

War and Cinema

The Logistics of Perception



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VERSO

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Preface to the English Edition: The Sight Machine

This essay investigates the systematic use of cinema techniques in the conflicts of the twentieth century. It is an approach that has never been adopted before, or hardly ever. Yet the strategic and tactical necessities of cartography were known long ago, and in the line from the emergence of military photography in the American Civil War to today's video surveillance of the battlefield, the intensive use of film sequences in aerial reconnaissance was already developing during the First World War. The general staffs had no other means of regularly updating their picture of reality, as artillery constantly turned the terrain upside down and removed the topographical references crucial to the organization of battle.

On board an aeroplane, the camera's peep-hole served as an indirect sighting device complementing those attached to the weapons of mass destruction. It thus prefigured a symptomatic shift in target-location and a growing derealization of military engagement. For in industrialized warfare, where the representation of events outstripped the presentation of facts, the image was starting to gain sway over the object, time over space. Soon a conflict of strategic and political interpretation would ensue, with radio and then radar completing the picture.

As it laid the ground for a veritable *logistics of military perception*, in which a supply of images would become the equivalent of an ammunition supply, the 1914–18 war compounded a new 'weapons system' out of combat vehicle and camera – a kind of advanced cinema dolly, one might say. After the Second World War, it became possible to sketch out a strategy of *global vision*, thanks to spy-satellites, drones and other video-missiles, and above all to the appearance of a new type of headquarters. The central electronic-warfare administration – such as the so-called 3C¹ (control, command, communication, intelligence) in place in each major

power – can now attend in real time to the images and data of a planetary conflict. Thus, alongside the army's traditional 'film department' responsible for directing propaganda to the civilian population, a military 'images department' has sprung up to take charge of all tactical and strategic representations of warfare for the soldier, the tank or aircraft pilot, and above all the senior officer who engages combat forces.

Leaving aside the systematic use of simulators in preparations for land, sea and air missions, we should also mention the radical change in nuclear deterrence itself with the recent East–West disarmament initiatives. The gradual elimination of medium- and short-range 'theatre' weapons, and their replacement by light, 'smart' missiles such as the Midgetman, Stinger or Smart-Gun, are the harbingers of a final shift that will probably lead in turn to the disappearance of these latest weapons too. What will take their place will be directed-beam weapons using laser energy, charged particles or electro-magnetic forces, which will function at the speed of light, after the fashion of the high-resolution cameras aboard military observation satellites.

When that stage is reached, probably at the end of the century, the deterrence strategy geared to nuclear weapons will give way to one based upon ubiquitous orbital vision of enemy territory. Rather like in a Western gun-duel, where firepower equilibrium is less important than reflex response, eyeshot will then finally get the better of gunshot. It will be an optical, or electro-optical, confrontation; its likely slogan, 'winning is keeping the target in constant sight'. 'Winning' here means the status quo of a new balance of forces, based not on explosives and delivery systems but on the instant power of sensors, interceptors and remote electronic detectors. As Merleau-Ponty once wrote: 'The problem of knowing who is the subject of the state and war will be of exactly the same kind as the problem of knowing who is the subject of perception.' However, it is not human observers or military analysts themselves who will have this ubiquitous and surgically precise vision: rather, a 'sight machine' aboard an intelligent satellite will automate perception of enemy territory in the finest detail, helping the missile's 'expert system' to reach its decision at the speed of electronic circuitry.

With this assumption of cybernetics into the heavens, we seem to have moved far away from military cinematography. Yet the innovation of eyeless vision is directly descended from the history of the line of aim. The act of taking aim is a geometrification of looking, a way of technically aligning ocular perception along an imaginary axis that used to be known in French as the 'faith line' (*ligne de foi*). Prefiguring the numerical optics of a computer that can recognize shapes, this 'line of aim' anticipated the automation of perception – hence the obligatory reference to *faith, belief*, to denote the ideal alignment of a look which, starting from the eye,

passed through the peep-hole and the sights and on to the target object. Significantly, the word 'faith' is no longer used in this context in contemporary French: the ideal line appears thoroughly objective, and the semantic loss involves a new obliviousness to the element of interpretative subjectivity that is always in play in the act of looking.

If we tried to write a history of this 'line of force', of this perceptual 'faith', it would have to take account of quite a few vicissitudes, particularly since the invention of photography in the first half of the nineteenth century, followed by cinema, and then by videos, computer graphics and the *active optics* of the synthetic image.

By the seventeenth century the emergence of the astronomical telescope had revolutionized the way in which the world was seen, and this 'faith line' had been broken or refracted in the *passive optics* of Galileo's lenses. In fact, by upsetting geocentric cosmogony, this reverberation of the human look called perceptual faith itself into question, and 'remote perception' anticipated the grave philosophical problems that have recently been posed by 'electro-optical television', as a preliminary to a new science of 'visionics' concerned with the automated interpretation of reality. Thus, alongside the 'war machine', there has always existed an ocular (and later optical and electro-optical) 'watching machine' capable of providing soldiers, and particularly commanders, with a visual perspective on the military action under way. From the original watch-tower through the anchored balloon to the reconnaissance aircraft and remote sensing satellites, one and the same function has been indefinitely repeated, the eye's function being the function of a weapon. However great the area of the battlefield, it is necessary to have the fastest possible access to pictures of the enemy's forces and reserves. Seeing and foreseeing therefore tend to merge so closely that the actual can no longer be distinguished from the potential. Military actions take place 'out of view', with radio-electrical images substituting in real time for a now failing optical vision.

Another recent innovation, going beyond infra-red thermal images, has been television that can operate in poor lighting conditions. The light-intensifying camera, for example, no longer simply takes pictures but can increase the surrounding level of light, behaving towards nocturnal photons in the manner of a particle accelerator. Like a lighthouse performing the night, such television makes darkness transparent and gives to military contestants an image of what the night is no longer able to conceal. Thus, side by side with the thermal camera and radar technology, a new means of generating indirect light is tending to supplant the source of electric light. Electro-optical lighting is the fruit of the latest technology developed both for the army and for the police, who regularly use it at the exits from evening football matches.

The industrial production of repeating guns and automatic weapons was thus followed by the innovation of repeating images, with the photogram providing the occasion. As the video signal supplemented the classical radio signal, the video camera further extended such 'cinematography' and allowed the adversary to be kept under remote surveillance in real time, by day and by night.

'If I had to sum up current thinking on precision missiles and saturation weaponry in a single sentence,' said W.J. Perry, a former US Under-Secretary of State for Defense, 'I'd put it like this: once you can see the target, you can expect to destroy it.' This quotation perfectly expresses the new geostrategic situation and partially explains the current round of disarmament. If *what is perceived is already lost*, it becomes necessary to invest in concealment what used to be invested in simple exploitation of one's available forces – hence the spontaneous generation of the new Stealth weapons. Research and development work on electronic counter-measures (decoys) now occupies a preponderant place in military-industrial undertakings. But it is itself a 'stealthy' place, censorship in this sphere going far beyond the old military secrecy which surrounded, for example, the invention of the atom bomb.

The inversion of the deterrence principle is quite clear: unlike weapons which have to be publicized if they are to have a real deterrent effect, Stealth equipment can only function if its existence is clouded with uncertainty. This 'aesthetics of disappearance' introduces a disturbing element of enigma into relations between the blocs, gradually calling into question the very nature of nuclear deterrence. The core of the Strategic Defense Initiative is not so much, as Reagan claims, the deployment of new weapons in space as the indeterminacy or unfamiliarity of a weapons system whose credibility is no more assured than its visibility.

We can now better understand the crucial importance of this 'logistics of perception' and of the secrecy that surrounds it. A war of pictures and sounds is replacing the war of objects (projectiles and missiles). In a technicians' version of an all-seeing Divinity, ever ruling out accident and surprise, the drive is on for a general system of illumination that will allow everything to be seen and known, at every moment and in every place.

This first volume seeks to show the recent origins of this project and to follow the twists and turns of its development. A subsequent book will look more closely at the latest results in this domain.

Paul Virilio
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1

Military Force Is Based upon Deception*

When underground militants – Irish or Basque, Action Directe or Red Brigades – use outrages, murder or torture to gain publicity, feeding the media with photos of their sacrificial victims, the act of internal war throws back to its psychotropic origins in sympathetic magic, to the riveting spectacle of immolation and death agony, the world of ancient religions and tribal gatherings. Terrorism insidiously reminds us that war is a symptom of delirium operating in the half-light of trance, drugs, blood and unison. This half-light establishes a corporeal identity in the clench of allies and enemies, victims and executioners – the clench not of homosexual desire but of the antagonistic homogeneity of the death wish, a perversion of the right to live into a right to die.¹ 'War abounds with suggestions and hallucinations', writes General F. Gambiez. 'The search for psychological factors – whether depressive or tonic – helps to restore the true countenance of battle.'

Since Antiquity, military institutions have continued to revolutionize science and technology, and to solve the most complex and varied technical problems. But for all that they have never broken from the pre-scientific model, that moment in which war ceases to be just a science of the accidental. War can never break free from the magical spectacle because its very purpose is to *produce* that spectacle: to fell the enemy is not so much to capture as to 'capture' him, to instil the fear of death before he actually dies. From Machiavelli to Vauban, from von Moltke to Churchill, at every decisive episode in the history of war, military theorists have underlined this truth: 'The force of arms is not brute force but spiritual force.'²

There is no war, then, without representation, no sophisticated weaponry without psychological mystification. Weapons are tools not just of destruction but also of perception – that is to say, stimulants that make themselves felt through chemical, neurological processes in the sense organs and the central nervous system, affecting human reactions and even the perceptual identification and differentiation of objects. A well-known example is the *Stuka* or Junker 87, the German dive-bomber of World War Two that swept down on its target with a piercing screech designed to terrorize and paralyse the enemy. It was completely successful in this aim until the forces on the ground eventually grew used to it.

In this respect the first atomic bombs, dropped on Hiroshima and Nagasaki on the 6th and 9th of August 1945, presented the ideal conditions: great mechanical effectiveness, complete technical surprise, but, above all, the moral shock that suddenly banished to the prop-room the earlier strategic carpet-bombing of large Asian and European cities, with all its logistical sluggishness. By demonstrating that they would not recoil from a civilian holocaust, the Americans triggered in the minds of the enemy that *information explosion* which Einstein, towards the end of his life, thought to be as formidable as the atomic blast itself.³ The principle of deterrence had already seen the light of day.

The term *credibility*, so often used with reference to nuclear weapons, tells us a great deal about the real nature of the balance of terror. In fact the idea of such a balance, originally hailed as a divine gift by the Americans, has more to do with dogma than with any strategic theory.⁴ As Marshal Grechko, Brezhnev's defence minister, put it: 'Continual development of our armed forces is an *objective necessity* for the construction of socialism and communism.' In other words, even when weapons are not employed, they are active elements of ideological conquest.

This nuclear faith, however, is beginning to waver and to encounter its first heretics. A number of generals are now saying that, after all, 'a nuclear conflict would not be the end of the world', repeating twenty years later the argument of General Buck Turgidson in Stanley Kubrick's *Dr Strangelove*: 'I don't say we wouldn't get our hair mussed, Mr President, but only ten to twenty million casualties – depending on the breaks.'⁵ The balance of terror is changing because now everyone, or nearly everyone, has the bomb: in accustoming ourselves to nuclear sabre-rattling we have the illusion of teaching a new stage of knowledge. Illustrating, at a perceptual level, Lord Mountbatten's motto 'when it works it's out of date', a 'new Hiroshima' would today be just a trivial remake, an 'explosion of mini-bombs expressed merely in kilotonnes', as the military experts like to joke. Ronald Reagan understood this perfectly when he reopened the debate on 23 March 1983, unveiling a plan to establish a space-based anti-ballistic-missile system relying on lasers and mirrors . . .

all by the year 2000. Most of the specialists who were asked about the project immediately talked of it as Star Wars, science-fiction cinema. But the necessary element of spectacle has behind it a thoroughly concrete programme on which the Pentagon will spend around a billion dollars a year. Similarly, while the stockpiling of weapons that will doubtless never be used is considered by the uninitiated to be an act of madness, in military eyes not only is it not an aberration, its magic is precisely to be without any justification, to have no other reason for existence than to be brandished and quantified in public. Since, according to J.P. Goebbels, the only measure of a military decision lies in its monstrous power, the very disproportion in the published figures (kilotonnes per head of population, etc.) serves to counteract the sense of familiarity among the populations in question and to stir up their nuclear faith. In order to create a climate of terror, military men in both camps will certainly have to come up with something better than the forty million killed in the Second World War. This is why President Carter, continuing in a sense Eisenhower's last speech in 1961 that attacked the military-industrial complex, declared in his farewell address to the nation:

It may only be a matter of time before madness, desperation, greed or miscalculation lets loose this terrible force. In an all-out nuclear war, more destructive power than in all of World War Two would be unleashed every second during the long afternoon it would take for all the missiles and bombs to fall. A *World War Two every second* – more people killed in the first few hours than in all the wars of history put together.⁶

It is an arms race in which the doctrine and delirium of production have gradually replaced the doctrine of battlefield use, and the element of surprise – coming, as it did in the Malvinas war of 1982, from the technology itself rather than from the politicians, armies or general staffs – affects both adversaries at once. Battle is now nothing more than the autonomy, or automation, of the war machine, with its virtually undetectable 'smart' weapons such as the Exocet missile, the Beluga bomb, the Tigerfish torpedo, the 'Raygun Project' of lightning nuclear attack being studied by the Pentagon, the Doomsday machine . . .

From the first missiles of World War Two to the lightning flash of Hiroshima, the *theatre weapon* has replaced the *theatre of operations*. Indeed the military term 'theatre weapon', though itself outmoded, underlines the fact that *the history of battle is primarily the history of radically changing fields of perception*. In other words, war consists not so much in scoring territorial, economic or other material victories as in appropriating the 'immateriality' of perceptual fields. As belligerents set out to invade those fields in their totality, it became apparent that the true war film did not necessarily have to depict war or any actual battle. For once the

cinema was able to create surprise (technological, psychological, etc.), it effectively came under the category of weapons.

Thus it was no accident that colour films multiplied during the Second World War – indeed, in Germany they were the direct result of acts of logistical piracy. Early in the war Joseph Goebbels, minister for propaganda and ‘patron’ of the German cinema, banned the showing of the first film in Agfacolor, *Women Are Better Diplomats* (*Frauen Sind Doch Bessere Diplomaten*), on the grounds that the colour was depressing and of wretched quality. In fact, he had had the opportunity to see very recent American films – particularly *Gone with the Wind* – which the German navy had salvaged from intercepted Allied ships. Compared with the American Technicolor, the German process struck Goebbels as nothing short of *shameful*. Shortly afterwards, Agfacolor was improved, mainly through the efforts of Eduard Schönicke, one of the directors of the famous IG-Farben company. In 1942 Veit Harlan, director of *The Jew Süss*, shot *The Golden City* (*Die Goldene Stadt*) with the new colour stock and it enjoyed enormous success in occupied Europe. In 1943, to mark ten years of Nazi cinema and the twenty-fifth anniversary of UFA (Universal Aktion Film), J. von Baky solemnly presented *The Adventures of Baron Münchhausen*, a high-budget Agfacolor film with a large number of very accomplished special effects. It was an act of war which enabled S.M. Eisenstein to shoot a long sequence of *Ivan the Terrible, Part Two* with captured Agfacolor stock. We should recall here that UFA had been founded during the First World War, in 1917, and that in the following year it became the main complex of cinematographic production, distribution and development in wartime Germany. Although enjoying state subsidies, it was from the beginning dependent on high finance, principally on Krupp and the arms industry.

At the height of total war, it seemed to Goebbels and to Hitler himself that the rescuing of the German cinema from black-and-white would provide it with a competitive edge against the tonic power of American productions. In short, the war justified Goethe’s remark in his theory of colours:

Colours have a strange duplicity and, if I may be allowed to express myself so, a kind of dual hermaphroditism, a peculiar way of attracting, associating and mixing with one other, of neutralizing and cancelling one another, etc. Moreover, they produce physiological, pathological and aesthetic effects that continue to frighten.

One day when I was discussing with my wife this powerful mimetic faculty of American cinema, she said that what she had found most unbearable in the Nazi occupation of France was the feeling of being cut off from the United States. At a stroke there would be no more American

magazines, no more newspapers, above all, no more movies. In her child’s universe, the cinema was a kind of ‘perceptual luxury’ (Bergson) quite distinct from other forms of spectacle and entertainment, an abstract weekly luxury which it would be very hard for her to do without. The Nazi leaders understood this very well: they placed actors and directors under military discipline right from the outbreak of hostilities, any absence from the studios being regarded as an act of desertion and punished accordingly. In fact, Goebbels had a contemptuous relationship with the cinema people, many of whom had very little conviction in the Nazi cause. Some were Communists, others were Jews or married to Jewish women and eventually met a tragic end: Hans Meyer-Hanno and Joachim Gottschalk, for example; or UFA’s chief electrician Fritz Kühne and his Jewish wife Loni, who died by their own hands in 1944 rather than be separated by her deportation.⁷

Such were the coercive means by which high-budget films continued to be produced right up to the end of the war. When all the cinemas lay in ruins in the bombed cities of the Reich, new films were still being screened in the last Nazi outposts. *Kolberg*, for instance, was made in 1943–44 at a cost of eight-and-a-half million marks – eight times the normal budget for a major film – but could not have its première until 30 January 1945, in the Atlantic fortress of La Rochelle, still in German hands.

We shall come back to the extraordinary circumstances under which *Kolberg* was filmed. Let us just note here that Goebbels, staring military collapse in the face, had wanted the film to be ‘the greatest of all time, a spectacular epic outrivalling the most sumptuous American super-productions.’⁸ Once again we see Goebbels’s obsession with the American perceptual arsenal, fragments of which he could still obtain relatively easily in the shape of magazines, newspapers and films. For we should not forget that, apart from the pickings of secret agents and distinguished travellers, the diplomatic mail, prisoner-of-war correspondence and the international press continued to pass more or less discreetly from one side to the other by means of the ‘tolerated’ air links. Thus, daily services operated between London, Lisbon, Stockholm and Switzerland, providing invaluable sources of information for both Allied and German belligerents, whose national airliners stood side by side on the runways of neutral countries.

In the United States itself, cinema production was watched closely by the military High Command – when, that is, the Pentagon did not take direct charge of the production and release of propaganda films. There too, careers followed ambivalent courses – John Huston and Anatole Litvak being two of the best-known instances. Rather unexpectedly, Luis Buñuel could be found in 1942 shooting documentaries for the US Army, while Frank Capra moved from his inter-war satires (most notably with

Harry Langdon) to the ponderous didacticism of *Why We Are Fighting* (1942–45) and, more straightforwardly still, the songs and dances of Fred Astaire became disguised calls for a new mobilization.

The aggressive colours of these films – long considered by Europeans, and particularly the French, to be a mark of ‘bad taste’ – made them into veritable ‘war paintings’ whose task was to imbue audiences with fresh energy, to wrench them out of apathy in the face of danger or distress, to overcome that wide-scale demoralization which was so feared by generals and statesmen alike. In the United States, the magic of arms directly revived the magic of the market, as total war succeeded the economic warfare of the New Deal thirties. By 1946, the year after Hiroshima, Fred Astaire was singing to *Blue Skies*, skies that were at once luminous and laden with gloom, technicolor skies of the kind so often seen during the war, distantly reflecting the inexpressible melancholy of those, within the ruins, who had in the end survived the mourning and the rubble. As the Cold War set in around 1950, followed by Korea and then Vietnam, Roosevelt’s policies were abandoned for ever. The old propaganda movies (beginning with *Why We Are Fighting*) were withdrawn from circulation, the convalescent joy of the immediate post-war period was gradually extinguished. With mass demobilization the order of the day, the great American musical comedy ceased to exist, deprived by nuclear deterrence of its noble aspirations and its military–political requisites.⁹

According to Napoleon, *the capacity for war is the capacity for movement*. In the nineteenth century, the development of military psychology coincided exactly with the rise of physiology and experimental psychology. E.J. Marey, himself a medical physiologist and disciple of Claude Bernard, placed the chronophotography that he had invented at the service of military research into movement. Fred Astaire’s persistent *charm* doubtless stems from this unsuspected fusion/confusion of ‘science’ and dance. The thin and glittering hem of his tuxedo, his dancing exaltation of the most everyday steps and body-movements, call to mind that ‘hijacking’ of the spectator’s gaze of which Marey was so fond. When he photographed the movement of white birds or horses, or human subjects with silver strips on their black clothing, he was making the body disappear into a momentary agglomeration of sense-data, oscillating between the production of luminous impressions and that pure fascination which dispels perceptual awareness and induces hypnosis or similar pathological conditions.¹⁰

In short, it is not surprising that the tap-dancing of the thirties, forties and fifties – pirated from Marey’s magnetoscope and absorbed in high doses – should still work today. Overexposure to those images, so full of thoughts and *amière-pensées*, remains one of the best remedies there are against the dark.

2

*Cinema Isn't I See, It's I Fly**

It was in 1861, whilst travelling on a paddle-steamer and watching its wheel, that the future Colonel Gatling hit upon the idea of a cylindrical, crank-driven machine-gun. In 1874 the Frenchman Jules Janssen took inspiration from the multi-chambered Colt (patented in 1832) to invent an astronomical revolving unit that could take a series of photographs. On the basis of this idea, Etienne-Jules Marey then perfected his chronographic rifle, which allowed its user to aim at and photograph an object moving through space.

It was partly thanks to information provided by the *Entrepreneur*, the first battlefield observation balloon, that General Jourdan won the victory of Fleurus in 1794. In 1858 Nadar took his first pictures from a balloon. During the American Civil War, the Union forces equipped balloons with an aerial-mapping telegraph. Soon the army was rigging together the most varied combinations: camera-kites, camera-pigeons and camera-balloons predated the intensive use of chronophotography and cinematography on board small reconnaissance aircraft (several million prints were made during the First World War). By 1967 the US Air Force had the whole of South-East Asia covered, and pilotless aircraft would fly over Laos and send their data back to IBM centres in Thailand or South Vietnam. *Direct vision was now a thing of the past*: in the space of a hundred and fifty years, the target area had become a cinema ‘location’, the battlefield a film set out of bounds to civilians.

During the First World War, D.W. Griffith was the only American filmmaker authorized to go to the front to shoot propaganda footage for the Allies. Son of a Civil War veteran, Griffith had previously worked in the

*Paraphrase of Nam June Paik

flashes, here and there, today and yesterday . . . Already evident in the flash-back and then in feed-back, this miniaturization of chronological meaning was the direct result of a military technology in which *events* always unfolded in *theoretical time*. As in cinema, what happens is governed not by a single space-time principle but by its relative and contingent distortion, the capacity for repressive response depending upon the power of anticipation.

Abel Gance understood this perfectly in 1914.

6

*Sicut Prior est Tempore ita quo Potior Iure**

Rest never comes for those transfigured in war. Their ghosts continue to haunt the screens or, most frequently, find reincarnation in an engine of war – usually a ship, like the *Tirpitz*, which sank in a fjord in 1943 and whose technological metempsychosis was celebrated in a feature film. Admiral William Nimitz, the American commander-in-chief of naval aviation in the Pacific from 1942 to 1945, gave his name to a nuclear aircraft-carrier which featured in another recent film, Don Taylor's *The Final Countdown* (1980). In this work of science fiction, whose theme is war across time, the Japanese fleet is steaming towards Pearl Harbor when it is detected by the *Nimitz*, which has been carried back half a century by a disturbance in the space-time vortex. The ship's commander faces a dilemma: whether to let history take its course, or to block the attack on Pearl Harbor by using all the fire-power at his command.

The most interesting thing in this film is the new crisis of decision-making that results from the non-peaceful coexistence of different technologies. Where are the orders to come from? From the commander of Pacific forces who, in 1941, knows of no vessel by the name of *Nimitz*? Or from the commander of US Defense, in 1980? As with the planned film *Narvik*, we can see here a determination to extend military power on both sides of a hypothetical 'time centre' by using relativity as a military manoeuvre. In the film, the nuclear carrier *Nimitz* acts as a watchtower across historical time: the means of communication and identification employed in modern warfare become ways of blocking history. The new media allow the viewer to sense the *differential time-span* borne by each technological object. The effect is a startling temporal relief, such that the

* 'Priority in time gives priority in law.' Roman adage.