

Three Kubrickian Machinic Characters and their Technical Malfunctions*

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Abstract

Taking as its main reference Gilbert Simondon's *On the Mode of Existence of Technical Objects* (1958), this article suggests a technical and philosophical interpretation of three types of machinic malfunction that operate inside the mechanic of three Kubrickian characters: Dr. Strangelove (Peter Sellers) from the eponymous *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* (1964), Alex (Malcolm McDowell) from *A Clockwork Orange* (1971), and Private Pyle (Vincent D'Onofrio) in *Full Metal Jacket* (1987). The goal is to provide renewed interpretative dimensions of symptomatic elements of these Kubrickian characters: technical malfunction, incompleteness, alienation.

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The malfunction theme is recurrent in Stanley Kubrick's filmography. Serge Kaganski explicitly denotes that "whichever genre or production mode they are issued of, all of Kubrick's films tell the story of a malfunction" (1999: 4). From a philosophical perspective, Gilles Deleuze also defined these characters as "malfunctioning brains" (1985: 267-8).

The "brain" that breaks down is sometimes an individual, sometimes a group engaged in a collective action – war, use of deterrent power, space exploration – that fails accidentally or because of a human error coming from one of the members of the group [...]. (Krohn 2007: 94, Krohn 1987: 9-12)

To briefly trace this feature in Kubrick's *oeuvre*, *The Killing* (1956) sees the frustration and greed of a husband compromising a skilfully organised robbery; *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* (1964) sees the madness of General Jack D. Ripper (Sterling Hayden) changing the fate of the world and bringing about nuclear Armageddon; *2001: A Space Odyssey* (1968) sees the psychosis of a computer, HAL, jeopardising a secret mission to Jupiter with high stakes for humanity; *Barry Lyndon* (1975) sees the cupidity and miserliness of Barry (Ryan O'Neal) overthrowing the power of a family long established in the aristocratic system of the eighteenth century; *The Shining* (1980) sees the alcoholism and obsession of a father destroying a family unit; and *Eyes Wide Shut* (1999) sees the jealousy of a husband pushing him to endanger his relationship with his wife, as well as his own life.

This article will further expand this idea, suggesting a technical and philosophical interpretation of three types of machinic malfunction that operate inside the mechanic of three Kubrickian characters: Dr. Strangelove (Peter Sellers) from the eponymous *Dr. Strangelove*, Alex (Malcolm McDowell) from *A Clockwork Orange* (1971), and Private Pyle (Vincent D'Onofrio) in *Full Metal Jacket* (1987). Gilbert Simondon's philosophy of technique will guide this reading. In *On the Mode of Existence of Technical Objects* [*Du mode d'existence des objets techniques*] (1958),¹ Simondon develops a theory of a mode of existence, but also of non-existence of technical objects; indeed he discusses the elements and processes that are the basis of the concretisation of technical objects, but also tries to identify the phenomena that could cause their malfunction. Concepts such as self-destruction, instability, loss of internal coherence and the incapacity to adapt to an associated environment are therefore helpful to understand the flaws that occur in Dr. Strangelove's, Alex's and Private Pyle's mechanical structures. I want to show that in these three cases it is possible to interpret the cause of this malfunction in the light of Simondon's mode of existence of technical objects.

Alex embodies the machine that is bugged, a machine whose function is jeopardised by the presence of an external element inside it; Private Pyle is the machine that overheats and ends up exploding; whilst Dr. Strangelove appears as a rusty machine, haunted by the obsolete mechanism of the Nazism.

Rather than following the chronological order of the release of these films, I will begin with an analysis of the malfunction of Alex and Private Pyle, both of whom share a certain number of common features, and then I will finish by exploring the machinic malfunction of Dr. Strangelove. This order follows the logic of the concretisation movement described by Simondon. For Simondon, the movement of concretisation describes the genesis of the technical object. It is a process of solving functional problems through structural reconfiguration of the technical object (Bontems 2009: 1-12). The concrete object acquires an internal coherence, or a state of non-self-destructive meta-stability. This article argues that concretisation is an evolving process that can be found in different states of advancement and malfunction within the mechanism of Alex, Private Pyle and Dr. Strangelove.

1 Alex "Ludovico", or when the machine is bugged

The term 'bug' usually designates the temporary malfunction of a machine or a programme. The first computers were of a considerable size and occupied a whole room. The heat emitted by the working circuits

¹ In this article, I quote Ninian Mellamphy's translation of *Du mode d'existence des objets techniques* entitled *On the Mode of Existence of Technical Objects*. This text, which was published as a 'typescript' with a preface written by John Hart, contains only the translation of the introduction and of the first part of Simondon's work.

attracted insects that sometimes made their way into the computers in order to get closer to the heat source. One well-known anecdote tells how a moth once got stuck inside the circuits of a computer, creating a faulty contact and upsetting the adjustments. Seeing the absurd calculations of the machine, scientists looked for the problem, until one of them shouted out, "I found it! It's a bug!". Whether true or not, this anecdote is interesting in relation to Alex's malfunction in *A Clockwork Orange*. Indeed, Alex is a machine that is bugged: a machine that finds itself invaded by an outside presence that jeopardises its structure.

The opening sequences of the film depict a usual evening of 'ultra-violence' between Alex and his *droogs*, ending with the rape of a writer's wife to the tune of "Singin' in the Rain". Returning home, Alex is overjoyed and listens to the second movement of Beethoven's *Symphony No. 9*. The quick editing represents the climax of Alex's natural mechanism: in it, the symphony gives rhythm to his mental images of 'ultra-violence'. Though the mechanism does not initially appear to be that of a machine, it soon becomes obvious during Alex's incarceration, when the goal of the authorities is to re-programme the machine, to perfect it in a way that makes it non-violent and sociable.

Upon his arrival in prison, Alex has all of his possessions removed, including his name: he is now called 655321. This number seems to anticipate the character's malfunction; indeed, instead of creating a logical succession of numbers, like in a countdown 6-5-4-3-2-1, the doubled five breaks the unity and logic of the 'name'. The latter can be seen as a mistake, an aberration announcing Alex's coming malfunction.

The prisoners must act as automatic machines; for example their steps are conditioned by lines drawn on the floor that show them where to walk, stop, etc. This pattern of white lines echoes Jacques Tati's film *Playtime* (1967).



Figure 1. *A Clockwork Orange* (Stanley Kubrick, 1971)



Figure 2. *Playtime* (Jacques Tati, 1967)



Figure 3. *A Clockwork Orange* (Stanley Kubrick, 1971)



Figure 4. *Playtime* (Jacques Tati, 1967)

This prison is described as a place for redemption, where prisoners learn how to participate in the mechanism of the ideal good and fair society, based on Judaeo-Christian principles. However, we can see the limits of the prison in providing improvement: during the mass scene, for instance, some prisoners have flatulence, belch loudly, and laugh at the prison and religious authorities, who have little control. In the same way, Alex has not changed: his interest in the Bible is only fed by the violence of Christ's history (he imagines himself as a Roman whipping Jesus during the Way of the Cross). His supposed profound desire to become a good person and to submit to the Ludovico technique is actually only motivated by the idea of an earlier release. The Minister, whose election platform is based on a promise of establishing a zero-percent crime rate, criticises the prison system and its inefficiency to produce functioning and sociable machines. He claims "prison taught [Alex] a false smile, the rubbed hands of hypocrisy and the fawning, greased, obsequious leer; other vices prison taught him as well as confirming him in those he had long practised before". According to him, the Ludovico cure would be a new, more efficient system. The technique, however, does not consist of learning or morally understanding what is good and fair, but rather is about conditioning by force. It is not about learning the good, but preventing the bad. This conditioning technique increases the level of dehumanisation of the prisoners. For what is a man, from whom free will, choice and moral conscience have been taken away, other than a machine? This aspect of the Ludovico technique is subsequently criticised by the priest: "[Alex] has no real choice! Self-interest, fear of physical pain drove him to that grotesque act of self-abasement. Its insincerity was clearly to be seen. He ceases also to be a creature capable of moral choice". To which the politician retorts that these are only subtleties, and that "the point is that it works". Speaking of Alex as a man-machine is no longer an allegory: he has become a conditioned mechanism, kept in check, limited in its functions.

During the Ludovico technique, the subject is injected with a serum that activates a deep nausea, and is forced to stare at images of ultra-violence projected with music. After multiple repetitions, the subject starts to liken the nausea to any form of violence. He becomes incapable of expressing any type of violent emotion without feeling an intense anxiety. Therefore, we can say that the Alex-machine (post-Ludovico) is bugged: it is in perfect working order, but holds a non-integrated disruptive element that prevents him from working properly. We see him feeling faint, trembling, rolling on the floor, trying to catch his breath, and ultimately jumping out of a window. The Ludovico technique aims at the improvement of the human-machine in reaching perfection. Simondon explains:

There are two kinds of improvements: those [major improvement] which modify the division of functions, increasing in an essential manner the synergy of functioning, and those [minor improvement] which, without modifying the division in question, diminish the harmful effects of residual oppositions. (1980: 46)

Applying this definition to the Ludovico technique would suggest it as being a minor improvement: Alex's internal structure remains the same, but it has been introduced (via a serum) to a reflex of fear and illness in order, in Simondon's words, to "diminish the harmful effects of residual oppositions". The Alex-machine that used to be well oiled with violence and Beethoven's music is now oiled with the serum and rejection of any form of violence: it is interesting to talk about "oiling", since for Simondon "a more regular system of lubrication in an engine belongs to this order of minor improvement" (1980: 46). According to Simondon, the problem arising with minor improvements is that they "harm the major improvements, because they can shield the real imperfections of a technical object by compensating with non-essential devices, incompletely integrated to the general functioning [of the object]" (1980: 47). It seems this is the case with the Alex-machine: as the priest argued, Alex has no sincerity in his non-violence. It has not been inculcated into him, but forced onto. As Simondon writes: "The adjunction of a supplementary structure is not a real progress for the technical object unless that structure is concretely incorporated into the ensemble of the dynamic systems of its operation" (1980: 36). This is not the case here, neither of the Ludovico conditioning inside Alex (which is not integrated in his function schema), nor of the new Alex inside society.

Alex's situation can be summarised as follows: "the object [discovers] obstacles within its own operation" (1980: 33). It is therefore losing its internal coherence, its stability and tends to become self-destructive. Alex will no longer stand this defect and rather than accepting to live with it, he will defenestrate himself. As a result, Alex's bug is repaired at the end of the film: after a stay in the hospital he will be able again to function according to his intrinsic ultra-violent mechanism. His creator (the Minister) will insert him once more within the system

of society (with work and a salary), in which he can act freely. Alex's situation is an internal malfunction above all: I haven't insisted on Simondon's definition of the associated environment, or on the relationship between the environment and Alex according to the various states of his function and malfunction. Although Alex's situation in *A Clockwork Orange* and Private Pyle's in *Full Metal Jacket* have certain common features, they differentiate from one another in the relationship and importance of the associated environment on their (mal)functioning systems. It is therefore in the light of this notion that I will analyse Private Pyle's "major" malfunction.

2 Private Pyle, the overheated machine and its explosion

There are two very distinct parts in *Full Metal Jacket*. The first – which will be analysed here – is set in South Carolina at an army training barracks, where the merciless Drill Sergeant Hartman (R. Lee Ermey) coaches young marines to become obeying, killing war-machines. Private Pyle is one of the marine recruits, and all of them are shaped through a process very close to Simondon's concretisation process. For Simondon, "The essence of the concretization of a technical object is the organizing of functional sub-systems into the total functioning" (1980: 41). In *Full Metal Jacket*, the sub-systems are the soldiers and the total functioning is the Marine Corps. The training they receive aims to ensure that these sub-systems function well to integrate the Marine Corps' total functioning.

This concretisation process consists of confronting the marine-man (or machine-man) with the "techno-geographical" environment (to quote Simondon) that is Parris Island. Simondon explains that "the technical object [here the Marines] is sustained by a double relationship: a relationship with its geographic environment on the one hand, and with its technical environment on the other" (1980: 64). Parris Island constitutes this techno-geographical environment: spatially delimited with its own geographical characteristics and technically laid out by men, organised according to the soldiers' training logic (assault course, shooting range, etc.). This environment embodies what Simondon describes as the "associated environment". For Simondon the associated environment

is no fabricated milieu, or at least it is not wholly fabricated; it is a definite system of natural elements surrounding the technical object and it is linked to a definite system of elements which constitute the technical object. The associated milieu is the mediator of the relationship between manufactured technical elements and natural elements within which the technical being functions. (1980: 70)

Parris Island is this associated environment inside which the Marines/technical objects evolve and concretise themselves. Their mission is to adapt to this associated environment (or this still associating environment), in order to be able to function within it. As Simondon writes:

Where there is need of adaptation, not so much to environment in the strict sense but to the task of interrelating two environments, both of which are in a state of evolution, adaptation is limited and particularized in the direction of autonomy and concretization. This represents real technical progress. (1980: 65)

This is indeed the soldiers condition: their adaptation is limited to a situation (war, or at least its simulation) and must be concretized in a certain form of autonomy (a soldier, the Marine Corps). Private Pyle will not succeed in his concretisation, nor in his adaptation. He always appears to be on the fringes of the machine, just like a piece that does not manage to attach itself to the mechanism. In the same way, he does not reach any autonomy: Private Joker (Matthew Modine) is designated to help him integrate into the Marine Corps mechanism. This technical problem of Pyle's not being able to adapt to the techno-geographical environment discourages Drill Sergeant Hartman, who confronts him in the barrack latrines by asking, "What is your major malfunction, numb nuts?" Pyle's answer is given to Joker before he shoots himself: "I'm in a world of shit", thus expressing his detachment and disgust towards the environment. Pyle's "major malfunction" is to be unable (and to not want) to adapt.

Simondon insists on the fact that “structures connected with one single associated milieu should operate synergetically” (1980: 77). But Pyle is incapable of functioning synergetically with the other soldier-elements. As a technical object, Pyle’s functioning system is not sufficiently developed to be able to follow the pace of the mechanism constituted of the other sub-systems (the soldiers). The Pyle machine overheats but succeeds in integrating into the system in the end (in a brutal way, as the cruel punishment inflicted by his team mates shows). Pyle is making some progress and excels, particularly during shooting practice. But this progress is in reality only superficial; indeed, Simondon writes: “progress in the evolution of technical objects is only possible if these objects are free to evolve and do not become subject to any necessity that leads towards fatal hypertely” (1980: 69). “Hypertely” is defined as “an extreme overdevelopment of an organ or body part during evolution that is disadvantageous to the organism” (McGraw-Hill). Thus, Pyle’s evolution is not real progress, but corresponds to a hypertelic development of one of his organs: his rifle. “Without me my rifle is useless. Without my rifle I am useless”. By joining his rifle to his own body, transforming it into an organ, Pyle develops it excessively; Joker becomes worried when he witnesses Pyle talking to his rifle. By the climax of the first half of *Full Metal Jacket*, the machine gets carried away, the rifle-organ is overdeveloped, and it ultimately takes control over Pyle. The alienating evolution of Pyle’s psychological state is transcribed in his stare that shows a growing tension and confusion.



Figure 5. *Full Metal Jacket* (Stanley Kubrick, 1987)

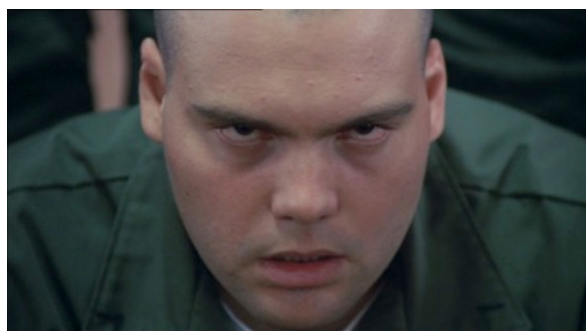


Figure 6. *Full Metal Jacket* (Stanley Kubrick, 1987)

Yet again, the system becomes self-destructive. Pyle will end up killing his instructor, his creator, Drill Sergeant Hartman. The technical object with hypertelic development (contracted because of the necessity to integrate an associated environment) is experiencing a constant overheating, which will bring him to a state of saturation and to a final explosion.

Alex’s and Private Pyle’s malfunction in *A Clockwork Orange* and *Full Metal Jacket* take place within individuals, within technical objects still going through the process of concretisation. They show two young men getting ready for life and integrating (or not) into a system. The last machinic malfunction that I want to analyse here is that of an already concretised object that gets worn with time: Dr. Strangelove. However, this particular malfunction is symptomatic of a much more complex machinery, and reveals the core of Kubrick’s aesthetic.



Figure 7. *Full Metal Jacket* (Stanley Kubrick, 1987)

3 Dr. Strangelove or the rusty mechanism

The question of the technique and the machinic malfunction is the overriding theme of *Dr. Strangelove*. I will be focusing on Dr. Strangelove's malfunction, a very peculiar character that appears only for a short time in the film (unlike the actor Peter Sellers, who plays three different characters). Before going any further, however, it is important to understand all that the character of Dr. Strangelove represents.

Dr. Strangelove is a scientist working for the United States during the Cold War with the Soviet Union (the film was produced in 1963, only a few months after the Bays of Pigs invasion in April 1961 and the Cuban Missile Crisis in October 1962). Dr. Strangelove is German, as indicates his real name Merkwüdigliebe. His character is inspired from various historic figures, among which Werner von Braun appears to be the most blatant (Broderick 2017: 232). Von Braun was a German engineer who worked for the Nazi army during the Second World War. With defeat on the horizon, Von Braun fled to the United States as part of Operation Paper Clip (a Joint Intelligence Objectives Agency operation that aimed to exfiltrate Nazi 'brains' in order to use them against the USSR) and was naturalized in 1955. Therefore, the same person who constructed the V2 missile that destroyed London and other European cities also helped design the Saturn V rockets used in the Apollo programme to send astronauts to the Moon.

Dr. Strangelove is therefore a machine that is already concretised within the associated environment of Nazi Germany. This element is crucial in order to understand the mode of malfunction of the technical object Dr. Strangelove. In *Le Cinéma au bord du monde, Une Approche de Stanley Kubrick/Cinema at the Edge of the World, An Approach to Stanley Kubrick* (2010), Philippe Fraisse describes Dr. Strangelove in these terms:

Strangelove [...] has become a machine. I have always been impressed by Peter Sellers' performance, by his interpretation. He is no longer a man but a machine. He is embedded in his wheelchair, has become one with it, his gestures have a horrifying mechanical stiffness, the machine creaks and shakes, Seller's right arm ends up with an erection, the chair-thing talks, calculates and plans a tomorrow of nightmare. He is the man of tomorrow, a metal skeleton that disappears in the darkness of the sepulchral War Room. (2010: 59-60)

We have here a precise and poetic description of the elements that interest us in the character's malfunction. Strangelove cannot walk anymore; his right arm convulses and acts without his consent; his voice tone modulates and his talking speeds up or slows down without a reason; his eyesight is blocked (he is wearing tinted sunglasses). He is an old machine, damaged by time and by its own functioning. In "Psychosociologie de la technicité"/ "Psycho-sociology of the technicity" (1960-61), Simondon distinguishes the open technical object from the closed one. The first is "an open technical and neotenic object, it is always, to a certain extent, in a state of construction, [...] and is endowed with a power of permanence" (2010b: 61); whereas the second is "entirely built when ready to be sold; starting from this highest perfection point, the object can only wear down, deteriorate, lose its qualities" (2010b: 60). Strangelove can be seen as a closed technical object. He is at the same time a product of Nazism, under which he achieved technical concretisation, and a piece of the Nazi mechanism (subsets of the whole). Ever since his expatriation to the United States (which could

match Simondon's selling point), Strangelove can only deteriorate. Coming out of the factory, he is now in the hands of the "user" (the American president, also played by Sellers). According to Simondon, he could even be compared to a "carriage whose pieces all reach the last degree of wear at the same time [...]; there is an homogeneity of these pieces in this common process of deterioration" (2010b: 62). It is quite amusing to imagine Strangelove as a wheelchair, a miniature mechanical carriage. Simondon also uses this image of the carriage in his "Entretien sur la mécanologie" / "Interview on Mecnology" (by Jean Lemoyne, in 1968):

The technical object [Dr. Strangelove] is a bit like this carriage of an English poet that Norbert Wiener quotes: "[...] everything got worn in his at the precise instant when everything collapsed". This is fine, but an object conceived this way is an object that only represents the starting point and the first step of a technical composition. After that, technical progress is, on the contrary, the division and dichotomy of the object; part of it [...] adapts to the outside world and the other half to the user. At this moment part of the object tends to last, while the other changes or wears down, being destined to lability. (2010a: 411-2)

This aspect allows us to go further into the technical characteristics of Strangelove's malfunction. He is "labile", unstable and subject to modifications; he must indeed adapt to the American political context: he changes his name (Merkwürdigliebe becomes Strangelove), switches language (though keeping a German accent that Sellers takes pleasure in parodying), and no longer talks with the Führer, but with the President. He sometimes seems to be confused: initially integrated to the Nazi mechanism, his internal functions betray him and resurface. It is this same phenomenon that forces him to make a Nazi salute at the end of the film. This gesture is an echo of the former mechanism to which Strangelove was attached; it is the relic of an alienating reflex that appears at the most inappropriate time. This gesture can be compared to Chaplin's screwing motion in *Modern Times* (Charlie Chaplin, 1936). Alienated by his working conditions, Chaplin continues mechanically to apply this gesture to various objects and people (for example a fire hydrant or a woman walking in the street), in spite of the inappropriate aspect of the situation. Strangelove's malfunction can thus be described as a rusty machine, haunted by an obsolete and inappropriate mechanism.



Figure 8. *Dr. Strangelove: Or I Learned to Stop Worrying and Love the Bomb* (1964)

4 Conclusion

All these characters, Alex, Pyle and Strangelove, suffer from an alienation that runs across their mechanical difficulties: Alex is alienated because of his lack of choice, Pyle because of the hypertelic growth of one of his organs (his rifle), Strangelove because of a haunting transcending mechanism. In these three cases, alienation is the symptom of the frustration of never finding an internal coherence or synergetic functioning with the environment. More generally, Kubrick's machinic characters represent a feeling of incompleteness.



Figure 9. *Modern Times* (Charlie Chaplin, 1936)



Figure 10. *Modern Times* (Charlie Chaplin, 1936)

Incompleteness is symptomatic of the Kubrickian character: Davey Gordon in *Killer's Kiss* (1955) is a boxer who lost a fight; George Peatty (Elisha Cook) in *The Killing* is a husband castrated by his wife; Lolita (Sue Lyon) in the eponymous film is a young girl torn away from her innocence and ingenuity by her step-father. General Ripper in *Dr. Strangelove* sinks into a paranoid delirium precisely because of his feeling of incompleteness, and his helplessness is caused, in his mind, by the poisoning of his bodily fluids. HAL, in *2001: A Space Odyssey*, proclaims himself "fool proof and incapable of error" and sinks into a deep neurosis at the idea that his capacities and perfection can be doubted. Barry Lyndon is an incomplete man who never got revenge on the man who stole away his first love, who deserted the war and fled his responsibilities, who cheated on his wife, beat his step-son, and never succeeded in protecting his own son. Jack Torrance (Jack Nicholson), in *The Shining*, is a writer haunted by the blank page syndrome and his alcoholism, which causes his violence and ghosts to resurface. Bill Harford (Tom Cruise) in *Eyes Wide Shut* is a sexually incomplete husband, who is jealous of his wife's desire for somebody else and loses himself in a quest for extra-conjugal relations, which he never finds.

Each manifestation of this symptom takes different shapes (neurosis, madness, violence, alienation, malfunction) and could be very concretely explained through different schemes: philosophical, psychoanalytical, psychological or, in the case of the three machinic characters analysed above (and also in the case of HAL from *2001: A Space Odyssey*), technical. Philippe Fraisse writes: "Kubrick's cinema is a fight against the Hitlerism portion that survived to the military defeat of 1945" (2010: 9). This statement could provide part of an answer to the question: where does the systematic and inevitable incomplete nature of the modern man represented through the Kubrickian character come from?

References

- Bontems, Vincent (2009). "Gilbert Simondon's Genetic 'Mecanology' and the Understanding of Laws of Technical Evolution." *Techné* 13(1).
- Broderick, Mick (2017). *Reconstructing Strangelove, Inside Stanley Kubrick's "Nightmare Comedy."* London: Wallflower Press.
- Deleuze, Gilles (1985). *Cinéma 2 L'image-Temps*. Paris: Les Editions de Minuit.
- Fraisse, Philippe (2010). *Le Cinéma au bord du monde, Une Approche de Stanley Kubrick*. Paris: Gallimard.
- Kaganski, Serge (1999). "Stanley Kubrick: l'art contre le monde." *Les Inrocks*.
- Krohn, Bill (October 1987). "Le Film-Cerveau, *Full Metal Jacket*." *Cahiers du cinema* (400).
- Krohn, Bill (2007). *Stanley Kubrick*. Paris: Cahiers du Cinéma/Le Monde.
- McGraw-Hill. "Dictionary of Scientific & Technical Terms." <http://encyclopedia2.thefreedictionary.com/hypertely> (last accessed 11-08-17).
- Simondon, Gilbert (2012). *Du mode d'existence des objets techniques*. Paris: Aubier.
- Simondon, Gilbert (1980). *On the Mode of Existence of Technical Objects*. Ontario: University of Western Ontario. <http://dephasage.ocular-witness.com/pdf/SimondonGilbert.OnTheModeOfExistence.pdf> (last accessed 23-08-17).
- Simondon, Gilbert (2010a). "Entretien sur la mécanique." In *Sur la technique (1953-1983)*, Gilbert Simondon, Paris: P.U.F.
- Simondon, Gilbert (2010b). "Psychosociologie de la technicité." In *Sur la technique (1953-1983)*, Gilbert Simondon, Paris: P.U.F.