

Optics. Compression. Propaganda.

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Despite the ever-increasing amount of images we are exposed to, it could be conjectured that we see less. We see less of the image itself, overpowered by the meaning imposed by the discursive context in which it appears. But what if we displace an image from its reception on a screen or printed matter, blow it up and examine it? What if we capture video, slow it down and review it?

The title *Optics. Compression. Propaganda.* is the general subtext for a series of ongoing experiments with the malleability of images and the mechanics of their production. Using archival and media resources, as well as references from the history of cinema, photography and art, the research attempts to define a cumulative vocabulary to approach the vast role that imaging technologies play in the construction of ideology. The project speculatively examines representation through a series of specific examples.

Optics

The Carl Zeiss Archive provides a conceptual frame and reference for the project. Carl Zeiss AG is a multifaceted corporation producing instruments for visualization: microscopes, telescopes, camera lenses and all imaginable specialized optics. The company has perpetuated on industrial level what the Soviet filmmaker Dziga Vertov outlined in his enthusiastic manifestos on the perceptual possibilities of the technological image: 'We cannot improve the making of our eyes, but we can endlessly perfect the camera.'¹

Example 1: I selected from the Zeiss Archive an undated (presumably from the 1920s) black and white image of a 'broken piece of raw optical glass' (archive number BII 03423). Stalled in production and documented for some unknown reason, the flawed piece of unprocessed material in the image represents essentially nothing. I requested the archive to digitally scan the negative at the highest resolution (75,4 MB / 4461 x 5906 pixels). At the base of the object, the words 'Glasbearbeitung: Schleifen versandfertig' can be read (roughly translated 'glass processing: polishing, ready for dispatch'). I placed the image through a number of technical permutations approximating a series of four imaging processes and resolutions: that of a digital photographic proof (photograph), colour halftone (magazine), black and white halftone (newspaper), and a JPEG (computer screen). Taking this particular image through the standard registers through which most images are disseminated, I attempted to outline the perceptual dissolving of its content. The different

reproductions of the same image took on variable and unexpected characteristics. For example, the scratches and fingerprints on the surface of the glass appear to be more defined in the JPEG image than in the photographic proof despite the low resolution of the image data.

An imagined composite of the visual history of more than a century can be generated by the documentation found in the archive. A sequence of four images from the underwater perspective of a U-Boat periscope (BI 13100/2) shows an early military application of optics. An undated image (BI 14915) objectifies a Carl Zeiss Jena Olympic Sonnar 180mm f/2.8 lens. The same fast-focus telephoto Zeiss lens, which was developed under National Socialism to document the 1936 Berlin Olympics, was later used by Soviet photojournalists to record the invasion of Afghanistan.

These various applications raise the question of the privileged position of optical instruments in the intersection of science and ideology, formulated by French film theorist Jean-Louis Baudry in 1970: 'Does the technical nature of optical instruments, directly attached to scientific practice, serve to conceal not only their use in ideological products but also the ideological effects they may themselves provoke? Their scientific base would ensure them a sort of neutrality and help to avoid their being questioned.'²

Acknowledging the future importance of the factory's production, the Zeiss factory in Jena was partly saved from strategic Allied bombardment in the final days of the Second World War. Following the Yalta agreement and the partitioning of Germany, the American forces quickly removed many of the instruments, as the factory would fall within Soviet jurisdiction. Company employees were relocated and undamaged optical devices were transported to West Germany and to the Soviet Union.

Two images under the rubric 'Demontage' evidence the series of events. One image (BI 16547) dated July 1945, shows transport crates ready to be sent to the Western sector of a soon to be divided Germany. A second image (BI 16547) dated 1946 shows the dismantling of the Zeiss factory and large boxes marked with Cyrillic tags to be sent to the Soviet Union. One can only speculate on the contents of the crates and their subsequent use during the Cold War on both sides of the ideological divide.

In Alfred Hitchcock's 1954 film *Rear Window*, the logo on the camera James Stewart's character uses to spy on his neighbours is curiously taped over. The camera in the film can be identified as a Contax VX. Produced in the communist GDR, it was fetishized by Western European and American photographers for its advanced technology. This evidence of optical technology bypassing ideology is also a seemingly awkward instance of capitalism's recognition of a better product.

Compared to the level of secrecy and invisibility characteristic of the Cold War, today's strategy of power is seemingly about hyper-visibility.³ However, there are a number of intricate issues contained in the mediums of current image and information dissemination inherent in the technologies themselves.

Compression

Compression is the mathematical coding to reduce the file size and speed up the transmission of digital data. Standard compression formatting such as MPEG videos, JPEG images, and PDF documents allows the immediate distribution of image and textual information via the Internet.

The distance between actual events and their representation is widely acknowledged. In reference to his iconic film *Blow Up* (1964), Michelangelo Antonioni articulated the ambiguity of what is contained in an image: 'We know that under the image revealed there is another which is truer to reality and under this image still another and yet again still another under this last one, right down to the true image of reality, absolute, mysterious, which no one will ever see or perhaps right down to the decomposition of any image, of any reality.'⁴

Example 4: A comparison of still images extracted from Antonioni's *Blow Up* in NTSC DVD and PAL DVD formats, and a pirated VHS copy produced in Russia, reveal the deterioration of image quality through various transfers from its original 35mm format.

Many recent iconic images have been produced by so called 'citizen journalists' equipped with everyday imaging devices, partly replacing the role of photojournalists who often arrive on the scene only in the aftermath. For example, in the 2005 London subway bombings the most circulated images were the grainy photos and videos captured by the mobile phones of those in close proximity to the events.

Similarly, in current global conflicts, the actual informational content of circulating images is often poor. Contrast, for example, the information war between the US Department of Defense's various branches and Al Qaeda's media wing As Sahab. Compared to those produced by media agencies like Associated Press and Reuters, the extensive materials produced by the Department of Defense rarely make it into the press (aside from operations where the only imagery available is that produced by the US forces, such as enemy captures, strikes and so on). Both the US government and Al Qaeda distribute their materials using the Internet, however different their means: the official images of the DoD are archived on elaborate websites while Al Qaeda's materials are anonymously posted and disseminated via electronic bulletin boards.

Having traced aspects of the visual strategies of both the DoD and As Sahab in the last few years, I would hypothesize that the effectiveness in conveyance of their messages lies in the notion of realism, which depends less on the high level of technology and professionalism than on a certain emotive trust on the side of the subject / viewer. Furthermore, it could be said that the underlying aesthetics of current imaging techniques play a role in establishing a *sense* of authenticity. Whether this is true or not, data compression results in the disintegration of image quality, leaving space for interpretation (or over-interpretation).

Following the events of 11 September 2001, there were repeated reports that the orientation and position of Osama bin Laden's wristwatch on his arm may indicate

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calls to new attacks. Now that jihadi videos released on the Internet are often the only data that 'experts' and governmental agencies have access to, it is seemingly simple to repeat many of the same methods to analyze the recordings. Attuned to the notion that each backdrop, setting, and gesture in the image could be significant, it could be conjectured that each frame of the video potentially contains a coded meaning.

Example 5: A short scene from a recent Al Qaeda release includes the operation of a video camera recorded by a second camera. Once slowed down, the camera being filmed appeared to be a Sony model (similar to one I bought in Hong Kong some years ago). After enlarging and printing out a series of still images of the camera and comparing its make to a number of similar Sony camcorders, I was able to identify the specific model as a Sony DCR PC-120E. It turned out that this exact (high-end consumer) model was the first released with Bluetooth technology which gave the possibility, among others, to upload video from anywhere via mobile phone. A Sony press release states the camera's capacity to transmit MPEG format data with a resolution of 240 x 320 pixels.⁵ On a television screen the image quality would 'appear' equivalent to the resolution of VHS format videotape.

Example 6: Upon identifying the Sony camera, I purchased a second-hand one online through an Ebay auction. I learned how to use the basic functions of the camera including how to access the Internet, transfer data and so on. In the process I made a video in which the camera records itself in a mirror while being operated by remote control. I began to disassemble the camera (while recording and being recorded) to the point where it ceased to function. The initial intent of this gesture to 'defuse' the mechanics of the camera was met with the acknowledgment that it was effectively nothing more than the instrument seen in the production of a propaganda video. No matter in whose hands it is placed, the camera is not only a physical device, but also a metaphysical 'apparatus.'⁶

Example 7: The means to decode filmic illusion using consumer software can be demonstrated by using two examples from the history of cinema. A sequence from Vertov's 1920s silent newsreels *Kino Pravda* shows a magician playing a shell game. Once put on a QuickTime video editing timeline, it is possible to slow down and cut apart the complex editing in order to follow the magician's tricks. Robert Bresson's film *L'argent* from 1983 repeatedly focuses on hands illusively involved in gestures of stealth and transaction. One scene shows a close up of a criminal removing magnetic strips with a tool from the card slot of a bank machine, typing in a pin-code, then removing the dispensed money. When viewed in actual cinematic-time the numbers typed in during the act are not easily discerned. Once slowed down, the code can be easily identified. What does this achieve? In effect nothing, as the secret code is of course cinematic fiction. However using techniques like slowing down frame rates and observing editing methods can be applied to other subject matter.⁷

Digital photography includes the capacity to record the actual circumstances of picture taking. The embedded data is the information that is electronically coded in the algorithms of JPEG images during their processing. This information may identify the photograph's date of exposure, make and model of the camera, focal length (distance to the subject), any software subsequently used to manipulate the image and even geographic location in the form of GPS coordinates. These developments in

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imaging technology are ulterior to Antonioni's statement (referring to analog photography) about the decomposition of images as the digital image refers to reality not only by the force of resemblance (visual representation), but also by the inscribed non-visual information. However, embedded data can as well be manipulated (i.e. erased).

Example 8: An undated US Department of Defense (DoD) image, taken at the Camp Delta detention facility in Guantanamo Bay, Cuba, hides the identity of those photographed through pixelation (since the faces of those pictured are hidden by white scarves, this could be read as an excessive measure).⁸ The figures depicted, apparently doing landscaping or construction work, would not be Middle Eastern or migrant workers (as the image might suggest), but US servicemen or civilians stationed or contracted to the island. Curiously, with the photographer name given as Jose H. 'Mediavilla', the only information found in the embedded data is that Photoshop software was used.

Example 9: An un-credited DoD image dated 12 November 2001 is captioned 'US Special Forces troops ride horseback as they work with members of the Northern Alliance in Afghanistan.' In the black and white image released in low-resolution (770 k / 987 x 758 pixels), it is impossible to distinguish between the Afghani and US Forces. The image indicates signs of digital manipulation, not in the sense of alteration, but in that the compression rates have been lowered. Assuming that the photographer followed the directives of image production outlined in the manuals of the US Department of Defense, the image would have been taken in colour on a high quality professional camera and would have a minimum file size of 4.5 megabytes.⁹

The DoD 'Imagery and Caption Style Guide' defines the 'Primary interest component' as the 'subject of the image or the scene' of which 'there may be more than one.'¹⁰ Cropping and zooming into the secondary details of some high-resolution images exposes more than perhaps intended.¹¹

Example 10: The caption of an image released on the DoD website in high resolution (17.2 MB / 3008 x 2000 pixels) describes former Secretary of Defense Donald Rumsfeld receiving a briefing at the Kabul Military Training Center in Afghanistan on 1 May 2003. Once reframed and blown up, details of the image show battle plans simulated using matchboxes and plastic bottle caps. A second image with the caption: 'Secretary of Defense Donald H. Rumsfeld is briefed by Ambassador Paul Bremer in Iraq on Sept. 4, 2003' shows the two seated before a table, with a Diet Coke and a Fanta. The two cans are placed on top of large sheets of paper, which in the details of the digital data (16.9 MB / 3008 x 1960 pixels) clearly read 'Iraq Reference Map'. Although by no means scandalous in their content, the metaphoric value found in such details could be read nearly as unintentional parody.¹² Additionally, both high-resolution images include the embedded data information, apparently not extracted by the image editors of the DoD.

Propaganda

The notion of propaganda originally refers to the dissemination of ideas; placed into a historical frame it is generally taken as a science of political persuasion, or, according

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to the famous statement, a war instrument less costly than the military. Today, the predominantly negative connotation of the word is synonymous with insolent manipulation, and ultimately with lying.¹³

Shortly following the events of 11 September 2001 we were exposed to a number of vivid descriptions invoked by the media of Afghanistan under the Taliban. Hanging televisions, trees draped in videotape pulled from cassettes and 'executed computers' in the streets of Kabul allude to the unthinkable actions of the other.¹⁴ Perhaps the effectiveness of such portrayals ostensibly lies in images that remain unseen.

With the wide accessibility of image technology 'official' propaganda is far from being the sole source of representation. The use of digital photography among members of the US military was made infamously known through the public disclosure of images of incidents at the Abu Ghraib detention center. Admitting the complicated nature of controlling digital imagery, former US Secretary of Defense Donald Rumsfeld stated: 'in the information age, people are running around with digital cameras and taking these unbelievable photographs and then passing them off, against the law, to the media, to our surprise.'

The use of photography as a tactical strategy is often referenced in a purported Al Qaeda training manual recovered by British authorities in Manchester in 2001. One passage of an English translation of the document posted on the Internet even brings up darkroom competence: 'The photographer should be experienced with and proficient in film processing and developing. It is risky to use an outside film processing service.' The latter part of this statement about secondary handling of visual material has been made redundant by the advent of digital cameras.

In the late 1990s, Chechen groups were the first jihadists to produce and distribute (on VHS) propaganda videos.¹⁵ Ironically, their tactical use of videocassettes is similar to methods outlined in earlier US PSYOPS (psychological operations) manuals for 'the dissemination of messages'.¹⁶ Using do-it-yourself montage techniques, the jihadists video editors employ graphics, animations and the dramatic use of sound. Often assembled like music videos, their seduction is achieved by the merging of sound and image, alluding to the editors' fluency. The superimposition of graphic elements and the repetition of clips from previous videos create 'iconographic' moments.¹⁷ Not only providing a spectacular image of war, many of the videos are designed to give a 'realistic' view into the banal and everyday routines that lead up to the implementation of an operation. Additionally, the videos prove that a relatively minor act of violence has the potential, if recorded, to multiply its impact.

Example 11: A video produced by As Sahab in 2005, titled *Harb ul Mustadhefeen*, follows the regiment of an operation in Afghanistan including details of everyday life: cooking, living quarters, instruction classes, bomb making and field activities. The video not only documents the results of a mission engaged in combat with the enemy, but it depicts *evasion*, suggesting the implementation of war as an ingenious and methodical craft.

To this day, western media often refer to the jihadists' release of 'videotapes', implying the use of archaic or inferior technology to produce their messages. It is

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doubtful, however, that any audiotape, videotape or film is used in the production or distribution of current As Sahab recordings. A sequence from a recent release shows the transference of a captured US forces' computer hard-drive and an operative using a (Sony Vaio model) computer to open a pdf file containing information about their own (i.e. Al Qaeda's) tactics. This demonstration again underlines the jihadists' use of consumer technology as a tactical weapon.

Example 12: A sequence from a video produced by As Sahab in 2002 shows a figure shooting at a screen on which a looping video is projected. This shooting practice is not simply the documentation of a training activity; it is an act (obviously choreographed with and for the camera) that reveals the level of integration of imagery reproduction into war technology.¹⁸

In many of the As Sahab videos the technical functions of the camera are fully implemented: infrared night-shot function illuminates operations in the dark, the zoom lens extended to its maximum focal length traces the movements of pursuant enemy, and possibly even the uploading of video data via Bluetooth. Does this exploitation of the capabilities of the camera to the limit make Al Qaeda's videographers the ultimate consumers?

Example 13: The Arabic subtitling of one scene in a recent As Sahab video locates an operation in an abandoned American base in Afghanistan. The jihadists wander around the site documenting their occupation of the space. A short incidental shot focuses on some paperback books on a table, presumably left behind by the US soldiers. Once slowed down and the image data enlarged, the titles of a few Tom Clancy paperback novels become legible. The plot of one of the books *Executive Orders*, written in 1997, revolves around a terrorist attack on the US Capitol using an airliner, the unleashing of a virus on the American public, and a presidential sex scandal. A consequent identification or not, fiction and reality here come full circle.

I have chosen the explicitly political visual strategies of the DoD and Al Qaeda as extremities of current representation. The motivation for questioning these particular images, taken from the public domain as raw material for examination, were personal curiosities lying beneath the surface of recent media reporting of the 'war on terror'. However, the basic methodology of examination used in the project is intended for application to other subject matter.

My intent here is not to use images to substantiate conspiracies or make dogmatic claims on the politics behind them, but to start from the standpoint that they are defined by their irreducible materiality (or immateriality): ink printed on paper, celluloid or videotape, or algorithms and pixels.

The speed with which images (political or otherwise) fade into the banal is proportionate to advances in technology. This also applies to the methods of artistic experimentation or 'research' that contest their production. For example, two references working with analog regimes of image production (that were partly the impetus for the project) are the acknowledgment of materiality of images in the shot-by-shot film analysis of the French critic Raymond Bellour and the obsessive work

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with television done by the American video artist Dara Birnbaum. Their excessive efforts and questions seemingly remain valid when reformulated according to the state of current imaging technology. Additionally, the implication is to reiterate what Walter Benjamin himself reiterated in 1931: 'The illiteracy will be ignorance not of reading or writing, but of photography.'¹⁹

¹ Dziga Vertov, *Kino-Eye: The Writings of Dziga Vertov*, edited by Annette Michelson, translated by Kevin O'Brien (Berkeley: University of California Press, 1995), p. 15.

² Jean-Louis Baudry and Alan Williams, 'Ideological Effects of the Basic Cinematographic Apparatus,' *Film Quarterly*, Vol. 28, No. 2 (Winter, 1974-1975), pp. 39-47.

³ For example, the websites of many of the manufactures of imaging and weapon technologies produced for the Israeli Defense Forces openly demonstrate the capabilities of their products. In addition to making public the knowledge that the high-tech equipment employed by the IDF is beyond the means of their adversaries, this visibility seemingly implies a further layer of surveillance and impenetrability.

⁴ Michelangelo Antonioni, 'Interview. Rome, July 29, 1969' in *Encountering Directors*, ed. Charles Thomas Samuels (New York: G.P. Putnam's Sons, 1972), pp. 15-32.

⁵ In an Internet image search, I found Sony's press images of the Sony DCR PC-120E released on the Japanese market on 4 September 2001, showing the World Trade Center on the viewfinder. Additionally, the Sony camera has a Carl Zeiss lens.

⁶ Jean-Louis Baudry and Alan Williams, 'Ideological Effects of the Basic Cinematographic Apparatus,' *Film Quarterly*, Vol. 28, No. 2 (Winter, 1974-1975), pp. 39-47.

⁷ See Raymond Bellour, *The Analysis of Film*, ed. Constance Penley (Indiana University Press, 2000).

⁸ An interesting precursor to the use of image manipulation software can be found in the work *A Second History*, 2005, by the Chinese artist Zhang Dali. Displaying an extensive series of official publications alongside original photography, for instance insignificant or unwanted characters are removed from view, it is a concise example of image alteration in political materials.

⁹ 'DoD Archival Digital Camera Image Guidelines, Decision Logic Table, DoDI 5040.6-M-1.' <http://dodimagery.afis.osd.mil/>

¹⁰ 'DoD imagery and Caption Style Guide.' <http://dodimagery.afis.osd.mil/>

¹¹ As in Marcel Broodthaer's work *Tableaux Bateaux*, where the artist produces a film from the details of a single painting, an abridged narrative can be constructed from the data of some individual DoD images.

¹² These images bring to mind a differing incident involving the exposure of secret information following the hostage taking at the US Embassy in Tehran in 1979. Upon the quick shredding of documents by embassy employees, the hostage-takers took on the meticulous reconstruction of secret information that was subsequently published in a series of more than 60 books. The Iranian publications expose, only by means of *disclosure*, normally covert processes of the US government.

¹³ For example US PSYOPS (psychological operations) manuals widely use the term Propaganda, defining its various levels of implementation as white, grey, black. 'DoD Dictionary of Military and Associated Terms.' www.dtic.mil/doctrine/jel/doddict/

¹⁴ 14. John F. Burns, 'Trucks of the Taliban: Durable, Not Discreet,' *The New York Times*, 23 November 2001.

¹⁵ For further explanation of jihadi video production see 'Intel Center Evolution of Jihadi Video v1.0,' 11 May 2005, www.intelcenter.com. Intel Center is an organization that analyses and tracks jihadist communications. These videos, as well as others made by various jihadist organizations, fall under a series of basic genres: produced, operational, hostage, statement, tribute, internal training, and instructional.

¹⁶ 'Video tape, an offshoot of television, is an excellent means of recording and projecting messages. It can replay a scene from the camera immediately after it is recorded. The tape can be used in either portable or studio recording systems, being processed electronically as it moves through the video tape recorder.' Cited in Department of the Army Headquarters, 'Psychological Operations Field Manual No.33-1,' August 1979 (Washington DC).

¹⁷ Dziga Vertov often recycled previously filmed footage in his films.

¹⁸ The video's near pop-iconography (given the continuous re-broadcast of similar Al Qaeda training videos in the media) recalls the allegorical works about television of American artist Dara Birnbaum and specifically the video *Technology/Transformation: Wonder Woman*, 1978-1979, in which 'Television techniques and technology are made to refer to themselves and become transparent as the ultimate instance in which ideology is structured and contained.' See Benjamin H. D. Buchloh, 'Allegorical Procedures: Appropriation and Montage in Contemporary Art,' *Artforum*, Volume XXI, No.1, Sept. 1982.

¹⁹ Walter Benjamin, 'A Small History of Photography', *One-Way Street and Other Writings*, translated by Edmond Jephcott and Kingsley Shorter (London: Verso, 1979), p. 256.