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## The security captor, captured. Digital cameras, visual politics and material semiotics

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### ABSTRACT

Digital cameras are everywhere and play important roles in security and political scenes, yet they remain overlooked in security and IR research where debates on technology and visibility remain separated, often giving the mistaken impression that the digital images that populate scholarship are primarily visual. In this paper, I understand the digital camera as an inscription device that produces digital images, for which the digital qualities are as important as the visual.

Through producing standardised digital ‘factlets’, digital cameras become engines of ontological change that reconfigure political scenes, incorporating new actors and logics, and reconfiguring the ones already present. Digital cameras acquire security agency through our remarkable trust in digital cameras’ ability to capture reality as it is and store it in standardised files. The epistemic authority is not absolute, I show, but functions as a competence that can be exchanged, shared, and reconfigured. Digital cameras are promiscuous, forming hybrids with, e.g. images, digital media platforms, image appropriators, and camera operators. This relationality makes it hard to pin down exactly where the agency of digital cameras begins and ends. Viewed as an inscription device, the central faculty of the networked digital camera is that it inscribes the ‘reality’ of a political scene into fragmented but standardised video-bites and snapshots, little security ‘factlets’ preconfigured for effectively populating digital networks and databases.

### KEYWORDS

Cameras; material semiotics; visual security; digital media; photography; open-source intelligence

*In the hand of the police officer is digital camera. You can see the photo. But is the camera an actor? What is it doing? How? Is it a security actor?*

These questions, paraphrasing the opening of Law and Mol (2008) wonderful paper on the agency of sheep in relation to animal disease, and together with figure 1 animate and frame my investigation in this paper. The inspiration I draw from this piece includes the separation of questions of agency from questions of intentionality (Law and Mol 2008, 58) and the concern with troubling the ‘distinction between mastery and being-mastered’ (Law and Mol 2008, 57). Rather than sheep and disease response, though, I think about digital cameras and security politics.

Cameras are powerful, yet cameras are also mere tools. Being-mastered yet also profoundly transformational. The embodiment of objectivity but also never merely observing. To Dziga Vertov, director of *man with a movie camera* and writing about the then new film medium, the camera creates a new subject position:



Københavns Politii vil nu undersøge sagen til bunds. Foto: YouTube

**Figure 1.** Anonymous citizen recording of police officer filming street clashes by the Brorson Church. Originally captioned 'The Copenhagen Police will now investigate the matter [the use of video cameras by police officers] thoroughly'. Own translation from Danish, image included in (Batchelor 2009).

'I, the machine, show you a world the way only I can see it. I free myself for today and forever from human immobility. I'm in constant movement. I approach and pull away from objects. I creep under them. [...] Freed from the boundaries of time and space, I co-ordinate any and all points of the universe, wherever I want them to be. My way leads to towards the creation of a fresh perception of the world. Thus, I explain in a new way the world unknown to you'

(Vertov, as quoted in Berger 1972, 17. The translation is slightly different [and less elegant] in Vertov [1923] 1984(79–80))

Vertov's embrace of the camera's agency is not, as reading IR theory would perhaps have us suspect, because Vertov thinks about everyday realities and not about agency in relation to larger political and structural questions about security and the international. On the contrary, Vertov was deeply immersed in the image/security nexus during the Russian civil war, where he made newsreels for and managed the 'agit-trains' sent to the front equipped with film production and projection equipment (Heftberger 2013). His questions are thus about material *security* agency, and the fresh perception of the world is also a security perception. Close to a century later, cameras change again and international relations and security studies need to become sensitive to camera agency or remain stuck with ideas of images as simply visual and visuality as mainly cultural.

So far, the idea that cameras have agency has received little attention in scholarly debates about visual security. Images-as-representation, their interpretants, and the schemes we draw upon in making sense of them have been in focus, not the cameras and media that afford all this (see contributions in Vuori and Saugmann 2018; Bleiker 2018; Hozic 2017; as well as Möller 2007; Shepherd 2008; van Veeren 2010; Lisle 2011; Schlag and Heck 2013; Cooper-Cunningham 2019). For David Campbell, for example, 'the dominant social understandings existing at the moment of production and reception are more important than the specific form or content of the image for the creation of meaning' (Campbell 2004, 71). Writing before the transition of images from curated and analogue to viral and digital objects became apparent with the advent of content-sharing media platforms, he holds that 'the power of images cannot be said to result from qualities internal to the picture' (Campbell 2004, 71). This position seems largely accepted in critical writings on visual security emphasising aesthetic regimes, ways of seeing and how we make sense of images, as if

images were merely or even primarily visual. The notable exception to this de-privileging of cameras and production agency is in Kennedy's (2009) work on soldier photography, where we see how digital cameras transform the warzone as soldiers capture routine and exceptional moments, including moments of violence, as mundane part of everyday practices, and share these moments with people who are not in the battlefield. While an increasing amount of works consider the digital mediation of images (Crone 2014; Leander 2017; Malmvig 2020), the tendency to bracket or overlook camera agency has proved surprisingly stubborn even as international relations researchers have themselves begun using cameras to do research, producing and altering images (Weber 2011; Saugmann 2012; Der Derian, Udris, and Udris 2010; Möller 2013; Särämä 2018; Lisle and Johnson 2018).

In keeping with Maynard's remark that 'almost all writing about photography in our own times tends to begin with the alleged nature of the product rather than with its production and use' (Maynard 1997, 9) the digital camera remains the perfect taken-for-granted technology, rarely visible even in research that could not have been made without cameras. What enables this silence? In Law and Mol's work on sheep, they open up for complicating agency, understanding it beyond mastery/mastered dichotomies: 'Does a sheep exert mastery, does it control? Or is it simply being pushed around? The answer, we will see, does not fit this division.' (Law and Mol 2008, 57). In this paper, I seek to complicate our understanding of visuality in critically minded IR by portraying the camera as a central but troublesome device, hard to pin down and constantly both mastering and being-mastered. This is to bring forwards some of the potentials (and probably pitfalls as well) of using material semiotic thinking in IR, in line with the theme of this special issue, and especially to follow its call to seek out the trouble and ruptures that populate neat security imaginaries of technological advance if we look close enough (Bellanova, Lindskov Jacobsen, and Monsees 2020) and offer critique that engages with the complexity and contradictions of actual technological practice (de Goede 2020, Rothe 2020).

To convince you to see cameras as inscription devices enmeshed in hybrid forms of agency, I proceed in the following way: I first discuss some material-semiotic concepts that allow us to discuss the agency of the networked camera as a device that is both being mastered and mastering – transcribing reality and formatting it for online remediation while itself being reconfigured by surrounding reality, and being pointed at certain objects rather than others, employed to aesthetically frame images in some ways rather than others. I continue with two political scenes in which cameras are important and their agency both visible and under renegotiation. I *first* look into how the reality of a political scene is co-constituted by the digital cameras present in it. Crucially, I show, there is not a pre-determined way in which a political scene is reconfigured, as the agency of the digital camera is itself relational, and thus the network between this actant and more traditional actors – e.g. political or societal authorities, media outlets – configure the capabilities of each of them, and lets them add to or detract from the capabilities of each other. *Second*, I look into how this networked digital ontology affords a reconfiguration of who can be the parties to a confrontation, and how these parties can participate.

### **Camera agency in political scenes**

In a material-semiotic formulation (Law 2009), the camera can be seen as an inscription device that serves the goals of its user while at the same time transforming these goals (Latour 1994), thus reconfiguring the political reality of reality while documenting it. My concern is with what camera technologies of (post-)photographic representation do to reality beyond simply representing it, with cameras considered as actants that participate in – not dominate or determine, but rather enable and afford – the configuration of our political realities, while itself also being reconfigured by these. This analysis combines representational and non-representational (i.e. material) semiotic approaches to the camera and its agency, trying to combine attention to how the digital camera *shows* (or represents) 'something' with attention to what the digital camera *does* to that 'something',

as well as to its operators and infrastructural surroundings. Digital images, thus, are not merely or mainly visual.

Here, I partly follow Lister's (2016, 267) call to turn 'away from a long dominant preoccupation with photography as representation' and situate representational and non-representational forms of agency in dialogue. A digital camera produces not an image, but a file, and the standardisation of this file is what allows it to populate databases and traverse networks effortlessly. The metadata included in standards such as Exif<sup>1</sup> affords sorting and categorising, enabling virality and localised versions of it, but also surveillance via Exif metadata, as the Snowden leaks revealed (NSA 2008). The development of digital cameras and associated mediation technologies is central to the way in which the camera at present translates political protest, but the approach developed here is not one of current technology per se but one emphasising its importance for the socio-technological entanglements that produce mediated everyday political reality. As such, the exact cameras or components (e.g. image sensor formats; CCD or CMOS sensors; lenses, shutters and houses) are not at the core of my argument. At the core is the infrastructure digital cameras afford: how any digital camera acts in inscribing corporeal realities in standardised digital images that our software-powered devices recognise as photographic images, and which enjoy both the epistemic authority associated with photographic images and the image file's ability to circulate between devices, software systems, and platforms. I thus do not seek to pry cameras away from either the images they produce, the people operating them, or the infrastructures in which they operate, but to consider cameras as inscription devices that are entangled with and exchange agency and capabilities with their surroundings – phones or other storage and transmission media, media platforms, camera operators, spectators.

The political lives of digital cameras and networked digital images are, I argue, deeply intertwined as politics most often relates to cameras through the images they produce. In political life, images are commonly understood through an image epistemology that sees images as neutral imprints or indexes of a reality external to the camera (Seppänen 2017). This epistemology understands the camera as what Vertov (1984) termed a 'factory of facts', and understands images as autonomous facts that can – supposedly – be easily disjointed from the camera-wo/man who recorded them. Images become what Latour calls immutable mobiles – inscriptions that can circulate, for which Latour's first characteristic is 'optical consistency' (Latour 1986, 8). To Latour, the starting and anchoring point that explains other forms of 'inscription' is image drawing, and this process explains other devices that describe 'quasars, chromosomes, brain peptides, leptons, gross national products, classes, coast lines' (Latour 1986, 17).

The digital camera's rendering of a political scene in standardised and mobile digital inscriptions (digital images) changes not only the materiality of the scene but alters the network that makes up the scene.

Pondering agency through the NRA slogan *guns don't kill people, people do*, Latour advocates for a hybrid – gun-citizen or citizen-gun – as the most plausible actor in this story, as he dismisses both the NRA idea that people would have killed no matter if they had a gun, and the opposite idea that the gun is determining the course of action. The parallel to cameras is obvious, in the quotidian language of 'shooting' images with cameras and, as I have previously shown, in the visual and verbal discourses about the agency of new visual media, which are 'saturated with references to the camera as a weapon' (Saugmann 2015a, 154). I want to follow Latour's suggestion to think about the camera's agency not as a stand-alone entity that can master or be mastered, but as enacting a hybrid, a 'citizen-networked camera' or, to play on Verzov's film title, a 'wo/man with a digital camera'. In today's political conflicts, this hybrid frequently faces another hybrid, a 'camera-policeman' like the one pictured at the beginning of this article.

Thinking in terms of hybrids allows us to see how hybridity translates both the capacities of the camera and of the person holding it. This is why the hybrid is not just a cameraman, an operator, but a new entity whose agency is 'not a property of humans but of an association of actants [...] exchanging competences, offering one another new possibilities, new goals, new functions' (Latour

1994, 35). The modification of technical functions and human goals is important to my work here. Returning this thought to visual inscriptions performed in digital cameras, we see how the association of digital cameras and face-to-face political conflict opens up for that political controversy can blend two realities – the reality of political controversy as a face-to-face meeting between people in a specific time and place, and the reality of digital files documenting this meeting but circulating and read according to logics of online remediation (Saugmann 2017).

My argument thus begins with us seeing the camera as an inscription device, a factory of facts, and then considers how the hybrids emerging around this inscription device affect the ontology of political scenes.

### Scene 1 – the camera as a trusted inscription device

In *Laboratory Life*, Latour and Woolgar define an inscription device in terms that are readily applicable to the digital camera and its associated mediation systems, arguing that ‘an inscription device is any item of apparatus or particular configuration of such items which can transform a material substance into a figure or a diagram’ (Latour and Woolgar 1979, 51). The material substance, here, is thus the political scene that the camera is pointed at, and the figure or diagram is the resulting digital image which stems not only from the camera but also from its being part of a particular configuration of a larger apparatus for creating networked images. In the case of everyday images taken with, e.g. mobile phone cameras, this hybrid apparatus includes camera-citizen, technical image standards, metadata standards, protocols, mediation platforms and the apps that integrate them into camera-phones, memory cards, cell phone or Wi-Fi networks that allows the file to circulate, etc.

Alongside the ability to produce standardised digital files that can be transferred and read across an infrastructure of billions of software-running devices, the ability of the camera to produce inscriptions that are considered *reliable* in political practice is the most important ability upon which camera agency rests. Through producing naturalistic images, cameras perform ‘the always stupefying evidence of *this is how it was*, giving us, by a precious miracle, a reality from which we are sheltered’ (Barthes 1977, 44). Kittler elaborates this ‘precious miracle’, noting that while mostly associated with images, it is also found in sound recording. Any ‘captured’ media artefact is ‘not only supposed to resemble the object [represented], but it is also supposed to guarantee this resemblance by being the product of this object itself, i.e., by being mechanically produced by it – in the same way as the illuminated objects in reality mechanically imprint their image onto the photographic layer’; or, as the frequency curves of noises inscribe themselves onto the phonographic plate (Kittler 1987, 110, drawing on Rudolf Arnheim). Vertov, with his belief that a (non-acted) cinema of facticity would displace fiction cinema with a ‘factory of facts’ and ‘individual little factlets’ (Vertov 1984, 60), is among the first and fiercest proponents of this authority and the associated agency. Rather than a precious miracle, he imagined a revolutionary cinema with ‘fists made of facts’ (Vertov 1984, 59). Paradoxically, it becomes possible to overlook the agency of the camera precisely because of the trust we place in it as an inscription device – it becomes invisible as a faithful intermediary ‘mechanically’ producing images as if that adjective denied agency. And it continues to be seen this way even if the mechanics of pinholes, shutters and photographic paper are long gone, today mimicked in the software and components of digital cameras. This is the camera’s other miracle, that belief in its abilities can completely occlude its agency. Yet as Latour (1994) holds that the gun can neither be absolved nor held accountable for killing people, neither should we let the camera perpetuate the fiction that it is not acting on political conflict when it is brought to the scene.

### 'This video proves it' – the co-production of agency in camera hybrids

The first scene is taken from a larger controversy over refugee politics in Copenhagen in 2009 (for a discussion of the concept of controversies in security studies, see Monsees 2020). Here, I explore how digital cameras, networked images, and traditional authorities work together and reconfigure each other in a process that we can understand as an exemplary process of actants 'exchanging competences, offering one another new possibilities, new goals, new functions' (Latour 1994, 35). It tells of how cameras change the networked character of political conflict, but also how the intervention of political actors in this network can reconfigure the meaning of and status attributed to digital cameras and other network elements.

The political performativity of cameras is reconfigured during the controversy, allowing us to interrogate how the exchange of possibilities, goals and properties play out in practice. Around the confrontations, powerful institutions introduced and endorsed visual mediation, allowing for close scrutiny of the political agency of and around digital cameras, and of how political actors are themselves reconfigured in this exchange.

The scene is the culmination of a political controversy in which about 60 Iraqi asylum seekers, who had been denied refugee status and were to be forcefully repatriated, had taken public refuge in the Brorson church in Copenhagen to protest the decision and highlight that Iraq was not a safe place to return to. On 13 August 2009, the Copenhagen Police, acting on government orders, broke the church refuge to arrest the able-bodied and male asylum seekers. Asylum activists tried to physically block the police from removing the asylum seekers. The image heading this paper is of a police officer filming the scene, filmed from a neighbouring apartment, and images like this became central to the controversy.

After two days of intensive media coverage, in which both professional and citizens images were used, not much was published after August 14<sup>th</sup>, 2009. Only the church minister, was able to keep the occurrences on the national agenda, disturbing the narrative of what police termed a 'perfectly executed operation' by speaking out about how he had experienced riot-clad police officers and frightened Iraqis in his church (Clemmensen and Drevsfeldt 2009).

On August 19<sup>th</sup>, police accused the pastor of deliberately misrepresenting events (Hansen 2009). Yet the trouble with the pastor, a trusted authority on par with the police in Danish media, continued, and eventually the Copenhagen Police turned to digital cameras to win the argument: On August 30<sup>th</sup>, the police published their operational digital video, breaking with the practice of only using police surveillance tapes in court, in training, and for investigation (Jensen 2011). The footage was published exclusively through private broadcaster TV-2 and right-of-centre tabloid BT, and accompanied by interpretative statements from top government spokespersons. 'Minister: Priest lying' (BT 2009) headlined the piece that broke the news. It showed not only the actual police-recorded footage but, peculiarly, the Minister of Justice reviewing and interpreting this footage (BT 2009, 01, 30). The Minister of Integration, responsible for the deportation order the police were carrying out, delivered the strongest endorsement of the epistemic authority of digital cameras as inscription devices capable of storing reality: 'it is a bold lie that the police escalated the situation. *And this video proves it*' (Clemmensen 2009, my italics.) With top-level government officials mixing their epistemic authority with that of digital policeman-cameras and excitedly endorsing the possibilities it offered, video cameras were reconfigured as powerful hybrid devices at the centre of the controversy, capable of sorting out the facticity of competing claims even from trusted authorities like the pastor. The police footage temporarily re-inscribed the identities of central actors in the controversy: police and government officials [truth-tellers, authenticated by video], the pastor [liar/manipulator], protesters [exaggerators; the police footage contained little police violence] and cameras/images [inscription devices/arbiters of truthfulness]. This reconfiguration, however, allowed new things to happen as the network became reconfigured around cameras and video.

For activists and journalists, the increased epistemic authority ascribed to cameras offered new possibilities to use cameras as witnesses against authorities version of events. Soon, images like

**Figure 1** re-surfaced, depicting police with video recording devices outside the church, recording confrontations that were nowhere to be found in the footage that the police had given to media and claimed as exhaustive (Gjerding, Geist, and Clemmensen 2009; Ritzau, and information.dk 2009; Rømer 2009).

Contrary to what Copenhagen Police asserted, they were depicted as accompanied by our main character, the digital camera, also in the confrontations outside the church. Soon, headlines like ‘According to the fifth explanation from the police, the fourth explanation was a lie’ (Gjerding and Geist 2009, my translation from Danish) forced the police to retreat: ‘The Copenhagen Police have been presented two video clips from the Internet that would show two policemen video photographing’ (Københavns Politi, 2009) read a police press release, spelling out the epistemic authority of networked cameras. At this point in time and space, even the police had to obey when confronted with digital cameras and the networked images they produce.

We can see this episode as an epistemic battle through and over the agentic capacity of digital cameras and the hybrids they form part of. It shows how cameras exchange authority and capacities with other actors in a political conflict, how they draw epistemic authority from other actors and lend epistemic authority to other actors, and how they in so doing participate in reconfiguring the goals and possibilities of the other actors that are party to a political scene. Scrutinising camera agency reveals it as emergent and relational, existing in relation to the discourses and infrastructure that surrounds the networked digital camera. While this may help explain why cameras have evaded scrutiny in critical and visual security studies, it is not at all peculiar or exceptional in a material semiotics optic: ‘In the stories that material semiotics makes possible, an actor does not act alone. It acts in relation to other actors, linked up with them. This means that it is also always being acted upon. Acting and being enacted go together. What is more, an enacted-actor is not in control. To act is not to master, for the results of what is being done are often unexpected.’ (Law and Mol 2008, 58). As also the Danish Government and Copenhagen Police found out.

## Scene 2 – the camera as a producer of standardised mobiles

Like other inscriptions, the digital image is left after ‘the enunciator of this technical act has disappeared from the scene’ (Latour 1994, 39). This is important because it means that the inscription (image) acquires a degree of freedom from its enunciator (wo/man with a camera). This is a characteristic that relates not only to the material character of the inscription as a digital file but as seen above also to the trust we place in its depiction, the epistemic authority that gives the image a powerful ‘reality effect’ that combines with their portability and freedom. To Latour, the networked mobility of inscriptions is crucial, as ‘inscriptions are not interesting per se but only because they increase either the mobility or the immutability of traces’ (Latour 1986, 10). The image produced by the digital camera is both material and highly *mobile*, because cameras follow standards such as Exif and the Design rule for Camera File (DCF)<sup>2</sup> system which encodes their images to ensure interoperability, i.e. in ways that guarantee that the files can easily be circulated, read, and displayed across standardised digital media infrastructures. This formatting for a digital infrastructure of billions of devices is the second crucial element of how cameras transform political scenes.

Latour adds another interesting – albeit slightly techno-deterministic – perspective on the epistemic authority of mobiles: When discussing changes to knowledge contained in books after the invention of the printing press, he asserts that it is the act of multiplication and mobility of immutable mobiles that makes them strong in knowledge terms – since when, e.g. drawings and description of organs can be transported and spread easily, the differences between different versions will become apparent and gradually erased: ‘[n]o matter how inaccurate these traces might be at first, they will all become accurate just as a consequence of more mobilization and more immutability.’ (Latour 1986, 11, italics in original). This idea, that the multiplicity of images can act as a source of epistemic authority, counteracts the long-repeated assertions that the digital image would, due to its manipulability, lose epistemic authority. Digital images may be easier to

alter subtly, but they are also easier to spread and circulate, so Latour's 'mechanism to irreversibly capture accuracy' can make even clever forgeries, that would not stand out due to the way in which they represent a scene, identifiable as outliers in the mass of identical images. This principle is exactly what underlies practices of appropriating unknown digital images from conflict zones and authenticating them by comparing different images appearing to be from the same situation. Such comparison is widely practiced by news organisations and other 'forensic' image appropriators, and the mobility of inscriptions is the second way in which digital cameras reconfigure political scenes.

### Translating the cast – ontological reconfigurations in camera-mediated conflicts

The inscriptions performed by cameras enable the political locus of a conflict to be reconfigured away from being anchored in the infrastructural space of the physical reality and towards a digitally networked infrastructural space in which logics of remediation, operationalised in recommendation algorithms, mediate digital reality.<sup>3</sup> These logics enable new actors to take part and reconfigure the actors already present.

Sometimes cameras provide some counterweight to logics of physical force, as vividly illustrated in the issue of police violence against black US citizens, where citizen-cameras have from the attack on Rodney King in 1991 to the killing of George Floyd in 2020 been the bulwark against police brutality (see Saugmann 2015b). At other times, media logics reinforce threats to actors already present in a conflict space. As the scene that follows here illustrates, the reconfiguration of civilians as camera-citizens can enable otherwise non-related third parties to gain access to and agency in contemporary conflict, and can activate threats towards civilians in conflict zones.

The conflict in eastern Ukraine has provided fertile ground for outside actors to map, track, and document conflict – with 'little green men', a downed civilian airliner, and accusations of ceasefire breaches all taking place in a space with a well-developed digital media infrastructure. Such mapping, tracking and documentation take place as well in any other conflict where the technological infrastructure allows for it and is used by actors ranging from the public and disorganised to the clandestine and tightly organised – from nerdy citizens and critical NGOs, through universities and military academies, to intelligence agencies and their clandestine units.

I investigate this kind of third-party access through looking closer at a collaboration between the Atlantic Council and Eliot Higgins. While the Atlantic Council is a well-known US international affairs NGO promoting US-European collaboration, Higgins' work on the blog Brown Moses pioneered the public mapping of conflict through 'forensic' appropriation of anonymous digital images (Brown Moses Blog 2013; Weaver 2013) and later became Bellingcat, an 'open-source investigation' NGO, and which now provides training in these kinds of techniques for actors worldwide. The Atlantic Council report *Hiding in Plain Sight* (Czuperski et al. 2015) leverages a range of images – from satellite photos to social media videos – to make the case that Russian soldiers and equipment have been integral to the conflict in Eastern Ukraine. It focuses on the occupation of Debaltseve on 18 February 2015, three days after the signing of the second Minsk ceasefire. 'While the Kremlin continues to deny the role of regular Russian forces in Ukraine, Russian soldiers fighting in Ukraine and Ukrainian and Russian civilians on both sides of the war are posting photographs and videos of convoys, equipment, and themselves on the Internet' (Czuperski et al. 2015, 8), the report states.

The report describes its method as 'digital forensics', and as a means of subverting Russian subversion, presenting the open sources as an ethical investment. Using these sources rests, however, on a set of premises that go unaccounted for. The technological premise for such a visual forensics is that even warzones are saturated with digital cameras, producing standardised images formatted so that anybody with internet access can effortlessly transmit, read, scrape, appropriate, mine, and categorise the images according to both content and metadata. The ethical premise for the forensics free-for-all is an understanding in which online videos and photographs are not private items over which the camera-wo/men who made the images enjoy rights. This ethos

holds that by sharing images online, producers make them freely available for further use without consultation or compensation, effectively turning networked digital cameras into sensing devices for the networked world at large. The semiotic or epistemological premise for ‘forensic’ appropriation of images is that they are understood as inscriptions providing transparent evidence, as in the epistemology described above, and ‘geolocated’ – a term for assigning a geographical position to unknown images, based on image content, metadata, or both; allowing for situating the people and artefacts depicted.

Civilian images and satellite images are enacted as symmetrical – as ‘a powerful and effective tool for tracking individuals and the images they produce’ (Czuperski et al. 2015, 8). The report recommends its audience to ‘employ new digital forensic methods and geolocation analysis to collect intelligence that is releasable to the public to complement covert and technical intelligence collection’ and to ‘make public, to the maximum extent possible, information documenting Putin’s aggressive designs [. . .], while protecting *intelligence methods* as needed’ (Czuperski et al. 2015, 20, my italics). While intelligence methods are deemed worthy of protection and may therefore not produce intelligence that is ‘releasable’ to the public, these authors see nothing standing in the way of repurposing the cameras of civilians and soldiers as intelligence collection/publication devices. In this view, risks become invisible as the epistemically authoritative public documents present political opportunities: ‘[t]hese pieces of evidence create an undeniable – and publicly accessible – record of Russian involvement in Ukraine.’ (Czuperski et al. 2015, 8).

There are, however, troubling implications for the wo/men with cameras who are repurposed as intelligence devices. The Atlantic Council report *Hiding in Plain Sight* appropriates everyday images supposedly produced by Russian soldiers, harvested mainly from the VKontakte platform. Through these images, it ‘follows’ individuals to training camps it locates in Russia, to sites it locates in Ukraine, to battlefields in Eastern Ukraine where some image trails stop while others go back to taking pictures in Russia. The report lauds the efficiency of appropriating photos but contains no reflection on the appropriateness this practice.

*Hiding in Plain Sight* contains a profile on an alleged Russian soldier, Bato.<sup>4</sup> Depicted as a soldier and photographed standing on an alleged captured Ukrainian position (Czuperski et al. 2015, 16), Bato’s story is to substantiate that professional Russian soldiers fought in Debaltseve early in 2015. Subsequently, a Vice News documentary takes up Bato’s story, and the documentary is useful to me here as it enables a glimpse of the kind of interest images provoke when re-purposed as conflict intelligence. The documentary re-enacts the social media photographs appropriated by the Atlantic Council report, including [Figure 2](#) which shows what the report deems to be Bato wearing



**Figure 2.** Vice journalist (right) re-enacting soldier-camera images (left) (Ostrovsky 2015, sec. 14:46).

a uniform without insignia, and journalist Simon Ostrovsky re-enacting this image in a location near Debal'tseve.

The film presents Bato with the re-enactment, describing his reaction as 'tense', insisting that there must be a mistake, that he didn't upload the pictures, is not depicted in the photos, and didn't leave Russia (Ostrovsky 2015, sec. 19:40 ff). The Vice documentary journalist tells:

He denied everything. I think he'd actually been prepared, as all soldiers are, that they're supposed to take off their insignia before they go into Ukraine. They're supposed to not take cellphones with them. He'd broken that rule, so he knew that he was in trouble.

Bato's reaction is not the only indication of the trouble appropriated images can cause to those whose images have been appropriated. Ostrovsky continues:

I know that he [Bato] reported me having contacted him immediately after I spoke with him on the phone. And this isn't in the film, but a few hours after I put the phone down, the security services came and paid me a visit in my hotel and I was essentially hounded by them out of Russia thereafter.

Bato's fear and Ostrovsky's hounding points to the gravity of consequences appropriation can have for the humans in camera-wo/man hybrids, and capture some of the agency of third-party conflict mapping by showing how grave consequences can follow for camera-wo/men when their images are appropriated and reconfigured as 'open source intelligence' inscriptions. Digital cameras enable the political locus of a conflict to be reconfigured – moving it away from the infrastructural space of the physical reality depicted, and towards an online infrastructural space where technological interoperability enables logics of remediation and representation to co-constitute reality – introducing new actors and reconfiguring logics of physical force.

The mobility of inscriptions produced by phone-cameras is not incidental, but the result of decades of careful attention to interoperability in the standards and design principles upon which cameras and the devices they connect to are built. Mobile inscriptions afford a networked digital reality of political scenes, reconfiguring the ontology of a political occurrence by co-constituting it in material and semiotic networks and space-time logics than are radically different from those in a non-filmed corporeal political confrontation.

### **Conclusion: the hybridity of security inscription**

In this article, I have explored the potential of viewing the digital camera as an inscription device that enables a reconfiguration of political scenes. Cameras, I argue, are promiscuous, engaging in partnerships and forming hybrid actants with, e.g. digital media platforms, distant image appropriators, citizens, military or police wo/men, producing hybrid actors, exchanging competences and goals. Digital cameras acquire security agency as inscription devices able to store reality as standardised factlets in digital image files and able to form hybrids with protester, police, surveillance agencies, media, open-source investigators, etc. Digital cameras, thus, do not merely produce images, digital cameras format reality for digital storage and transmission. The resulting images are not primarily visual, but equally digital and visual. Thus, the enormous change in the importance and gravity of images in international security during the last decades rests primarily from qualities related to the form(atting) of images, i.e. the expansion of the network these standardised files participate in, not primarily on changes to the meaning of images as this is influenced by the 'dominant social understandings existing at the moment of production and reception' (Campbell 2004, 71). Continuing to focus on representation – on visuality as exclusively cultural, and on articulation, discourse and speech agency as an exclusively human properties – overlooks the technological infrastructuring that affords such agency in particular ways, reconfigures ontologies of protest, and modifies the goals and opportunities of actors.

Dominant social understandings are still important, as images' ability to successfully capture reality rests on a belief that cameras are neutral devices, and the epistemic authority this belief

confers onto images. Cameras' epistemic authority is not absolute, as I showed in the first scene, but functions as a competence that can be exchanged with, and bolstered or weakened by, other actors who enjoy epistemic authority. Epistemic authority is a property not only of individual images but also of the hybrids that participate in political scenes mediated by cameras – camera-wo/men, twitter-images, or image-forensics-organisations. The epistemic authority of image inscriptions enables distant appropriation that not only creates new distant actors – visual forensics or open-source intelligence actors like Bellingcat, as the second scene demonstrates – but also reconfigures camera-wo/men in conflict zones, (re)enacting them as potential intelligence agents.

Paying attention to inscription devices and the form in which they inscribe reality is crucial for a critical security approach to digital visibility. I have shown how viewing the digital camera agency rooted in how they enable an assemblage of the political logics found on the street level and on the digital media level, and how doing so can help us think about changes to the distribution of roles, goals and strategies enacted in security scenes (who are parties, what are the goals and opportunities of the parties to a confrontation). The digital camera is a central device inscribing the 'reality' of the conflict into fragmented standardised video-bites and snapshots, preconfigured for effectively traversing digital media. Digital cameras remake political conflict as an assemblage of logics from the spatially and temporally defined street scene and logics from the temporally and spatially flexible digital mediasphere, where fragments or 'factlets' (Vertov 1984) of a scene can be experienced and appropriated independently of time and space. By producing standardised visual factlets for circulation in online networks designed for effortless interoperability between systems and devices, cameras change the ontology of security and political scenes, incorporating new actors and logics, and reconfiguring the agency and logics already present.

### ***Postscript on networked cameras and computer vision***

The scenes interrogated so far give a picture of how digital cameras already today have far-reaching implications as they produce standardised mobile inscriptions that can be used by conflict participants or third-party actors to make the visual inscription an important part of political conflict logics. The development of computer vision systems that can mine the image streams produced in digital camera infrastructures for politically salient information will attenuate the degree to which cameras act as devices that format social reality for computational intervention. Inspired in part by the work of Gómez Cruz on QR codes – but using everyday images of political scenes rather than Gómez Cruz's machine-readable QR images – this postscript is about how 'photographic technologies are increasingly being used not (only) as a representation or performance but as a technological interface between objects, information, networks, environments, databases and people' (Gómez Cruz 2016, 230). Networked digital cameras and computer vision software together enable mass datafication of visual everyday life in ways that build upon the agencies of digital cameras shown above. Two core disciplines within machine vision development is, first, object recognition and labelling and, second, facial recognition and matching. Together, these strive for machine vision systems to be able to recognise and label the different objects present in an image, identify the people present in them, track and possibly match these against existing databases – much like the Atlantic Council did by locating Bato in Ukraine. These conflict-mapping and 'forensic' tracking efforts give an idea of the efforts and attention already being devoted to such conflict mapping, and it is not difficult to imagine a scenario in which most images shared from locations near conflict or depicting, e.g. weapons will be appropriated for machine vision-based conflict mapping. While such capabilities are certainly not reality at the moment or likely to perform with seamless perfection anytime soon, there are constant advances in the capabilities of algorithms and systems, and both are already being deployed for security purposes (Deputy Secretary of Defense 2017; Pellerin 2017; Williams 2015). Project Maven, a US application of machine vision for military purposes, showed that the first aim of using computer vision in security and military matters is one of scale – to be able to use more images than what would be humanly possible to analyse, with Maven seeking a system

that would ‘reduce the human factors burden [i.e. labour needs] of FMV [Full-Motion Video] analysis, increase actionable intelligence, and enhance military decision-making’ (Deputy Secretary of Defense 2017). Volume, not precision or sophistication, is the core problem that computer vision promises to solve, in what Suchman (2020) calls the reinvention of accuracy.

Digital cameras and machine vision are imagined to together perform the ‘ultrapid forms of free-floating control’ that Deleuze, drawing on Virilio, proposes as integral to societies of control (Deleuze 1992, 4). But whereas Deleuze’s discussion leaves out how control happens, concerned with consequences for how we live, but not with the friction or blindness arising in control infrastructures, the meeting between computer vision and networked cameras is far from frictionless. Actors and agency may, as I have demonstrated above, change radically, and make it difficult to even foresee who exactly will control who.

Reconfigurations of both images and their producers are likely. First, data and metadata will if not merge, then become even closer related, as images will be readily ‘interpreted’ by computer vision systems in terms of their content, enabling automated sorting according to image content – whether images are close-ups or landscapes, contain, e.g. cars, weapons, or the faces of individuals or families. This not only threatens to reconfigure the notion of ‘understanding’ to such crude labelling that algorithms can break the human ‘monopoly’ on interpretation but also fundamentally change how we view images and their content. Images are databases as well as aesthetic objects. Such reconfiguration will, furthermore, render wo/men with digital cameras as involuntary intelligence agents for distant visual mapping systems, reconfiguring camera-civilians as ‘avatars’, a disembodied term the Danish Defense College uses for the civilians it imagines as un-grievable open source intelligence agents that map territory and sociality for third-party interests (Juhlin 2016; see Suchman 2020, 180 for further evidence of and perspective on ‘open source’ image appropriation in warfare). As shown above, such appropriation is already widespread. With think tanks, NGO’s and defence academies lauding its usefulness, the limitation to its use seems to be pragmatic rather than principled – the primary limitation being in the costs involved in gathering, verifying and analysing the appropriated work of cameras. Such appropriation makes networked digital cameras not only an essential tool in everyday life but also a tool that presents a security risk to individuals, a scenario that we are not well equipped to analyse in terms of the work in visual security and international relations, which has so far focused predominantly on prominent press photos, videos, or artistic images as representations, rather than understanding the role of digital cameras and images as part of the infrastructure of everyday life.

Turning our attention to the situated and networked agential capacities of cameras reveals the role digital cameras play in the formatting of everyday life for distant observation and computational treatment – not only in image-sharing media systems but equally possible in expanded surveillance systems powered by computer vision. It is exactly the ability of digital cameras to inscribe standardised ‘factlets’ or immutable mobiles that produce a fertile technical environment for such surveillance, but surveillance by appropriation of digital images will not happen without reconfiguration of the scenes they are taken as documenting.

## Notes

1. EXIF, which stands for ‘Exchangeable image file format’ is the metadata standard used in most smartphones and digital cameras, see <https://en.wikipedia.org/wiki/Exif>
2. For a short description, see [https://en.wikipedia.org/wiki/Design\\_rule\\_for\\_Camera\\_File\\_system](https://en.wikipedia.org/wiki/Design_rule_for_Camera_File_system)
3. I have worked specifically on the political agency of recommendation algorithms in Saugmann (2017)
4. The report identifies the soldier with a full name, but I choose not to do that here to not further expose the individual.

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## Notes on contributor

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