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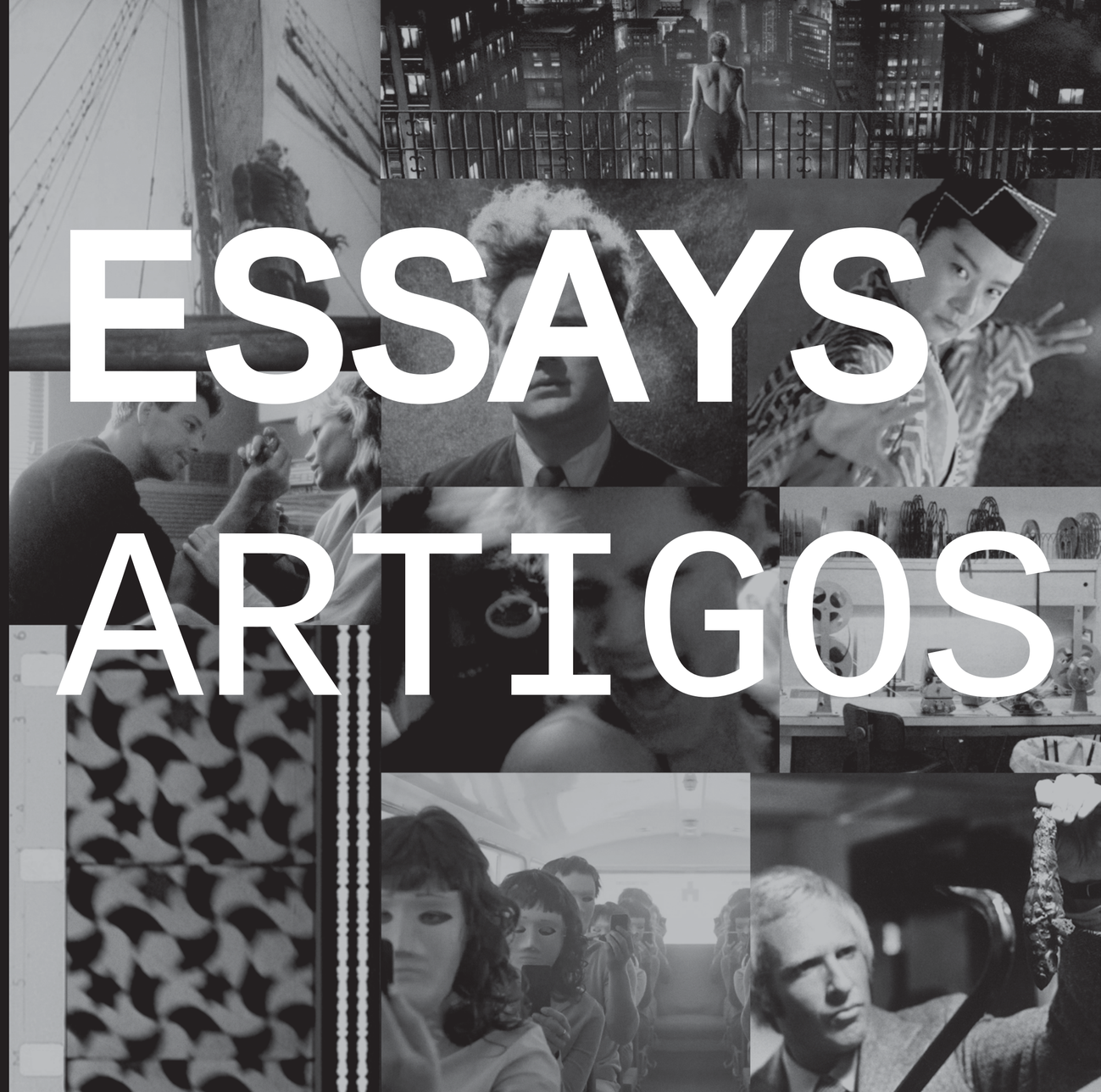
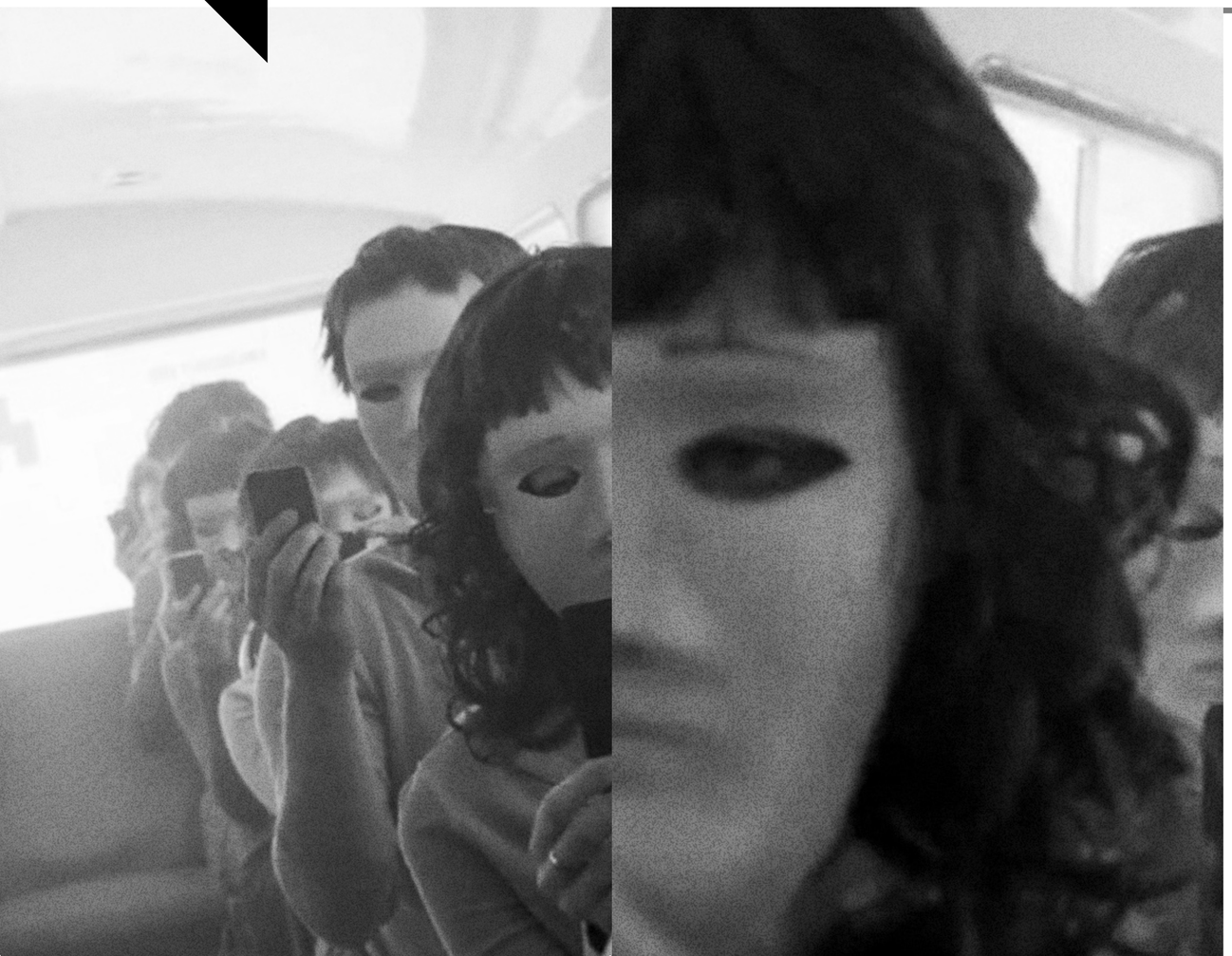




Where is my mind? Body, mind and brain in the history of science fiction films[1]

Abstract

This text suggests reading of the story of science fiction films as a leap from space to the mind. This change of direction reveals the way our culture and science have explored the confines of reason, starting outside the body and moving inside it, and the way science fiction films have continued to protect and champion what is truly human: subjectivity.

Background: The horror of experiments with the body

Literary science fiction appeared as a symptom of industrialisation, when the Industrial Revolution had been understood and the confidence that all futures would be better had been shaken. While horror reminds us that we cannot break with the past, science fiction says it is no good dreaming of a better future. That is why, rather than 18th-century romantic novels, it draws on 19th-century literature that exuded dystopian disillusionment. Between lucidity and ingenuity, this literature portrayed many of the myths that would be taken up by cinema as soon as it appeared, including modification of the body and the creation of artificial life.

In *Metropolis* (1927), Fritz Lang brought machines to life for the first time in film history. The 1930s, marked by the Crash of 1929, was the Golden Age of Fantasy. The principal figure was a Faustian character selling his soul for knowledge of human biology, as in *Frankenstein* (James Whale, 1931) and *The Bride of Frankenstein* (James Whale, 1935). The body was a space for the creation and diversion of progress. Erle C. Kenton continued the decade with the myth of the mad doctor in *Island of the lost souls* (1932). We see that, faced with world socioeconomic crisis, fiction shows the reverse of progress through the myth of the mad scientist with no moral scruples creating corrupt bodies. This recovered the romanticism of the 19th-century science fiction novel with the industrial revolution as the backdrop. As a result, the science fiction cinema of those years belongs more to horror than to science fiction as a genre. That would begin with journeys into space and disasters moving out of the laboratory, with catastrophic consequences.

The golden Fifties: watch the skies!

The Cold War, beginning in 1945 when the ashes of the Second World War were still warm, brought back the apocalyptic nightmares of Victorian times, leading to a boom in science fiction, which was ultimately defined as a genre in the Fifties. It began to shine based on the collective fear of disasters, such as those caused by the atom bomb. After this it became a fundamental propaganda tool in the clash between the Western Capitalist and Eastern Communist blocs in which the former was presented as the civilised order and the second as home of the threat and the monstrous Other. This fear of Otherness displaces the myths of classic horror and adds imaginary elements such as flying saucers and extraterrestrial invasion, encouraged by the space race between the US and the Soviet Union. Now, rather than the corrupt human body, the object of fear is strange, alien, Lovecraftian biology. In *The Thing from Another World* (Christian Nyby, 1951) a space ship that attacks humans appears near the North Pole, where some scientists are working. The scientists and the army argue about whether or not to kill the alien, some citing the benefit if science, others the interests of civilians. A journalist, microphone in hand, sends his report from the polar base, closing the film by demanding constant vigilance against an enemy that always comes from outside: "*Wherever you are: watch the skies. Keep looking. Watch. Keep watching the skies*". *The War of the Worlds* (Byron Haskin, 1953) distils the fear that an extraterrestrial is watching us. It is important to remember that, a few years before *The War of the Worlds* came out, George Orwell's novel *1984* had been published, introducing the surveillance of Big Brother. A film version of this book also appeared in the Fifties: *1984* (Michael Anderson, 1956). The mind, the last refuge of the modern citizen, is no longer an unfathomable fortress.

From Japanese science fiction producers came *Gojira* (Ishirô Honda, 1954), a monstrous beast that destroys cities, child of the horror of the atomic bombs dropped by the US in World War II and a clear manifesto against nuclear testing in the Pacific. The seed of atomic malformations – the source of future terrors – is planted.

As well as the idea of invasion from outside, the science fiction of the Fifties also asked questions about the invasive capability of civilisation and the ethical consequences of the space race. We must not forget that the horizon had imposed a fundamental symbolic limit on our culture, a horizon breached by space travel, which even came to challenge divine powers. One example of this is *The Conquest of Space* (Byron Haskin, 1955) in which a member of a team going to the Moon begins to adopt religious arguments pointing out the danger of playing God. The film also introduces concern for the cerebral issue, suggesting that the human psyche can undergo changes after periods in space.

A film appearing at the same time, *Rocketship X-M* (Kurt Neumann, 1950), is not so harsh. However, in it we once again find the theme of consciousness associated with space: during a mission to the Moon a meteorite storm sends a rocket off course, leaving the crew unconscious for a time. Later, in *The Angry Red Planet* (Ib Melchior, 1959) scientists place a colleague who has been on Mars under hypnosis to reveal what he experienced there.

Another classic of the decade is *Invasion of the Body Snatchers* (Don Siegel, 1956) in which the aliens take human form. With narrative strategies from film noir and thrillers, it set about presenting the sinister side of normality, denouncing the disturbing side of social conformity against the intrusion of Communist ideology. It is a disturbing film that stirs up doubts over the

recognition of loved ones and anguish at the loss of identity. The body and the mind are susceptible to being reproduced and altered against our will.

The Fifties also inherited the myth of mad doctors, mutations and other consequences of experiments getting out of hand. In *Donovan's Brain* (Felix E. Feist, 1953), a scientist tries to give artificial life to the brain of a man who died in an aircraft accident near his home. The brain comes to life to such an extent that it tries to dominate the doctor telepathically. As a direct result of the tensions between science and common sense, the Fifties were also a decade particularly obsessed with scale and mutations. If it is not the diminutive in The *Incredible Shrinking Man* (Jack Arnold, 1957) it is the gigantic in *Them!* (Gordon Douglas, 1954) or *Tarantula* (Jack Arnold, 1955). In *The Fly* (Kurt Neumann, 1958), it is the scientist who pays for the effects of his experimentation and mutates.

Ultimately, the science fiction of the Fifties was created as an American propaganda weapon that preferred the quantity of productions to quality. With a background of atomic terror, it veers between space opera and alien invasion.

The mature Sixties: the decadence of civilisation

In the Sixties, the apocalyptic fear of invasion was not reduced, catastrophe was simply added to it. The genre stayed true to its wild imaginary origins and bizarre tone in productions like *X: The Man with the X-Ray Eyes* (Roger Corman, 1963), but with *Fantastic Voyage* (Richard Fleischer, 1966), science fiction literally went inside the body. A group of scientists are reduced to microscopic scale to be submerged in the body of another scientist to find a solution to his comatose state caused by a blow to the brain he suffered in an accident caused by Soviet agents. The exploration of the body is no longer horrifying, it almost brings hope.

Concerns are gradually being transferred to the brain. An outstanding example of the realistic side of science fiction comes in *Seconds*, John Frankenheimer (1966), which looks at the subjectivity of a man for whom reality as a reference and identity as a guarantee are dissolving. In fact, the questioning of identity is a constant in the decade's films, flourishing in Europe, despite the fact that the US maintained its cultural and economic hegemony. In this way, the form of the genre achieved maturity, risking a dense approach and dealing with more philosophical reflections, that made science fiction an allegory of the dreams and failures of modernity. Science fiction now also drew directly on contemporary literature.

First came the British film *Village of The Damned* (Wolf Rilla, 1960), which saw the genre lose its innocence. From Italy there was the unclassifiable *Il seme dell'uomo* (Marco Ferreri, 1969) which, verging on surrealism, looks at the alienation of the human being with a fable that repeats the figures of Adam and Eve in what is now a post-apocalyptic world.

In France, the *Nouvelle Vague* film-makers, without abandoning their particular, political commitment against the transparency of the story established by modern film-making, got mixed up in the genre, giving it airs of renewal and bringing an adult conceptual twist. Jean-Luc Godard offered *Alphaville* (1965), a film in which a professor creates a machine that controls the mental life of the inhabitants of a futuristic city, banning any act not subject to the logic of reason: love, poetry, etc. Once again, the intimacy of the mental space is undermined.

With all this we would conclude that, in the Sixties, while American production continued to be anchored in disaster and fantasy, European production reflected on the consequences of techno-science on the identity of humans and their feelings. It believed that what the Atomic Age and Hitler's empire meant for our culture should not be forgotten: not only the way ideals were undermined but also the way bodies were destroyed and minds forced to submit.

A year before man set foot on the Moon *2001: A Space Odyssey* (Stanley Kubrick, 1968) appeared, a film that represents the best coded enigma in science fiction. It is the most affirmative work of art in Western visual culture. *2001* brought metaphysics into science fiction. It portrays the ethical consequences of the technical domination of the world on an evolutionary horizon in which humans have come into contact with the most radically unknown element of themselves. The film presents the most human death of a machine, when Dave turns off HAL 9000 because he has rebelled. And HAL is not an automaton, like Maria in *Metropolis*, he is a sentient intelligence, developed by humans as they were developed by the influence of the mysterious monolith.

We have said that in the Sixties American productions stuck to the pattern that had been successful in the golden age of science fiction. However, we must not forget the appearance of *The Planet Of The Apes* (Franklin J. Schaffner, 1968) at the end of the decade. This adventure film is a criticism of anthropocentrism and an allegory of racism, creating an ironic twist on the Darwinian theory of evolution.

The beginning of the Seventies still radiated the philosophical reflections opened up in science fiction by directors like Godard, Truffaut, Resnais, Marker and Kubrick. Andrei Tarkovsky presented *Solaris* (1972), in which a scientist is sent to a station on a water-covered planet to clear up the mysterious death of a doctor. All this is told in a cryptic film that concentrates on the individual and, once again, the mental boundaries between perception and reality.

THX 1138 (George Lucas) appeared in 1971, a film along the lines of *1984* about lack of communication and surveillance "closer to the cinema of Antonioni than the superproductions Lucas himself would make fashionable after 1977" (Sánchez 2007, 115) and imagined in a future shut up in a white prison.

Michael Crichton dealt with fear of invasion by foreign bodies from two points of view: in *Westworld* (1973), when he

looked at a rebellion by machines against humans and, in *The Andromeda Strain* (Robert Wise, 1971) in which the aliens were a deadly virus. The human body seemed insignificant faced with robot replicants and incomprehensible microorganisms.

The Seventies: the infantilisation of the genre through the epic

The reflection on fears brought about by the lively, warring Seventies would soon end. After the American defeat in the Vietnam War in 1974, films that did not question progress became necessary, as the country feared its domination would be reversed. This meant that soon "the corrective mechanisms imposed by American 'moral rearmament' would soon begin to operate" (Bassa and Freixas 1993, 38). To this ideological strategy was added the fact that the big studios were discovering how profitable it could be to pick up B-movie formulas from the golden age and turn them into superproductions. This led to the childish tone and imaginative edges of Fifties science fiction films being recovered, with an emphasis on the sophistication of the special effects made possible by new technologies.

Ultimately, the science fiction of the end of the decade was moving towards the epic and the heroic and, ultimately, the infantilisation of the genre at the hands of George Lucas and Steven Spielberg. *Star Wars*, in 1977, began a legendary saga which no longer looks askance at technology, instead turning it into a fetish. In Spielberg's *Close Encounters Of The Third Kind* (1977) and *E.T.: The Extra-Terrestrial* (1982), aliens appear benevolent and the encounter is no longer between extraterrestrials and scientists or soldiers. Instead they have been popularised, reaching out to the American middle class, and they are no longer terrifying or troublesome.

The Eighties: flesh and metal

Science fiction resisted serving up only fantasy from the comfortable prism of the adventure story and, because of its capacity to present itself as an unwanted symptom of culture, it came to imagine the dark underside of its ideals. Responsibility for this trend lies with *cyberpunk*, a countercultural movement of the eighties that no longer took the future to be an unknown sustained by scientific progress but instead conceived it as apocalyptic, in as far as the present appeared to be uncertain. This critical view would affect the body. "The monster's place is no longer in the darkness, underground or outside, it is within the body itself, that sinister appendage, at once known and unknown, that ages, silently incubates tumours, demands drugs, propagates viruses and betrays the soul by refusing to go on living indefinitely" (Pedraza in Navarro 2002, 35). The *cyberpunk* attitude began what has been called "the new flesh": a hybrid of flesh and metal. It showed aliens as a metamorphosis of tubes – technological nightmares as a sinister effect of technological advances in daily life threatening to control or mix with what was human. These films were already portraying artificial life as a key theme of the genre. "The robot appears as one of the vertices of a triangular field, together with the scientist and the alien: the field of an otherness alienated by the technical (Francescutti 2004, 106)".

In the Eighties, the robot was no longer simply a piece of scrap metal. It was hybridised with flesh, taking the leading role in films (until then it had been relegated to secondary roles). "Turning man (this time really) into a modern Prometheus, it could not resist making his metallic creation more or less similar, faithful to the Biblical tradition of making new bodies 'in his image and likeness'," (Bassa and Freixas 1993, 158).

Horror was led by *Alien* (Ridley Scott, 1979). The ship Nostromo detects a transmission by an unknown life form and, following it, arrives in an extrasolar system where one of the crew is attacked by a corrosive monster that comes out of his stomach and kills everyone, except for one crew member. The alien is a strange, indecipherable form, but it seems to reflect a whole world of sexual impulses and human biology.

Videodrome (David Cronenberg, 1983) brings us into a world in which video controls and absorbs the human in a sordid and vampiric-viral way, bringing sex, torture and guts. In this way it creates a nightmare atmosphere, with pallid photography but a great deal of blood, and with a VHS look hybridising flesh and audiovisual technology while, at the same time, exploring the human mind. Cronenberg continues to fuse the organic and the video game and to look at mental images in the universe of *eXistenZ!* (1999).

1984 was the year when cyberpunk would achieve one of its greatest successes, with the arrival of *Terminator*. The Terminator is not a man, but rather a machine camouflaged as a human – flesh on metal – to infiltrate the human multitudes as an ultrabody.

The man-machine hybridisation of the cyborg continues in *RoboCop* (Paul Verhoeven, 1987), but this time in the service of the law. The Detroit authorities create a half-robot, half-man machine to stop crime in the city. To do it they use Murphy, a police officer who has been murdered and whose memory has been computerised to enforce the law. However, his memory has not been completely wiped, so he will take revenge on his murderers and act motivated by guidelines for which he has not been configured, attacking the corrupt political system. The film recovers the idea of an out-of-control mechanical robot combined with a subversive power threatening the established order and the powers of the human mind. It raises the great question of the cyborg: at what point does a body cease to be a human being?

From Japan, an outstanding contribution is *Tetsuo, the Iron Man* (Shinya Tsukamoto, 1989) in which a man starts to see metal protuberances sprouting from his body after a car accident. This is because the man he crashed with is obsessed with sticking metal into his body.

Blade Runner (Ridley Scott, 1982) was the landmark film that took up the baton of *2001: A Space Odyssey*, basing on its deep ethical reflection on the humanity of the machine. The human capacity that resists the artificial which Telotte (2002) dubbed the "kiss and tell" motive in science fiction. The film includes the myth of the creature and its creator to approach desire set against the lightness of being. The movie asks what makes us human, exploring the differences between artificial and human beings. However, "it is not an explanation, it is putting something that constitutes the most delicate part of ourselves into images" (Marzal and Rubio 2003, 42).

At the beginning of this decade, but anticipating the nineties, two films appeared giving an idea of the path that would be taken in subsequent years. These were *Tron* (Steven Lisberger, 1982), which looks at the digital world, digitalising the mind of a human being to make him into a program, and *Altered States* (Ken Russell, 1980), in which the exploration of the psyche alters the flesh until it reverts to the atomic.

Considering everything, the cyberpunk popularised by a few can be understood as a revolutionary impulse rooted in the depths of the welfare state, but the spectacularisation of the genre meant its formal approaches reduced the subversive intentions to a mere breath of darkness serving a genre given over to superproductions for the masses. Be that as it may, the body as a theme and the human as a science fiction problem of the Eighties would move to the mental sphere in the Nineties. These depths of humanity, that kiss and tell, would find their origin in the mental, considered to be the node and nucleus of reason.

The Nineties: the mind and the digital

Throughout its tortuous history, science fiction as a popularly recognised and established genre has been subject to regular and inevitable self-referential parody in the form of irreverent, metadiscursive nods and winks. The pattern for these is the hyperbolic *Mars attacks!* (Tim Burton, 1996), which is continually complicated with satirical tributes. Along these same lines it is accompanied by *Men in Black "MIB"* (Barry Sonnenfeld, 1997) which also uses the kind of alien invasion that began the genre to construct a comedy. The exploration of the body and the mind appeared to have been abandoned, but not the concern for genetic engineering.

In *Jurassic Park* (Steven Spielberg, 1993), John Hammond manages to clone dinosaurs and rear them in a biological reserve controlled like a theme park. But genetics and computers are imposed on this scientific challenge to evolution and instinct, generating a family adventure film. Michael Crichton, author of the original novel, recovers the figure of the human creator of artificial life and his inevitable fall.

The control of genetics in that decade was accompanied by the control of computers. Fantasies like artificial intelligence are now closer to the territory of the possible. The decade sees a change of format, moving from the electronic to the binary coding of ones and zeros belonging to the digital world and virtual reality. This coincides with the mental sphere becoming a major interest in films: we should not forget that the US government dubbed the Nineties the Decade of the Brain.

Along these lines, the Nineties began with *Total Recall* (Paul Verhoeven, 1990). In 2084 a happily married worker becomes obsessed because every night he dreams he is walking with another woman on Mars. Because of this, he goes to Memory Call, a virtual holiday company that allows him to make his dream real by implanting a false memory. However, the technicians discover that he has already undergone an implant process. The whole film is a constantly changing question: which memories are real and which ones are false?

In the cinema, technology can alter our memory, which becomes fallible. In the decade of the brain, no less, science fiction cinema presents films in which scientific intervention in the brain is under suspicion. To this must be added the digital boom in order

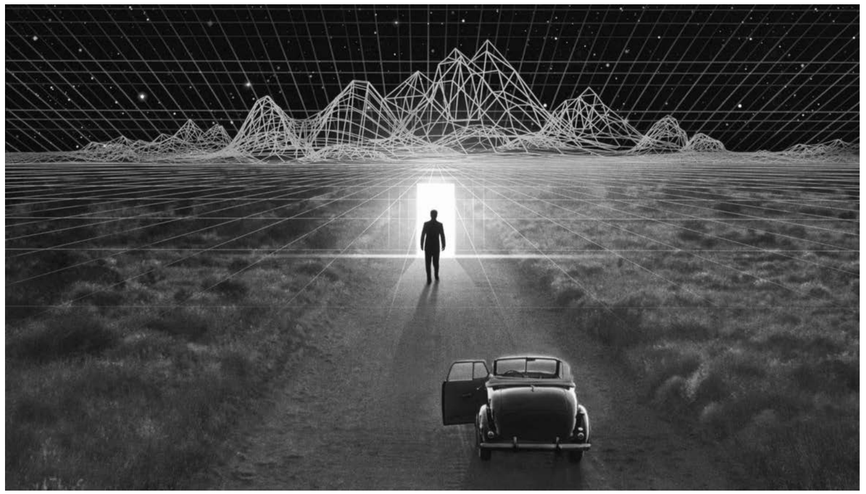
to understand films like *The Lawnmower Man* (Brett Leonard, 1992), which presents a world in which virtual reality technology is capable of affecting and increasing the capacity of the human brain.

Manipulating the brain brings the possibility of manipulating subjects. Both (re)implanting and brainwashing – consolidated in the imagination with lobotomy, which was outlawed in 1987 – take the brain outside the subject, denouncing the disposable nature of the subject in an information paradigm that offers all knowledge in exchange for the subject's expulsion. The effects: an unresolvable failure of identity.

Dark City (Alex Proyas, 1998) presents us with John Murdoch, who wakes up in the bath in a hotel remembering nothing, while he is hunted for murder. When he tries to piece together his past, he discovers "the strangers", an extraterrestrial conspiracy experimenting with human memory as if in a sort of maze for rats, changing and exchanging people's memories every night.

To herald the new millennium, *The Matrix* (Andy and Lana Wachowski, 1999) appeared, a profoundly mythical, philosophical and messianic tale in which the perception of our brains is shown to be openly fallible and erroneous. Through physical implants and connections to a wired cyberpunk, machines send electrical signals, constructing entire worlds in the minds of their enslaved humans. The link between the biological and the mental is clear: the brain is a machine and, as such, can be hacked.

Other films like *eXistenZ!*, *Johnny Mnemonic* (Robert Longo, 1995), *Strange Days* (Kathryn Bigelow, 1995) and *The Thirteenth Floor* (Josef Rusnak, 1999) go further in investigating this intersection between the biological and the mental. In these circumstances, the films of the Nineties moved notably towards the thriller genre. Both the virtual reality that shakes perceptive stability and the certainty of the real, and the technological control of subjectivity, understood as computer equipment, flood the main character with uncertainty which must be resolved as he tries to recompose a supposedly lost or stolen identity.



The 2000s: the mind as the scenario for time travel

The films of this decade take up their plots to the extreme, applying an integrationist logic in their narratives. In other words, they continue with the cerebral but now there is even more emphasis on the mental, as it comes to determine the space and time of the story. The former because the brain – the space of dreams, memories or simply consciousness – is the field of operations of the action. The latter because it is a malleable coordinate in time travel and, ultimately, in changes of temporality, such as the loops affecting the chronology of the image.

The new decade began in this way with *The Cell* (Tarsem Singh, 2000), which alternates the story of a psychotherapist introduced into the brain of a serial killer so he can save a woman who the man has kidnapped and locked up with the police investigation to track him down. The result is an inevitably surreal and visually hypnotic journey inside the mind crossed with a thriller.

The Spielbergian ending of Kubrick's inconclusive life project *A.I. Artificial Intelligence* (Steven Spielberg, 2001) is crucial. It tells the story of a boy who finds out he is a robot. David is supposedly the only robot with human intelligence and this puts him in the middle of a war between the artificial and the carnal.

Spielberg once again brought out a film of capital importance for the genre with *Minority Report* (2001), based on a short story by Philip K. Dick (1956). Dick is the great literary questioner of the mind and reality. In his work, human perception is not only unreliable, it makes us victims and slaves of dangerous, complex realities. *Minority Report* is a futuristic thriller in which people are arrested before committing crimes because subjects with psychic capabilities can see them murdering in advance.

Another Dick story brought to the screen is *Paycheck* (John Woo, 2003), a frenetic thriller clearly reminiscent of *Johnny Mnemonic* based on the quest of an engineer who wants to find out what happened when he was working on a secret project for a company that has wiped his memory.

In 2006, *Déjà Vu* (Tony Scott) appeared, clearly inspired by the Dick style, in which, after the explosion of a terrorist bomb on a New Orleans ferry, agent Carlin joins an investigation team that will allow him to go back four days before the explosion to relive and prevent the scene. However, Carlin experiences the scene without knowing that it belongs to his past. The leading character will take heed of the clues sent to him from the future so he can prevent the catastrophe. *Déjà Vu* fits well alongside *Next* (Lee Tamahori, 2007), another adaptation of a Dick novel, in which Cris Johnson is a Las Vegas magician with the gift of predicting the immediate future. For this reason, an agent seeks him out to prevent a terrorist attack that threatens nuclear disaster.

Along the same lines is the more recent *Source Code* (Duncan Jones, 2011), a film in which Captain Stevens wakes up on a train without knowing how he got there. Opposite him is a woman who, to his surprise, says she knows him. Both the toilet mirror and the identification in his wallet indicate he is another person. And suddenly the train explodes. It turns out that Colter has been sent there by a computer programme allowing him to be introduced into the identity of a man in his last eight minutes of life. His mission is to repeatedly relive the scene until he discovers who is responsible in order to prevent another threat due to be carried out in six hours' time.

In the wake of *Strange Days* came *Final Cut* (Omar Naim, 2004), a film which shows memory implants placed in the brain from birth so they records absolutely all of people's lives. When the person dies, the recording is edited to make a film that will be shown at his or her funeral. Alan Hackman is an editor known for removing his clients' sins. Working on a friend's memories, he finds a traumatic image from his childhood. This sets him searching for a vital truth.

Meanwhile, in the complex film *Eternal Sunshine of the Spotless Mind* (Michel Gondry, 2004) Joel is subjected to a kind of brainwashing to remove the memories of a love relationship. *Code 46* (Michael Winterbottom, 2003) tells the story of an insurance inspector who has to investigate a fraud being perpetrated by a person he falls in love with in a mixture of romance, drama and thriller. It repeats the themes of memory wiping, predicting events by reading thoughts, viruses and the loss of identity.

To end the decade, the genre teamed up with 3D in *Avatar* (James Cameron, 2009) in which a wheelchair-bound ex-marine is recruited by scientists to travel to the planet Pandora using his avatar and a brain connection to solve the Earth's energy problems. Throughout the decade, the information making up the mind has moved from the esoteric to the mechanical, almost simulating the storage of computer data, and this film naturalises its transfer from one body to another as a simple process of technological connection.

The 2010s: hectic spaces and times for intimate solitude

In the 2010s, the space-time malleability of the beginning of the century has been consolidated. Along these lines, *Inception* (Christopher Nolan, 2010), in which a team of hackers led by Dom Cobb illegally extract knowledge from the brain during sleep, is decisive. A powerful magnate asks them, instead of stealing an idea, to install one in the subconscious of the heir to a competitor company so he will lead his father's empire to failure. In *Inception* the subjective becomes material and is therefore accessible. The brain, in sleep, is a visitable, habitable space, although not without difficulty, for the avatars of Cobb and his team, true mental hackers and thieves of the subjective. While in previous decades we feared our minds were being manipulated by higher powers (aliens or governments), the growth of technology in our everyday lives means that in contemporary fiction this manipulation has become a mere industrial process that can be contracted by anyone with enough money.

The recent *Her* (Spike Honze, 2013), in a similar way to the *Be Right Back* chapter of *Black Mirror* (Charlie Brooker, 2012), abandons these paranoid fears for much more mundane concerns. The former looks at love between a man and a disembodied artificial intelligence. The candid leading character falls in love with an operating system. This appears to be a Cartesian lesson: the body is literally done away with because it is not necessary if there is consciousness (even technological consciousness) which provides it with existence. *Be Right Back* suggests the creation of a replica of loved ones in the form of digital identities and even physical bodies using the information they left in life on the social networks.

Ultimately, these stories appear to take up more complex issues concerning artificial intelligence which were raised in other stories and films decades ago, such as the novel *I, robot* (Isaac Asimov, 1950) or the animated film *Ghost in the shell* (Oshii Mamoru, 1996). Both stories leave behind the clash between mankind and its creations, instead raising issues about their future pragmatic relationship. What differentiates our minds – the products of an organic, physical brain – from these digital minds? What links unite us? How will we relate to them?

Her also goes further in questioning the role of the mind. It mentions the philosopher Alan Watts, who the operating systems "reconstruct" in the form of a digital entity. Watts was an important supporter of Zen in the West and, as is well known, Zen Buddhism questions the very existence of both the physical and the mental. In Zen, nothing, whether it is physical or mental, really exists. Perhaps for this reason the leading characters are not saved from their solitude.

Conclusion

This journey through science fiction in film has revealed that the mental theme runs through science fiction from its beginnings, as an effect of space travel, for example, and that space continues to be an inspiration for science fiction. The fear of invasion has moved from the invasion of our bodies to the invasion of our minds, and these have ceased to be magical spaces to become the products of biological systems not too far removed from computers.

This journey from externality (revealing an intimate fear of the Communist Other) to intimacy has been an ethical reaction to the science that increasingly invades the body, to the point where it now appears to dare to tell the truth about human beings. Figures like the robot, the mad scientist, the alien, the astronaut, have made way for a hero without memory who has to recompose the meaning of the scene, or a hero invaded by cosmic, existential solitude. As science seems to reveal more and more about our bodies, the fear of losing the subjective as a refuge for our fundamental individuality has grown. The mind has been revealed to be the body, and the only way science fiction has of sketching its limits is to put it up against artificial minds. It is still the same unknown raised by Frankenstein's monster, which we will perhaps never be able to resolve: what makes us human?

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Endnotes

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