



Contesting post-digital futures: drone warfare and the geo-politics of aerial surveillance in the middle east

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Abstract

The following conversation with artist Heba Y. Amin draws upon a series of projects that we have been working over an 18 month period, including our volume *Heba Y Amin: The General's Stork* (Sternberg Press, 2020) and her solo UK show, “When I see the future, I close my eyes”, at the Mosaic Rooms (London), 1/10/20–28/03/21. Throughout the conversation, we focus on the research background to *The General's Stork*, alongside other works, and the threat presented by drone-based forms of aerial surveillance and targeting across the Middle East. In particular, we enquire into how the post-digital future of surveillance technologies will impact on the region and how, in turn, those regional politics of drone technology increasingly define the geopolitics of global aerial surveillance.

Keywords Surveillance · Drone technology · Digital methods · Middle East · Research-led practice

Introduction

I first became aware of Heba Y. Amin's project *The General's Stork* in 2016 when, during a meeting in Berlin, she outlined the ongoing research she had been undertaking in relation to it. The facts were simple enough, but the implications, as I began to understand, were far from straightforward. In 2013, Egyptian authorities detained a migratory stork that was accused of espionage. Reportedly captured by a fisherman, who viewed the bird with suspicion after noticing an electronic device attached to it, the unfortunate stork was handed over to the local police station in Qena (a city situated on the east bank of the Nile in Upper Egypt). Upon further investigation, it transpired that the “camera device” was in fact a functioning tracking instrument attached by Hungarian scientists who were researching avian migratory habits. While the entire incident may at first appear risible, the event highlighted a nation-wide level of mistrust in relation to aerial surveillance and its threat—a level of apprehension which, as we will see, was and remains understandable if we consider the extent to which the region has

been topographically quartered through the means of military reconnaissance and the ever-present, and all-too-real, menace inherent in forms of drone surveillance across the region (Fig. 1).

In a broader regional context, as *The General's Stork* demonstrates, the episode references the political economy of aerial surveillance from both a bird's eye view and, in an age of digitally defined warfare, remote controlled drones. Against the backdrop of biblical prophecies, un-crewed aerial vehicles (UAVs), and colonial narratives, *The General's Stork* discloses how conquest from the sky—through land surveying, mapping, bombing and advanced drone technologies—has transformed western power into a politically expedient spectacle of high-tech weaponry. Focusing on how military techniques were developed in the specific context of Middle Eastern geographies, the project, as Amin observes throughout our following conversation, decisively delineates the contemporary condition of paranoia—borne of suspicions directed at the skies above—that led to a migrating bird being accused of spying. Drone surveillance, moreover, not only produces a psychopathological relationship to airspace based on the anxiety, fear, and trepidation felt by those subjected to such technologies, it also consigns and delivers the Middle East to new forms of visibility and visualization. And central to these issues is the extent to which the techno-aesthetics of visualization—the (operational) means of envisioning and the synchronized manifestation (appearance) of

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Fig. 1 Series of first aerial photographs of Palestine and Syria. Olivet Range from 4500 m. [approximately 1900 to 1920]. Matson (G. Eric and Edith) Photograph Collection

the image—is imbricated within a seemingly unending play of future conflict and threat.¹

The apparent ubiquity of hostility was, of course, a mainstay of colonial discourse, and its technological manifestation through the digital “eye” exposes a neo-colonial logic that can only ever see the region in the strategically self-serving terms of atavistic threat and unrelenting conflict: the apparent hazards and dangers to the interests of capital and ascendant military-industrial complexes—represented by communities and populations across the region and defined through advances in surveillance—must be met, the logic goes, with closer monitoring, control, and intimidation if such “risks” are to be mitigated. This recursive logic of neo-colonial expansion, however, is not only self-serving but digitally defined in our age. Conflict, in this logic, is viewed as a region-wide phenomenon capable of emerging from anywhere and everywhere at once, while territorial control is contingent on the technological means of visualization rather than occupation. To this end, and while this project takes the region as a starting point for its development, our conversation reflects upon the historical precedents that gave rise to advanced surveillance methods and how the compartmentalisation of life and death—under the conditions of algorithmically defined systems of control—has effected a remorseless and apparently indefatigable regime of digital surveillance. If we consider, for one, future developments within Wide Area Airborne Surveillance (WAAS) and Wide

¹ These points are developed in depth throughout my essay “There’s Always Someone Looking at You: Performative Research and the Techno-Aesthetics of Drone Surveillance”, in *Heba Y. Amin: The General’s Stork*, ed. Anthony Downey (Berlin: Sternberg Press, 2020), 8–30.



Fig. 2 Documentation of Menes’ rescue, 2013. Courtesy Haitham Mossad

Area Motion Imagery (WAMI), specifically the future effects of constant reconnaissance, the applications of such technologies within the region and, indeed, beyond should give cause for considerable concern—a point made more explicit below.

—Anthony Downey

Anthony Downey: Can you talk about the origins of *The General’s Stork*—I understand there was a bird involved?²

Heba Y Amin: I was struck by an incident in Egypt in late 2013: a viral media story about a bird that was captured and accused of espionage. The story suited the absurdity of that moment in the Egyptian narrative when the Muslim Brotherhood was overthrown by the army and everyone had their say about it, particularly in Western media. The bird—who was given the name Menes—was a migratory stork with a scientific tracking device attached to his body by a wildlife consortium in Europe. The bird raised suspicion when he was captured by a fisherman in southern Egypt and was handed over to the police authority in Qena, where they subsequently held him in a jail cell.³ Shortly after the tracking device was authorized, the bird was released but did not get far before being hunted and eaten by local children in Aswan. They had, in effect, consumed their paranoia. Like everyone else, I was fascinated by the absurdity of the story and the vivid image it conjured, but I also knew that paranoia did not emerge from a void, and I was compelled to investigate the origin of that (Fig. 2).

² The following paragraphs are drawn from an interview due to be published in *Warchives: Archival Imaginaries, War and Contemporary Art* (Berlin: Sternberg Press, 2020), edited by Daniela Agostinho, Solveig Gade, Nanna Bonde Thylstrup and Kristin Veel.

³ For fuller details see: Conal Urquhart, “Arrested ‘Spy’ Stork Killed and Eaten after Release in Egypt,” *Guardian*, September 7, 2013, <https://www.theguardian.com/world/2013/sep/07/arrested-spy-stork-killed-eaten-egypt>.



AD: Let's discuss the basis of that paranoia: in late 2013, when the bird was found, Egypt had already seen the overthrow of Hosni Mubarak, in February 2011, and Mohamed Morsi, the short-lived fifth President of Egypt, had been likewise ousted in July 2013. So the situation was fluid, to say the least. How did this impact upon people and their general outlook at the time?

HYA: Let's say the Egyptian people have been living in paranoia for a long time. In fact, this period following the 2011 revolution was possibly the first time they could express it openly. But leading up to, and especially after the ousting of the Muslim Brotherhood president Mohamed Morsi, there was plenty of mistrust to go around. The fact that we could maybe link that paranoia to decades of living under oppression from various political factions—both foreign and local—was of particular interest to me. I explain that paranoia through architectures of warfare and the remnants of violence that are embedded in the landscapes in question—to borrow from Masao Adachi's landscape theory.⁴

AD: Can you talk more specifically about the bird in question and the research you undertook into the details of its capture and release? I understand you spoke to a number of people involved in its rescue.

HYA: I did in fact contact several people involved with the rescue of the bird. The researchers in Hungary realized something was wrong when their tracking device was no longer recording movement. Tracking storks helps inform researchers about the danger storks face along their migration routes and, according to their data, the bird was stuck somewhere in southern Egypt. They proceeded to contact Nature Conservation Egypt, a local NGO, to see what happened. Because the migratory bird defies political boundaries, it became an interesting allegorical tool for addressing contemporary politics, particularly in relation to the failure of the nation state as a means of containment. It allowed me to critique the history of territorial configuration and occupation in the region.

While the bird in question is seemingly innocent, the view from the sky in these particular landscapes represents something much more nefarious—a fisherman from Qena questioning an electronic device on a bird is not so far-fetched when you consider the centuries of colonial occupation, foreign military interventions, archaeological excavation and extraction of cultural heritage. Among the many narratives

I explored, I was particularly struck by a secret American military airbase located just outside of Qena. It was here that "Operation Eagle Claw" was launched, an attempted rescue mission for the American diplomatic crisis in the late 1970s in Iran when 52 diplomats and citizens were held hostage for 444 days. The operation ultimately failed and brought to the foreground the ways in which imperial power dynamics operate. It is also often cited as the reason Jimmy Carter lost his re-election.

AD: The region has a history of avian prophecy that also references this narrative of colonialism, warfare and violence—I am thinking here of Lord Allenby and his use of airplanes drop leaflets over the city of Jerusalem in 1917.

HYA: Lord Allenby was the Commander-in-Chief of the Egyptian Expeditionary Force (EEF) in Cairo in 1917 and was given orders by Prime Minister David Lloyd George to capture Jerusalem from the Ottoman Turks. He was persuaded to launch an attack based on a biblical prophecy found in the book of Isaiah 31:5, which states: "As birds flying, so will the Lord of hosts defend Jerusalem; defending also he will deliver it; and passing over he will preserve it". Based on this prophecy, Allenby believed it was his duty to send as many planes as possible to fly over Jerusalem, demanding the Turks surrender the city. This put Palestine under British mandate—courtesy of the so-called Balfour Declaration—which set the foundation for the modern-day state of Israel. Allenby's "protective" birds were no more than a mechanism to justify colonial theft. He uses religious prophecy, a strategy that continues to be used 100 years later, to advocate for the erasure of a people by dehumanizing them or simply pretending they don't exist.

I came across the story of Lord Allenby and his bird prophecy through a peculiar portrait of him with his pet stork in his garden in Cairo in 1922. I was struck by the relationship between Allenby and this bizarre looking bird, particularly by their similar disposition. I was also thrilled that the bird was of the stork variety and found the connection to Menes, the spy bird jailed in Qena, an exciting bridge in the story. My research became about connecting the dots and finding ways to narrate the transformation of the geography of the region in the last 100 years through the narrative of birds, a strategy that draws from Farid ud-Din Attar's parable *The Conference of the Birds*, which is about the quest to attain enlightenment as told through birds with human qualities (Fig. 3).

AD: In the years leading up to Allenby's arrival in Jerusalem, other aerial-bound devices were being invented to take photographs including, in 1908, a form of "pigeon photography"—the latter pioneered by Julius Gustav Neubronner, a German apothecary, inventor, and amateur photographer and film-maker. You make some interesting connections in the project to aerial bound photography and warfare, not least in the way

⁴ Masao Adachi, a one-time member of the Japanese Red Army whose work and writings were inspired by Marxist film criticism of the 1970s, proposed that all landscape, be it sublime or otherwise, is a *de facto* expression of a dominant political and ruling power. For a fuller discussion of Adachi's theory of landscape, see Rei Terada, "Repletion: Masao Adachi's Totality," *Qui Parle*, vol. 24, no. 2 (Spring/Summer 2016): 15–43.





Fig. 3 Pigeon with spy camera, 1914. Courtesy Kronberg Archive

that the concepts behind Neubronner’s ideas are today considered to be the forerunner to mechanized drones, or unmanned aerial vehicles (UAV), and the armed reconnaissance drones that emerged in the 1980s.

HYA: Neubronner’s pigeons were a fascinating find for me: the German inventor strapped small cameras with timing mechanisms to the birds for aerial photography. This was very quickly adopted by the German military intelligence who reportedly trained pigeons leading up to World War II. Today, we have Festo, a research laboratory in Germany investing in what they call “bionic thinking”, or robotics that mimic nature. They have developed the SmartBird, a drone that is engineered to mimic the flight of a seagull.⁵ Festo claims they are not engineering these robots for warfare purposes, but these kinds of technological developments are almost always used by the military. Where are they being used, and against whom—these are the more pertinent questions here. In 2011, a downed drone bird almost identical to the SmartBird also crashed in Chaman, a bordering township with Afghanistan. Can you imagine encountering this in Chaman or Waziristan, which have both seen the heaviest bombardment from drone strikes? Now they can’t even tell the difference between a beautiful bird and a killing machine (Fig. 4).

AD: It seems that Allenby’s protective birds, the biblical augury of refuge, have metamorphosed here into the spectre of imminent, if not arbitrary, drone-ordained



Fig. 4 Festo, SmartBird, 2011

death from above. I want to talk further here about your research into drone technology. Launched from the ground in regions across the Middle East, Afghanistan and Pakistan, the information from drones is typically relayed via satellites to US air force bases where drone operators make decisions—such as whether to fire a Hellfire II anti-armour missiles from a Predator drone—that are based on theoretical, information received as opposed to eyes on the ground, so to speak. This has had a huge impact on the psychopathology of airspace across the region—can you talk about this further?

HYA: The British military went to considerable lengths to understand the Arab mindset to ultimately control the territories in the Middle East through aerial surveillance in the early-twentieth century. American army strategists—with the most comprehensive and aggressive drone program in the world today—design fake Arab towns to practice drone warfare through gaming.⁶ Surveillance over entire populations has gone beyond anthropometric policing and into biometric data control. This means that the structuring of space is pursued in accordance with the archiving of the global movement of bodies. Drone warfare particularly looks to spatio-temporal mapping, or the analysis of an individual’s movements in correlation to space and time. Drones look for so-called outlier data, or anyone who veers from their daily routines and could be deemed a potential target. If someone is subjected to surveillance, a spatiotemporal map can relay the patterns of their life; if they do something that deviates from this pattern, they could be flagged through algorithmic

⁵ The use of albatrosses fitted with lightweight radar detection devices used to identify illegal fishing ships in remote locations has been recently noted. See Eleanor Ainge Roy, “‘Intelligent Drones’: Albatross Fitted with Radar Detectors to Spot Illegal Fishing,” January 31, 2020, <https://www.theguardian.com/world/2020/jan/31/intelligent-drones-albatross-fitted-with-radar-detectors-to-spot-illegal-fishing>.

⁶ Grégoire Chamayou has observed that “[w]hen American army strategists imagine what drones will be like in 25 years, they begin by getting an infographist to create a composite image of a typical Arab town, complete with mosque, other buildings, and palm trees”. Grégoire Chamayou, *Drone Theory* (London: Penguin Random House, 2015), 56.



processing. The White House “kill list” criteria are unknown and based on blind trust.

Perhaps even more alarming is that people are now being labelled as potential threats before they have even considered doing anything: in April 2017, over 400 Palestinians were detained based on an algorithmic determination of the possible danger they posed to Israel.⁷ Furthermore, American military rhetoric systematically portrays warfare through aesthetics that not only glorify the destruction of Middle Eastern cities but also reduce the casualties of civilians to faceless, abstract figures. The aftermath of 9-11 brought us the postmodern war and operation “Shock and Awe”, where scenes of violence and destruction from the aerial bombardment of Iraq in 2001 were broadcast on TV and narrated through aesthetic constructs. Sixteen years later, the 2017 US Shayrat missile strikes in Syria were described as “beautiful pictures” by MSNBC’s Brian Williams. The victims of war see their spaces and landscapes simultaneously through experience and through the aesthetics of the machine. Their multi-layered perception of landscape becomes like an out-of-body experience where witnessing one’s own death is an imminent possibility.

AD: You have been working with a series of photographs for a new project, some of which we have included in our volume *The General’s Stork* (Sternberg Press, 2020). These include the first aerial photographs of Palestine, produced circa 1900–20, and depict areas such as the Olivet Range from 4500 m, Jericho Road from 3000 m, and Bethlehem and Nazareth from 3000 m and 2500 m, respectively. How did you come across these images and how are you currently working with them? For example, I was particularly struck by how they are in part analogue precursors to the digitised images taken from un-crewed aerial vehicles (UAVs).

HYA: I am interested in the history of territorial configuration, the construct of the nation state, and the role that technology plays in reinforcing and maintaining ideological agendas. Photography from the late-nineteenth and early-twentieth century saw European and American interest in Palestine as a territory with religious significance. They were interested in Palestine—the land of the Bible—and not Palestine as a modern land with people living in it. Much of the photographic surveys of Palestine focused on the landscape itself, with few people depicted as though no one lived there. I have been working with this database of aerial photographs of Palestine from this period in an attempt to understand how the region has been continuously visualized

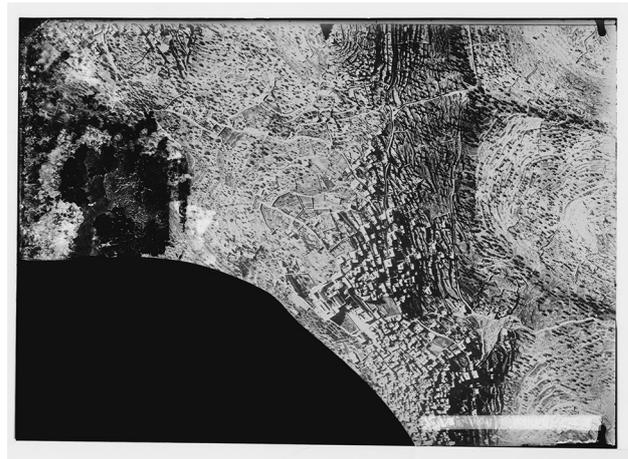


Fig. 5 Series of first aerial photographs of Palestine and Syria. Bethlehem from 3000 m. [approximately 1900 to 1920]. Matson (G. Eric and Edith) Photograph Collection

through technological developments and, in turn, how technology is used to push particular political narratives.

AD: If I understand correctly from our ongoing conversations, the database of material is from the G. Eric and Edith Matson Photograph Collection—which is housed in the US Library of Congress—and covers the period 1898 to 1946. I also understand that the collection is made up of over 22,000 glass and film photographic negatives and transparencies that were originally produced by the American Colony Photo Department and its successor firm, the Matson Photo Service, the latter being an organisation that eventually became the collection to which you are referring.

HYA: It is important to note that there were various incentives behind aerial photography at the turn of the twentieth century, and that these images helped shape contemporary political narratives. The earliest aerial mapping experiments for photogrammetric potential and new mapping techniques were carried out in Egypt and Palestine with a specific colonial agenda. I came across this collection of aerial photographs during my research on these forms of early aerial photography in the region. What I didn’t know is that the Matson (G. Eric and Edith) Photographic collection originates from the American Colony (1881–1934), a Christian utopian society in Jerusalem founded by Chicago residents Anna and Horatio Spafford in 1881, who were later joined by members of the Swedish Evangelical Church. Through the extensive photographic documentation of American Colony member Elijah Meyers, a photographic division was established within the Colony with a significant

⁷ See Yossi Gurvitz, “When Kafka met Orwell: Arrest by Algorithm”, July, 2017 <https://mondoweiss.net/2017/07/orwell-arrest-algorithm/?amp>.



output of predominantly commercial photographic work.⁸ They are the ones who captured the iconic photograph of Mayor Hussein al Husseini surrendering the city of Jerusalem to the British that I included in the book we worked on. While much of the collection now resides in the US. Library of Congress, a large number of the photographs were also purchased by the Palestine Exploration Fund in London who had their own agenda in acquiring this visual data (Fig. 5).⁹

In this context, between October 1917 and August 1918, Ottoman-German forces also took 2872 aerial photographs to track British military movements and infrastructural development shortly after their takeover of Palestine.¹⁰ Through the documentation of geographic transformations, these images help visualize a political shift from the fall of the Ottoman Empire to the establishment of the British Mandate and Jewish settlements. Even though significant aerial imaging and cartographic documentation had been realized at this point, the roots of the modern survey system of Palestine—formally established in 1920—were set up under the framework of the Balfour Declaration with the objective of surveying and mapping the Palestinian territory as though it had never been surveyed or mapped before.¹¹ Under pressure from the Zionist Organization, aerial mapping was pushed again at this point in order to establish legal means for land settlement and the registration of tenure rights upon the territories that a Jewish national land was to be later established.¹² I came to realize that the narrative of aerial surveillance and its later evolution of drone- and UAV-based imaging has not only neglected and actively occluded early aerial photographs, but has also largely written the aerial cadastral surveying of Palestine out of the history of media and visual studies.¹³

⁸ Rachel Hallote, “Photography and the American Contribution to Early ‘Biblical’ Archaeology, 1870–1920,” *Near Eastern Archaeology*, vol. 70, no. 1 (2007): 32–33.

⁹ Shimon Gibson, *Jerusalem in Original Photographs 1850–1920* (Winona Lake, IN: Eisenbrauns, 2003), *passim*.

¹⁰ Nada Atrash, “Mapping Palestine: The Bavarian Air Force WWI Aerial Photography,” *Jerusalem Quarterly*, no. 56–57 (Winter 2013/Spring 2014): 97.

¹¹ Dov Gavish, *The Survey of Palestine under the British Mandate, 1920–1948* (London and New York: RoutledgeCurzon, 2005), *passim*. See also, Dov Gavish “An Account of an Unrealized Aerial Cadastral Survey in Palestine under the British Mandate,” *The Geographical Journal*, vol. 153, no. 1 (March 1987): 93–98.

¹² Gavish, *op. cit.* 2005, *passim*.

¹³ A cadastral survey relates to a land recording of real estate or the boundaries of a country. Often used to determine property rights, it was used to settle disputes and lawsuits between landowners. Originally compiled for purposes of taxation, an early example of cadastral surveying in England would be the Domesday Book, produced in 1086, which sought to determine taxes owed to the crown based on land ownership. Apart from ownership of land, a cadastral survey is also concerned with land usage and, crucially in the contexts being addressed here, the occupancy of a land or territory.

AD: Let’s talk further about this notion of technology and how images become imbricated with ideologies, or defined by them in advance. When we look at these images from the Matson Collection, they very much appear to be “archival”, or related to the past. But an archive is never about the past as such, it is a device for determining how the past will be defined in the future—and to this end, all archives are future-oriented. In these images, you seem to be saying something else too: the technological means by which these aerial images were achieved initiated a new regime of viewing, a spatial and temporal regime that is both the precursor to the techno-aesthetics we now associate with drone technology and, in turn, the forms of total surveillance emerging from military-industrial complexes.

HYA: Many questions were raised about the accuracy of cadastral surveying at the turn of the twentieth century, but ultimately accuracy didn’t matter. What these photographs relay are the ways in which political ideologies are inscribed into technologies that are otherwise presented as being self-evident. In that sense, the archival aerial images are future-oriented as they set the foundations for how we have visualized this landscape in the last 100 years under a British imperialist and, currently, an American neoliberal ideological framework. In 1997, the United States Congress passed the Kyl-Bingaman Amendment, a law which prohibits the use of US satellite technology for high-resolution satellite imagery of Israel, the Occupied Palestinian Territories and the occupied Golan Heights under the guise of protecting Israel’s national security.¹⁴ Incidentally, this was the only territory on Earth with such a restriction. What this tells us is that there is a commitment to control the narrative of the aerial view through a mandate that politicizes the act of image-making and circulation.

AD: We have been recently discussing another work of yours in relation to issues around self-evident or apparently transparent technology, namely, *Project Speak2Tweet*, which is part of your solo show at Mosaic Rooms in London.¹⁵ The work in question, through a multi-channel

¹⁴ This law obviously has many political implications, but on the grounds of scientific research—including archaeological heritage preservation, climate change research, landscape and settlement tracking, and humanitarian monitoring—it was overturned in July 2020 through the advocacy of Oxford archaeologists Dr. Michael Fradly and Dr. Andrea Zerbini. For further information: <https://www.ox.ac.uk/news/arts-blog/oxford-archaeologists-win-access-restricted-satellite-images-israel-and-palestinian#>.

¹⁵ The show, titled “When I see the future, I close my eyes”, is the first solo exhibition of Amin’s work in the U.K. Hosted by the Mosaic Rooms and curated by Anthony Downey, it presents the latest iterations of three distinct and evolving bodies of work by the artist, including *Project Speak2Tweet*, *The General’s Stork* and *Operation Sunken Sea*. See: <https://mosaicrooms.org/event/heba-y-amin/>.



video installation, utilizes voice messages recorded by telephone in response to the Egyptian government's countrywide Internet shutdown during the initial days of the 2011 uprising. It effectively highlights the degree to which advances in communication technologies are often disguised by their utopian promises of democratic expression—can you talk more about this and how the formal installation of the work reflects upon this?

HYA: I started the project in 2011, when the messages were first recorded and we were at the very beginning of our revolution. The experience of listening and working with these audio recordings at that time—when it was still unclear what the outcome of the revolution would be—was an entirely different experience than it is to hear them now, almost 10 years later. Juxtaposed with the abandoned urban structures that represent the long-lasting effects of a corrupt dictatorship, the installation of the work refers to the fears of a people speaking from within a collapsing society and the hopes of building a better future. Egypt was dubbed the so-called Facebook and Twitter revolution because social media platforms, apparently for the first time, helped mobilize millions of people. But when the Internet was shut down and the Speak2Tweet platform emerged, I was fascinated by the fact that it was not used to mobilize people, but rather to digitally immortalize the emotions and sentiments of that specific moment in time. Digital sound, no longer an ephemeral medium, captured voices embedded with affective information that lives beyond the time of its recording and initial utterance. Their longevity is dependent on the preservation of the archive, so I took it upon myself to preserve it. The installation takes us back to that moment in time—that snapshot of the emotional psyche represented within a city falling apart—as a spatial experience. A decade later, it raises important issues about accountability and democratic expression: Who has the power to eliminate voices of dissent and what consequences ensue as a result? Sadly, we've discovered that under their current frameworks, digital tools of expression in a global context are neither democratic nor safe (Fig. 6).

AD: One theme that emerges again and again in your work, to my mind at least, is the extent to which the liberatory, utopian rhetoric of technological advances often morphs into its sinuous opposite: control and dystopic forms of surveillance, be it state-sanctioned or through our own unquestioning use of social media—to take but one pertinent example of self-tracking. A significant element in these processes would appear to be the elision of human input in favour of algorithmic determinations, and the extent to which machines have come to effectively determine who is and who is not a target under the



Fig. 6 a Heba Y. Amin, Project Speak2Tweet, 2011-Ongoing. Installation View. Courtesy Markus Rack. b Heba Y. Amin, Project Speak2Tweet, 2011-Ongoing. Installation View. Courtesy Fred Dott

conditions of total surveillance in the region.¹⁶ Returning to the issue of drones and the questions raised by *The General's Stork*, these concerns seem centred on the absence of the corporeal eye (the fleshy, embodied eye) and the presence of ascendant self-contained images—that is, machine-made images produced to be viewed by other machines rather than by human subjects. These “operational images”, to deploy the term Harun Farocki used throughout his work, have now become the autonomous systems of interpretation and empirical

¹⁶ Debates about whether drone-based targeted killing programmes are indicative of an incipient moral indifference to death caused by armed conflict are widespread within military, ethical, and legal fields. See, respectively, Michael J. Boyle, “The legal and ethical implications of drone warfare”, *The International Journal of Human Rights*, vol. 19, no. 2 (2015): 105–126; Anders Henriksen and Jens Ringsmose “Drone warfare and morality in riskless war”, *Global Affairs*, vol. 1, no. 3 (2015): 285–291; and Bradley Jay Strawser “Moral Predators: The Duty to Employ Uninhabited Aerial Vehicles”, *Journal of Military Ethics*, vol. 9, no. 4 (2010): 342–368.





Fig. 7 Heba Y. Amin, *As Birds Flying*, 2016. Video Still. Courtesy of the artist

deduction that power drones and their death-delivering missiles.¹⁷ Can you talk a little bit about this inasmuch as it addresses your concerns around the ethics and techno-aesthetics of visualising not just people but the region more broadly?

HYA: Techno-aesthetics are inherently tied to the greater Middle East as military technologies were developed against the backdrop of Middle Eastern geographies throughout the last century. The Royal Geographical Society convened in 1920 to discuss British military strategies and opportunities brought forth by aerial technologies for land expansion, particularly in Europe's new territories within the African continent.¹⁸ They were surveying landscapes not only for visualizing the colonies but also for administrative control and imperial cataloguing that was predominantly preoccupied with colonial expansion, particularly in Africa. Paul Virilio writes of “the deadly harmony that always establishes itself between the functions of eye and weapon”, when missiles and bombs

are fitted with cameras and suddenly “open their eyes”.¹⁹ However, the danger of talking about drones or artificial intelligence as having autonomy is that, as you state, we uncouple moral obligations from the act of killing. Algorithms are written by humans within a specific context that is ultimately imbued with racism. There is always accountability to be had. Someone is always ethically and morally responsible (Fig. 7).

AD: There are echoes of the oriental or colonial gaze here, don't you think? A gaze that fixes and produces its subjects in a political economy of difference, injustice, and inequality—except, in this instance, the process is increasingly automated through the operation of algorithmically-defined forms of surveillance. I was thinking here again of how “operational images” and drone surveillance would appear to have ushered in its own techno-aesthetic apparatus for producing the realities of the Middle East—in both subjective and objective terms. And that system, or regime of viewing, is formally based on rampant suspicion and intrinsic fear, not to mention the augury of imminent retaliation, would you agree with this reading?

HYA: The aerial view completely changed the shape and sovereignty of territories. These images do not merely serve as an extension of vision but rather speak to the moral and social landscapes reflected in the desire and fulfilment of the nation state. The exoticization of violence through a colonial gaze is embedded in the aerial image which simultaneously proposes notions of construction and destruction. Seeing the world from above introduced a new imagination of territory that played into the hands of colonial ideology by establishing a vertical power hierarchy. Ultimately, aerial power allowed empires to police territories from above by applying social control over entire populations.

AD: I want to zoom out to get a bigger picture here, given that these issues—specifically the anxieties surrounding surveillance, data-mining, the state-sponsored use of algorithms to develop machine-learning, and the broader role of augmented reality in the development of artificial intelligence (AI)—are not specific to the Middle East but have a distinctly global context. To what extent do you think the concerns raised in *The General's Stork* and the other works mentioned here relate to broader global issues?

HYA: We are dealing with the problem of obscurity as governments and corporations limit our access to information. This enables opaque methods of strategic decision-making that can be used against us. Ultimately, as a public, we must fully understand space through the canons of technology to avoid perpetuating and legitimizing those systems

¹⁷ Farocki used the phrase “operational images” to describe images made by machines for machines, the full implications of which he explored throughout his three-part film *Eye/Machine I, II, III* (2000–3). These machine-oriented images are not produced in relation to representing either subjects or objects; rather they are part of an operation. In his notes for *Eye/Machine III* (2003), he observed the following: “The third part of the *Eye-Machine* cycle structures the material around the concept of the operational image. These are images which do not portray a process but are themselves part of a process. As early as the Eighties, cruise missiles used a stored image of a real landscape then took an actual image during flight, the software compared the two images. A comparison between idea and reality, a confrontation between pure war and the impurity of the actual”. See https://www.harunfarocki.de/installations/2000_s/2003/eye-machine-iii.html. Elsewhere, Farocki also used the term “operative images”, in relation to

Eye/Machine I (2001). See Harun Farocki, “Phantom Images”, *Public*, no. 29 (2004): 12–22 (17).

¹⁸ Peter Adey, *Aerial Life* (Malden, MA: Wiley-Blackwell, 2010), 1.

¹⁹ Paul Virilio, *War and Cinema: The Logistics of Perception* (New York: Verso, 2009), 83.



of control—and this is indeed a global, rather than regional, concern. The sovereignty of the aerial viewpoint is highly debatable, particularly in the digital age where suspicion of representation is commonplace in post-representational photography. Rather than questioning whether or not the truth of a photograph is self-evident, we should contemplate our complicity in assuming it to be true in the first place. The new cult of the machine was born out of the doctrine of air power and colonial discourse. The aerial perspective became the symbol of modernity as it transformed urban reality into an abstract representation of the sociotechnical imaginary.²⁰ These issues are unquestionably global because the very foundation of our right to survive is at stake.

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²⁰ Sheila Jasanoff describes at length the meaning of the term socio-technical imaginaries as "collectively imagined forms of social life and social order reflected in the design and fulfilment of nation-specific and/or technological projects". Sheila Jasanoff and Sang-Hyun Kim, *Dreamscapes of Modernity: Sociotechnical Imaginaries and the Fabrication of Power* (Chicago: Chicago University Press, 2015), 20.

