Sam Durant
*Untitled (drone)*
High Line Art

“...a normalizing gaze, a surveillance that makes it possible to qualify, to classify and to punish.”

— Michel Foucault, *Discipline and Punish: The Birth of the Prison*, 1975
This publication is produced in tandem with Sam Durant’s High Line Plinth commission *Untitled (drone)*, an artwork that seeks to spark conversations around drone warfare and surveillance and to make visible wars that are largely invisible to most people in the US.

Many technologies we use in our everyday lives are first developed for the military. One common example is the internet, whose largest development hub was in the US, funded by the Department of Defense’s Advanced Research Projects Agency, later known as DARPA.

Drones are no different. Aerial surveillance has been a boon to military intelligence from the earliest aircraft. This technology has made its way from the military to commercial and domestic sectors, even finding humanitarian purposes. While the technological applications of drones are many—vehicles for “targeted killings,” facilitators of 24-hour video surveillance, life-saving methods for putting out wildfires, or devices for filmmaking—this publication seeks to tell the history of drones as tools of warfare and surveillance used primarily by the military and local law enforcement.

For two decades, the US military has flown armed drones over countries far away from our own. The US response following the September 11th attacks, now commonly known as the War on Terror, inaugurated armed drone warfare in concert with a new and seemingly boundless chapter in the history of surveillance within the US. This history builds on the maintenance of a certain status quo: distrust of communities of color and dismantling of groups thought to threaten those in power. Over the years, these groups have included labor unions, perceived communists, the civil rights movement, Black Panthers, Young Lords, the American Indian Movement, the anti-war movement during the Vietnam War, the women’s rights movement, and now the Movement for Black Lives and movements for immigrants’, Arab Americans’, and Muslim Americans’ rights. Often, widespread public fear of these communities and groups—and therefore public support for their suspicion, surveillance, and discrediting—is sown through the fabrication of an outside threat coming from another country, an unfamiliar religion, or individual leaders of movements.

This publication is informed by conversations with dozens of individuals and organizations who are closest to these issues: individuals from countries targeted by drone assassinations, communities who experience heightened surveillance by the US government, and US military veterans. The following pages seek to demystify the twinned histories of drone warfare and surveillance that are often purposefully obscured from the media and the public: what drones are, how they work, who enables their operation, and the histories of fear and distrust that have led us to the state of surveillance we experience today.
WHAT IS A DRONE?

A drone is an aircraft whose pilot is flying it from another location. They go by many names, such as unmanned aerial vehicles (UAV) and remotely piloted aircrafts (RPA). They come in many, constantly evolving models: Predator, Reaper, Gray Eagle, and Global Hawk, to name only a few of the most powerful. Drones can hover like helicopters or glide like airplanes. They can range in size from a rotor diameter of five inches—roughly the size of a large hummingbird—to a wingspan of 130 feet—wider than a Boeing 737. Some drones are unarmed; others carry payloads of deadly weapons, like this MQ-1 Predator drone.

MQ-1 Predator drone

- altitude: 25,000 feet
- speed: 135 miles/hour
- range: 454 miles
- weight: 1,130 pounds (empty)
- length: 27 feet
- wingspan: 49 feet
- endurance: 24 hours

RQ-1 Predator drones (later designated MQ-1) were used by the US military from 1995 until their replacement in 2018 by a newer model, the MQ-9 Reaper. MQ-1 Predator drones have also been operated by the US Central Intelligence Agency (CIA) and the militaries of other countries including Italy and the United Arab Emirates, with newer models in use by US Customs and Border Protection and the militaries of countries including Australia, France, the Netherlands, Spain, and the United Kingdom.
2 HOW DO DRONES WORK?

Large military drones employed by the US are flown by two teams of people, mirroring the designation of a piloted aircraft: a front-end crew and a back-end crew. These crews can be at military and Air National Guard bases across the country and around the world. Front-end and back-end crews can be thousands of miles away from each other on any given mission.

Front-end crew
The front-end crew typically comprises one pilot who flies the aircraft, and one sensor operator who directs the aircraft’s cameras and weapons. They sit in a 30-foot trailer containing flight and sensor consoles, radar workstations, and satellite data terminals.

Back-end crew
The back-end crew comprises three or four intelligence analysts working 12-hour shifts. Each team includes an analyst who describes the visual feed, a screener who converts the intelligence analysis back to the front-end crew, and an imagery missions supervisor. “Targets” can be selected based on a person’s believed identity, or simply their behavior patterns—this is termed a “signature strike.”

Each new generation of camera system can surveil a wider area of land and track more individual “targets.” Intelligence officials use a variety of often confidential methods to target individuals. These methods include behavior pattern observation, which identifies targets based on behavior deemed suspicious, rather than a confirmation of an individual’s identity.

Predator
The camera on the MQ-1 Predator can track a single target through a “soda straw” view.

Gorgon Stare I
On the MQ-9 Reaper, the camera system can cover 2.5 square miles and track 10 targets simultaneously.

Gorgon Stare II
On the next-generation MQ-9, the camera system can cover 15 square miles and track up to 30 targets simultaneously.
The US military has flown drones over countries around the world. Their drones are flown by crews at bases located across the US and in many other countries. The US Air Force alone maintains 65 air combat patrols 24 hours a day, around the globe.

**Reconnaissance** drones flown by the US military over Bosnia, the Philippines, Cameroon, Haiti, Kosovo, Kuwait, and Serbia.

**Armed** and reconnaissance drones flown by the US military over Afghanistan, Chad, Iraq, Latvia, Libya, Mali, Niger, Pakistan, Somalia, South Korea, Syria, and Yemen.

- 60 military drone bases around the world.
- 6 US Customs and Border Protection drone bases in Arizona, California, North Dakota, and Texas.
- 4 cities testing aerial surveillance: Baltimore, Maryland; Compton, California; Dayton, Ohio; and St. Louis, Missouri.

Drones are not only flown in faraway countries—many sophisticated technologies that make their way into our cities were first developed for the military. US Customs and Border Protection flies drones within 100 miles of the northern and southern borders of the continental US, and often flies drones in support of law enforcement agencies within US borders.

Commercial companies such as Persistent Surveillance Systems have been testing airplane-based surveillance systems in US cities in partnership with law enforcement agencies, with the goal of watching residents to track behavior in advance of proven crimes.

At the same time, drones are employed daily for humanitarian purposes, such as delivering supplies and medicine to isolated locations, surveying minefields, and fighting wildfires.

US military information source: The Drone Databook
US CBP base information source: US Customs and Border Protection website
Drones are not just used by the US. They are operated by the militaries of almost 100 countries around the world and are increasingly ubiquitous today. While drones are becoming more commonplace, there is a spectrum of use among countries, from those using unarmed drones, to armed drones, to those both using and selling drones to other countries.

83% of countries using military drones bought a drone from the US, Israel, or China. The three biggest users of drones are also the three biggest sellers of drones to the rest of the world.

In addition to their vast proliferation, drone technologies are changing rapidly. Manufacturers now produce drones that rely on algorithms—complex statistical computing models—to determine how and where drones fly, whom they track, and whom they target, in essence taking the control away from the human pilot. These drones are called “lethal autonomous weapons.”

Source: The Drone Databook
“NOT A BUG SPLAT”

In military parlance, a “bug splat” refers to the blast radius of a missile, which is estimated in advance of a strike to calculate the risk of collateral damage. In 2014, to challenge the reduction of human lives and livelihoods to a “bug splat,” a group of artists created a massive poster depicting the face of a child who lost four family members to a drone strike. The artists, making use of JR’s Inside Out project, installed the poster with the help of enthusiastic locals. This was done in the Khyber Pakhtunkhwa region of Pakistan, in response to the heavy drone bombing there at the time.

Khyber Pakhtunkhwa is the mountainous northwestern province of Pakistan that borders Afghanistan. The province includes Waziristan and the region known until 2018 as the Federally Administered Tribal Areas, known for ongoing conflicts between militant Islamist groups and the Pakistan Army.

Reprieve and Foundation for Fundamental Rights (FFR) helped launch this effort, which has been released with the hashtag #NotABugSplat. The child featured in the poster is nameless, but according to FFR, lost both her parents and two young siblings in a drone attack. It was the hope of the artists that the project would create empathy and introspection amongst drone operators and dialogue amongst policy makers, eventually leading to decisions that would save lives.

Khyber Pakhtunkhwa, Pakistan

Credits: Ali Rez, Saks Afridi, Assam Khalid, Akash Goel, Insiya Syed, Noor Behram, Jamil Akhtar with special thanks to the JR Inside Out project

For more information, visit: notabugsplat.com
50% of US Air Force pilots being trained are drone pilots.

21,000+ drones currently in service around the world.

$70,000, cost of one Hellfire missile.

$32m, cost of one Reaper drone.

900+ law enforcement agencies in the US use drones.

400+ law enforcement agencies in the US partner with Amazon’s Ring video doorbell company “to more easily access footage from local residents.”

95% of the investigations into political activity conducted by the New York Police Department from 2010 – 2015 targeted people who were associated with Islam or Muslims.

125,000 people in the US were estimated to be wearing electronic GPS tracking ankle bracelets in 2020.

85,415 people in the US were subject to electronic monitoring by ICE Enforcement and Removal Operations from October 2019 – September 2020, including 28,581 people wearing electronic GPS tracking ankle bracelets.

**Drone strike casualties**

Estimates of civilian casualties from drone strikes vary widely, in part due to conflicting definitions of “civilian.” In many cases, any military-aged male can be considered a combatant. The estimates below come from the Bureau of Investigative Journalism, a respected independent news outlet that compiles estimates from numerous sources.

<table>
<thead>
<tr>
<th>Country</th>
<th>Since</th>
<th>Total Deaths</th>
<th>Civilians</th>
<th>Children</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somalia</td>
<td>since 2007</td>
<td>1,197 - 1,410</td>
<td>12 - 97</td>
<td>1 - 13</td>
</tr>
<tr>
<td>Yemen</td>
<td>since 2002</td>
<td>1,020 - 1,389</td>
<td>174 - 225</td>
<td>44 - 50</td>
</tr>
<tr>
<td>Pakistan</td>
<td>since 2004</td>
<td>2,515 - 4,026</td>
<td>426 - 969</td>
<td>172 - 207</td>
</tr>
<tr>
<td>Afghanistan</td>
<td>since 2015</td>
<td>4,126 - 10,076</td>
<td>300 - 909</td>
<td>66 - 184</td>
</tr>
</tbody>
</table>

**Total deaths** since 2002

8,558 - 16,901

910 - 2,200

284 - 454

**Statements** made by US officials on the number of civilian casualties resulting from drone strikes:

“exceedingly rare”

“zero civilian casualties”

“a few dozen”

“single digits”
We all live within a vast surveillance network made up of many different entities. This network relies on powerful computing systems and algorithms to process a constant stream of surveillance data. Across the military and police, there is an emphasis on identifying “normal” and “aberrant” behavior—the behavior of the criminal or guilty. However, existing societal biases are an intractable part of all the data we collect. Rather than improve our judgement, algorithms reinforce existing biases, while removing feelings of responsibility or complicity.
HISTORY

The US has employed surveillance tactics for centuries, both internationally by the military, and domestically by law enforcement. Over the years, drones have become a pervasive part of this landscape. Below are just a few select excerpts from the long history of US surveillance and drone warfare.

**WWI.** The US Army produces the Kettering Bug, an unmanned aerial torpedo. And later, the Sperry Aerial Torpedo, the first radio-controlled unmanned aerial vehicle (UAV), which flew 50 miles while carrying a bomb in test flights. The war ends before they are put into use.

**WWII.** The US Navy’s Special Air Unit One develops UAVs (PB4Y-1 and BQ-7) in order to destroy launch sites for Germany’s newly designed V-1 flying bomb. Made from converted aircraft, they carry explosives and are flown by remote control using television guidance systems.

**Vietnam War.** The US Air Force begins its first stealth aircraft program and creates the AQM-34 Ryan Firebee. Almost undetectable by enemy radar, the Firebee flies more than 34,000 covert surveillance missions over Southeast Asia.

The Albatross, a drone that can stay airborne for 48 hours, is designed. The US Department of Defense’s Defense Advanced Research Projects Agency (DARPA) invests $5 million to build the full-size version of the Albatross, the predecessor of the Predator, called the Amber.

US energy and defense company General Atomics (GA) develops drones that can carry explosives to targets using GPS-enabled autopilots. GA later hires the inventor of the Albatross as their top engineer.

**1910s**

**1940s**

**1960**

**1980**

**1986**

**1971**

**1975**

**1985**

**2001**

1906 The New York Police Department (NYPD) forms the Alien Squad, targeting immigrants and monitoring political activity. Over the years it was regularly rebranded: the Radical Squad, the Neutrality Squad, the Red Squad, the Bureau of Criminal Alien Investigation, and even the Public Relations Squad.

1908 The Federal Bureau of Investigation (FBI) is created to investigate federal crimes. During World War I, targets expanded to include draft resisters, violators of the Espionage Act of 1917, and immigrants suspected of radicalism.

1956 The FBI forms COINTELPRO—short for Counterintelligence Program—to disrupt the activities of the Communist Party USA. It is rapidly expanded to virtually all radical and social justice organizations including the civil rights and anti-war movements and groups like the Black Panther Party, the American Indian Movement, Students for a Democratic Society (SDS), among many others deemed subversive by the FBI.

1971手写体

Handschu v. Special Services Division, a class-action lawsuit by various political activists, is filed against the NYPD, challenging their surveillance and investigation practices.

1985 The city of New York settles the suit and agrees to new rules known as the Handschu Guidelines. The guidelines sharply and explicitly limit when and how political activities and activists can be monitored or investigated by the NYPD.

2001 The Patriot Act becomes law, a paradigm shift in government surveillance that greatly expands the scope and methods of surveillance by law enforcement and federal agencies, under the rationale of preventing terrorism.
**Gulf War and Operation Desert Storm.** The US Army, Navy, and Marine Corps conduct short-range surveillance over Kuwait, Iraq, and the Saudi Arabia-Kuwait border using the Pioneer RQ-2A, a small, inexpensive UAV, where Iraqi soldiers surrender to US forces. This marks the first time human soldiers surrender to a drone.

**Bosnian War.** The GNAT 750 endurance drone is deployed to conduct surveillance over Bosnia. The US Department of Defense commissions a larger, more capable version of the GNAT 750, dubbed the RQ-1 Predator.

An imagery scientist under direction from the US Navy streams color video from a Predator drone to the Pentagon by satellite, allowing for real-time decision making.

**War on Terror.** President George W. Bush signs into law a joint resolution authorizing the use of force against those responsible for the 9/11 attacks, initiating the War on Terror.

The US starts a bombing campaign in Afghanistan, and the first armed mission with a Predator drone is carried out by the CIA, ushering in a new era of warfare.

The US conducts its first Predator drone strike outside of Afghanistan, in Yemen, killing suspected members of the militant Sunni Islamist group al-Qaeda.

**US invasion of Iraq.** The US Air Force deploys several drones at the opening of the war.

Targeting al-Qaeda and its affiliates in Pakistan, the CIA’s drone strikes also kill hundreds of civilians, including women and children. The total number of people killed remains unknown.

US Customs and Border Protection first employs the Predator B drone, with a focus on antiterrorism.

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**2002**

The NYPD, working with a CIA member, creates the secret **Demographics Unit**, a squad of officers directed to map and infiltrate Muslim communities throughout the Northeastern US.

**2002**

The NYPD seeks to modify the 1985 Handschu consent decree, claiming that it hindered their investigations into potential terrorism. In 2003, those modifications are accepted.

**2011**

The Associated Press releases a series of articles documenting police spying on Muslim neighborhoods, surveillance and infiltration of mosques and colleges, and photographing of residents without any evidence of links to terrorism or crime.

**2012**

The NYPD acknowledges in court testimony that the secret Demographics Unit never generated a lead or “commenced an investigation.”

**2012**

**Hassan v. City of New York**, a federal lawsuit in New Jersey, challenges warrantless surveillance of Muslim communities by the NYPD.

**2013**

**Raza v. City of New York**, a federal lawsuit, is filed on behalf of religious and community leaders alleging they were targeted in the NYPD’s surveillance of Muslim New Yorkers. The case sought systemic reforms to prevent law enforcement abuses. The NYPD disbands the Demographics Unit, which had been renamed the Zone Assessment Unit.

**2015**

The FBI flies at least 10 surveillance flights over Baltimore when the streets were filled with people protesting the death of Freddie Gray in police custody.

**2016**

The Baltimore Police Department begins working with Persistent Surveillance Systems to fly a surveillance plane over the city, a plan hidden from the public.
The Obama Administration oversees an exponential increase in the use of drones to carry out “targeted assassinations” across Africa, the Middle East, and southern Asia. The administration acknowledges 473 strikes “against terrorist targets outside areas of active hostilities” between 2009 and 2015, though estimates from independent news outlets are much higher.

**Libyan Civil War.** Armed MQ-1B Predators conduct approximately 450 missions in a NATO intervention. Between April and August, the US-piloted Predator drones conduct 105 strikes in the country.

Sixteen-year-old Abdulrahman al-Awlaki is killed in a drone strike in Yemen two weeks after a drone kills his father, Anwar al-Awlaki; both are American citizens. Along with Abdulrahman, his teenage cousin and at least five other civilians are killed in the strike. The following year, the American Civil Liberties Union and the Center for Constitutional Rights file a lawsuit challenging the government’s right to target and kill US citizens. The case is dismissed.

A US drone strike hits a wedding procession in Yemen’s central province of al-Bayda, killing at least 12 civilians.

President Donald Trump revokes the Obama policy that requires US intelligence officials to release the number of US strikes against terrorist targets outside of war zones, and the number of combatants and non-combatants killed in the strikes.

Drones have become a commonplace tool, yet they are not often the subject of open discussion. Drones are used to gather information in other countries, to execute deadly strikes, and to surveil populations within domestic borders. Drones may feel far away for many, but they are connected through a large web that includes many common technologies. On the following pages, you will find a compilation of resources, many of which were used to create this booklet. We invite you to keep reading, and to continue this crucial dialogue with those around you.
LEARN MORE

There are many ways to dig deeper into the topics found in this zine. Below are a list of the main resources referenced throughout these pages, as well as related films, an oral history project, and books. You can also follow the work of our advisors, listed in the next section.

Online resources:

Airwars. “Conflict Data.” airwars.org/conflict-data
Diala Shamas and Nermeen Arastu, “Mapping Muslims: NYPD Spying and Its Impact on American Muslims.” Muslim American Civil Liberties Coalition (MACLC), and Creating Law Enforcement Accountability & Responsibility (CLEAR) Project, 2013. cunyclear.org/reports
“TAKE BACK TECH! the fight against the tech companies working with the police and ICE,” Mijente and aledelacosta, 2020. notechforice.com/resources

Films:

Drones

Technology & algorithms

Domestic surveillance
Sam Pollard, dir. MLK/FBI. 2020.

Books:

Drones

Technology & algorithms

Domestic surveillance
Nicole Nguyen. Suspect Communities: Anti-Muslim Racism and the Domestic War on Terror, 2019.

Artist books, catalogues & interviews
Omer Fast. 5,000 Feet Is the Best. 2012.

Philosophy & cultural studies
ACKNOWLEDGEMENTS

This publication is part of an extensive public engagement and interpretation program for Sam Durant’s Plinth commission *Untitled (drone)* undertaken in advance of and during the exhibition. This program has been developed by the High Line, in consultation with an advisory group of experts listed below.

In addition to the formal advisory group, the High Line would like to thank the dozens of individuals and organizations who have spoken with us over the past months of planning, offering their expertise, insights, and suggestions.

Advisory group:

Aliya Hana Hussain, *Center for Constitutional Rights*  
ccrjustice.org

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mediajustice.org

Jacinta González, *Mijente*  
mijente.net

Ishraq Ali, *MPower Change*  
mpowerchange.org

Jennifer Gibson & Shivan Sarin, *Reprieve*  
reprieve.org

Albert Fox Cahn, *Surveillance Technology Oversight Project (S.T.O.P.)*  
stopspying.org

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This zine was designed and illustrated by aledelacosta.net

About High Line Art

Founded in 2009, High Line Art commissions and produces a wide array of artwork, including site-specific commissions, exhibitions, performances, video programs, and a series of billboard interventions. Led by Donald R. Mullen, Jr. Director & Chief Curator of High Line Art Cecilia Alemani, and presented by the High Line, the art program invites artists to think of creative ways to engage with the unique architecture, history, and design of the park, and to foster a productive dialogue with the surrounding neighborhood and urban landscape. For more information about High Line Art, please visit thehighline.org/art.

About the High Line

The High Line is both a nonprofit organization and a public park on the West Side of Manhattan. Through our work with communities on and off the High Line, we’re devoted to reimagining public spaces to create connected, healthy neighborhoods and cities. Built on a historic, elevated rail line, the High Line was always intended to be more than a park. You can walk through gardens, view art, experience a performance, enjoy food and beverage, or connect with friends and neighbors—all while enjoying a unique perspective of New York City.

Nearly 100% of our annual budget comes through donations. The High Line is owned by the City of New York and we operate under a license agreement with NYC Parks. For more information about the High Line, please visit thehighline.org.

Support

Major support of the High Line Plinth comes from a dedicated group of contemporary art leaders and philanthropists. The High Line Plinth Committee is committed to realizing significant commissions and the public success of the Plinth. It includes Shelley Fox Aarons and Philip E. Aarons, Jennifer and Jonathan Allan Soros, Elizabeth Belfer, Suzanne Deal Booth, Fairfax Dorn, Steve Ells, Kerianne Flynn, Andy and Christine Hall, Hermine Riegerl Heller and David B. Heller, J. Tomilson and Janine Hill, The Holly Peterson Foundation, Annie Hubbard, Dorothy Lichtenstein, Amanda and Don Mullen, Miyoung Lee and Neil Simpkins, Douglas Oliver and Sherry Brous, Mario Palumbo and Stefan Gargiulo, Susan and Stephen Scherr, Susan and David Viniar, and Anonymous.

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