented the development of a drone that could have helped avert the attacks of Sept. 11, 2001.*⁴⁴

Whittle's tale does little to instill confidence in federal government contracting, particularly defense acquisition. One version of this story blames government bureaucracy and acquisition inflexibility for the failure to forestall Osama Bin Laden's attacks on the World Trade Center and the Pentagon. Critical readers will dismiss this attenuated "what if" scenario, but *Predator* suggests that policy leadership at the highest levels failed to heed and react to the writing on the wall and the word on the street.

Readers may disagree about the relative advantages of the Predator. Advocates describe drone-launched munitions "as the most discriminating aerial bombers available in modern warfare," while critics suggest that they "create a false impression of exactitude."⁴⁵ But, for better or for worse, the Predator transformed the concept of armed drones from nascent technology to a critical tool in the war on terror.⁴⁶ Unlike most acquisitions of cutting-edge military technology, there does not seem to be any public uproar over cost overruns,

44. Gabriel Schoenfeld, *Book Review: "Predator" by Richard Whittle*, WALL ST. J. (Sept. 15, 2014), <http://www.wsj.com/articles/book-review-predator-by-richard-whittle-1410822967>.

45. Coll, *supra* note 35.

Last year, in a speech at the National Defense University, President Obama acknowledged that American drones had killed civilians. He called these incidents "heartbreaking tragedies," which would haunt him and those in his chain of command for "as long as we live." But he went on to defend drones as the most discriminating aerial bombers available in modern warfare—preferable to piloted aircraft or cruise missiles. Jets and missiles cannot linger to identify and avoid noncombatants before striking, and, the President said, they are likely to cause "more civilian casualties and more local outrage."

. . . But do drones actually represent a humanitarian advance in air combat? Or do they create a false impression of exactitude?

Id. For an explanation of the tactical benefits of RPAs by a former General Counsel of the U.S. Air Force (2009–2013), see Charles Blanchard, *This Is Not War By Machine*, in *DRONE WARS*, *supra* note 17, at 118, 119 ("[T]he innovative qualities of these new technologies are often masked by the nature of current public debate, which would benefit from a clearer understanding of what RPAs actually do, what roles they serve, and how they are impacting military activity and strategy.").

46. While many assume that drones' place in the future of modern warfare is secure, some assert that the present demand for targeted killings is unique to the contemporary War on Terror, and thus the Predator will not be as useful in future wars against state-actors:

schedule delays, or performance failures associated with acquisition of armed drones. Just as the acquisition community should examine the root causes of acquisition failures, we should also ask ourselves why other acquisitions succeed.

The Predator's success is largely due to its creators' ability to use acquisition loopholes designed to streamline development and production. This is not surprising, as all too often defense acquisition succeeds *despite* the regulatory framework created by lawyers and politicians, which often serves as more of an obstacle course.⁴⁷

Even the most experienced acquisition academics and professionals, however, may be surprised to learn about the Air Force program called Big Safari, the Predator's driving institutional force. Big Safari was created during the Cold War to help the military and other agencies keep an eye on the Soviet Union and spent most of its efforts equipping aircraft with surveillance capabilities, usually very quickly and for specific missions.⁴⁸ Big Safari moves so quickly due to its rapid acquisition authority, which allows it to bypass most of the briar patch of regulations that inhibit most defense acquisitions:

Big Safari could get innovative gear into action within months, weeks, and sometimes even days, rather than the years it routinely takes to develop and field most military technology. Big Safari's philosophy was expressed in mottoes, catchphrases, and admonitions such as "Minimum but adequate," "Off-the-shelf," "Need to know," "Modify, don't develop," and "Provide the necessary, not the nice to have."⁴⁹

Although Congress tasked the Air Force with developing the Predator, the House Intelligence Committee advised the Air Force that Big Safari should manage its development, and the Air Force obliged.⁵⁰ Instead of entering into a massive research and development contract to design a new remotely piloted aircraft, Big Safari looked at its existing RPA, the Predator, took an accounting of what the Predator was missing, and then checked for quick-fix solutions that either the commercial sector could provide or the military already owned.

The Predator has been transformational in the war on terror, but this is largely because it was so ideally suited to the post-9/11 vision of the CIA However, it is likely that this tactic will remain largely confined to unconventional wars against non-state enemies [I]t is by no means certain that this type of war will recur in the future.

Braun, *Predator Effect*, in *DRONE WARS*, *supra* note 17, at 277.

47. Whittle attributes much of this success to the Predator's status as an ACTD (Advanced Concept Technology Demonstration) program. WHITTLE, *PREDATOR*, *supra* note 1, at 79–80. See generally MICHAEL R. THIRTLE, ROBERT JOHNSON & JOHN BIRKLER, *THE PREDATOR ACTD: A CASE STUDY FOR TRANSITION PLANNING TO THE FORMAL ACQUISITION PROCESS* (RAND, 1997), available at http://www.rand.org/pubs/monograph_reports/MR899.html.

48. WHITTLE, *PREDATOR*, *supra* note 1, at 120.

49. *Id.*

50. *Id.* at 125.

While we applaud the success of Big Safari in getting the Predator to the battlefield in record time, the decision to send this project to an outfit that has authority to work *around* the procurement regulations, instead of *through* them, signifies that the procurement regulations are not equipped to provide the cutting-edge development necessary to maintain battlefield superiority in the twenty-first century. The disconnect between our military's ability to anticipate needs and the procurement system's ability to satisfy those needs is made clear by one of the most sobering passages of the book:

Necessity being the mother of invention, and war being the mother of necessity, Big Safari would soon be working to improve the Predator and make its video much more widely available. For now, though, the drone revolution was only dawning, and many had yet to see the light. Two weeks before the death of Mohommad Atef, the Pentagon's director of operational test and evaluation, Thomas Christie, issued a report declaring that the Predator was "not operationally effective or suitable" for combat.⁵¹

Along the same lines, Whittle notes that the Predator flew more than 50,000 combat hours before it officially met the requirements of IOT&E (Initial Operational Test and Evaluation).⁵² Whittle also reminds the reader that—unlike developmental aircraft (such as the V-22) and space vehicles—the Predator's evolution was neither stymied nor derailed by pilot safety or accident-related fatalities. Indeed, the Predator's greatest virtue may be the one that makes headlines the least:

While the Predator has been used to kill for nearly fifteen years, no one has ever died while flying a Predator or in the crash of one—neither the manufacturer of the Predator nor its military users had to worry too much about crashes. When a Predator goes to war and dies for its country, no one has to knock at a family member's front door to deliver the bad news and no one plays Taps. In fact, more than 100 of the total of 270 Predators built have either crashed or were shot down by the Serb or Iraqi militaries. So General Atomics didn't have to build in triple redundancy or make sure the Predator's various systems could withstand a hit from any size shell at all⁵³

51. *Id.* at 293. This quote reveals a larger pathology of our Defense Acquisition System, which we discuss in more detail in our review of Whittle's first book. *See* Schooner & Castellano, *supra* note 5. Instead of fixating on metrics that are easy to gather and interpret—such as cost growth, schedule delay, and compliance with initial performance specifications—we implore DoD to evaluate metrics that really matter, such as customer satisfaction and the total cost of ownership. These metrics reveal the ultimate outcome of whether DoD obtained real value for its money, as opposed to measuring compliance with processes dictated by the Federal Acquisition Regulations (FAR) which are all too often out of touch with consumer behavior and reality.

52. Richard Whittle, Speech at The George Washington University Law School (Sept. 22, 2014) (transcript on file with authors).

53. *Id.*

CONCLUSION

Predator is a terrific book, and we recommend it without reservation. Based upon exhaustive research and an impressive interviewing campaign, evidenced by more than 300 footnotes and a fulsome bibliography, Whittle offers the reader unique access into a community where few outsiders tread. Whittle's insights are as informative as they are intriguing, and the book features a surprising number of revelations, rewarding readers with gratifying tidbits not previously available in the public domain. The book is elegantly written, tightly edited, and the many action-packed passages rival best-selling fiction. It is a pleasure to read.

None of this, however, makes the bottom line less troubling. As much as *Predator* celebrates the initiative, creativity, ingenuity, commitment, and drive of exceptional people, it bemoans the stifling and inefficient acquisition regime that appears to value process over outcomes. As Congress and the recently appointed Secretary of Defense once again contemplate defense acquisition reform, we hope that *Predator* becomes mandatory reading.
