PIXELVISIONS. When Images Become Weapons

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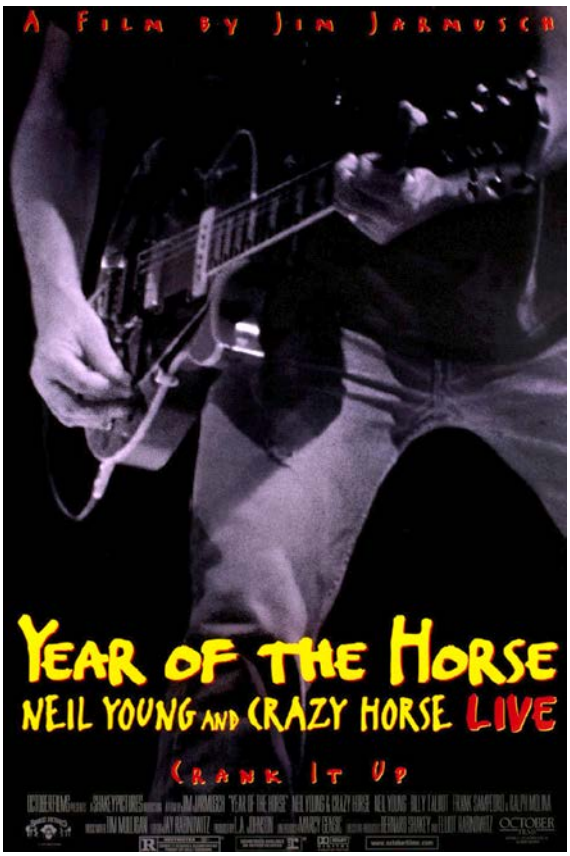
When Jim Jarmusch's documentary *Year of the Horse* – about Canadian rock musician Neil Young – reached German cinema screens in 2001, four years had elapsed since its completion and German premiere.[1] The release had been delayed as distributors worried that the assemblage of images would not translate well to the screen and be rejected by the public as a result. Since the 1970s, the American independent film director Jarmusch had experimented with every kind of low-budget equipment he could get his hands on. *Year of the Horse* uses a low-tech combo of Super 8 and Hi-8 video formats, and 16mm and Super 16 film, from which a 35mm colour negative was made. Considering the visual literacy of that time, the finished film took a risk, as the audiences' viewing habits still seemed to be oriented towards more traditionally made films. Image noise, blurring, scratches and coarseness were considered visually obstructive and something to which a paying audience might take exception (ill. 1).

The film's success silenced any naysayers. Since then all image resolutions for the screen are possible, evident and very much welcomed. The most diverse film and video formats can easily be combined digitally. Most of the audience no longer even notices the qualitative change and combination of materials. The increasingly visible pixel dimensions of the materials, so much more apparent in these seemingly new images, since then not only touch on the question of how their technical and aesthetic qualities should be analysed. A shift in the acceptance of visual criteria, as Jarmusch succeeded in doing with this film, has almost imperceptibly turned them into catalysts for current visual literacy practices (ills. 2 and 3).

As far back as the mid-1990s, skilled lobbyists and consultants in the household appliances industry, especially those employed by Sony, Panasonic and Samsung, succeeded in getting a new standard TV format approved by the EU commission. The new aspect ratio of 16:9, as opposed to 4:3, which had led until then, became the future of the television screen. EU funding was poured into producing content for this new format. Within just a few years, technically and morally worn out television technology was completely replaced across the globe; high-resolution flatscreens have been the standard ever since. The full exchange of formats and devices was also rolled out in Germany within the private retail sector in 2007. The digitisation of input and output technology has led to various compression and format changes. 4K resolutions for Ultra HD televisions are the new generation; 8K versions are already available. However, it cannot be said that these innovations in image production and processing have led to a noticeable improvement as regards the content provided by public or commercial television.

A logical question to ask could be: What if, instead of having invested all this intellectual and economic capital into modernising formats, it had been poured into developing content and artistic form? The prioritisation of content and aesthetic advancement over technical innovation would surely have meant seeing less sharp but, in turn, possibly completely different images on our screens. This might very well have led to a far greater gain in knowledge and visual delight than these so-called high-res images accomplish on our TVs. In the meantime, today's crisper images mask more than they reveal.

Around the same time large television monitors, tablets and smartphones were being introduced, media images were experiencing a reverse evolution. Shortly after the turn of the millen-



1 – *Year of the Horse*, film poster. © rusted moon, 1997

2, 3 – Origination and Distribution Formats.
© CinePostproduction, 2011

nium, in 2005, major newspapers, among them *The New York Times, The Washington Post* and *The Observer*, published amateur photographs of the London Underground terrorist attack on their front pages. These images invaded a domain previously reserved for professional, high-resolution press photography. The next step followed ten years later with the terrorist attack on the editorial staff of *Charlie Hebdo*, a satirical magazine based in Paris. The viral circulation of an amateur film shot with a smartphone, which was posted first on Facebook and then YouTube, affirmed the indiscriminate killing of a victim during the attack. These spectacular broadcasts are proof of just how much smartphone images, with a considerably lower resolution than a 4K television, develop a viral life of their own when widely circulated. The ethical benchmarks of what can be shown have also shifted, abrogated and nullified as a result of their amateurism and seemingly implicit proof as eyewitness accounts. Today amateur smartphone recordings are used and circulated all over the world by almost every news programme and press publication. A universal code of ethics for how they should be handled, however, has yet to be established. As visual testimony and evidence, amateur recordings have become integral to television programming and media companies, who have surrendered their critical visual sovereignty, as they have increasingly lost the ability to separate real reporting from entertainment.

The fact that new amateur videos pop up all the time and are broadcast globally via social media channels and regular news programmes in equal measure goes hand in hand with a process of visual ablation. Yet this general dulling of the viewers' perception has not detracted from the power images hold. Even if the mass-accumulation of ever-greater visual monstrosities does not in itself bring about political change, clear messages are etched into our collective visual memory, which can impel us to act. Footage of the most recent protests in the US after the (presumably) racially motivated killing of George Floyd, an African American citizen, by Minneapolis police officers, inundated us with a flood of images and was met with empathy by and large.[2] With their far-ranging circulation among all media, the images are iconically "charged" and their broad impact instrumentalised in the respective context of their publication. The visual fuzziness of the images being circulated, however, bears the risk of being misinterpreted and manipulated. Thus the inherent problem regarding the contextualisation of images and associated question that needs to be asked is: WHAT and WHO will be photographed WHERE and HOW? Thus images produced like this are subject to certain parameters from the outset, such as, from a legal sense, when participants' faces are blurred to protect their privacy.[3] This restriction is also applied in advance with the establishment of legally binding pixel dimensions[i.e. image resolution] of publicly available satellite images.[4] This deliberate limitation of a pixel size is currently the highest resolution at which humans can be recognised on satellite photographs. At this size, an object will be detected, but not necessarily identified for what it is, as a human being, for instance, without revealing their identity (ill. 4).

4 – Missile damage, West Bank. © G. Kroske, 2015

Forensic Architecture, the research agency led by Eyal Weizman, specialises in assembling mass-produced images, publicly available videos and satellite images, i.e. photos taken from the ground and the sky, into montages, collating them and establishing references to one another.[5] Their research exemplifies how public perception is manufactured technologically, architecturally and aesthetically, and how it can be dealt with investigatively and artistically. Their methodology works like montage, while at the same time going beyond the scope of traditional photography, expanding it immensely. Today's conflicts and wars often play out in densely populated areas, which, if having occurred in jam-packed, inner-urban environments, are often heavily documented with visual media. News channel and surveillance cameras, smartphones and numerous other devices record incidents synchronously and leave behind a multitude of digital traces in images, sounds and videos. Compared to regular news footage, by consolidating and enhancing their testimonial value, a completely different level of visual evidence is brought to light. Forensic Architecture assembles the end results from highly different and distinguishable components stemming from a wide range of various sources. Real models of cityscapes and spatial views are generated from the collection of theses materials and data, which pinpoint precisely the event and progression of unexplained incidents and acts of war, such as drone and missile strikes.[6] While researching a missile attack on Rafah, the group discovered that modern weapons technology is calibrated to the pixel specifications of satellite images. The holes from the blast of rocket fire were 30 centimetres in diameter, thus remaining below these specifications, and therefore beyond detection. The attack went undocumented and left no easily detectable traces in its wake.[7]

The investigative-creative process of comparing and compiling is based on the montage of traces and clues of very different provenance. Forensic Architecture gets these scattered images to speak in concert. The resulting imagistic, archetypal atlas protects real events from falling prey to conspiracy theories. The images' critical scope is located and pinpointed as a result. Collective information is concretised into a clear idea of what actually happened (ill. 5).

Forensic Architecture's steadily growing portfolio ranges from verifying acts of war and the counter-investigation of testimony provided by Hessian intelligence officer Andreas Temme regarding the NSU (National Socialist Underground) murder in Kassel[8] to current investigations into the ongoing lethal use of force at the Greece-Turkey border.[9]

For *77sqm_9:26min*, Forensic Architecture built a digital 1:1-scale physical model of the internet café where Halit Yozgat was murdered by the NSU in Kassel on 6 April 2006 to examine discrepancies in the case. The installation includes a computer simulation of the movement profile of intelligence officer Andreas Temme, who was there during the crime, flow animations of gunshot residue, sound propagation of gunshots within a true-to-original model of the internet café, as well as the counter-examination of available records.[10]

The course of action for reviewing images and records is based on examining and analysing analogue and digital images, which shifts current questions about media practices to a new level of image analysis and aesthetics. Strong public interest in the work of Forensic Architecture, also from an artistic context, proves that fastidious, investigative image analyses about content and aesthetics are increasingly in demand and highly relevant for harbouring open dialogue. The disclosure of examined traces by way of montage engages viewers in the process of excavation. Invited to study the documented information on their own and compare the material and fill in the blanks, viewers are encouraged to make up their own minds. The fact that the iconographically charged images of the viewers themselves act as a kind of mirror, reflecting all the barbaric images of war already ingrained in their memories (such as those by John Heartfield), broadens the exploration of the lines of argument presented in Forensic Architecture's assemblages. Every kind of war, death, atrocity and suffering is already present in us in thousands of powerful images. We carry this "visual proficiency" within us.

5 – Forensic Architecture, *77sqm_9:26min*, reconstruction of the internet café, partial view. © G. Kroske, 2018

1 *Year of the Horse*, USA/Germany, 1997, 35mm, 106 min, black-and-white|colour, 1.66: 1, Dolby Digital; distributor: Jugendfilm; cinema release: USA, 9 May 1997; Germany, 26 July 2001. Directed by Jim Jarmusch; production: L.A. Johnson et al.; camera: L. A. Johnson, Jim Jarmusch et al.; editing: Jay Rabinowitz; cast: Neil Young, Ralph Molina, Billy Talbot, Frank "Poncho" Sampedro. See also https://www.rusted-moon.com/2017/05/neil-young-year-of-the-horse-1997.html, accessed 6 June 2020

2 They attest to the structural racism in the US and resulting protests against it. They are also evidence (today in moving images) of acts of police violence and racism that have kept on happening for decades. The horrifying and depressing body of images spans analogue video recordings of the savage beating of Rodney King by policemen in 1991 – which was filmed by a civilian and sent to a local news station – to digital smartphone footage of the murder of jogger Ahmaud Arbery in February 2020, right up to the most recent recording of George Floyd suffocating to death, which are circulated globally via social media and news channels.

3 Just recently encrypted communication platform Signal upgraded its messaging app, the download of which has increased dramatically of late, with an automatic face-blurring function to block biometric facial recognition, which is increasingly being used by the US police force. See https://t3n.de/news/signal-messenger-ermoeglicht-1287847, accessed 6 June 2020

4 Since the end of the 1970s the grid dimensions for optical satellite images available to the public initially shrank from the original spatial resolution of 70 × 70 cm to 60 × 60 cm, and shortly thereafter to 50 × 50 cm, meaning that one pixel equals 50 × 50cm in an image. Until now the US Department of Commerce has limited the resolution of these images even further to 31 × 31 cm. The specifications set by the military and secret services are said to be even lower, at 10 × 10 cm, but are not available to the public. Expected improvements in digital signal processing will surely be able to achieve resolutions of 5 × 5 cm or less.

5 Founded in 2011, Forensic Architecture is a research agency based at Goldsmiths, University of London. See also Eyal Weizmann, *Forensic Architecture – Violence at the Threshold of Detectability*, New York, 2017, hereafter Weizmann 2017

6 First used to prove that a missile strike had taken place in Rafah, in 2015; https://forensic-architecture.org/investigation/the-gaza-platform-the-2014-gaza-war, accessed 11 June 2020. The investigation into events surrounding "Black Friday" gained attention and considerable renown. On 1 August 2014, the Israeli military ordered the bombardment of Rafah on the Gaza strip in retaliation for the abduction of an Israeli lieutenant. During the attack more than a hundred buildings were bombed to the ground and over 130 Palestinians killed, most of them civilians. Commissioned by Amnesty International, Weizmann's group analysed more than 7,000 video clips and photographs taken on that day, which had been uploaded to social networks. They also consulted military communiqués, eyewitness interviews, medical and news reports. To process all this evidentiary information, they created a three-dimensional computer model with which they managed to map hundreds of air-to-surface and artillery strikes that hit the city as well as civilians who had been in Rafah at the time. "Because social media tends to strip images of their original metadata, including time and location, Forensic Architecture had to piece together this information by studying elements within the image, such as shadows and the shape of bomb clouds, to locate each image in time and space and compose a narrative of the day." See https://forensic-architecture.org/investigation/the-bombing-of-rafah, accessed 17 July 2020

7 See also Weizmann 2017, see note 4, pp. 27 ff

8 *77sqm_9:26 min*. See https://www.youtube.com/watch?v=Z5XXcl2G_yo, accessed 6 June 2020

9 https://mailchi.mp/ffcb55004e95/zlvabo0eto?e=9036988c31,accessed 6 June 2020

10 Amongst other achievements, FA's counter-investigation led the German state of Hesse's Federal Office for the Protection of the Constitution (Verfassungsschutz) to block public access to the file of former intelligence agent Andreas Temme for 120 years in 2010. In 2019, Hesse's Home Secretary Peter Beuth reduced this period by 90 years. The files (230 pages) can be viewed in 2044.