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WHAT FLIES

ERIKA LINCOLN

ABOVE

REVA STONE



Print on demand publication of the two-part exhibition
What Flies Above: Erika Lincoln and Reva Stone
presented at Gallery 1C03, The University of Winnipeg
from January 11 to February 17, 2018

Curated by Jennifer Gibson

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Back cover: Erika Lincoln, *All Your CDN Base are belong to U.S.*

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Introduction

Gallery 1C03 is pleased to present this publication to document *What Flies Above*, a two-person exhibition of new digital and sculptural installations by Winnipeg artists Reva Stone and Erika Lincoln that explores socio-political implications of our interactions with unmanned aerial vehicles (often referred to as UAVs or drones).

For more than two years and independently of one another, Lincoln and Stone have researched UAVs in their artistic practices. Stone's digital works investigate how UAVs are represented in popular culture and reflect the often-unconscious stories we tell ourselves about them, including our social and cultural hopes and fears. *What Flies Above* features her text-based animated projection *Alphabet* and an interactive computer-programmed installation titled *Console*. Lincoln's interests include the trickle-down effect of mass surveillance and cybernetic technologies into consumer goods. She incorporates 3D printing to make real and imagined connections between military and recreational applications of UAVs through works such as *NGGHGC* and *NGGH Beluga Drone*.

Stone's animated video *Alphabet* dominated the gallery's east wall. The artist worked primarily with text to make an impact in this piece. Ordered alphabetically, a word list of countries that use and develop UAVs is presented to us in front of a slightly cloudy but still mostly blue sky. One by one, the name of each nation takes the "stage" while the names of their UAVs fly up and out from them, fading slowly into the surrounding atmosphere. Weaponized UAVs are flame-coloured. "Naming," notes Stone, "reveals layers of meaning including who owns UAVs and how many, the proliferation of militarized UAVs, and which countries are selling UAVs to others."¹ The background of this work carries unexpected significance. Blue skies in targeted areas fill people with dread as this is when strikes occur. Cloudy days offer more hope as assaults are somewhat impeded by poor visibility. Stone's backdrop adds another uneasy layer of meaning to this work which may appear innocuous at first glance.

A small, dark room was built in the back corner of the gallery for Stone's user-activated work *Console*. This space suggests the bunker-like quarters occupied by military UAV operators where they watch and target individuals. The enclosure isolated viewers from the rest of the exhibition and implies the alienation that drone pilots experience from the world outside of their ground stations. Once inside, visitors were invited to sit at the desk and operate the joystick to start the computer program. Stone compiled and edited 175 found video clips that question and make visible a wide spectrum of UAV functionality. Clips include military usage, the ability to shoot footage beyond what our eyes can see, cinematic equipment, smart phone tie-ins and interfaces, deliveries, building inspections, geographic surveys, interference with air flight patterns, hacking of GPS systems, drone racing and more. Activating *Console's* joystick enabled viewers to switch between various clips, making correlations and inferences drawn from their content. Other buttons triggered a tracking function or set off an explosion.

In her artist statement, Stone writes that she is especially interested in UAV narratives such as “the contradictory views that portray remote killing either as efficient or as cowardly; the mix of intimacy and distance involved in remote killing; the relationship between UAVs and the nuclear bomb; the changing nature of war itself, and the ethical slippage that is occurring in targeted killing.”² The aesthetic that Stone uses in her work for this series highlights the fragmented nature of our perception and the ways in which we receive information and create meaning when engaging with complex, multifaceted issues. She points out that it is not her intention to make a blanket case for or against the use of UAVs but rather to frame the issues they raise in ways that add to the discourse surrounding their use.

This exhibition takes its title from a group of works on UAVs by Erika Lincoln called *What Flies Above*. Sitting in the backyard of her west end Winnipeg home, Lincoln was curious to learn the places of origin for the planes flying over head. She turned to Siri and, using the command “What Flights Are Above Me”, she received answers.

Lincoln's research on UAVs proceeds from their origin as technological hybrids: they are part computer, part robot and part flying machine. She extends notions of hybridity to the forms that her drone-related sculptures take. For this series, she conflates a well-known American-made UAV with other objects using computer design programs and 3D printing technologies. *NGGHGC* is the earliest of these works. Here Lincoln merges a 3D model of Northrop Grumman's Global Hawk UAV with a Grumman aluminum canoe to create a small sculpture that recalls a desktop model airplane ornament.³ Hovering above this work is the equally diminutive *Global Cloud-NGGH* which casts a somewhat menacing shadow over its grounded relation. These pieces can be seen as prototypes or studies for much larger works.

The wall installation *LookingIN-NGGH* and *LookingOUT-NGGH* addresses concepts of internal and external surveillance. It features four mirrors with 3D printed models of adjoining Global Hawks circling their frames. The components alternate between UAVs pointing inwards and outwards and are treated with silver and gold paint to recall finishes used in both home décor and industrial applications.

For *Arctic Sovereignty: Better Living Through Bio-robotics-NGGH Beluga Drone*, Lincoln again fuses elements of the Global Hawk with another entity. In this case, she imagines that scientists have created cybernetic animals by joining drones with beluga whales for the purpose of national defense. Her speculative design features a pod of genetically engineered belugas that function as an underwater border patrol guarding Canada's claim to the Arctic. For history of technology enthusiasts, *NGGH Beluga Drone* may invoke comparison to the defensive strategy of the DEW Line radar stations installed in the far north in the 1950s to protect against an impending Cold War with the former Soviet Union.

What Flies Above also includes Lincoln's computer-based video work *Strike Release: Sun Models-NGGH*. This piece logs all of the military strikes in Syria in 2017 by the Combined Joint Task Force's Operation Inherent Resolve. Twelve nations, including Canada, participated

in these air strikes. Lincoln recorded the number, location and date of the strikes. The computer's software program uses a shadow projection algorithm to animate and move the silhouette of a Global Hawk across the screen. Each movement represents the passing of time. Lincoln explains that the role of the Global Hawk in these strikes is not as a bomber but as communications support flying 60,000 feet above the area of engagement. Conceptually, Lincoln says that one of her goals with *Strike Release: Sun Models-NGGH*, is "to reveal the relentlessness of an invisible presence, always watching but never seen."⁴ The artist shows not only the shadow algorithm but also several of the commands and prompts that run the program and reveal further information about the strikes themselves. For example, a flashing red light and a numerical counter are continually updated, indicating the growing strike tally. To the right of the image, strike locations are identified. Interestingly, as Lincoln points out, "the computer program's language commands parallel the language of military commands themselves such as 'clear', 'bang', 'load', etc."⁵ Strike data is also quantified as hundreds of pages of hard copy print-outs from the official reports of Operation Inherent Resolve which are presented on a clipboard alongside the video. Perusing through these reports the military quantifies strikes but does not mention the human casualties affected by them.

In their work, Erika Lincoln and Reva Stone use new artistic media and creative technologies to question our relationship to other contemporary technological inventions and applications, specifically UAVs. Their art explores how actual and anticipated uses of drones affect our perceptions of reality, our relationships with one another, and even the very nature of being human. *What Flies Above* does not provide definitive answers; rather it opens the door to pursuit of further investigative inquiry both for the artists and for their audience.

Jennifer Gibson
Director/Curator, Gallery 1C03

1. Reva Stone, Unpublished artist statement, March 2017.
2. Ibid. Stone cites Hugh Gusterson's publication *DRONE: Remote Control Warfare* (MIT Press, 2016) in shaping some of her thinking around her UAV-related works, particularly Gusterson's coining of the phrase "ethical slippage".
3. Founded in 1929, the Grumman Aircraft Engineering Company was a leading American producer of military and civilian aircraft who also produced canoes that became much sought after by recreational enthusiasts. In 1994, Grumman merged with Northrop Corporation and as a combined entity they produced the Global Hawk drone for the US military. <https://en.wikipedia.org/wiki/Grumman>. Accessed January 8, 2018.
4. Erika Lincoln, Unpublished artist statement, March 2017.
5. Erika Lincoln, Personal email communication to the author, January 9, 2018.



6 *What Flies Above*, installation view, Gallery 1C03, University of Winnipeg

Are drones a distraction?: What Flies Below that *Which Flies Above*

By Emily Doucet

A common refrain in recent Anglo-American cultural criticism holds that our collective capacity to make sense of the world and to imagine different futures has been diminished—that the complexity of global geopolitics and capitalism have made technologies, conflicts, and indeed the ethical parameters of our own lives entirely too complex to comprehend. An equally resounding claim is that we now have access to increasingly large amounts of information. Alongside these discussions, a new (though not as new as one might think) technological object has come into cultural prominence: the drone or Unmanned Aerial Vehicle (UAV).¹

As a cipher for the military-industrial complex, a fascination with aerial views, big data and state surveillance, drones have become ubiquitous in contemporary art. So, what are we, as artists, writers and scholars, responding to? What is the crisis, and what does the new delimitation of human perception enabled by drone vision allow us to learn about it? Questions of how to think about drones are, of course, quite luxurious, one not afforded to many who live under their shadows. In addition to its relative novelty and the ever-present horrors of drone warfare, perhaps drones are interesting to us because their operations enact complexity and crisis in a relationship that we can at least partially understand. While the consequences of this transformation of warfare are admittedly still unresolved, the phenomenological experience of the drone operator gives us some insight into the reverberating trauma of these machines.

An essay by former American drone operator Brandon Bryant from 2017 gives us one account of such machinations. Describing his military career, he writes: "Training didn't really provide the ability to practice the basic skill set needed but provided the routine and methods to use... Through all of that, I excelled and struggled with convincing myself that it was all justified and my intuition was wrong."² This account of disjuncture is an apt (albeit chilling) metaphor for the cognitive dissonance of twenty-first-century North-American experience. Anthropologist Joseph Masco has put a name to this feeling, suggesting that we are experiencing a "crisis in crisis." As Masco argues, "the power of crisis to shock and thus mobilize is diminishing because of narrative saturation, overuse, and a lack of well-articulated positive futurities to balance stories of end-times."³ This observation has interesting implications for art practice, most pressingly regarding how the representation of crisis can enter the realm of critique.

Addressing this complexity in *What Flies Above*, Reva Stone and Erika Lincoln divide the exhibition into recognizable halves—form and function. Lincoln's work obsessively documents and iterates on the material and technological history of the drone, while Stone maps the diversity of uses, applications and reactions to expanding fields of drone vision. This breaking down of the integral form of the drone, with all its current cultural cache, illuminates the social and material networks from which the drone emerged.

Reva Stone's filmic anthropology of drone experience in *Console* maps the many ways that the drone has infiltrated cultural consciousness, from drone ballets, to grocery delivery, and from environmental activism to military use, showing the viewer the ways in which the drone and its real and imaginary uses have taken hold of the popular imagination. Here, the black walls of the installation align the white cube of the exhibition space with the interior of a drone operator's workspace, both abstracted from the exterior world and constituted by culturally and technologically structured orientations of vision. Stone's *Alphabet* shows an animated video of an alphabetized list of the more than seventy-five countries that own and operate drones and the names given to the drones. The shifting blue-sky background is a reference to the work of historical geographer Derek Gregory; in which he tells us that children in countries terrorized by frequent drone attacks dream of grey skies, weather conditions that obscure the drone's ability to strike.⁴

Erika Lincoln's installation *LookingIN-NGGH* and *LookingOUT-NGGH* features reverberations of the drone's iconic shape, meditatively 3D printing the form of the Global Hawk drone and forming them into iterative circles. In *Arctic Sovereignty: Better Living Through Bio-robotics-NGGH Beluga Drone*, Lincoln transposes the body of the Global Hawk onto that of a beluga whale, citing the lengthy history of military research into cetacean intelligence. *NGGHGC-Northrop Grumman Global Hawk Grumman Canoe* traces the corporate history of the aluminum Grumman canoe—for many an iconic Canadian image—through to the Northrop Grumman Global Hawk drone. Lincoln's video *Strike Release: Sun Models-NGGH* notes the dates and locations of military strikes in Syria by the Combined Joint Task Force's Operation Inherent Resolve (which includes Canada) for the year 2017. Using a shadow projection algorithm, the shape of the drone is projected across the screen as a visual metonym for the real presence of these technological objects in space and time.

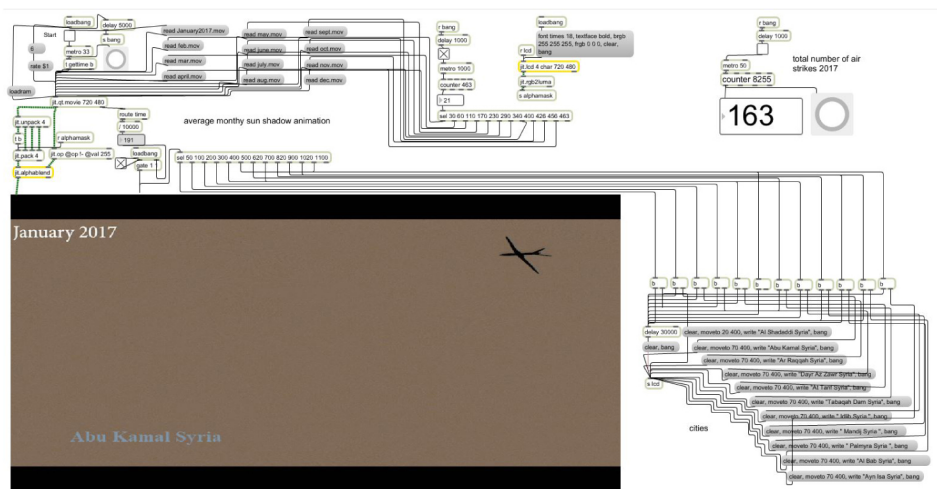
A prominent example of recent drone-related projects, James Bridle's *Dronestagram* (2012-15) hosted images of drone strike locations taken from Google maps, based on reports from journalists in the Middle East. In a 2015 talk at the Art Gallery of Ontario in Toronto on the subject of photography and the atomic bomb reflecting on this project, among others, Bridle discussed the ethical problem of creating artworks about such a subject, and asked: how do we make artworks that investigate, rather than represent, systems of imperial vision?⁵



The difficulty lies in distinguishing between the novel power of drone technologies and the ancestral systems of imperial violence that they operate within. And so I ask, are drones a distraction? Cultural emphasis on the novelty of the drone both disassociates the technology from its variegated contexts, and obscures the unchallenged political rationales that make such a technology dangerous. Artists have long looked to expand the field of perception as a way in which to mediate cultural crisis. Our interest in expanded vision in these moments of crisis extends beyond a desire to understand, to a desire to see the shape of crisis itself. New technologies of vision (and correspondingly, representations of these technologies) have always encompassed both utopian and dystopian elements of technological speculation, and their ongoing use has seen just as varied a political existence.

Grégoire Chamayou has spoken of drones as having “Their history is that of an eye turned into a weapon.”⁶ With the introduction of the Reaper drone, the U.S. Army has expanded the use of drones beyond surveillance and reconnaissance to their new role as a weapon system. As is also the case in global drone deployment, in Canada, drones have a longer history than many might assume. Beginning in 1963, Canadair (now Bombardier Aerospace) produced the CL-89, a drone produced for use by the militaries of Canada, United Kingdom and the Federal Republic of Germany. The CL-89 and the subsequent model CL-289, functioned in a similar manner to rockets, with little control available after their launch, and used mainly for surveillance. Around 1985, governmental support in the form of procurements slowed Canadian development of drones for about 15 years. During this period Canadair sold CL-89 and CL-289 systems to both the French and German governments, who used these systems in Bosnia and Kosovo in the 1990s. This period also saw continued collaboration between Canadair and the US Navy, in research leading to the construction of the CL-227 Sentinel (among other models), a drone designed to take off from a ship. As new firms began to explore the civil applications of drone technology in the 1990s, the Canadian military also began to employ drones in both domestic and foreign operations, prompting a resurgence in the drone development sector in Canada in the 1990s. More recently, the Canadian Forces have developed a strategic drone campaign plan, outlining plans for procurement and activities, including the acquisition of several drones for operations in Afghanistan.⁷ According to a 2016 article in the *Royal Canadian Air Force Journal*, the Canadian Forces currently make small-scale use of drones, using only “tactical” sized systems.⁸ The “tactical” systems are employed in intelligence, surveillance and reconnaissance work, and are not weaponized. The Canadian Government and the Armed Forces have both recently reiterated their commitment to further developing Canada’s UAV capabilities, with particular mention of protecting Arctic and maritime sovereignty. In 2016, Canada’s chief of defense staff, General Jonathan Vance announced that the military intended to move forward with purchases of armed drones, stating that he sees “little point” in having drones that can only watch.⁹ The 2017 National Defense Strategy Report authorized the Armed Forces to purchase and use armed drones for the first time.¹⁰

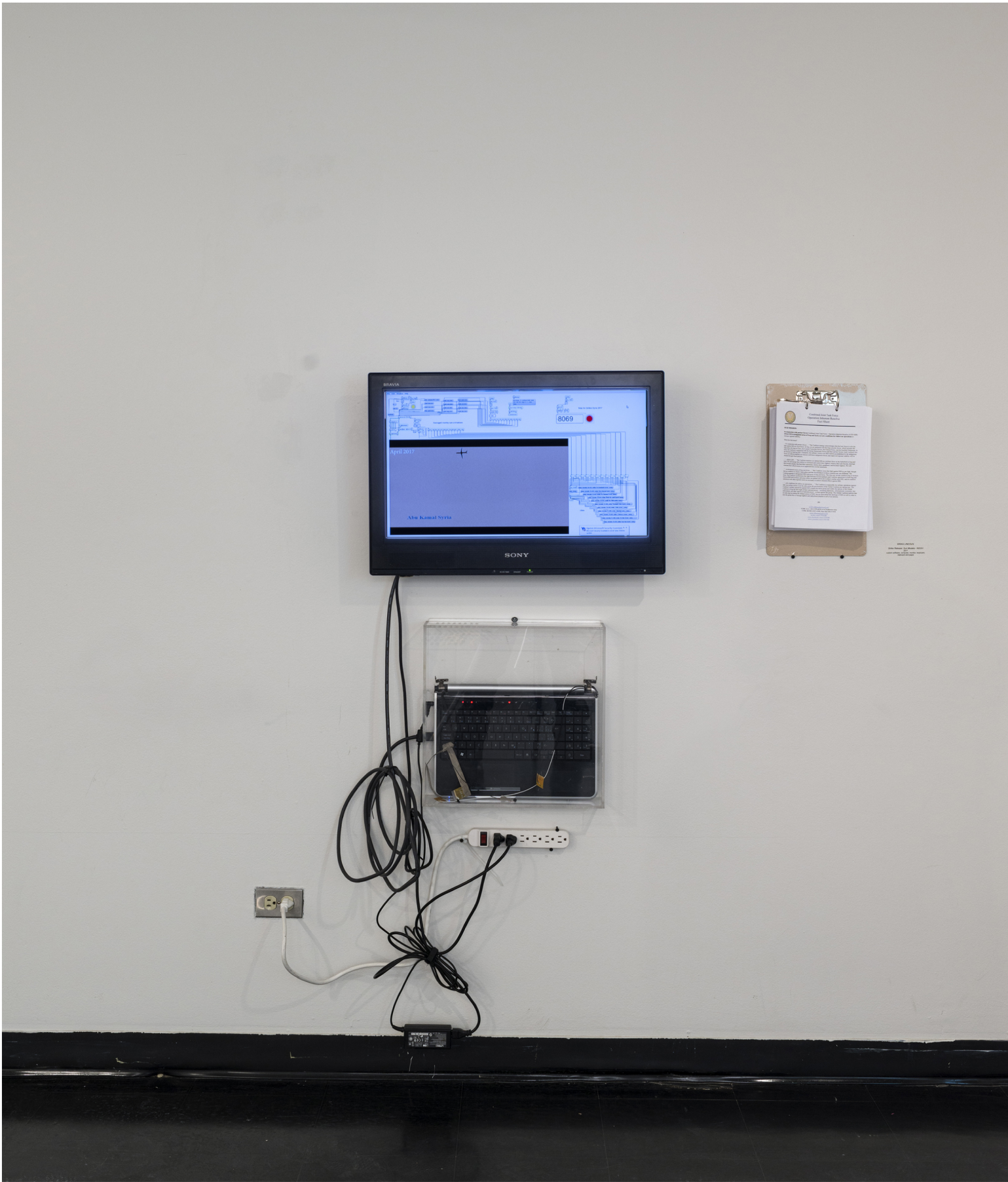
Recounting the Canadian history of drone use and production not only situates Canada’s shifting corporate and political landscape with regards to drone production and use, but also underscores the unfolding nature of our relationship with drones. Here, the iterative



quality of Stone and Lincoln's respective work in *What Flies Above* productively lays out a kind of collective working-through, a mediation of, and perhaps most importantly, a critique of these technologies in their unfurling forms. Perhaps the real challenge, though, is how to make the drone invisible, so that we might instead see the entangled networks of violence in which they participate.

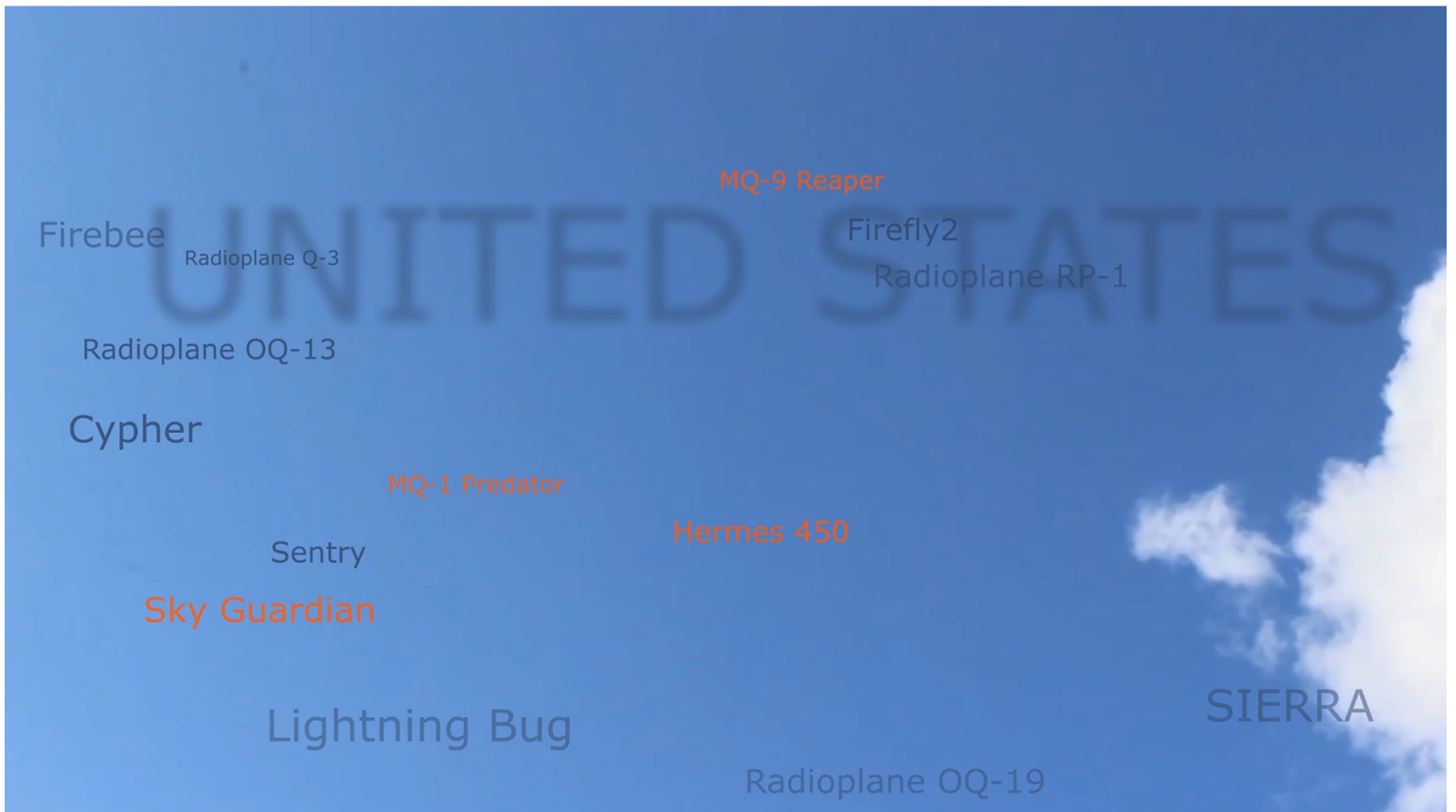
Emily Doucet is a writer and PhD candidate in the Graduate Department of Art at the University of Toronto. Her current research focuses on the history of photography and the technological imagination from nineteenth century to present.

1. While both terms are in wide use, for the purposes of this essay I will use the term "drone."
2. Brandon Bryant, "A Sensor, Darkly," *The New Inquiry*, September 15, 2017. <https://thenewinquiry.com/a-sensor-darkly/>. Accessed October 17, 2017.
3. Joseph Masco, "The Crisis in Crisis," *Current Anthropology* 58:15 (February 2017): 65.
4. Derek Gregory, "Little Boys and Blue Skies: Drones Through Post-Atomic Eyes," presented at *Through Post-Atomic Eyes*, Toronto, October 23-25, 2015, <https://www.youtube.com/watch?v=gBH-YnJ1rqY&t=2297s>.
5. James Bridle, "Big Data? No thanks," presented at *Through Post-Atomic Eyes*, Toronto, October 23-25, 2015, <https://www.youtube.com/watch?v=zmjTN6qlMag>.
6. Grégoire Chamayou, *Drone Theory* (New York and London: Penguin, 2015), 11.
7. For this brief history of Canada's drone program, I've relied on the account provided in Andrew Carryer, *A History of Unmanned Aviation in Canada* (MacDonald, Dettwiler and Associates, 2008), <https://mdacorporation.com/docs/default-source/brochures/isg/surveillance-and-intelligence/c4isr/airborne-surveillance-and-intelligence-systems/historyuavs.pdf?sfvrsn=4>.
8. Conrad Edward Orr, "Can Unmanned Aircraft Systems Meet Canadian Air Power Needs?," *Royal Canadian Air Force Journal* 5:3(Summer, 2016), <http://www.rcaf-arc.forces.gc.ca/en/cf-aerospace-warfare-centre/elibrary/journal/2016-vol5-iss3-04-can-unmanned-aircraft-systems-meet-canadian-air-power-needs.page>.
9. Tom Parry, "Canada should buy drones that can strike as well as see, says Jonathan Vance," *CBC online*, March 7, 2016, <http://www.cbc.ca/news/politics/vance-canada-armed-drones-1.3480278>.
10. Government of Canada, "Strong, Secure, Engage: Canada's Defence Policy Report," 2017, <http://dgaapp.forces.gc.ca/en/canada-defence-policy/docs/canada-defence-policy-report.pdf>.









SPAIN

V-200

Raven

SIVA

Searcher

MQ9-Reaper

CHINA

CADI-3

KC2000

Aerostat

Autumn Leaf

RMAX

ASN-9

Xianglong

CH-3

Sharp Sword

Warrior Eagle

CH-5

VD200

Dolphin

CH-4

Yilong

Wing Loong

Harrier III

Sharp Eyes

H300

Sky Crossbow

Scorpius 200

WJ-600

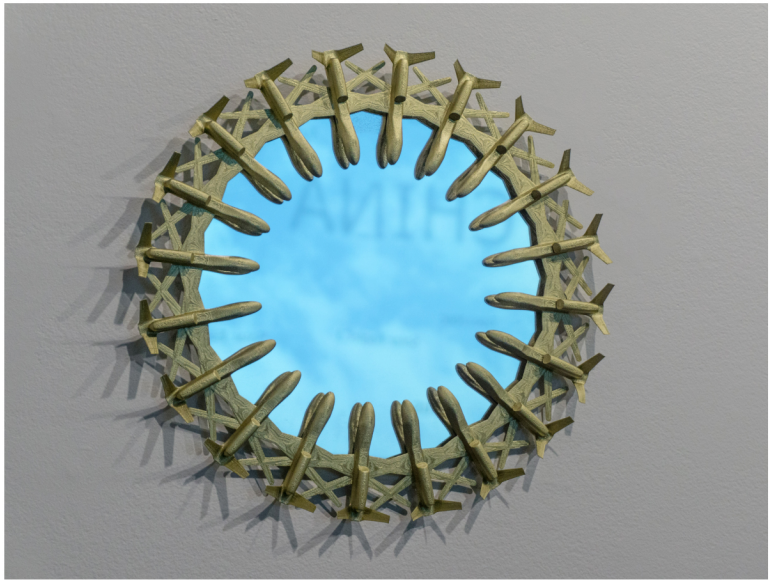
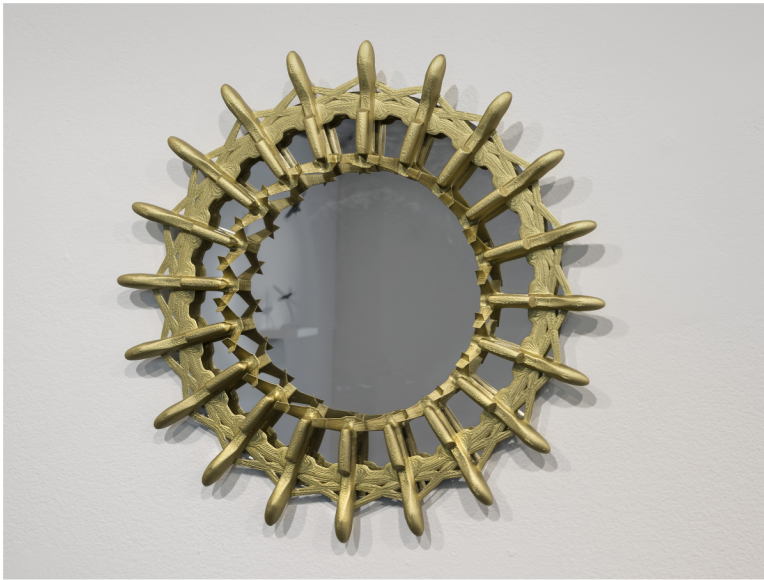
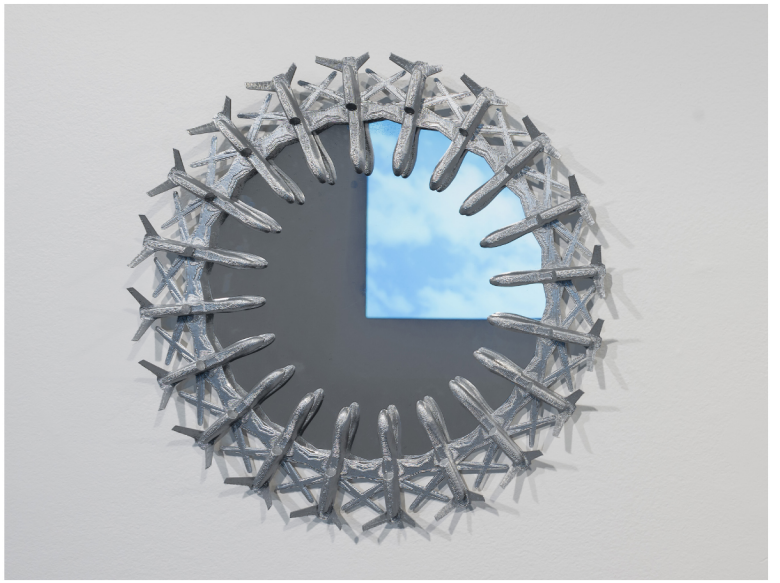
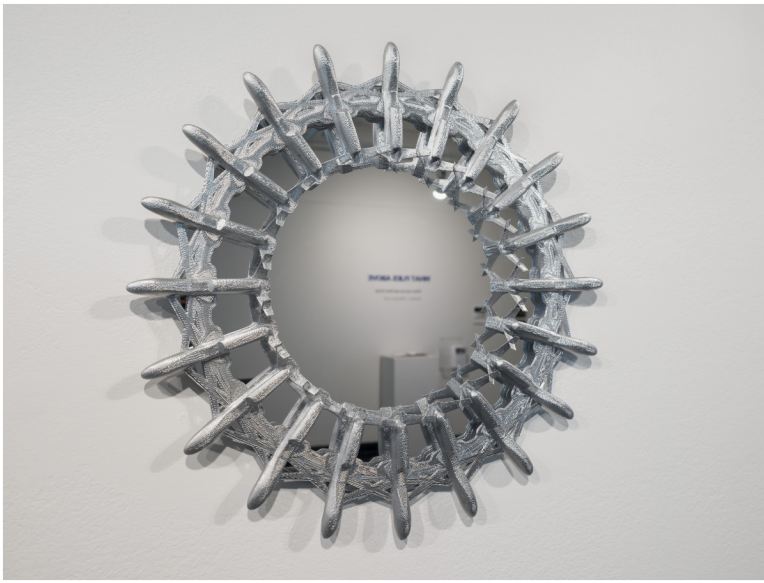
Mad Warrior





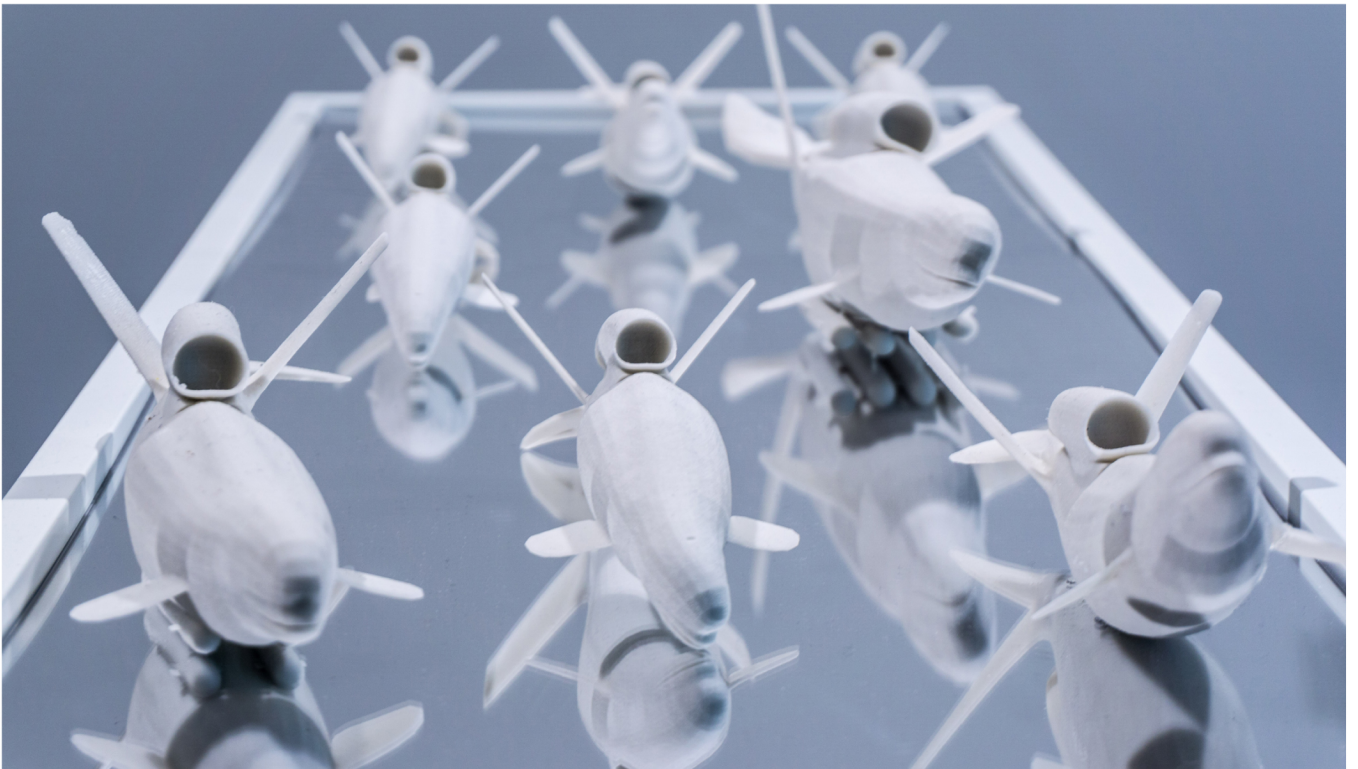


18 Erika Lincoln, *NGGHGC-Northrop Grumman Global Hawk Grumman Canoe and GlobalCloud-NGGH*





20 Erika Lincoln, *All Your CDN Base are belong to U.S.*



List of Works

Measurements are height x length x width.

Erika Lincoln, *All Your CDN Base are belong to U.S.*
2015, wood, paint and plastic
39" x 21" x 16"

Erika Lincoln, *Arctic Sovereignty: Better Living Through Bio-robotics-NGGH Beluga Drone*
2017, 3D prints in gypsum, steel table and mirrored acrylic
29 1/8" x 39 3/8" x 14 1/8"

Erika Lincoln, *GlobalCloud-NGGH*
2016, 3D print in ABS plastic
1" x 7" x 4"

Erika Lincoln, *LookingIN-NGGH and LookingOUT-NGGH*
2017, four 3D prints and metallic paint on mirrored acrylic
(two printed in ABS plastic and two printed in polycarbonate plastic)
each 13" diameter

Erika Lincoln, *NGGHGC-Northrop Grumman Global Hawk Grumman Canoe*
2016, 3D print in ABS plastic and paint
6" x 4" x 4"

Erika Lincoln, *Strike Release: Sun Models-NGGH*
2017, custom software, computer, monitor, clipboard, and paper
dimensions variable

Reva Stone, *Alphabet*
2017, digital video projection
dimensions variable

Reva Stone, *Console*
2017, custom software, computer, monitor, joystick, headphones and desk
dimensions variable

About the Artists

Erika Lincoln is a Canadian artist whose practice is centred around the nature of systems; how they hold knowledge, transmit ideas, and control behaviour. She works primarily in sculpture and includes drawing, sound, video, and kinetics as part of her approach. Over the past 17 years she has exhibited in galleries, media art festivals, and museums in North America, Europe, and Australia. She is a multi-year grant recipient from the Canada Council for the Arts and the Manitoba Arts Council and she has participated in residencies at the Banff New Media Institute in Canada (2005, 2009), Medialab Prado in Spain (2009/10), and as Artist in Residence with City of Winnipeg's Planning Department (2014/15). Exhibition highlights include *Stealing from the Real* at Boston Cyberarts Gallery in Boston, USA (2015), *Sensing the Future: Moholy-Nagy, Media and the Arts* at the Bauhaus-Archiv in Berlin, Germany (2014), *Machines – The Shapes of Movement* at Manifestation Internationale d'Art de Québec in Québec, Canada (2012) and *The Singing Condition* at the Winnipeg Art Gallery (2011).

<http://lincolnlab.net/>

Reva Stone's art examines the mediation between our bodies and the technologies that alter how we interact with the world. She engages with various forms of digital technologies to initiate discourses about how biotechnological and robotic practices impact the very nature of being human. Her work has included pieces such as *Imaginal Expression*, an endlessly mutating responsive 3D environment, *Carnevale 3.0*, an autonomous robot that reflects on the nature of human consciousness, and *Portal*, which combines custom software, media, robotics and mobile phone technology to create a work that appears to be sentient. Currently, Stone is investigating ideologies driving the development of unmanned aerial vehicles. She examines contradictory views that portray remote killing either as efficient or as cowardly; the mix of intimacy and distance involved in remote killing; the relationship between today's UAVs and the nuclear bomb; the changing nature of war itself, and the ethical questions that occur in targeted killing. She has received many awards, including the 2017 Distinguished Alumnae Award from the University of Manitoba, the 2015 Governor General's Award in Visual and Media Arts and an honorable mention from Life 5.0, Art & Artificial Life International Competition, Fundación Telefónica, Madrid, Spain. She has exhibited widely in Canada, the US and Europe, has presented at symposia and has been published in journals such as *Second Nature: the International Journal of Creative Media*.

<http://www.revastone.ca/>

