

## The light of God: Notes on the visual economy of drones

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NECSUS 3 (2): 99–111

DOI: 10.1557/NECSUS2014.2.VÄLI

### Abstract

This article charts the contemporary aerial military technology of Unmanned Aerial Vehicles or drones, which are used for both surveillance and combat in current ‘overseas contingency operations’. It focuses on the form of techno-visual power that UAVs represent. Drone control screens facilitate the accumulation of data of the patterns of life of populations so as to detect potential future threats, whilst simultaneously acting as key players in pre-emptive strikes. This article explores the striving for spatio-temporal omniscience and omnipotency that animates this particular technology of vision – the drone as a technology of the ‘light of God’.

**Keywords:** Unmanned Aerial Vehicle, war on terror, power, visibility, cartography, pre-emption

The frontispiece to the Jesuit priest Guilielmus Gumpfenberg’s book *Atlas marianus*, first published in 1657, illustrates a story of the miraculous transport of the Virgin Mary’s house in Nazareth to Loreto, Italy.<sup>2</sup> Originating from the latter half of the 15<sup>th</sup> century, the story tells how some 200 years earlier, after the retreat of Christian crusaders from the Holy Land, angels airlifted the building from Palestine and carried it over to the town in the Italian Marches. The engraving shows a team of angels transporting the Virgin Mary’s humble dwelling to its destination. Beams of light emanate from the bottom of the house, which is covered by images of the Madonna with the Christ Child. The Mother of God herself is seated on the roof, holding Baby Jesus in her lap and gesturing toward the pictures on the roof of the house as well as in the heavens. Mediator between the heavens and the earth (*mediatrix caeli et terræ*), she radiates divine light and casts her presence onto the terrain below through her images.

This short reference to a 17<sup>th</sup> century depiction of miracles and miraculous images might at first sight appear as far removed, both historically and conceptually, from the topic of this essay: the surveillance and military machines called Unmanned Aerial Vehicles – more colloquially put, drones. UAVs are robot aircraft which come in many sizes and functions, ranging from miniature spy drones to agricultural UAVs used by farmers to survey their crops. However, one might argue that in the current collective (Western) consciousness drones mainly come across as signature weapons of today's high-technology wars fought in the 'global South'. What differentiates military drones from other remote-controlled planes is that they are also equipped with missiles attached under their wings. First deployed in combat operations in Yemen in 1992 and in Bosnia in 1994, military drones support – and in many ways symbolise – the ongoing global war on terrorism, being integral to combat operations carried out in Iraq and Afghanistan as well as to CIA paramilitary strikes in Pakistan, Yemen, and elsewhere.



Fig. 1: Frontispiece to *Atlas marianus* (Munich, 1672).

Operated via satellite video feed by pilots in ground control stations, UAVs are part of contemporary 'network-centric' warfare, where the drone control crew is in contact with troops in the battleground as well as with intelligence analysts and commanders stationed in operations centres.<sup>3</sup> The ambition of such drone-assisted warfare is to spread the military's visual reach over the planet in 'real time', primarily for the evolution and expansion of the neoliberal rule over the world, one might argue. To quote the words of Colonel Daniel S. Roper, former director of the U.S. Army and Marine Corps Counterinsurgency Centre: '[t]he U.S. strategic goal in the Long War is to preserve and promote the way of life of free and open societies based on the rule of law, defeat terrorist extremism, and create a global environment inhospitable to extremists.'<sup>4</sup> Otherwise put, the imperative of current seemingly never-ending wars is to promote the 'free' (entrepreneurial) way of life by eradicating threats and dangers to it across the globe. This involves the attempt to render the world under constant surveillance and control so as to create environments in which this way of life can flourish and expand.

Not surprisingly then, significant amounts of money, combining government funding and private capital, have been spent on improving the form of techno-visual power that UAVs represent. One of the issues concerning the Predator drones used at present is that their single-sensor systems offer only a very limited field of view, while operators complain that zooming in with a UAV camera feels like looking through a soda straw.<sup>5</sup> In order to overcome these shortcomings the U.S. Department of Defense agency DARPA has invested billions of dollars in the development of new 'wide-area sensor surveillance systems' such as the ARGUS-IS (Autonomous Real-Time Ground Ubiquitous Surveillance Imaging System). ARGUS – alluding to the Greek mythological figure Argos Panoptes, a giant with one hundred eyes – fuses together data from 368 cell phone cameras to create a composite image of 1.8 billion pixels.<sup>6</sup> The system can provide video coverage of a 100 km<sup>2</sup>-sized area; motion-tracking software allows the identification and surveillance of individual objects, and up to 65 individual video windows can be opened for close-up observation.

What might link the high-technology visuality of drones with the 17<sup>th</sup> century depiction of the Virgin Mary? Alongside connotations of Holy Wars fought by *milites Christi*, both involve a certain idea and logic of governance and visuality; both are examples of different kinds of *visual economies* within which Earth and its creatures become embraced under a certain system of organisation, administration, and management. Here, the word *economy* (from Greek *oikonomia*) is used in its older sense, which refers to administrative activity – and in the Christian tradition particularly to God's

taking charge of and managing the lives of populations.<sup>7</sup> It is in relation to this older sense of divine power that, as Marie-José Mondzain shows, the question of the image has occupied Western thought since the birth of Christianity. 'To attempt to rule over the whole world', Mondzain writes, 'by organizing an empire that derived its power and authority by linking together the visual and the imaginal was Christianity's true genius.'<sup>8</sup> Mondzain traces the genealogy of such a notion of visual economy to the Byzantine Empire and the production and circulation of images (in the form of portable icons, among other things) through which temporal realities could be unified with celestial truths and the divine empire could maintain and expand its power without any apparent limits or boundaries. It was here, she argues, that 'the process of globalizing the image across the whole world' began and the economy was made 'a program of universal conquest'.<sup>9</sup>

We can point out a similar concept of visual power in the frontispiece to Gumpfenberg's *Atlas marianus*. The world is not illuminated by the sun but rather by divine light, and governed by images as emanations of celestial truths. The engraving embraces an empire of gaze and the image managed within a particular configuration of light. Aspects of this 'celestial' operation of the image, one might conjecture, characterise the visual economy of drones as well. Now, however, such visual power is employed toward the administration of the globe for capital's limitless expansion and, consequently, as a site of permanent self-perpetuating crises rather than as sheltered by divine grace.



Fig. 2: Predator UAV remote control station, Balad Air Base, Iraq (2004). U.S. Air Force, photo by Cohen A. Young.



Fig. 3: Frame capture from *Five Thousand Feet Is the Best* (Omer Fast, 2011).

Drone wars are based on particular distributions of light and dark, as Omer Fast's video installation *Five Thousand Feet Is the Best* (2011) highlights. Drawing on interviews conducted with an ex-Predator drone operator suffering from post-traumatic stress disorder, *Five Thousand Feet* ends with the operator's voice-over describing an actual incident he was involved in where the U.S. forces pre-emptively eliminated a group of men suspected of planning a road bomb attack. Juxtaposed with an aerial shot of night-time Las Vegas bathed in electric light, we hear the drone operator recount:

[t]hen we do something called the 'light of God' – the marines like to call it the 'light of God' – it's a laser-targeting marker. We just send out a beam of laser and when the troops put on their night-vision goggles, they'll just see this light that looks like it's coming from heaven, pfft, right on the spot. Coming out of nowhere from the sky. It's quite beautiful.

The aerial shot of Las Vegas in *Five Thousand Feet* could be seen to suggest the economy of the global war on terrorism, with an allusion to war as a kind of casino. It might make us recall how, in addition to the capture and exploitation of natural resources, wars today are imbricated in capital accumulation based on speculation and the management of randomness, just as the city in the desert was built on people gambling on future contingencies.<sup>10</sup> In the first instance Fast's video triggers our imaginations to conjure up a particular scene of U.S. military might displayed in the desert.

A robot aircraft hovers above the earth at altitudes imperceptible to those on the ground, appearing as an almost ‘angelic’ machine that casts out its deadly beam which illuminates the ‘Area of Operations’, visible only in the green hue of night vision goggles.

The imaginary triggered by the operator’s account crystallises how drone-assisted wars are driven by an imperative to establish unbounded, synoptic control of visibility from the heavens. The drone operator’s duties are focused on the administration of a visual economy (of people’s perceptions and actions) by controlling the vertical axis from a God’s-eye viewpoint. To this we should also add the ability to act – that is to say, to kill – at a distance by sending off, alongside the laser beam, a Hellfire missile. Thus, we are called forth to imagine an omniscient eye and an omnipotent hand that rule Earth from the sky. Indeed, as one Predator drone operator wrote in his memoirs: ‘[s]ometimes I felt like God hurling thunderbolts from afar.’<sup>11</sup>



*Fig. 4: Real-time surveillance footage of Iraq and Afghanistan displayed on screens in a Combined Air Operations Centre (2006). U.S. Air Force, photo by Brian Ferguson.*

However, the drone operator’s experience of divine might concerns less the presence of a supernatural force than the power to operate within a state of exception, where one political authority has acquired an all-powerful status to act outside the reach of law. The extra-legal status of ‘overseas counterinsurgency operations’ (as the Obama administration wants to call current wars) has been noted on several occasions. In addition to extraordinary renditions, disappearances, ‘invisible’ prisons, torture, etc.,

this involves the very practices of defining, visualising, and targeting the enemy – that is to say, the ‘terrorist’. In combined air and space operations centres, where drone video footage is scrutinised alongside other intelligence data and decisions about combat actions are made, the globe becomes mapped as a permanent and dispersed theatre of war in which juridical order has been suspended and every single individual has become a potential target to be killed. One might characterise such a practice of visualising the Earth as the cartography of ‘bare life’, referring to Giorgio Agamben’s notion of life reduced to its natural, biological dimension and excluded from the political community.<sup>12</sup> Understood from this angle, drones operate on a threshold in which ‘life is both inside and outside the juridical order’ and can thus become a matter of deciding who is to be killed and who is to be spared.<sup>13</sup>

Furthermore, using the word ‘cartography’ in relation to the politics of death involved in drone-assisted warfare is not purely metaphorical, given how the technique of mapping has been historically rooted in the implementation of sovereign rule in colonial conquests, for instance.<sup>14</sup> In this respect we can perhaps point out a lineage between the militarisation of the planet under the drone’s crosshairs and the history of cartography, which discloses the modern art of mapmaking as a disciplinary practice of visualisation capable of turning particular locations into systems of spatial relations that can be coordinated, calculated, and controlled. Even if one often thinks of them merely as tools for navigation and positioning, maps, in this sense, are also ontological and epistemological practices. As Christian Jacob suggests, they create the realities they depict, allowing their referents to be imagined and thought about in the first place.<sup>15</sup>

The cartographic function of drone screens can be thought of accordingly. Distinctive of drone visibility is the way it seeks to turn the globe into a potentially limitless battleground, or, to borrow Derek Gregory’s concept, a site of ‘everywhere war’.<sup>16</sup> Gregory observes how our image of war today has lost its geographic bounds. Acts of military and paramilitary violence can happen anywhere at any moment: ‘[v]iolence can erupt on a commuter train in Madrid, a house in Gaza City, a poppy field in Helmand or a street in Ciudad Juarez: such is the contrapuntal geography of the everywhere war.’<sup>17</sup> Consequently, ‘overseas counterinsurgency operations’ are perceptually very incoherent and ‘messy’. The enemy, we are told, is not distinctly visible and identifiable but rather spectral and networked, emerging at one moment and disappearing at another. The battlefield itself has expanded indefinitely because the eventual location, extent, and timing of an anticipated terrorist attack appear as undefined and uncertain. Indeed,

contemporary wars are perceptually-challenging visual ‘complexes’ based on managing chaos and interminable states of emergency and crisis.<sup>18</sup>

As the geographic coordinates of violence have become dispersed and the visibilities of danger and threat more and more uncertain, contemporary wars have also changed in their temporal form. The global war on terrorism, it is often noted, is proactive, anticipatory, and preemptive (rather than reactive) by nature whilst lacking clear temporal boundaries (a beginning and an end). The cartographic visuality of drones seems to exemplify this in a particular manner, as it does not simply concern the unlimited occupation of space but also the taking charge of the temporal axis, the ruling of the now and what is to come. What first and foremost defines the visual economy of drones is a specific cartography of time, the attempt to create – following Jacob’s characterisation of the visuality of maps – spaces of ‘anticipation, of predictability, of omniscience tied to the very fact of the synoptic gaze’.<sup>19</sup> This is what Paul Virilio presaged when writing about military ‘vision machines’ before the full deployment of UAVs in air war. Musing about the will of total perceptual coverage of the battlefield by means of live video, Virilio observed how late modern high-technology war is premised on ‘the will to see all, know all, at every moment, everywhere, the will to universalised illumination’. According to Virilio, this desire toward omniscience and omnipotency by means of images comes across as ‘a scientific permutation on the eye of God which would forever rule out the surprise, the accident, the irruption of the unforeseen’.<sup>20</sup>

Drones embody a particular epistemology of the ‘eye of God’ that wants to take charge of the future. In this respect their operational functions largely follow the counterinsurgency military strategy currently used by the United States and its allies in their fight for global governance. Specifically embracing drone strikes as one of its key tactics, counterinsurgency conceptualises war as an environment where, as one of its prominent theorists writes, ‘all sides engage in an extremely rapid, complex, and continuous process of competitive adaptation’.<sup>21</sup> The world as counterinsurgency doctrine pictures it is one premised on ‘adaptability in the face of a rapidly evolving insurgent threat and a changing environment’.<sup>22</sup> The doctrine sees the enemy as a self-organising system that depends on flows of matter and energy from the environment in order to maintain stability and structure, and that (like any organic system) exhibits emergent behavior that cannot be predicted by analysing its component parts. Consequently, the way to suppress such an enemy is not to eliminate every ‘element’

(person) within its system but rather to change the enemy's 'pattern of interaction' into a 'stable and peaceful "system state"'.<sup>23</sup>

In this purpose the strategy is to clear, hold, and build: to remove the adversary by lethal force and to establish neoliberal governance in the space of circulation thus opened up (by supplying basic means of living and building infrastructure, for example).<sup>24</sup> Counterinsurgency relies on the constant tracking and monitoring of the movements of populations with the objective to detect and eliminate insurgent threats before they can emerge. What fuels counterinsurgency is the imperative to act on what is potential, to colonise future actions either by promoting life or by managing death. The doctrine imagines a particular kind of imperialism of time. Based on adapting to constantly changing surroundings, this military imaginary pictures the entire planet as a potential battleground where recurrent insurgent emergencies need to be foreseen before they actually happen and extinguished with network-centric 'precision operations' that, as the U.S. Army Counterinsurgency Field Manual puts it, cut out 'cancerous tissue while keeping other vital organs'.<sup>25</sup>



*Fig. 5: Illustration of ARGUS-IS (2013). Source: YouTube <https://www.youtube.com/watch?v=QGxNyaXffsA>.*

It is in relation to these operations of mapping the aleatory environment and foreseeing potential threats, as well as surgical acts of 'cutting out' dangerous 'tissue', that drones play a pivotal role as surveillance and killing machines. In the government of the world through mechanised and algorithmic 'eyes of God' which cast their rays of light from the heavens onto the Earth's surface, what matters is precisely the management of the acci-

dental and the contingent.<sup>26</sup> As one article on the future of military surveillance methods tells us, the tireless and unblinking eyes of UAVs are meant to facilitate the ‘synoptic coverage of an area and the capability to zoom in on and track and follow multiple activities or actors, cue and tip other sensors, and build an integrated understanding of an area’s “pattern of life”’.<sup>27</sup> Drone cameras record footage of human interactions and transactions, footage that ideally allows the pilots, military intelligence analysts, and computer algorithms, by engaging in a constant ‘rhythm analysis’ of people living in a particular location, to establish the patterns of their daily activities and habits:

[a]lgorithms that automatically highlight starts, stops, meetings, entrances, exits, tripwires and other events provide alerting of key events and additional tagging and correlation opportunities for statistic analysis of activities over time. Tools that automatically discover statistically impossible correlations across data sets assist in understanding events, activities and transactions between entities.<sup>28</sup>

In the face of an unknown enemy one needs to gather ‘knowledge of everyone, everywhere, all the time’.<sup>29</sup> One needs to be able to anticipate future actions – that is to say, to create images that foresee the future – so as to be able to prevent the enemy’s formation or appearance in the present.<sup>30</sup> In this purpose the objective of drone surveillance is to separate the uneventful from the eventful, to eliminate contingency by singling out abnormal behavior that might signal a potential insurgent emergency – and finally to eliminate that emergency pre-emptively with precision operations in which drones play a crucial role as hunter-killers. Ultimately then, the activities of mapping and calculation on drone screens involve the administration of who has the right to live and who does not. Patterns are modeled, sorted, and managed so as to subject life to sovereign power, to a light of God that can both illuminate and terminate.<sup>31</sup>

Today, the divine light that governs the globe in Gumpfenberg’s *Atlas Marianus* has turned into the potentially deadly beam of UAVs. The latter reiterates the former in its quest for visual omniscience and omnipotency, but with the aim of the militarisation of the globe in ‘real time’. What drone screens map (and in so doing produce) is a spatio-temporally diffused state of violence where sovereign power seeks to rule over the future. This is an economy of fear, not of faith – a world of threats that can be anything or anybody and can come anywhere and anytime.

President George W. Bush gave expression to the imaginary of looming



Fig. 6: Detail from the frontispiece to *Atlas marianus* (Munich, 1672).

future catastrophes (used in this case to ‘rationalise’ the invasion of Iraq) that characterises the post 9/11 logic of governance as follows: ‘[f]acing clear evidence of peril, we cannot wait for the final proof – the smoking gun – that could come in the form of a mushroom cloud.’<sup>32</sup> This type of paranoid imaginary legitimises the anticipatory and pre-emptive form of power that we encounter in drone wars, a form of power that attempts to ‘secure’ the future by transforming the whole world into a theater of self-perpetuating crises, imposing on it what Jonathan Crary calls ‘a permanent state of fearfulness’.<sup>33</sup> In other words: fear feeds on fear. One act of violence feeds on another. In this cycle of alleged threats, fears, and potential and real catastrophes, the aim it seems is less to win than to keep reproducing the war.<sup>34</sup> The visual economy of drones is geared toward the reproduction not of a divine order but of a special operational chaos. This is what ruling a permanent state of exception means and what drones are meant to enable and administer.

## Notes

1. This essay is partly drawn from my book *Biopolitical Screens: Image, Power, and the Neoliberal Brain*.
2. My account of the engraving is based on Garnett & Rosser 2013, pp. 11-12.
3. On the concept of network-centric war see U.S. Department of Defense 2005.
4. Roper 2008, p. 101.
5. Gregory 2011b, p. 193.

6. Trimble 2014.
7. On the genealogy of the concept of economy see Agamben 2011, pp. 17-52; see also Mondzain 2005, pp. 18-66.
8. Mondzain 2005, p. 151.
9. *Ibid.*, pp. 166, 168.
10. On the risk economy of contemporary wars see Martin 2007, p. 154.
11. Martin 2010, p. 3
12. Agamben 1998, pp. 6-11.
13. *Ibid.*, p. 27.
14. Mirzoeff 2011, pp. 48-62.
15. Jacob 2006, pp. 272-273.
16. Gregory 2011a.
17. *Ibid.*, p. 239.
18. Mirzoeff 2011, p. 280.
19. Jacob 2006, p. 99.
20. Virilio 1994, p. 70.
21. Kilcullen 2010, p. 2.
22. *Ibid.*, p. 20.
23. *Ibid.*, pp. 194-197, 214-215.
24. See Mirzoeff 2011, pp. 280-282. See also Anderson 2011.
25. U.S. Department of the Army 2006, pp. 1-23.
26. See Hills 2012.
27. Biltgen & Tomes 2010.
28. *Ibid.*
29. *Ibid.*
30. Anderson 2011, p. 208.
31. *Ibid.*, p. 207.
32. Bush 2002.
33. Crary 2013, p. 33.
34. See Mirzoeff 2011, p. 21.

## References

- Agamben, G. *Homo sacer: Sovereign power and bare life*, translated by D. Heller-Roazen. Stanford: Stanford University Press, 1998.
- Agamben, G. *The kingdom and the glory: For a theological genealogy of economy and government*, translated by L. Chiesa. Stanford: Stanford University Press, 2011.
- Anderson, B. 'Population and Affective Perception: Biopolitics and Anticipatory Action in US Counterinsurgency Doctrine', *Antipode*, Vol. 43, No. 2, 2011: 205-236.
- Biltgen, P. and Tomes, R. 'Rebalancing ISR', *Geospatial Intelligence Forum*, Vol. 8, No. 6, 2010: <http://www.kmimediagroup.com/old/mgt-home/271-gif-2010-volume-8-issue-6-september/3338-rebalancing-isr.html>.
- Bush, G. W. 'President Bush Outlines Iraqi Threat', 2002: <http://georgewbush-whitehouse.archives.gov/news/releases/2002/10/20021007-8.html>.
- Crary, J. *24/7: Late capitalism and the ends of sleep*. London: Verso, 2013.

- Garnett, J. and Rosser, G. *Spectacular miracles: Transforming images from the renaissance to the present*. London: Reaktion Books, 2013.
- Gregory, D. 'The Everywhere War', *The Geographical Journal*, Vol. 177, No. 3, 2011a: 238-250.
- Gregory, D. 'From a View to Kill: Drones and Late Modern War', *Theory, Culture & Society*, Vol. 28, Nos. 7-8, 2011b: 188-215.
- Grusin, R. *Premediation: Affect and mediality after 9/11*. New York: Palgrave Macmillan, 2010.
- Hills, M. 'Ecologies of War: Dispatch from the Aerial Empire' in *Telemorphosis: Theory in the era of climate change, vol. 1*, edited by T. Cohen. np: Open Humanities Press: <http://www.oapen.org/view?docId=444386.xml;chunk.id=div:52;toc.depth=1;toc.id=div:52;brand=default;query=techne#1>
- Jacob, C. *The sovereign map: Theoretical approaches in cartography throughout history*, translated by T. Conley. Chicago: University of Chicago Press, 2006.
- Kilcullen, D. *Counterinsurgency*. Oxford: Oxford University Press, 2010.
- Martin, M. J. with Sasser, C. W. *Predator: The remote-control war over Iraq and Afghanistan; A pilot's story*. Minneapolis: Zenith Press, 2010.
- Martin, R. *An empire of indifference: American war and the financial logic of risk management*. Durham: Duke University Press, 2007.
- Mirzoeff, N. *The right to look: A counterhistory of visibility*. Durham: Duke University Press, 2011.
- Mondzain, M-J. *Image, icon, economy: The Byzantine origins of the contemporary imaginary*, translated by R. Frances. Stanford: Stanford University Press, 2005.
- Roper, D. S. 'Global Counterinsurgency: Strategic Clarity for the Long War', *Parameters*, Vol. 38, No. 3, 2008: 98-108.
- Trimble, S. 'Sierra Nevada Fields ARGUS-IS Upgrade to Gorgon Stare Pod', *Fightglobal*, 2 July 2014: <http://www.flightglobal.com/news/articles/sierra-nevada-fields-argus-is-upgrade-to-gorgon-stare-400978/>.
- U.S. Department of Defense. *The Implementation of Network-Centric Warfare*. Washington: Office of the Department of Defense, 2005. [http://www.au.af.mil/au/awc/awcgate/transformation/oft\\_implementation\\_ncw.pdf](http://www.au.af.mil/au/awc/awcgate/transformation/oft_implementation_ncw.pdf).
- U.S. Department of the Army. *Counterinsurgency*, Field Manual no. 3-24; Marine Corps Warfighting Publication no. 3-33.5. Washington: Headquarters, Department of the Army, 2006. [www.fas.org/irp/doddir/army/fm3-24.pdf](http://www.fas.org/irp/doddir/army/fm3-24.pdf).
- Väliäho, P. *Biopolitical screens: Image, power, and the neoliberal brain*. Cambridge: MIT Press, 2014.
- Virilio, P. *The vision machine*, translated by J. Rose. Bloomington: Indiana University Press, 1994.

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