

# War Beyond Photography: Digitally Embellished Imaging and Contemporary Conflicts

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## **Biography**

Wilco Versteeg is preparing his doctoral thesis at Université Paris Diderot under the supervision of Professor François Brunet. His research focuses on contemporary war photography, specifically on the shifts taking place due to digitization of photography and virtualization of warfare.

## **Abstract**

Assuming that photography is at a crucial stage in its development, namely a low-point in believability and a high-point in its social presence, this article will explore strategies used by media that show how photographs are still able to function as witness to historical events. Examples from recent conflicts, those in Syria, Gaza, Ukraine, and Iran, show that digitization of the photographic image provides new possibilities to a medium in crisis.

## **Résumé**

En supposant que la photographie est arrivée à une étape cruciale de son développement, c'est-à-dire à un niveau de faible plausibilité mais de forte présence sociale, cet article explorera des stratégies utilisées par des médias qui montrent comment les photographies continuent de fonctionner comme témoins des événements historiques. Les exemples de conflits récents, ceux en Syrie, à Gaza, en Ukraine et en Iran, montrent que la numérisation de l'image photographique ouvre cet art en crise à de nouvelles possibilités.

## **Keywords**

Photography, war, digitization, virtual warfare, Photography 2.0, citizen journalism, visual literacy, democracy, Fred Ritchin, communicative strategies, Iran, Ukraine, New York Times, Social media.

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Criticism of photography has been a faithful companion to the medium ever since its invention in the 19<sup>th</sup> century. Critics of photography have tried to unravel the persistent myths surrounding this medium, and in doing so have explored future uses

and possibilities of the photograph in society. Without rehashing the familiar and too neatly presented story of photography's progress from sun-painting and the pencil of nature, to the recognition of the subjectivity inherent in a medium that seems to be the most objective amongst a plethora of media that take reality as their starting point, we need to question the function of photography as a witness to social and historical events while remaining aware that present-day shifts in discourses on photography are rooted in past criticism and uses.<sup>1</sup>

Today, professionals and amateurs in the expanded field of photography are aware of possible criticism aimed at the medium and especially of the risks inherent in the latest stage of its development; the ongoing digitization of the medium has plunged theorists of the medium in what at times seems to be a profound existential crisis. The recent trauma brought on by 'the digital' has, however, led to reassessments of the uses and functions of photographic images in journalistic media. If anything, the advent of the digital has highlighted productive paradoxes and has pointed to new directions in the use of photography to witness historical events. Assuming that photography is at a crucial stage in its development, namely a low-point in its apparent believability and a high-point in its social ubiquity, this article will explore strategies used by news media that show new, often hybrid approaches in which photographic images might still be able to function as witnesses. In a world that has come to be pessimistic about the value of photography it will delineate new and positive uses. Examples from recent conflicts in Syria, Gaza, Ukraine, and Iran will show what these 'new' methods entail and how they work in practice.

## **Photography 2.0**

If the 20<sup>th</sup> century was the century of the image, the present century is the century of...the image, in its 2.0 variant. Images are ubiquitous<sup>2</sup> and nearly everyone is able to make or take images, to put them to public or private use, or just (of course) to look at them and possibly even to enjoy them. Photography remains an important component of the world of images, but should not be confounded with it. According to Fred Ritchin,

If the last century was the century of photography, this century is that of Images—branding, surveillance and sousveillance, geo-positioning, sexting, image wars, citizen journalism, happy slapping, selfies, photo-opportunities, medical imaging, augmented realities, video games, snapchat, and within it all, photography (Ritchin 2013, 160).

Photography is a cog in an image-making machine that is gaining speed thanks to technological progress. The invention of negative-positive processes, affordable cameras, Polaroid, and today's cheap and easy-to-use digital cameras all fit in a story of logical process that culminates in phone-annex-cameras or camera-annex computers that concentrate the stages of production, distribution, and reception of

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<sup>1</sup> Fred Ritchin discusses this shift throughout his work, most notably in *Our Own Image*, *After Photography*, and *Bending the Frame*. The foreword of the former book contains the following summary of crises of photography: Photography as "medium that has been mythologized as quasi-objective and historically reliable was being restructured in the computer into pixels to make it considerably easier to manipulate and quickly transmit. It was no longer a reliable 'trace' from appearances but an initial sketch which could be and often was redrawn" (xi). For other studies on photography and its critics, see Marien, *Photography and its Critics: A Cultural History* (2011) and Brunet, *La naissance de l'idée de photographie* (2000).

<sup>2</sup> See the excellent book by Martin Hand, *Ubiquitous Photography* (Polity, 2012).

images into one machine. The presence of photography in society and photography's expanded role has caused theorists to question what a photograph is.

Photographs have always been confronted with a healthy skepticism, especially where their supposed truth-value is concerned. However, never has this skepticism been as widespread as it is nowadays. It seems as if the general reaction towards a picture of a shocking event went from an exclamation of disbelief regarding the event itself ('this is horrible, it cannot be real!') to an equally sincere disbelief regarding the picture ('this is not real'). The photo is questioned as a representation of reality. It has been doctored or tampered with, and has earned the label fake. Ritchin provides the following data regarding what he terms to be a 'generalized skepticism'. A 2005 Consumer Report Web Watch poll conducted in the United States measuring internet users trust in pictures shows that "30 percent of Internet users said they had little or no trust in news sites to use pictures that had not been altered" (2009, 31). Now, ten years down the road and in absence of recent data, we might safely assume these percentages have risen. Indeed, this would surely be the case if the much-needed practical and academic interest in visual literacy had been successful in making us less gullible towards the often awe-inspiring visuals we are confronted with on a daily basis.<sup>3</sup> Skepticism for Ritchin, could be of advantage to photography and visual culture in general. It provides photography with "the chance to mature as a language, not relying so heavily upon its stenographic function but upon its expanded linguistic fluency" (Ritchin 2009, 31). Doing this, photography will gain in significance, Ritchin thinks.

While criticism might help a medium progress as a language, some questions need to be asked about the integrity of the medium. Considering how easily the photographer, the editorial department of a newspaper, or, in fact, anyone with the software and skills, can alter a photograph, how can "the integrity of the photograph in its populist role as societal informant" be safeguarded (Ritchin 1999, 72)? A further decline in the trust people have in photographs might lead to public judgment of "all photographs as unreliable, thus excluding photography from the public debate" (72). Ritchin asserts that we should not be naïve regarding our photographic past, in which distrust was present as well: "Certainly, subjects have been told to smile, photographs have been staged, and other such manipulations have occurred, but now the viewer must question the photograph at the basic physical level of fact" (11). Critic Mary Ann Doane provides an example that goes even further, stating that "an image of a person in a room need no longer mean that the person was in that particular room, or that such a room ever existed, or indeed that such a person ever existed" (Doane 132). However interesting and true these thought-experiments are, we should not confound digital *possibilities* with digital *realities*. Indeed, much is possible in image manipulation but established media have strict policies to prevent photographs from alienating their readership. There are actors who manipulate pictures but media are often quick to single them out. For this reason, theorists should heed W. J. T. Mitchell's call for a decrease in ontological and metaphysical discussions and should, instead, "focus on [photography's] *being in the world*, not in some reductive characterization of its essence" (Mitchell 17). Without a doubt digitization has radically changed the ontology of the image and our relationship with it, but actual uses of photography remain, mostly, traditional, while image distribution has become easier and reception better documented (149)<sup>4</sup>.

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<sup>3</sup> For more on visual literacy see Visual Studies 23:2 (2008), in particular the contributions by Marion Müller and Michael Griffin. Pages 101-129.

<sup>4</sup> However, the making of photos has changed considerably. According to Gunthert: "Le plus frappant, lorsque l'on passé d'une pratique classique au mode numérique, repose dans la disparition de la valeur

More self-conscious and sophisticated reception, André Gunthert states, has become an important marker of change brought about by the digital revolution:

De nouveaux critères ont fait leur apparition: la datation ou la géolocalisation des fichiers prolongent le paradigme de l'attestation technique. Mais on a surtout observé un déplacement des formes de garantie de l'espace de la production de l'image à la sémiologie de sa réception. Désormais, ce n'est plus la technologie photographique qui assure la sincérité de l'enregistrement, mais l'inscription individuelle dans l'image de son auteur, rendue visible par divers traits repérables. (Gunthert 2014, 1).<sup>5</sup>

Gunthert also states that the truth value of photography still relies on the context in which it appears. <sup>6</sup> He writes that,

La crédibilité des photographies d'Abou Ghraib ne provient pas d'une vertu intrinsèque de l'enregistrement. Elle résulte de leur inscription au sein du processus même qui entraîne leur publication: l'enquête criminelle confiée depuis le 31 janvier 2004 au général Antonio Taguba. (Gunthert 2004, 129)

These at times paradoxical shifts in the field of our visual culture generally and photography specifically do not happen in a vacuum and are not autonomous. We witness even bigger shifts helped along by digitization in society at large.

## **Society 2.0**

Digitization affects more than photography. Western societies are touched to their core by the advancing phenomenon. Digitization of information is most apparent, but infrastructures and systems are also subject to the digital paradigm shift. Not only our thinking about the world, but our existence in and interaction with the world are altered. Social media are evidence of this shift. These media allow for interaction on a scale that was impossible to imagine before. Our media, policing, care sector, and the military all need to adapt to the digital challenges of the 21<sup>st</sup> century.

The impact of digitization on news media is clear: digital-born competition challenges the position and role of print in today's society making it harder to earn a living as a photo journalist or as a journalist of any kind. Why purchase a newspaper regularly when there is a plethora of free news on the internet that somewhere includes information and a worldview that is more sensitive to an individual's realities and biases? Photography as a documentary practice suffered the consequence of these consumer choices in various ways. According to Ritchin, "seeing became collective" in the age of newspapers and magazines, while the digital provides

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du cliché. Une image peut être ou non enregistrée, efface ou conserve, sans autre conséquence que l'occupation de l'espace-mémoire. Cette capacité incite à multiplier les essayés et c'est sans doute l'une des découvertes les plus satisfaisantes du nouveau médium que de comprendre qu'une image n'a virtuellement plus aucun coût. Ce caractère modifie concrètement la manière de faire des images. La perception de l'acte de prise de vue se transforme: l'instantané privilège de la pratique argentique se voit dépouillé de son aura—la photographie numérique rend la prise de vue libre et gratuite, c'est-à-dire insignifiante" (132/133)

<sup>5</sup> If Capa had had a digital camera with geo-positioning, we would now be able to find out where and when the Falling Soldier was taken, and how many times it had to be retaken to produce the effect.

<sup>6</sup> Although Gunthert questions the assumed speed of the distribution of the images: "Contrairement aux apparences, le corpus initial des images de torture s'est avéré plutôt maigre, et rien ne permet de déceler les effets de la vitesse des communications dans un processus de publication de six mois postérieur aux prises de vues" (127).

“a cascade of screens [that] submerges viewers with enormous numbers of images, including billions of their own photographs and videos.” This leads inevitably to professional photography or “imagery of a larger societal significance” having a “harder time surfacing, let alone demanding attention” (Ritchin 2013, 9). It is a fun but telling fact that today “as many photographs [are] produced every two minutes...as were made in the entire nineteenth century” (28). Ritchin is pessimistic about this situation: “In the increasingly stylized press, concerned with its own survival, fearful of readers’ sensibilities, competing with ‘reality’ television and surrounded by a never-ending stream of well-groomed advertising, the raw, visceral, upsetting photographs are often refused and, partially as a result, never made” (Ritchin 2009, 37).

Consequently, we see a decline in income for photojournalists working for news media, which prevents them from undertaking long-term projects requiring stretches of time in crisis stricken and dangerous regions.<sup>7</sup> Furthermore, the development of camera-equipped mobile phones has furthered the process of democratization and de-professionalization that had set in earlier. Often, a ‘citizen-journalist’ in Donetsk, Aleppo, or Gaza is able to take and share photos with a definite news value, free of charge, for news media that are starved for images of events as they unfold and do not have time to wait for a journalist, who usually arrives after the fact.<sup>8</sup> The current situation is thus defined by a paradox: one consequence of digitization is that we get to see less because traditional channels run dry; another is that we have never been able to see so much. This paradox needs to be confronted. We cannot resort to arguing that the gate-keeping function of news media has disappeared, because photos from whatever source are critically scrutinized before being published.<sup>9</sup> We cannot say either that photojournalists are a dying breed: they find other sources of income, ranging from speaking engagements to working for NGO’s. They move towards long-term societal and political engagement and away from journalism with its short-term deadlines and special aesthetic needs. Meanwhile, over-availability of images requires everyone to be a curator who risks drowning by visuals. Seeing, in other words, stops being collective.

It is the act of collectivity, of collective seeing, or a collective public space that is central to our democratic practices. For critics of photography’s social function, photography’s importance lies in its support of an open, democratic society. Ritchin states that,

...the photograph’s irrelevance as documentary witness, should it come to pass, would handicap a democracy’s capacity to function due to a dearth of credible evidence. The growing inability of many governments and citizens to assimilate and respond to local events, from global climate change to the mass killings in Darfur, suggests that the kinds of amounts of imagery available are already contributing to a cynical breakdown in governance (Ritchin 2009, 62).

For documentary editor and scholar Dai Vaughan “the age of the chemical photograph has broadly coincided with that of mass democratic challenges to

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<sup>7</sup> However, with the decline of traditional sources of revenue, photojournalists have found new sources of assignments from humanitarian organizations, who “have taken on a larger role in documenting the world’s hotspots, combined with advocacy” (*Bending the Frame* 18).

<sup>8</sup> See Mortensen.

<sup>9</sup> See Ali and Fahmy.

entrenched power” (qtd. In Doane 132). In the digital age, this challenge is no longer an obvious potential function for images. The possibilities of control over photography by vested interests and sovereign states have grown with the consolidation of media companies, and a reliance on ‘official statements’ by media instead of independent queries from correspondents.<sup>10</sup> In the age of print media, democracy relied on a variety of possible viewpoints and voices to permit a maximum of choices. It was a civic duty to be informed about the goings on about town and in the world. Media played an essential role. Media historically has balanced the power of the government, a role enshrined in Supreme Court decisions and in the popular imagination after Watergate in the United States: media became democracy’s watch dog, or a fourth branch of government in the words of Justice Potter Stewart in his speech of 1974. These functions are most apparent in war and conflicts. News items and photography have never shortened a war, and should not be burdened with this task even though it is popularly thought that pictures have this effect.<sup>11</sup> However, photography is a necessary player on the battlefield shedding light on actual conditions and drawing attention to what is happening outside a news consumer’s inherent isolation. Print media reinforced by photography might influence governments and eliminate the excuse of ignorance for both governments and citizens. This system, which has functioned more or less for two centuries, is under pressure and is undergoing changes. Not wanting to see is a dereliction of duty in a democracy. Not being able to see is the total eradication of democracy.

The rise of virtual warfare is also posing threats to democratic societies, as we have known them. We see the continuing disengagement between society and the military, and at the same time a rise in relative risk-free (for Western soldiers), disengaged methods of warfare. P.W. Singer, a forerunner in the study of digital warfare and its impact on society, writes that, “In democracies like ours, there have always been deep bonds between the public and its wars. Citizens have historically participated in decisions to take military action, through their elected representatives, helping to ensure broad support for wars and a willingness to share the costs, both human and economic, or enduring them.” He continues: “We don’t have a draft anymore, less than 0.5 percent of Americans over 18 serve in the active-duty military. We do not declare war anymore; ... We don’t buy war bonds or pay war taxes anymore. During World War II, 85 million Americans purchased war bonds that brought the government \$185 billion; in the last decade, we bought none and instead gave the richest 5 percent of Americans a tax break” (Singer, “Drones”). Michael Ignatieff sees a similar disengagement and sees a clear and present danger to democracy. Virtual warfare, he thinks, makes wars unreal to citizens in whose name violence is wielded: “If war becomes unreal to the citizens of modern democracies, will they care enough to restrain and control the violence exercised in their name” (2000, 4) ?

Although digitization endangers the function of media and democracy as we have known them and might even accompany the end of certain regimes of fact finding and acts of citizenship, it also offers new possibilities for the representation of war. Some are negative. Digitization renders photographic representation of certain new forms of warfare nearly impossible. Three examples will demonstrate these

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<sup>10</sup> See Glenn Greenwald’s following article on *The Intercept*: <https://theintercept.com/2016/01/15/the-u-s-radically-changes-its-story-of-the-boats-in-iranian-waters-to-an-even-more-suspicious-version/> for an elaboration on this practice by important American media.

<sup>11</sup> See Hallin (1986) and Wyatt (1993) for refutations of the thesis that negative media attention caused America to lose the war in Vietnam.

representational possibilities. The first two examples show how photographic images are embellished by respectively providing interactive interfaces and adding digital modeling to enforce the evidentiary power of photographic images. The third example confronts us with the radial invisibility of virtual warfare and the impossibility of photography functioning in future wars. Here, we have entered the epoch of war beyond photography.

### **Comparative destruction**

The before-and-after picture has gained popularity in recent years.<sup>12</sup> Various projects show photographs of historical sites superimposed or juxtaposed with a historical photo taken at that exact place many years before. The appeal of these before-and-after shots can be identified in the desire to maintain a dynamic relationship with the past: whereas a historical photo shows the past, the before-and-after photo shows how things have come to pass. It shows the passage of time without movement.

Despite this recent surge in artistic and popular interest, the before-and-after picture has been instrumentalized in wars since the First World War. Aerial photography, or the 'triumph of applied realism' to use the words of Allan Sekula (36), was used meticulously to document the terrain and see how efficient bombardments had been. These photos served a military intelligence purposes. They were studied and plans for future missions were based on them. Before-and-after pictures of recent wars work in additional ways. They are made not only by warring parties, but by institutions and organizations claiming a position independent of those parties. Meanwhile, military images intended to surveille the terrain, provide this possibility but to anyone with a computer screen as shown by recent examples from the Civil War in Syria (fig. 1 and 2) and the 2014 war in Gaza (fig. 3 and 4). These images call out for an interactivity with a multiplicity of viewers that is only possible on this scale of diffusion and world wide coverage in a digital environment.

We can easily superimpose satellite images of bombarded areas and certain sites invite viewers to move a slide back and forth in order to overlay the before with the after. The availability of satellite images to mainstream media is a fairly recent development that is now exploited by providing a view of destruction that is impersonal, indiscriminate, and rational. At the same time it is difficult to come up with pictures that show suffering and destruction in a way that would convince the public of the objectivity of the representation for several reasons. First the provenance of some photos from the Syrian conflict is dubious due to the advent of citizen journalism. Second, the presence of professionals is almost nonexistent because of extreme danger. Third, belligerents make deliberate attempts to provide locally generated images for their own purposes.

The way these satellite images are taken and presented to us in an interactive environment are thus a logical stage in the development of photographic discourse that accounts for the distrust inherent in the medium. Firstly, this interactive environment shows an overview of a territory that is indiscriminate and lacks human objectivity and suffering. Unlike traditional war photography, often so piercing because of its closeness to pain and death, these images merely allude to the human cost of war that might have resulted. It shows the world as it apparently is, not as written by the pencil of nature but by the stylus of technology, equally impersonal,

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<sup>12</sup> See for instance the following projects. Argentine photographer Gustavo Germano's *Absent Faces* portrays the losses suffered amongst the Argentine people in the 'dirty war' by juxtaposing historical family photos and his own contemporary photographs; *Ghosts of War*, a fascinating project by Jo Teeuwisse superimposes historical and contemporary pictures taken at the same spot; a similar project can be found on the website of the Anne Frank museum (<http://annefrank.org/amsterdam>).

and never confused with God. Secondly, the possibility to move the slide back and forth gives a sense of interactivity that is part and parcel of developments from web 2.0 to web 3.0. Unlike a traditional photograph, we are able to choose what we are confronted with (the before or the after) and can feel ourselves empowered to cause or reverse an event that has already happened. The critique of photographs of suffering, as voiced by Susan Sontag and Barbie Zelizer, is that they render the viewer passive in the face of suffering that has already passed when a picture of it surfaces. These satellite pictures give us the impression of having some power over the visual material.

The satellite images show irrefutable proof of the destruction of war. It is unintentionally authored by a digital machine, which cannot be accused of partiality in the taking of photos. In her introduction to the exposition “Images à charge,” Diane Dufour states that these pictures are effective if they “do away with the expert’s subjectivity.” She continues saying such a picture, “must achieve an ideal transparency of images and neutrality of point of view. The disappearance of the expert as author: this is the price to be paid for the image to become acceptable as evidence” (7). The entire purpose of these images is to serve as evidence of destruction. According to Dufour the images have to be “free of aesthetic criteria and testimony free of moral criteria” (7).

The images might be authored by a machine without intentions; the organizations responsible for the making, publication, and interpretation, however, are led by human beings. The images from Syria were used by Human Rights Watch in a report documenting the destruction inflicted on neighborhoods. Its website states that,

[s]atellite imagery covering the entire urban extent of Damascus and Hama was used to locate demolition sites, evaluate eyewitness testimonies, as well as to measure the area, pace, and timing of the demolitions. Further, the imagery was used to identify the probable methods of demolition employed by government forces and evaluate the local security context immediately preceding, during, and following the demolitions by identifying the number of heavy military vehicles in the immediate area. (Human Rights Watch)

From this quotation it becomes clear that the availability of satellite images, facilitated by digitization and commercial availability, allows an organization like Human Rights Watch to fulfill a role that used to be monopolized by the military. Furthermore, they fulfill a role as image-provider that was traditionally reserved for photographers and media. The images are easy to trust and are non-emotive, while corroborating eyewitness reports.

Similar mechanisms are at work in satellite imagery from Gaza. These images are distributed by the United Nations Operational Satellite Applications Programme UNOSAT.<sup>13</sup> Analysts are “working on incoming high-resolution satellite images of the areas concerned by the hostilities” (UNITAR). Their job is to “assess from space the level of damage to civilian structures and community facilities in Gaza to help UNRWA and OCHA determine the humanitarian situation and the needs of the civilian populations caught in the conflict zone”. They do so in cases “where access by UN teams to stricken areas is impossible or too risky” and “are often the first reliable sources of information, even pending their validation by missions on the ground”

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<sup>13</sup> For the website of the United Nations Institute for Training and Research see <http://www.unitar.org/unosat/>



(UNITAR). Photography fulfils the role of witness and public defender, a role it historically had as well. Today, however, major parts of this humanitarian aim do not require the involvement of human beings. No person need be endangered taking pictures, yet proof is provided supporting the claims of non-governmental organizations that can be corroborated by other sources such as eyewitness reports.

The commercial availability of satellite images is rather recent, as is its use by media and political organizations. It is safe to assume that we have not seen the last of it. The images can be made without human risk; they can provide an overview of an extremely large area; they are as objective as possible, and they are made without authorial intention. Digitization provides a new source of imagery in a media environment that comes to rely less, for financial and structural reasons, on human made imagery. However, the availability of these images is a reason for concern. These pictures are taken by commercial companies that sell to the highest bidder. Unless media and organizations will have their own satellites, the availability of images cannot be guaranteed. For instance, during the war in Afghanistan the U.S. Department of Defense purchased all available satellite images of Afghanistan and its neighboring countries (Levi Straus 190):

The National Imagery and Mapping Agency, a top-secret Defense Department intelligence unit, entered into an exclusive contract with the private company Space Imaging Inc. to purchase images from their Ikonos satellite....The agreement also produced an effective white-out of the operation, preventing Western media from seeing the effects of the bombing and eliminating the possibility of independent verification or refutation of government claims....The CEO of Space Imaging Inc. said, "They are buying all the imagery that is available." There is nothing left to see. (Levi Straus 190)

Furthermore, a so-called 'resolution cap' is enforced by the American government. Eyal Weizman states that "in their real optical and digital resolution, satellite images are available only to state agencies and the specifications are a secret. To be made publically available these photographs must legally be degraded. Until recently, this resolution was 50cm/pixel, which means that each pixel represents half a meter by half a meter on the ground. This resolution was chosen because it is roughly the size of the human body seen from above" (Weizman 201). Recently, this has been lowered to 30cm/pixel. This is, however, still too crude a resolution to identify anything but the destruction of the built or natural environment. The human consequences of violence are left out of the frame. This is a consequence of the demand for a more objective image that can serve as proof with the paradoxical elimination of human suffering from the equation.

### **Digital imaging as conclusive proof**

Another intersection of photography and digital imagery could be observed in the aftermath of the downing of flight MH17 in Ukraine in the summer of 2014, supposedly by a missile fired by anti-government troops. (fig. 5, 6, and 7) Dutch media (Dutch citizens were most stricken by the attacks), wanted to provide conclusive evidence as to who shot down this plane. The fact that the plane was taken down over a remote combat zone, as well as the surprise of an attack on a civilian commercial airliner, contributed to a temporary lack of visuals from the ground. No images were available directly after the attack, while the quick arrival of media only

served to provide pictures of the smoldering remains of a plane in a non-descript field.

Based on Ukrainian separatists Twitter messages that they later deleted, and on intercepted telephone calls, Western media and politicians were able to hold pro Russian separatists responsible for this attack. Convincing evidence was not available until 4 days after the crash, when a video of a BUK-missile launching system leaving Ukraine, driving towards the Russian border, surfaced. This system was said to be missing one of its missiles. However, this was not immediately clear from the clip itself. After merging the photographic images with a 3D model it was proven that this was indeed the BUK-launching system and that it was missing one missile. The place and time of the production of this image provided further proof of separatist involvement (fig. 5, 6, 7).

The proof was not provided by the photographic images *per se* but by the hybridization of various kinds of images, photographic and digital. As with the satellite images from Syria and Gaza, the photo is merely circumstantial while the ‘irrefutable’ proof is provided by the integration of digital models that are not made (in the way a photo is made), by human hands.<sup>14</sup> They are computer generated. Images like this seem to complement a role that was reserved for photography before. We might say that we see a movement towards a new regime of truth, in which (digital) images are taking over the role of photography as a representation of the world, uncolored by human subjectivity. However, it should be realized that these images, mixing the photographic and the digital, only came to mean something in a discourse in which separatist involvement was already suspected based on various other sources. In combination, however, the images provided decisive proof of Russian involvement. Hybrid photography like this goes back to earlier efforts, by the late nineteenth century police experts Alphonse Bertillon and Rudolphe Reiss, to introduce metrics into their analysis of crime scene pictures. Dufour described this system telling how “the violence inflicted on bodies and matter is later subjected to the meticulously structured exactitude of scientific analysis. Once the crime scene has been scrupulously marked out, the laws of optics, mathematics and causality can produce data readily transposable as plans, statistics and 3D diagrams” (6). The digital provides a renewed version of these crime scene metrics, thus updating experiments in early photography.

### **The John McClane-syndrome**

The last example here shows the radical invisibility of wars that grow progressively more virtual.<sup>15</sup> Whereas photographic images in the examples above provided the ground material on which digital information was superimposed, here a photographic representation is impossible. We are confronted with what could be called the John McClane-syndrome. The hero from the *Die Hard*-series is confronted, in *Die Hard 4.0*, with a world that has changed. His enemy no longer is a thug in a skyscraper, on an airplane, or on a boat, but is operating on the net. While McClane prefers confrontations with fists or guns, he must now rely on a physically unimpressive hacker to beat the cyber-terrorist who has paralyzed traffic, energy, and financial

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<sup>14</sup> We should be aware of the theological roots of this expression. The *acheiropoieton*, images of Christ not made by human hands such as the Vera Icona, in Christianity are of higher value than images that clearly were made by human hands, even if that human happens to be St. Luke, the original icon painter. In conflict images, the images made without human hands, still seems to be seen as being more pure. See Belting's *Likeness and Presence: A History of the Image before the Era of Art* (1997) for more information on the Christian sources of our relationship with images.

<sup>15</sup> See Singer's *Wired for War* for an exemplary study on virtual warfare.

infrastructures. The film was based on the prophetic article of 1997 by John Carlin in *Wired*, 'A Farewell to Arms' demonstrating the vulnerability of our digitizing societies. We are all in the position of McClane, Carlin and the movie tell us; our imagination is far behind technological developments that concern warfare. While we mostly imagine war as the total destruction visited on Rotterdam and Dresden, or the on going destruction of Gaza, contemporary warfare is moving towards a virtuality that is impossible to photograph and that is not photogenic. Everyone with a computer is a potential target and warrior; the all-out or precision bombardment will be replaced by Ddos-attacks on military networks, the government, and banks. Acts of virtual warfare will not stir public opinion as attacks with napalm or cluster bombs have done, because the public will be unable to see what is happening. The joint attack of the United States and Israel in 2011 on an Iranian nuclear plant shows this. Both countries attacked a nuclear plant in Iran, suspected of developing nuclear weaponry. Arguably this is the most important act of war of the past decade and amongst the first big state-sponsored acts of cyber-warfare (Broad, Markoff, and Sanger)

Over several years American and Israeli secret and military services had worked on building a mock Iranian nuclear plant in the Israeli dessert while designing the so-called Stuxnet virus intended to paralyze the Iranian plant. Initially the virus spread via infected USB-drives and used the internet to infect other computers. The virus is harmless unless a computer powers Siemens hardware that was known to be used in Iranian nuclear plants. Once installed on a nuclear plant's computer, the virus stealthily speeds up and slows down turbines eventually causing malfunctions and overheating. The Iranians located the virus before a disaster took place, but Iran's nuclear program suffered years of delay. This virus could have been spread using my computer or yours. The United States and Israel decline responsibility, but investigative journalism by *The New York Times* proved involvement irrefutably. We are in the middle of the world portrayed in 'A Farewell to Arms' and in "Die Hard 4.0."

This attack on the infrastructure of a nation with which the U.S. and Israel were not at war, seems newsworthy. However, beyond noting an Israeli triumph in an ongoing struggle, comparatively little attention was paid to this attack. The ethics of virtual warfare were not questioned publicly in this case. This attack then was a central act in the evolution of contemporary warfare but marginal to its representations. Representations of this attack in media make this paradox plain. We can see nothing. This attack was as un-photogenic as it was effective: its methods and effects were invisible. *The New York Times*, a newspaper with an impressive tradition of photojournalism, illustrated articles on one of the biggest investigative reports in recent times with stock photos of the Iranian president walking through a power plant (fig. 8), the interior and exterior of the plant, and an info-graphic explaining the working of the virus (fig. 9). In short, these images, some of which are photographic, expose nothing yet hide the reality of the attack: they do not refute or corroborate what is said in the text. They are mere decoration and non-journalistic. In attacks like this, which we will (not) see more and more in the future, the info-graphic, digitally generated by an unknown source, will be the only possible means to visualize conflict: the photo does not have a role in visual journalism of virtual wars; its multiplicity of viewpoints, its subjectivity, the uncertainty surrounding photography is traded in for an image that seems to provide clear-cut information about the world. It is the image of a discourse of invisibility that expands, a discourse that surpasses the human talent to imagine and represent.

The photographic image will disappear from warfare once the latter becomes more virtual. At the moment, traditional war and virtual war exist side by side, as we see in Ukraine, Syria, and Iraq, but the movement towards virtuality is undeniable. Photojournalism is confronted with obstacles that cannot be overcome, while the absence of public discussion on virtual warfare, aided by the lack of images, handicaps the functioning of a democratic state whose citizens need to be informed concerning warfare.

The three examples provided in this article show that the intersections of photography and the digital operate in different ways. This intersection can facilitate access to stricken regions that otherwise might have been beyond access. It can provide means to corroborate assumptions that could not have been confirmed by the photographic image alone. Finally, however, beyond the intersection, certain kinds of warfare cannot be represented by photography. The advent of the digital provides possibilities and difficulties for media and political organizations to contribute to visualization of warfare. It also provides the risk of rendering war invisible. This will alter and weaken Western democracies as we know them. It is the task of inventive journalists, photographers, artists, researchers, and citizens to both work on their own and contribute to other's visual literacy in a digitizing epoch.

## Bibliography

- Ali S. and Fahmy, S. "Gatekeeping and Citizen Journalism: The Use of Social Media during the Recent Uprising in Iran, Egypt, and Libya," *Media, War and Conflict* (April 2013): 55-69.
- Broad, William, et al. "Israeli Test on Worm Called Crucial in Iran Nuclear Delay" *The New York Times*, Jan. 15, 2011. 26 July [http://www.nytimes.com/2011/01/16/world/middleeast/16stuxnet.html?pagewanted=all&\\_r=0%20en:%20http://www.nytimes.com/2012/06/01/world/middleeast/obama-ordered-wave-of-cyberattacks-against-iran.html?pagewanted=all](http://www.nytimes.com/2011/01/16/world/middleeast/16stuxnet.html?pagewanted=all&_r=0%20en:%20http://www.nytimes.com/2012/06/01/world/middleeast/obama-ordered-wave-of-cyberattacks-against-iran.html?pagewanted=all)
- Carlin, John. "A Farewell to Arms," *Wired* (1997)  
<<http://www.wired.com/1997/05/netizen-2/>>
- CBC News, "Syria destruction: before and after photos" 30 January 2014  
<<http://www.cbc.ca/news2/interactives/before-after/syria-razed-ground/>>
- Doane, Mary Ann. "The Indexical and the Concept of Medium Specificity," *Differences* (2007) 18 (1): 128-152.
- Dufour, Diane. "Introduction", in: *Images of Conviction. The Construction of Visual Evidence*. Paris: Le Bal, 2015.
- Gunthert, André. "L'image numérique s'en va-t'en guerre. Les photographies d'Abou Ghraib", *Études photographiques* (2004), nr. 15, pp. 124-134.
- Gunthert, André. "Les nouveaux chemins de l'authenticité photographique", *Études photographiques* (2014), 31, online.
- Human Rights Watch. "Razed to the Ground" 30 January 2014  
<<http://www.hrw.org/node/122662/section/5>>
- Ignatieff, Michael. *Virtual War: Kosovo and Beyond*. New York: Vintage, 2000.
- Lavoie, Vincent. "Guerre et iPhone. Les nouveaux fronts du photojournalisme", *Études photographiques* (2012), 29, pp. 204-241.
- Levi Straus, David. *Between the Eyes. Essays on Photography and Politics*. New York: Aperture, 2003.
- Mitchell, W.J.T. *Cloning Terror. The War of Images. 9/11 to the Present*. Chicago:

- University of Chicago Press, 2011.
- Mitchell, W.J.T. "Realism and the Digital Image" *Critical Realism and Contemporary Art*, ed. Jan Baetens and Hilde van Gelder. Leuven: Leuven University Press, 2006.
- Mortensen, M. "When Citizen Photojournalism Sets the News Agenda: Neda Agha Soltan as a Web 2.0 Icon of Post-Election Unrest in Iran" *Global Media and Communication* (April 2011): 4-16.
- NOS. "Zijn de separatisten schuldig?" 21 July 2014 <<http://nos.nl/artikel/677744-zijn-de-separatisten-schuldig.html>>
- Ritchin, Fred. *In Our Own Image*. New York: Aperture, 1999.
- Ritchin, Fred. *After Photography*. New York: Norton, 2009.
- Ritchin, Fred. *Bending the Frame. Photojournalism, Documentary, and the Citizen*. New York: Aperture, 2013.
- Sekula, Allan. "The Instrumental Image: Steichen at War", in: *Photography against the Grain*. Halifax: Press of the Nova Scotia College of Art, 1984.
- Singer, P.W. *Wired for War: The Robotics Revolution and Conflict in the 21<sup>st</sup> Century*. London: Penguin, 2009.
- Singer, P.W. "Do Drones Undermine Democracy?" Brookings (January 2012) <<http://www.brookings.edu/research/opinions/2012/01/22-drones-singer>>
- Sontag, Susan. *On Photography*. London: Penguin, 1977.
- Sontag, Susan. *Regarding the Pain of Others*. New York: Farrar, Straus and Giroux, 2003.
- Tucker, Matthew. "Before and After Satellite Images Reveal Extent of Destruction in Gaza" *Buzzfeed* July 30 2014 <<http://www.buzzfeed.com/matthewtucker/before-and-after-satellite-images-of-israels-operation-prote>>
- UNITAR. "Damage assessment in Gaza is based also on UNOSAT satellite imagery" 28 July 2014 <<http://www.unitar.org/damage-assessment-gaza-based-also-unosat-satellite-imagery>>
- Versteeg, Wilco. "Flits in the Duister. Oorlogsfotografie in Virtuele Tijden" *Hard//Hoofd*. May 2014. <<http://hardhoofd.com/2014/05/08/flits-in-het-duister-oorlogsfotografie-in-virtuele-tijden/>>
- Versteeg, Wilco. "Fotografie als bewijslast in tijden van ongelooft", *Rekto Verso*. August 2014 <<http://www.rektoverso.be/artikel/fotografie-als-bewijslast-tijden-van-ongelooft>>
- Weizman, Eyal. "A Drone Strike in Miranshah. Investigating Video-Testimony", in: *Images of Conviction. The Construction of Visual Evidence*. Paris: Le Bal, 2015.
- Zelizer, Barbie. *About to Die. How News Images Move the Public*. Oxford: Oxford University Press, 2010.





Fig 1.



Fig 2.

Satellite-detected destruction in the northeastern portion of the Gaza strip, taken on 6 and 25 July 2014.



Fig. 3



Satellite-detected destruction in the northeastern portion of the Gaza strip, taken on 6 and 25 July 2014.

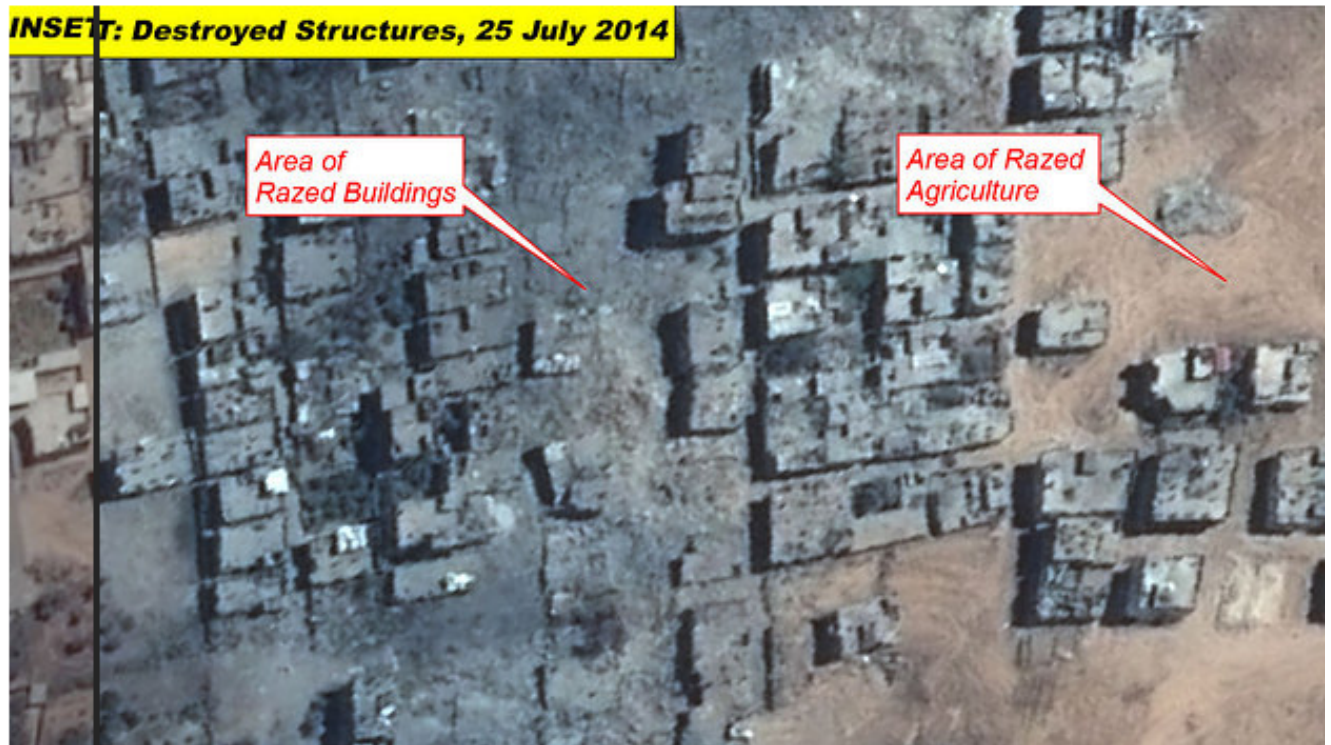


Fig. 4



Fig. 5





Fig. 6

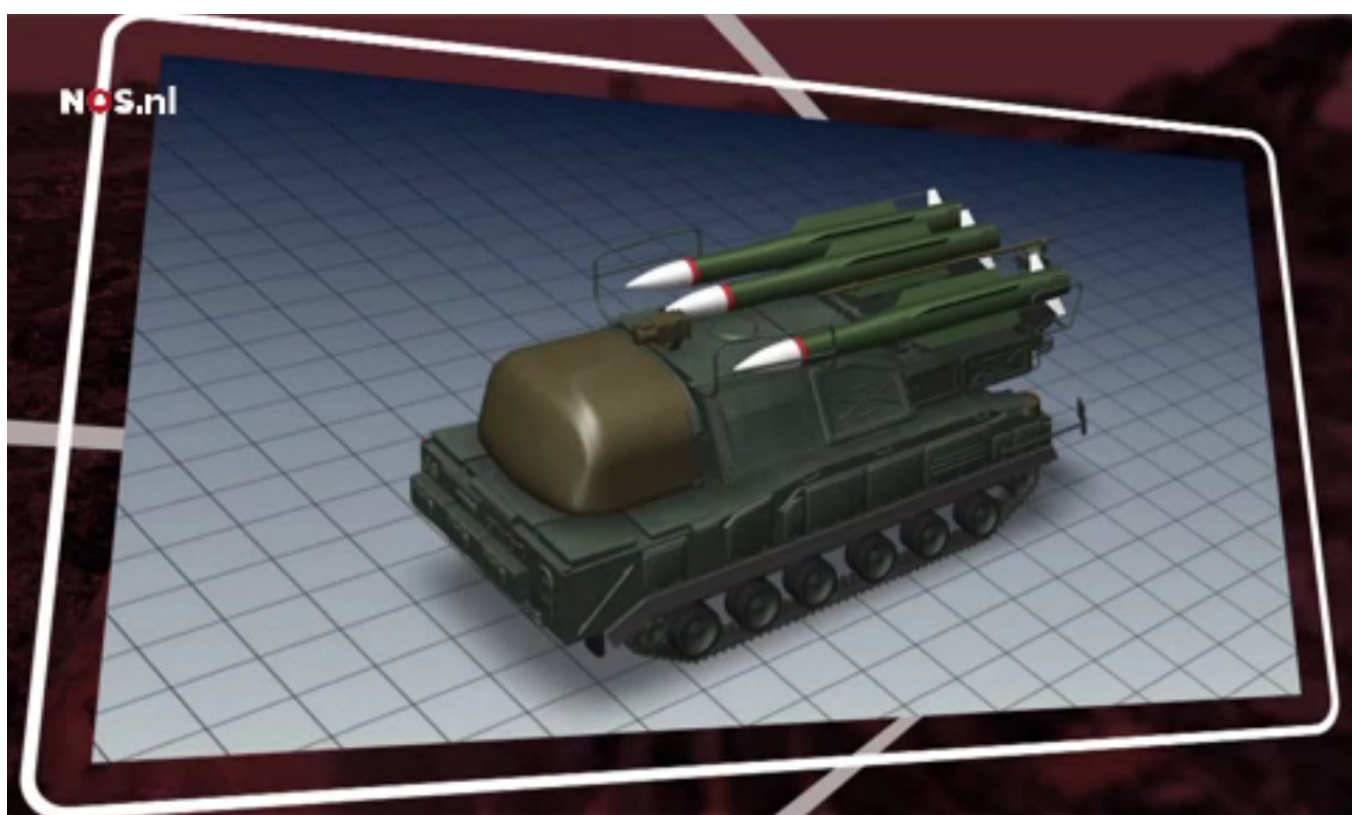


Fig. 7



Fig. 8

## How Stuxnet Spreads

Experts who have disassembled the code of the Stuxnet worm say it was designed to target a specific configuration of computers and industrial controllers, likely those of the Natanz nuclear facility in Iran.

### INITIAL INFECTION

Stuxnet can enter an organization through an infected removable drive. When plugged into a computer that runs Windows, Stuxnet infects the computer and hides itself.

### UPDATE AND SPREAD

If the computer is on the Internet, Stuxnet may try to download a new version of itself. Stuxnet then spreads by infecting other computers, as well as any removable drives plugged into them.

### FINAL TARGET

Stuxnet seeks out computers running Step 7, software used to program Siemens controllers. The controllers regulate motors used in centrifuges and other machinery. While the computers in a secure facility may not be on a network, they can be infected with a removable drive. After infecting a controller, Stuxnet hides itself. After several days, it begins speeding and slowing the motors to try to damage or destroy the machinery. It also sends out false signals to make the system think everything is running smoothly.

Source: Symantec

THE NEW YORK TIMES

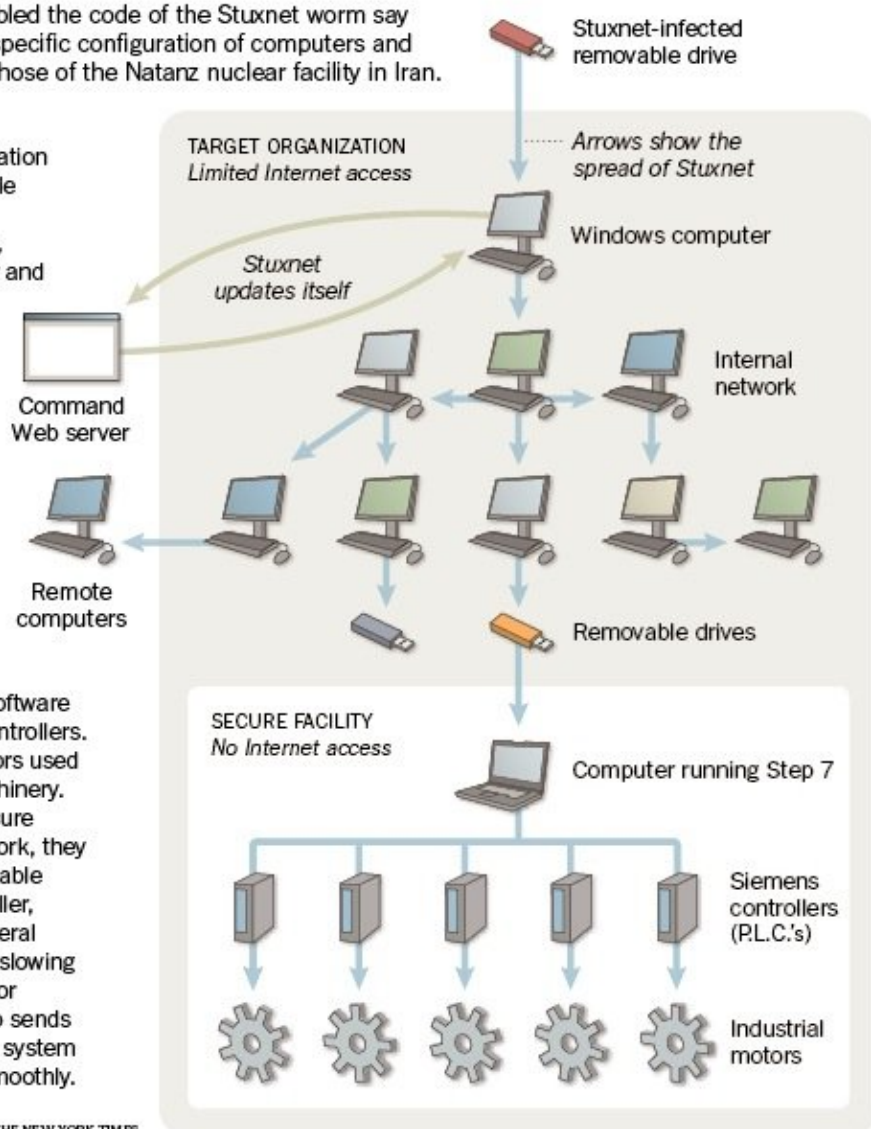


Fig. 9