Article:

Drones in Visual Culture:

Anna Jackman converses with Elisa Serafinelli and Lauren Alex O'Hagan about their work

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In recent years, the expansion of camera-laden drones has enabled and ushered in the production and consumption of new visual perspectives. Drone visuals are rapidly becoming part of our sociocultural imaginaries, at once generating distinct images that differ from traditional visual conventions and producing unexpected perspectives of the world that reveal hidden aspects of our surroundings. Yet to date, while attention to drones is burgeoning, little has been afforded to the compositional structure of drone visuals and the ways in which their rich semiotic resources are producing unique interpretations of our everyday environments.

As part of our AHRC-funded project Drones in Visual Culture, we seek to address this gap in knowledge by unpicking and challenging the enduring image of the drone as a panoptic, hierarchical technology, and instead exploring its creative and artistic potentials. Specifically, we aim to find out more about the aesthetic, textual and semiotic characteristics of drone visuals; where they are shared and by whom; and in what ways these visuals are changing our understandings of the world around us.

Anna Jackman, Lecturer in Human Geography at the University of Reading and drone scholar, recently caught up with us to discuss our research. Below is a transcript of the conversation that took place between us on 18th August 2021. It has been edited for length and clarity.

- Elisa Serafinelli and Lauren Alex O'Hagan

Anna Jackman: Hi, Elisa and Lauren. Thank you for the opportunity to speak with you both about your exciting project. As I understand it, your work is concerned with both how drone technologies are changing the way people see and how they are influencing visual culture more widely. So, why the drone? And what do you mean by 'drone visuals'?

Elisa Serafinelli: Yes, that's an interesting question. Drones are playing an increasingly important role in our world today and are the latest innovative and rapidly expanding technology. In fact, I first became interested in drones because I saw them as being the technological evolution of smartphones.

Lauren Alex O'Hagan: In recent years, we've seen drones move from a military context and become domesticated, cheaper, more readily available for people as a hobby, but I think the problem is that people still have this negative perception of drones when, in fact, they can be used for a wide range of amazing creative and artistic purposes. It's really important to show people the *good* that drones can do, and drone visuals are an excellent way of illustrating this.

ES: When we're talking about drone visuals, we mean all the photographs and videos that these flying robots can capture, often from a completely new perspective. I believe these visuals have the potential to change our visual culture and become an established photo/video style.

AJ: You mention here that drones might offer a "completely new perspective," moving "from a military context." Within drone scholarship, drones have been understood as at once transformative and iterative technologies – as both shifting and extending visual practices, knowledges and means of control. So, do you understand the drone as unique? How might consumer drones intersect with previous technologies or with their military drone counterparts?

ES: From my perspective, I think of drones as an extension of previous visual technologies, such as smartphones and video cameras. Therefore, I explore them as part of a range of techniques through which people capture visuals. According to our participants, drones are becoming new photo/video cameras and are also being used as flying robots in drone racing or for other leisure activities. People are even combining them with previous technologies by using smartphone apps to manage their drone usage, such as for visualising no-go zones. I also think that drones interact with computers as well because most participants said that they edit the visual material they capture with (semi-)professional editing programmes. Although drones are still expensive, they are much cheaper than before, which has enabled an increased number of people to use them.

LAO: My background is as a historical sociolinguist, so I am thinking of this from a slightly different perspective. If we go back to the eighteenth century, hot air balloons were being used for mapmaking and surveying, then you had aerial photography being taken from kites, blimps, rockets, planes, helicopters… the list goes on. Caren Kaplan has written a really good book on the topic actually. I'm currently comparing the data from our project with early twentieth-century pigeon photography and I'm finding a lot of similarities between the visuals in terms of composition and the apparatus in terms of movement, range and autonomy. So, I do think we have to be careful about saying that drone visuals are completely novel; as Elisa said, it's rather that they extend or build upon older practices through their increased technological affordances.

AJ: It's great to see Caren Kaplan's fabulous book mentioned; I've actually reviewed this. Before diving in further, I'd like to flesh out this context a little more. It seems that a central aspect of your project involves reflecting on both the production and circulation of drone visuals. So, where is drone-captured video and imagery shared? Who is its audience and what

is its reception? What kinds of influences and impacts are drone visuals having on and beyond their audiences?

LAO: Yes, this is a big aspect of our project. There are various places where drone visuals are shared, the most common being social media. On Facebook, there are lots of individual drone groups across the world where users upload images and videos, while on Instagram, people tend to set up specific drone photography accounts to share visuals. Twitter is used, but on a far lesser scale. There are also dedicated drone platforms, such as Dronestagram and Sky Pixels. For our study, we followed 16 drone users for two months and these were certainly the platforms that they most used.

ES: According to our study participants, it would seem that drone visuals are mainly kept private and shared with family and friends or through social media, often with members of drone communities.

LAO: We did find, though, that on places like Instagram, the use of hashtags is really good in attracting a general audience and you do see this drawing in people who might be interested in a particular geographical location, for example, or type of photograph. Certainly, you see a lot of comments and reposts, which show that the reception is generally positive.

It's quite hard to assess influences and impacts at this stage, but some of the initial feedback we've gathered from our exhibition, which we'll talk about a bit later, shows that engaging with drone visuals has encouraged some visitors to buy a drone and experiment with photography themselves. That was really great to see.

AJ: Thinking further with drone visuals on and as social media, how does your focus on drone visuals attend to or encompass the media profile and sociality of these images, videos and hashtags? In other words, how does your methodology deal with the ways in which drone visuals circulate and travel?

LAO: I think the social life of drone visuals is something really important to consider because, as you say, they circulate and travel across a range of media, both online and offline. In terms of social media, something I have just started to look at is the ways in which the types and compositions of drone visuals vary across platforms when users have both Facebook and Instagram accounts. I've noticed that, at least in our study, users tend to upload all their drone visuals to Facebook indiscriminately, but are very selective with what they upload to Instagram and tend to pick images that are more stimulating or aesthetically appealing.

ES: My [past research](#) has actually been concerned with photo-sharing practices on Instagram and one of my main findings was that users see the platform as a place to store 'memories of emotions'. In other words, they upload images that capture *feelings* rather than objects or landscapes themselves, so what is being preserved are emotional rather than purely visual memories. It could be the case that drone users do something similar, choosing drone visuals to upload based on the feelings they might generate in people. Things like colour, texture and even framing play a huge role here. I think this shows how Instagram in particular is playing a very important role in social visual narratives on drones, as well as the structuring of our day-to-day visual imaginaries. **LAO:** Another thing to bear in mind is that many drone hobbyists upload their images to social media because they want to receive positive feedback or instant gratification from others. Again, this seems to be particularly the case with Instagram, where

the visual is so heavily valued by users and hashtags or geotags can be used to make images more visible. But the presence of drone visuals on social media also has an archival function, serving not just as a collection of individual memories but also of collective memories. If someone looked back at the platform in 20 years' time, say, they'd get a good idea from the visuals of what the world looked like at that time and how it might have changed since.

ES: Away from social media, many of our participants also engage in other offline activities around the circulation of drone visuals, so they take part in photography competitions or sell their visuals to stock image websites for use in journalism. There are a whole range of social practices around drone visuals. They almost take on a life of their own once they are released into the world. I believe that the more they become embedded in everyday life, the less threatening they will become for people, and they will be recognised as unique snapshots into how the world looks from above.

AJ: The social dimensions and audiencing of drone visuals are really interesting and link to a facet of the wider drone debate around the accessibility of off-the-shelf consumer drones and their growing deployment by entrepreneurs, hobbyists, citizen scientists and artists alike. How diverse are the drone visuals captured? What kinds of aerial vistas, views and data are drones opening up, to whom and to what end?

LAO: I must admit that when I came into this project, I had a very limited knowledge of drones and I was one of those people who probably did think of them quite negatively as a nuisance or invasion of privacy, but looking at the drone visuals we collected, I was really surprised at the beautiful images that drones can capture and the amount of people who use them for photography purposes.

ES: In total, we identified ten categories of drone visuals in our research. The most frequently occurring type was what we call 'access to inaccessible places' which, as the name suggests, describes images of places that are often hard to reach or have not been accessed before. This was closely followed by 'panoramic views', which describes the wide-angle shots that drones can capture. The other major type we found were 'top-down views', which are images taken from a vertical perspective and can offer new perspectives on the landscape below. Linked to this was a type that we call 'defamiliarising the familiar'. This is specifically for when the vertical angle is used to highlight interesting patterns and shapes on the ground and form pieces of abstract art. What we found surprising was that another major category was the 'classic landscape'. By this, we mean a type of image that looks like something you'd capture with a normal camera rather than a drone. There was some indication that this type is used by beginner drone users before they become more confident and develop their own styles and techniques. The five other categories we identified were used less frequently, but are also important in showcasing the potential of the drone. We call these 'shadow play' (images that take advantage of tricks of light to reimagine geography), 'dronies' (selfies taken from the air), 'power of weather' (images that draw upon the extremes of weather for dramatic effect), 'animal interactions' (images that show the drone's engagement with animals, usually birds) and 'extreme close-ups' (images that focus very closely on an element of the landscape).

Access to Inaccessible Places: Tiger Cave Temple, Krabi (Thailand), taken by Eric Hanscom, 6/07/14

LAO: We mentioned earlier how drone visuals are an extension of earlier visual practices, but I do think that some visual perspectives they offer are innovative. The top-down view, for example, can give you such a unique perspective of the landscape below. In fact, it can often take a while to figure out exactly what the picture is. There is a really great example from one of our participants, an image of a frozen lake in Russia. From the sky, it looks a bit like an eye or a virus. Someone even said a planet or an old-fashioned kid's toy with iron filings and magnets, so it challenges the brain.
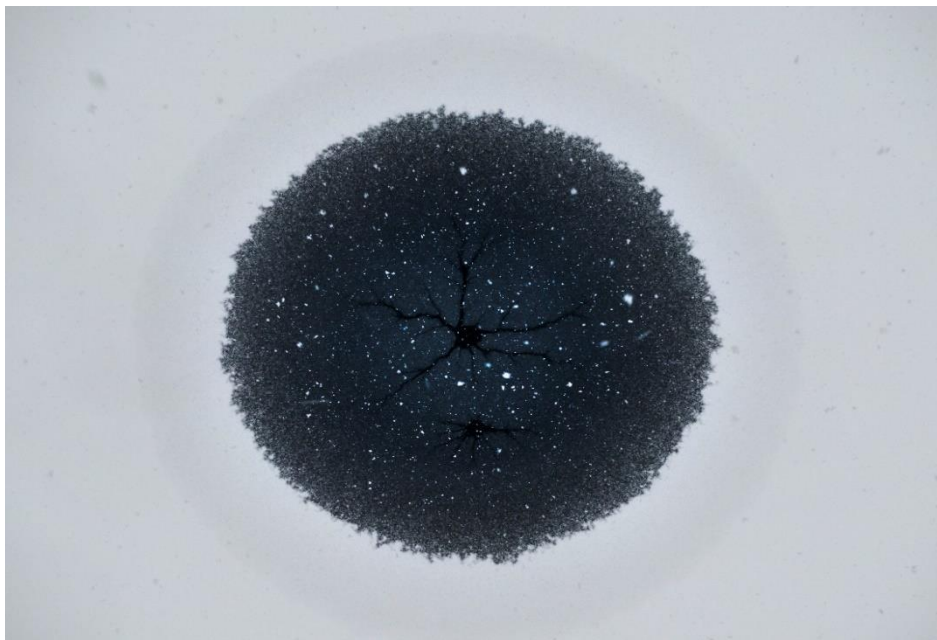
Defamiliarising the Familiar: A Frozen Lake in Russia, taken by Maksim Tarasov, 26/10/20

I also think 'dronies' are really innovative because they are not so much about capturing the person, but rather how the person forms patterns in the landscape, so I feel like they

challenge some of the ideas people might have about drones and surveillance. Another area in which I think drones can be transformative is indoor videos. Their ability to fly to the top of a church, say, and capture the architecture of the vaulted ceilings is really original and I would certainly love to see more of these types of visuals.

Dronie, Bouley Bay, Jersey (UK), taken by Paul Lakeman, 24/10/20

AJ: Here we might pause to think about the place of the 'drone visual' as or in relation to visual art more broadly. As Kathrin Maurer writes of the military drone's scopic regime, visual artists have produced "aesthetic interventions against the drone's visual superpower." Here, she cites image and film artwork such as 'Not a Bug Splat' and '5000 feet is best'. Given wider debates around both the drone's capture and the ways in which visual forms can also be used to intervene therein, how does your project approach 'drone visuals'?

LAO: First, I think it's important to draw attention to the fact that drone visuals are a type of artform. If we consider art in its broadest sense as an expression of creativity or imagination in a visual form, then the types of images we have been looking at in our project definitely fit this description and into the broader field of visual arts. I would also argue that the artistic potential of both drones and drone visuals is slowly starting to be recognised by institutions across the world that perhaps have been more 'traditional' or 'close-minded' in their approaches to visual art. Just a few years ago, the Imperial War Museum, for example, held an exhibition of Mahwish Chishty's work, which seeks to 'reappropriate' the drone by painting it with Urdu text and carnivalistic patterns in the style of Pakistani folk art. But going back to photos produced by drone hobbyists, the fact that we now have annual drone photography competitions across the world, with winning pieces hanging in art galleries and museums, is really positive too. I think giving these visuals a public platform is a way of normalising them and increasing public understanding of their varying forms and functions.

ES: In terms of the drone visuals collected for our project, we – and their creators – would definitely consider them as examples of visual art. The way in which patterns, shapes or colours are captured from the sky to create abstract images pushes the boundaries of conventional photography and becomes a means of artistic expression and communication. One of my favourite examples is the image of an oyster farm, which, from above, looks like a piece of sheet music on a scrap of brown parchment. If you tilt your head to the side, it transforms again into a barcode. Of course, not all drone hobbyists aim to create abstract art with their photography, but even normal aerial images of the world below can open up room for reflection on all sorts of things, from how we think about the space around us or the beauty of the earth to how we are seen by others, what is seen and unseen or even how spaces can be disrupted or transformed. If a visual stimulates such reflections, then it has achieved its purpose as a piece of art, regardless of whether it is a photograph taken by a drone or a landscape painting by an impressionist. By listening to people's reflections on drone visuals, such as through our exhibition, we can gain an understanding of how society is responding to drone technology and what still must be done to counter persisting negative perceptions.

Defamiliarising the Familiar: An Oyster Farm in Jersey (UK), taken by Paul Lakeman, 04/03/21

AJ: I'd now like to return to how the drone might prompt us to see something familiar anew. You've mentioned the association of drones with nuisance, while also identifying a category of drone visual around 'animal interactions'. In my own work, I'm interested in the social and

lived relations that drones enact and enable. It would be great to hear more about your thoughts on the drone's potential impacts on those below it (both human and wildlife).

LAO: Actually, we did get a lot of concerned comments in our exhibition about the 'animal interactions' photo. People were worried about the impact of the drone on wildlife, particularly whether it might collide with birds in the sky or scare them away from their natural habitats. In terms of human impacts, visitors also expressed concerns about noise pollution and how drone landscape photography in particular may disrupt what would be an otherwise peaceful walk. What I also found interesting was that many women felt like drones were still a very gendered practice, with most enthusiasts being middle-aged wealthy men. In fact, they even said that some of the drone visuals made them feel angry because they were taken in exotic places and the purpose of the photographer seemed to be to show off.

ES: I think it will be interesting to see whether people's attitudes towards the drone's impact on humans and wildlife change as AI develops and drones become more autonomous and sophisticated and depend less on the skills of the pilot. Sensors and built-in controls on height or no-go zones, for example, will make them safer and easier to use, which should address some of the concerns people still have about them being environmental hazards or 'toys of the privileged'.

Animal Interactions: Hartenbos, Western Cape, South Africa, taken by Ellie French, 27/01/21

AJ: It appears that one aspect of the project's data gathering came in the form of participant responses to a drone photography exhibition. It would be great to hear more about the online exhibition, '[Views from the Blue](#)', which features a range of consumer drone imagery, designed to prompt a reflection on the drone's "creation of new ways of visualising our world." How and why did you select the images? What might this form of exhibition intervention reveal about the curation, circulation and reception of drone imagery?

LAO: As you can imagine, COVID had a massive effect on our plans for the project. We had hoped to have a physical exhibition at the Winter Gardens in Sheffield, but at the last minute,

we had to change this to an online exhibition. We had collected 752 images from our participant observation and grouped these into ten different categories based on their main themes, as Elisa mentioned earlier, so we tried to pick an image that best represented each category for the exhibition. We also wanted to make sure that we included a broad range of geographical locations so that imagery wasn't just from one country or representative of the West only, so we have photos from drone users based in South Africa, Zimbabwe and Russia, as well as Ireland, Australia, USA and UK. Then, we accompanied each of the ten images with a short reflection to encourage visitors to think about its composition and sociocultural meanings.

One of our main goals with the exhibition was for it to challenge the general public to think about drones in new ways. The feedback we are gathering so far suggests that it is achieving this aim, which is great. Many people have expressed surprise at the range of ways that drones can be used creatively, particularly to emphasise the beauty of the earth or make us think differently about the space around us. However, as echoed in your previous question, feedback also shows that there is still a long way to go in changing negative perceptions on drones as many visitors did mention persisting concerns around noise, surveillance and the environment, which they feel can outweigh many of the advantages. We plan to follow this exhibition up with a workshop later this year organised with a drone visual artist, where we can explore some of these complexities in more detail with members of the public.

AJ: It's great to see your plans moving forward to explore that feedback in greater depth. I'd now like to reflect further on the visual-sensory capacities of the drone. Drone scholarship has explored the drone as it moves and sees in airspace, raising questions of embodiment in and through drone flight (see, for example, the 2020 special issue on 'The Sensorial Experience of the Drone' in *The Senses and Society*). How does your project approach and explore the embodied and experiential dimensions of drone flight?

LAO: That's something that I would definitely like to look at in more detail. We haven't started to analyse our video data yet, but certainly in the photos, I've noticed how camera angle and depth are used to create sensorial rather than purely visual experiences, what Jablonowski has called the "more-than-optical" view. To give you an example, in panoramic photos, spatial composition often encourages viewers' eyes to move in a particular way across the landscape and to interpret what they see. Verhoeff has compared these types of images to nineteenth-century dioramas or phantom rides because they don't act like static visual experiences. Instead, they use a combination of colour, light and framing to encourage movement and tactility, to make you feel embodied and part of the image in some way.

Panoramic View: Fields in Ladby, Denmark, taken by Michael Rasmussen, 29/04/19

Top-down views also make you feel as if you are embodying the image, standing on the edge of the world and looking down, so to speak. This is also the case with other drone images that bring you into close contact with things up high that you'd never see from ground level like brickwork or roof panels on buildings. Some drone visuals capture extreme close-ups of a particular aspect of the landscape like sand or stones, and I think this encourages a multisensorial experience, almost a fetishization of something that otherwise would be fairly mundane.

ES: I would add that, when I conducted interviews with drone users a few years ago, many said that drones allowed them to think more about the world they live in. They felt that the visuals they produced enabled people to understand their surroundings in new ways by giving them the feeling they could fly. This produced a whole new set of emotions in them and helped them develop greater attention to patterns, colours and shapes in the landscape around them. Even when they weren't flying their drone and were just out and about walking, they were more aware of this.

AJ: It's interesting to reflect on questions of the sensory in relation to the image or video, rather than a first-hand account of drone flight per se. I'd like to ask whether you feel a focus on 'drone visuals' might act to potentially limit a discussion of wider drone payloads, including sensors? How might the sensor-laden drone's capture of the more-than-visible (to the human eye) challenge discussions of the visual?

ES: Our project is particularly interested in capturing visuals by drones from a sociocultural perspective, so our focus has been mainly on the semiotics of drone visuals and how these images and videos are changing our way of seeing and thinking about our surroundings. As there have been limited studies in this area from a social semiotic perspective, this remains our focus for now and we believe our findings have the potential to make an important contribution to this area. Having said that, the study of sensors is a really interesting aspect of exploring drones and is clearly an enrichment to the visual. It would be great to find out more about the opportunities that they afford and how we can potentially build upon our own work through their study.

AJ: It's good to hear your views on where you might take the project moving forward. In bringing the discussion to a close, I'd like to return to your ideas around the drone's potentialities. While recognising the drone's entanglement with (histories of) the aerial gaze and 'God trick', I'd be interested to learn more on your feelings on the drone's potential for celebratory or emancipatory use in and beyond research applications?

LAO: As I'm sure you know, vertical angles have been historically regarded as in tension with views from below, but the drone visuals we've collected show how drones can, in fact, act as intermediaries between humans and nature, almost creating material encounters between technology and the environment. They can also make landscapes feel more tactile than visual, which I think creates an alliance between power and visibility rather than a tension. Going back to 'dronies' again, they actually hand control over to the person on the ground and empower them to turn the view from above into a performance of self. Similarly, top-down views reframe the relationship between the ground and sky as they encourage viewers to immerse themselves in the scenes and construct illusory experiences. This means that forms of knowledge and social practices that shape humans become reorganised, which can help

viewers gain control over what they see. I would also add that there's an increasing body of literature that shows examples of how drones can be used in sousveillance by activists and protestors to hold authority figures accountable. Considering this, I think we should talk more about the 'new visibility' that drones are offering and their potential to diversify traditional meanings of verticality and undermine the singular notion of the panoptic gaze.

AJ: Your point about 'new visibilities' is an interesting one, Lauren, resonating in nice ways with the work of scholars like Austin Choi-Fitzpatrick. As both your project, and Kristin Bergtora Sandvik and Maria Gabrielsen Jumbert's multi-facteted critical exploration of the 'good drone' remind us, there remains scope to think more diversely about the multiple 'terrains' and sensory capacities of drone visuals. This investigation can and should foreground questions of both the methods deployed in their study, and the forms of 'output' we might create and curate in seeking to represent and grapple with drone-captured three-dimensional worlds. Thank you for your time today and I wish you the very best with the project.

Author Biographies

Anna Jackman is a Lecturer in Human Geography at the University of Reading. Anna is a feminist political geographer interested in technological visibilities, volumes, relations and futures. Anna approaches these issues through the lens of the drone, exploring the unmanning of everyday, urban and military life in drone age. Anna's recent work has brought into dialogue feminist geopolitics and drone scholarship to develop the idea of 'everyday droning' as a honing and homing of military technology and drone capitalism. Anna has reflected on how small military drones are normalised and naturalised, and the (potential) implications of commercial drones on urban skylines and lives. Anna is also interested in both feminist understandings of territory and the methodological challenges raised by the 'volumetric' turn.

Lauren Alex O'Hagan is a Research Associate in the Department of Sociological Studies at the University of Sheffield, where she works on the 'Drones in Visual Culture' project. She specialises in performances of social class and power mediation in the late nineteenth and early twentieth century through visual and material artefacts, using a methodology that blends social semiotic analysis with archival research. She is also interested in tracing the historical origins of seemingly novel contemporary communicative practices in order to better understand how they have shaped representations of discourse over time. She has published extensively on book inscriptions, food packaging and advertising, postcards, propaganda posters, writing implements and music memorabilia.

Elisa Serafinelli is a Research Fellow and member of the Digital Society Network steering committee in the Department of Sociological Studies at the University of Sheffield. Her research interests include digital and mobile media and visual communication. She is currently leading a research project entitled 'Drones in Visual Culture' funded by the Arts and Humanities Research Council, which explores whether and how drones are changing the way we see the world. She is the author of *Digital Life on Instagram: New Social Communication of Photography* (Emerald, 2018) and is currently working on her second monograph for

Bloomsbury, provisionally titled *Drones in Visual Culture: Developing a New Theory of Mobile Visual Communication*.