The title and subtitle of Wendy Hui Kyong Chun's book, *Control and Freedom: Power and Paranoia in the Age of Fiber Optics*, capture the object of study of her book, as the paranoid conflation between freedom and control, characteristic of power in the age of fiber optic Internet. The time of study of the Internet technology in terms of freedom, control and paranoia is the moment of its emergence as a ~~mass~~ medium, in the mid to late 1990s in the United States. The book examines the paradoxical acceptance of the Internet as a medium of freedom, although it is founded on a technology of control, and the changes in sexuality and race which it determines, as a consequence of the privatization of networks, public services and space, and the hypertrophy of publicity and paranoia in everyday life.

The conflation of control with freedom is analyzed by Chun at a broader political level, and is seen as marking the shift towards the apparatus of power characteristic of society after the Cold War, shift determined by the failures of other types of power apparatuses, such as the disciplinary one. A significant role in Chun's argument is given to the notions of subjectivity and agency in this new apparatus, epitomized by the Internet technology, which generates paranoia, generated in turn by the very attempt to solve political problems by means of technology, through reducing the political to the technological. Although the new control-freedom matrix has a subversive effect on the promise of freedom, Chun is confident of the Internet's ability to enable possibilities of freedom beyond control.

Chun's more poetic and nuanced writing style is accompanied by a technique of deconstructing common notions and myths, in order to understand and expose their effects, and a rhetorical tactic of making the invisible visible, by showing both aspects of a fact, not necessarily as oppositional, but rather as different sides of the same coin. In this style line, she exposes the two competing myths related to the early existence of the Internet: the Internet as a tool of total freedom, and the Internet as a tool of total control and surveillance, as paranoid narratives resulting from the flawed approach of reducing political problems to technological ones. As a counterpoint, she argues in a more nuanced way that: "The forms of control the Internet enables are not complete, and the freedom we experience stems from these controls."[1] She acknowledges the impossibility of total surveillance due to the enormous amount of data which remains unanalyzed. Moreover, she argues that the freedom which we experience on the Internet is a consequence of the lack of complete control which we have over our actions. To illustrate this argument, she introduces the example of the packet sniffer technology, a software program which stores traffic travelling through a local area network. The use of this software shows that the computer not only sends and receives data at the command of the user, but that the computer is constantly engaged in an exchange of information when connected to the Internet, of which the user is unaware without the use of a packet sniffer. Thus the Internet circulates "reproductions" of data related to the user without his knowledge. This process can be literally interpreted as control, if one considers the Oxford English Dictionary definition of control, deriving from the French *contreroule*, which means a copy of a roll of an account of the same quality and content as the original. This constant, nonvolitional exchange of information is at the heart of the existence of the Internet and from this literal interpretation of control stems the freedom to access reproductions of the other on the Internet.

She links the two paranoid narratives to the shift of power relations from discipline and liberty to the control-freedom matrix. To explain this shift, Chun, just as Galloway, draws on Michel Foucault's and Gilles Deleuze's periodization. Deleuze in *Postscript on Control Societies*, argues the shift from Foucault's disciplinary society, theorized in *Discipline and Punish: The Birth of the Prison*, towards control society. She acknowledges the three steps of periodization proposed by Foucault and Deleuze: the sovereign society, in which power is represented by the sovereign as power to inflict death, the disciplinary society which has power over life through discipline, the mechanism of infliction of which is Jeremy Bentham's Panopticon, whose major effect was to "induce the inmate a state of conscious and permanent visibility that assures the

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[1] Wendy Hui Kyong Chun, *Control and Freedom: Power and Paranoia in the Age of Fiber Optics*, MIT Press, 2006, p. 3

automatic functioning of power"[2], and control society. While for power to function in disciplinary society it has to be visible but unverifiable, in control society power is invisible. Deleuze argues that the disciplinary apparatus of power is being replaced by more flexible codes of control in the new societal stage, the control society. The inseparable modulations of control society, "form a system of varying geometry whose language is *digital*"[3]. Relating to Deleuze's assertion, Chun argues that "The computer, with its emphasis on information and its reduction of the individual to the password, epitomizes control societies. Digital language makes control systems invisible: we no longer experience the visible yet unverifiable gaze but a network of nonvisualizable digital control."[4] Although acknowledging Deleuze's influence in theorizing control society, Chun estimates his account of it as arguably paranoid, because it overestimates the power of the control system and thus participates in its mythologization by ignoring its failures and conflating possibility with probability. Chun differentiates her approach from Deleuze's by including in her analysis the failures of technology as well, as a source of better understanding of the control-freedom system. To discuss freedom in the new matrix, she proceeds to defining the notion as characteristic to control society and differentiates it from liberty as characteristic to disciplinary society. Etymologically, the Old English *frei* is derived from Sanskrit to mean *dear*. Liberty derives from the Latin *libertas*, which denoted the legal state of being free. While liberty is linked to human subjectivity, freedom is not and can be applied to a variety of concepts, such as commodities. In the Internet age we seem to desire to emulate commodities in their freedom of movement, although freedom cannot be reduced to the free movement of the commodities in the marketplace.

Chun extensively expands on sexuality in the fiber-optic age as an important part of her argument that "the relationship between control and freedom in terms of fiber-optic networks is often experienced as sexuality or is mapped in terms of sexuality-paranoia"[5]. She draws on the relation between power and sexuality as it has been explored by Foucault and Daniel Paul Schreber. In *The History of Sexuality,* Foucault argues that sexuality is the hidden instrumental to power and knowledge. The theme of sexuality according to Chun is present in network hardware, such as in male-to-female connectors, and software. Sexuality also acts as a factor of development of technologies: "Sexuality is the linchpin for strategies as diverse as entrepreneurial capitalism, censorship, and surveillance"[6]. Chun argues that the expanding discourse about sex and sexuality is a symptom of changes in biopower and is linked to changes in our understanding of race and racism, as well as changes in the relationship between individual and species.

The concept of *fiber-optics* plays an important role in Chun's metaphorical association of the circulation of light through the fiber-optic networks with the enlightenment of users. But the new medium requires a reconsideration of enlightenment as not limited to rational discourse, but rather uncontrollable, subject to surveillance as well as self-reflection, setting conditions for paranoia perhaps: "Fiber-optic networks, then, enable communications that physically instantiate and thus explode enlightenment"[7]. In an uncanny similarity, Schreber in his hallucinations from 1903 envisioned a communications network consisting of light rays that records everything, fuelling his paranoia.

In terms of methodology, Chun critically examines the four layers of networked media: hardware, software, interface, and extramedial representation, "the representation of networked media in other media and/or its functioning in larger economic and political systems"[8]. She thus brings together two different approaches to media, namely visual culture studies, which focus on "the subjective and cultural effects of media, or on the

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[2] Michel Foucault, *Discipline and Punish: The Birth of the Prison,* Vintage Books, New York, 1978, p. 201, in Chun, *Control and Freedom,* p. 7
[3] Gilles Deleuze, *Postscript on Control Societies,* in Chun, *Control and Freedom,* p. 9
[4] Chun, *Control and Freedom,* p. 9
[5] Ibid., p. 11
[6] Ibid., p. 13
[7] Ibid., p. 98
[8] Ibid., p. 16

transformative possibilities of the interfaces"[9], and media archaeology, which concentrates on issues of hardware and software, on the functions and structures of technology. In line with the materialist approach, Chun claims that the structure of technology is determinant of our agency (or rather lack thereof) on the Internet: "Software produces users"[10]. Nevertheless, Chun does not dismiss extramedial representations of the Internet, which present the myth of user control produced by Internet's conflation with cyberspace, but tries to analyze and understand its effects in mapping the perception of Internet and the practices it determines.

In the first chapter, *Why Cyberspace?,* from a cultural studies approach, Chun critically analyzes one of the extramedial narratives which contributed to the discourse surrounding the mass adoption of the Internet in the mid 1990s, to envision it as a heterotopia, a perfect frontier, a space of empowerment and freedom, namely the cyberpunk literature concerning cyberspace.

Chun questions the adequacy of the Internet being popularly conceived of as cyberspace. She contests the spatiality of cyberspace as a misleading metaphor, although there are authors today, Galloway as well perhaps, who would argue against her conceptualization of cyberspace as a virtual nonplace. She supports her argument through a materialist approach in understanding technology, belonging to media archaeology. By means of analyzing Internet protocols, she shows that the place of interchange of data packets cannot be traced because there is no predetermined route of these packets. From this point of view, cyberspace as the place where electronic communication takes place, is unmappable. Also, deriving cyberspace from Wiener's cybernetics does not explain its conflation with Internet in Chun's view.

The term cyberspace was actually coined by the science-fiction writer William Gibson in 1982 in the book *Neuromancer,* and was conflated with the Internet in the 1990s, contributing massively to the shaping of its cultural representation: "Cyberspace maps the Internet as the perfect frontier, as a heterotopia"[11], and its users as *flâneurs.* Nevertheless, Gibson's cyberspace has little in common with the Internet, from which it differs in that his cyberspace was navigable and its breadth limited, it allowed the visualization of the cyberspace's size and scope, and its protagonists could control their data traces.

The most decisive move in legitimizing the use of the term cyberspace to denote the communication medium of the Internet, was the use of the term in the U.S. judiciary's Communications Decency Act (CDA) in 1996.

Using alliteration as rhetorical device, Chun redefines cyberspace as a "free space in which to space out about space and place, fact and fiction"[12], fundamentally unmappable and unlocatable. She exemplifies her definition by turning to the physical, material technology and its protocols. She argues that electronic interfaces which display networks as spaces, displace assumptions about space and time, through the process of translation of IP addresses into URLs and the arbitrariness of these URLs. Drawing on de Certeau on the one hand, and Sassure's basic dichotomy in linguistics, between langue and parole, on the other hand, Chun defines place as *langue*, and space as *parole*, space thus becoming "how we negotiate place", how we *do* place"[13]. However, cyberspace "practices space"[14], which is a practiced place and displaces both. She turns to Internet protocols to illustrate it. She argues that the use of the term *place* to refer to the web is misleading because the web is characterized by fluidity, given by the fact that web address are not indexical, and also due to the displacement which the DNS protocol operates. Chun also questions the notion of *navigation* connected to the Internet experience, in turn proposing as more similar the notion of teleportation as from one virtual location to another, in opposition to navigation, which includes a reference to real-time.

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[9] Wendy Hui Kyong Chun, Thomas W. Keenan, *New Media, Old Media: A History and Theory Reader*, Routledge, 2005, p. 4
[10] Chun, *Control and Freedom*, p. 21
[11] Ibid., p. 28
[12] Ibid., p. 43
[13] Ibid., p. 45
[14] Ibid., p. 46

Chun dismisses the narratives which idealized the Internet over television as well. Opposed to the common belief that television is organized around time and Internet around space and memory, the live event in cyberspace, such as experienced through webcams, the similarities between commercial web pages and commercial television in terms of selling the advertiser a portion of the viewer's time, show the emphasis on time rather than on space on Internet and its similarities with television. The term cyberspace shadows the consideration of the Internet in terms of time.

In rendering cyberspace as unlocatable, the Internet is mapped as an "othering space", as a *heterotopia*. According to Foucault, in heterotopias real sites are "simultaneously represented, contested and inverted"[15]. The metaphor of the mirror renders the nonindexical function of cyberspace: it enables one to see oneself where one is not, as on one's online homepage. Thus creating the illusion of eliminating the physical location and the body, it allows the phenomena of *passing*, the enactment of different personas, a phenomena theorized by Sherry Turkle and Sandy Stone, which analyzed the effects of cyberspace on the individual, as erasing the difference between real and mirror images, allowing the enactment of different forms of subjectivity as exploration of freedom. The Internet was also envisioned as a heterotopia of compensation of own limitations, as reconfiguring the world as more "livable".

The non-indexical mirroring in cyberspace creates the illusion of the user in control, and hides the reality of the user being experienced as spectacle at the same time as he uses. By analysis of the technology, Chun exposes the ambivalence of the notion of user agency and criticizes this conceptualization of the Internet user as Baudelaire's *flâneur*, because as *flâneur* one must see but not be seen, one must be an unobserved observer. She demonstrates that on the Internet it is impossible to remain hidden because of the constant interchange of packets of information between clients and hosts. Thus the sense of agency of networked users is compromised, and they are more like *gawkers*, lurkers, distracted and overwhelmed by the spectacle of information and commodities, so that they do not realize that they have been objectified themselves, becoming spectacle themselves for others, being used as they use.

In analyzing Internet's potential for democracy, Chun argues that the public character of the Internet is determined by the Internet protocols, namely TCP/IP. However, the openness which the TCP/IP protocol enables was affected by the privatization of the Internet. She argues that the privatization of the state owned Internet and the emergence of privately owned network space has lead to the transformation of the *public/private* binary into *open/closed*, and this is the most significant challenge to democracy today.

By discussing code in relation to control-freedom, she argues that free or open software do not guarantee democracy, although, like Galloway, for whom code is the only executable language, she acknowledges the superiority of code in relation to law because it enforces itself. She is sceptical of open source and open software's potential for democracy on the web, because it involves other undemocratic factors: proprietary hardware, discrimination of access based on education, etc. She questions Lessing's assumption that transparency, non-propriety of the code equals democracy of the Internet and minimizes control, because it places control as being antithetical to freedom, and her view, as well as Galloway's analysis of the TPC/IP protocol prove different. By quoting Galloway, she agrees to the argument that control is inherent and crucial to protocol, because it is a special type of control, one that enables openness. Chun disagrees with Galloway's connection of the improving of protocol according to people's desires because her argument is that placing desire in relation to technology creates paranoia. Moreover, people's desires in her view are not autonomous, but also generated by the system.

Chun concludes the first chapter by considering the humans which made possible the technology, introducing issues of *race* and *gender* in the production of technology. She argues that in the analysis of these vulnerabilities lays the potential for democracy of the Internet.

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[15] Michel Foucault, *Of Other Spaces,* Spring, 1986, p. 24, in Chun, *Control and Freedom*, p. 52

The second chapter, *Screening Pornography*, questions the Internet's potential for democracy, through an analysis of the "Great Internet Sex Panic of 1995"[16], related to online pornography, which led to the U.S. Federal and Supreme Court decisions on the Communications Decency Act (CDA) from 1996. Chun argues that the paranoia created by the mediatisation of online pornography and the consequent governmental attempts to regulate it, favourably influenced the dot-com mania of 1996 and 1997, because the CDA endorsed credit card validation as proof of the social responsibility of commercial pornographers, thus encouraging the privatization of the Internet.

The debate on online pornography brought together two issues: regulation and commerce, which mapped the boundaries between *public* and *private*. By analyzing Elmer-Dewitt's article in *Time'*s issue on cyberporn from 1995, Chun argues that pedophilia has been defined as the most hypervisible deviant sexuality connected to the Internet, in order to determine public consent on the necessity of imposing methods of control. She suggests that, on the contrary, the inherent tracking capacities of the Internet, could have lead to a more logical conceptualization of the Internet as facilitating the prosecution of pedophiles. The two early perpetuated myths of the Internet: the "Information Superhighway" and the "Smut Expressway", both endorsed either corporate or governmental censorship, to sustain the false image of the user being in complete control. But, as Chun demonstrates by relating to the structure of the technology, the user is never in complete control on the Internet, because of the permanent exchange of data which takes place without his knowledge, and which turns the user's actions into traces on the network, objectifying the user by turning him into data.

Chun reveals other inadequacies of the mediatised representation of the Internet, resulting from its conflation with pornography. She is critical of the discussions about the status of the Internet as a mass medium in terms of good or bad, by judging its content, and unmasks them as being reductionist, because they ignore the very structure of the technology, which shows that the risk of exposure underlies all electronic exchanges. Chun is also critical of other findings published in *Time* special edition on cyberporn, which expose the prevalence of deviant pornography as revealing something about the deviant nature of the individual in a private context. Chun reveals as deceptive the underlying perception on which those statements were based, that the connected computer is private, when in fact the tracking of activities is constitutive to the network. But, unlike Bentham's Panopticon, visibility on the Internet fails to produce discipline because the Internet does not function as a Panopticon. The differences between the two come from the lack of isolation of individuals in networks and, more importantly, from the fact that *dataveillace* does not take place in real time, but by means of analyzing trails and local memory caching, process which ameliorates prosecution.

Chun draws on Foucault's argument in *The History of Sexuality*, that sexuality serves as an instrument for power, because it serves as pretext for surveillance, to redefine pornography and map its role in the regulation of Internet. She relates to the history of pornography as coinciding with literacy and mass media as early as the Enlightenment period, to underline the relationship between pornography and the *will to knowledge*, motivated by power: "The position of the (masturbating) subject who sees, but is not seen, which pornography mimes, is the mythic position of power: the position of the colonizing subject, the guard in the central tower of the panopticon"[17]. This voyeuristic mode of gaining knowledge which characterizes the viewer/reader of pornography is enabled by the realism displayed by pornography in the printed and cinematic medium. At the same time, she unmasks the lack of authenticity of webcams' invitation to voyeurism: "Directly appealing to the viewer's will to knowledge, these "amateur" webcam sites (both authentic and fake), do not simply generalize or spread voyeurism (the users are *invited* to watch) but rather mimic voyeurism in order to create indexicality and authenticity within a seemingly nonindexical medium."[18]. Contrary to Elmer-Dewitt's argument that the deviant sexual behaviour of individuals online corresponds to their sexuality, Chun argues that it is motivated by the will to knowledge and it is an

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[16] Mike Godwin, *Journoporn: Dissection of the Time Scandal, Hotwired*, in Chun, *Control and Freedom,* p. 77
[17] Chun, *Control and Freedom,* p. 101
[18] Ibid., p. 103

expression of the sexualisation of power and resistance. This will to knowledge post CDA regulation of online pornography manifested itself in an explosion of pornographic categories.

Moving from mass media representation to legislative discourse, Chun aims to show how U.S. regulation of the Internet through two laws, CDA (1996) and COPA (Child Online Protection Act), 1998, which restricted minors' access to pornography, influenced the democratic potential of the Internet. The U.S. government passed the CDA due to erroneous data about cyberporn's pervasiveness, by not differentiating between pervasiveness and extensiveness. The first act, which attacked the free circulation of pornographic materials on the Internet outside market forces, moved regulation from government to the market, by encouraging commercialization of Internet pornography. This sacrifice of the first amendment of the U.S. constitution, through the sacrifice of the free flow of ideas on the Internet in the area of pornography, has been reconsidered as unconstitutional by the Judge Stewart Dalzell of the District Court for the Eastern District of Pennsylvania, by rendering indecency as a proof of democracy, giving specific resistive power to the medium. The idea of the assault and intrusion of cyberpornography, which the first legislative act was based on, was replaced by the idea of user agency and control: pornography does not assault, but is a result of user actions. This new legislative decision restricted only commercial pornography from availability to minors, although its definition of commercial speech was very broad. The efforts to commercialize regulation have determined the transformation of the Internet from a *public (state* owned) to a *private (market)* place.

By use of a media archaeology approach, Chun confronts the myth of user control, which the legislative narratives contribute to, to demonstrate that the structure of the fiber-optic network does not allow pure, supreme agency. The governmental assumption of the user being in control is proven wrong by the software construction of a pornographic site. By rewriting basic function of HTML, HTTP and javascripts, porn websites control interactivity, and not the user's mouse clicks.

To end in a positive note, Chun argues that, although the dangers described by the legislative acts are real, dangers have always been inherent to democracy and these risky non-visible encounters actually represent the source of the Internet's democratic potential. She considers that it is necessary "to deal with questions of democracy in terms of vulnerability and fear"[19], and that resisting the vulnerabilities leads to the conflation of control and freedom, of democracy with security.

The third chapter, *Scenes of Empowerment*, examines the role of *race* in the discourse surrounding the promotion of the Internet as commodity in its early years. By hiding the vulnerability of the user online under a discourse of technological and racial empowerment, which accompanied the transformation of the Internet from a public to an user-controlled utopian commercial space, egalitarian and democratic, the Internet was promoted as a technological fix to a broader political problem, the race problem. This promoted image of empowerment hid the reality of the technically constructed vulnerability of the user, within "one of the most invasive and insecure forms of communication created to date"[20], in Chun's view.

Chun focuses in particular on MCI's 1997 *Anthem* commercial, which promoted the Internet as a medium of the mind, by endorsing narratives of racial, gender and age passing. The alleged emancipatory character of the Internet came from this empowering narrative of transcending physical limitations of the body.

Through critical analysis of this extramedial representation, Chun makes visible a deeper signification of the commercial, which is the naturalization of racism in the process of presenting technology as a solution to it, because it reduces a political, institutional problem to one that can be fixed by technology, through the action of the discriminated themselves, erasing the responsibility that institutions and society must also take upon themselves. The commercial perversely exposes marked bodies to support a message of empowerment of these "unequal others" by giving up their body. The race-free utopia is thus grounded in the very stereotypes that it claims to erase. In

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[19] Ibid., p. 127
[20] Ibid., p. 129-130

exposing the less visible message of the commercial, Chun draws on Hortense Splitter's notion of *pornotroping* to unmask the objectification, the reduction of the person to flesh to incorporate the viewing, the cultural and social perception of the subject/body, and Saidiya Hartman's *scenes of subjection*, to support the doctrine equal but separate.

The dismissal of the flesh, the irrelevance of the body on the Internet, supports the myth of the user as superagent. Thus the Internet seems to promise the accomplishment of what the Constitution was unable to: non-discrimination, equality, for "Liberty has not guaranteed Freedom"[21]. This privatization of civil rights and giving a technological fix to a social problem is obviously questionable, because it presents the markers of difference as being empowered by the Internet, to relieve the individuals and society of their responsibility towards them. The promise of equality of the Internet serves as alibi for turning a blind eye on civil inequalities and feeds our amnesia towards these inequalities, turning the Internet into "the most compromising media to date"[22], in Chun's view.

The same utopia of Internet technology working as a racial equalizer has been endorsed by corporation and governments in dealing with the digital divide as well. Chun is equally critical of the Internet's promise to solve the digital divide. She considers that the access narrative as scene of empowerment, which followed the privatization of the network and the transformation of the public/ private binary into open/close, was not aimed at minimizing the digital divide, but rather at fuelling investments in the Internet technology and countering the effects of the cyberporn scandal, which portrayed the Internet as dangerous. Chun considers that this series of utopian narratives of empowerment by overcoming race shifted temporarily the debate centred around the Internet from cyberpronography towards the potential of the Internet for democracy and equality, in order to push financial investments. Chun is critical of corporations presenting technology as solution for the digital divide, while actually benefitting from the current situation, as well as of the governments' trying to encourage these private goals of expansion of technology and access as empowering solutions, as shown in the 2000 UN report on IT. Chun seems to be focusing on dismissing the narrative of empowerment through privatization, leaving out the positive aspects that come from access, the fact that access allows for creative production.

Offering access as solution to the digital divide does not redress the inequality but it sustains it in Chun's view, because it maintains English based programming languages and operating systems as universal knowledge, thus favouring English speaking countries. Chun draws attention again on the fact that ICT and extending the communication network globally does not necessarily mean democracy, because the issue of access is tackled at national level, erasing the issue of class difference, and thus reinforcing it. By employing consumer-based tactics and choosing to ignore categories unlikely to own a computer, as shown in the Cheskin report, the Internet proliferates race as consumer category, at the same time as it constructs race as category to be consumed, according to Chun. Race as category to be consumed is connected to racial categories as pornographic database ones, and encourages the identification with another race by indulging in the same authentic pleasures, through stereotypes and fetishization. As result, many porn sites focus their message on offering authentic oriental knowledge by reducing the other to flesh and thus objectifying him/her, turning him/her into a category, a commodity which is consumed in order to be erased, thus reinforcing racism.

This vulnerability of the Internet, the racist trend, is not irrevocable in Chun's view, and, just as Galloway, she sees artistic antiracist uses of the Internet as useful practices in fighting it, although she questions their functioning within the system. Chun opposes as effective antiracist practices on the Internet the software art projects of UK and Jamaica based collective Mongrel, which do not commodify or seek to erase race, on the contrary, their projects are parodies of racist sites. *Natural Selection*, for example, offers antiracist websites as result of racist searches. Goldhorn's *Racially Motivated Fuck Fantasia* parodies the search for authentic racial representation by refusing to offer it, as a way to counter racist stereotypes perpetuated online, at the same time as it demolishes the myth

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[21] Ibid., p. 133
[22] Ibid., p. 144

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of the superagent by exposing the unreliability of information online, and refusing the pleasure of authentic knowledge. Mongrel's project *National Heritage*, confronts racism by exposing the process of fabrication which underlies stereotypes online. They reveal the mask, as defining the state of passing online, rather than the stereotypical raced selves. Mongrel's projects also attack the notion of the superagent by hijacking software functions and rendering it out of control. The Project *Photoshop 1.0*, by directly connecting software to the fabrication of race, exposes the stereotypical nature of it, as response to the erasure and commodification of race and software. It spite of their potential, these projects also contain the danger of not being recognized as parodies.

Chun refers to these projects as exposing the Internet's potential to be public and democratic. Their work questions the effectiveness and desirability of passing and pushes the democratic potential of the Internet. She considers that the democratic potential of the Internet stems from the recognition and awareness of the potential disembodiment and intrusion related to the status of the Internet user, to replace the empowerment narrative. The democracy in her view stems from showing the individual how it is treated, as statistical data, the fact that its actions are public and that privacy is a software effect. Art projects like *Napster, Gnutella* and *Free.net* expose the reality of the Internet, the fact that the user is source of information while looking for information.

Although the chapter is a critical analysis of the myth of equality which the Internet enabled, Chun tries to conclude in a positive note by referring to open knowledge projects, which combine open content with open source, such as Wikipedia, as related to Lyotard's vision on knowledge, and representing the potential for democracy because they enable creative practices.

The fourth chapter, *Orienting the Future,* is an elaborate analysis of U.S. and Japanese cyberpunk, namely William Gibson's *Neuromancer* and Mamoru Oshii's *Ghost in the Shell*, and their influence on the perception of electronic spaces, in particular the Internet, and can constitute an autonomous corpus of argument. Chun argues that it is cyberpunk's exposition of electronic spaces as high-tech Orientalism which made it so influential, because it exoticizes and eroticizes others and other spaces: "high-tech Orientalism seeks to orient the reader to a technology-overloaded present/future […] through the promise of readable difference, and through a conflation of information networks with an exotic urban landscape"[23]. High-tech Orientalism allows pleasurable exploration and even enjoyment of vulnerability through passing as disembodied, construct which relies on another disembodiment, that of the other, who is reduced to data.

High-tech Orientalism is present in both novels, although in different forms. It renders as oriental different objects: Japan in *Neuromancer* and Hong Kong in *Ghost in a Shell*. It establishes information networks as global navigable digital spaces, similar to exotic urban landscapes to reorient the user in a period of economic threat, anxiety and vulnerability, by turning these factors into sexual opportunity. This effect of reorientation which high-tech Orientalism operates, is what makes cyberpunk relevant to online communications: "if online communications threaten to submerge users in representation – if they threaten to turn users into media spectacles – high-tech Orientalism allows people to turn a blind eye to their own vulnerability and enjoy themselves while doing so"[24]

In Gibson's cyberpunk the most important markers are racial and ethnic. These ever present racial stereotypes serve as orienting points for the white male protagonist. High-tech Orientalism depicts a "dark" Japanese future produced by the taking over of the development of Western technology by Japan after the contact with the West, paradoxically filled with emblems of the Japanese past: samurai, ninjas, etc., in order to remap Japan as premodern, primitive maybe. In this context, cyberspace is conceived as the western frontier, in which the U.S. regains primacy by winning over Japanese corporate assimilation through piracy. To make visible this logic, cyberspace is full of Japanese emblems: equipment, trademarks, corporations, which turn the message of *Neuromancer* into a conquest of Japan by the U.S. in cyberspace, in a real time of U.S.

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[23] Ibid., p. 177
[24] Ibid., p. 179

recession and fears of Japan's development and taking over. Thus, "*Neuromancer* counters U.S. anxieties about 'exposure to, and penetration by, Japanese culture', through cyberspace, through a medium that enables U.S. penetration"[25], and exposes the theme of oriental exoticism and Western penetration, encountered in cyberporn as well. Chun's argument is that the projection of high-tech Orientalism filled with exotic and erotic fantasies, on electronic spaces, leads to a momentary amnesia, disembodiment of the Western subject from its anxiety and impotence. This process is possible in cyberspace through the reduction of others to code, information, disembodied representations, objects, as opposed to the disembodied mind of the Western subject. The critique of Orientalism as exposed in cyberspace can be applied to cyberporn's racial categories as well: "…cyberspace mixes together frontier dreams with sexual conquest: it reveals the objectification of others to be key to the construction of any 'cowboy'"[26], the equivalent of the cowboy being in cyberporn the user as superagent.

While *Neuromancer* portrays cyberspace from the Western subject's perspective by displacing primitiveness on Japan, *Ghost in the Shell* portrays Japan as primary and displaces primitiveness onto the Chinese, as *Ghost In the Shell* was released the mid-1990s, when Japan was in recession and China's economic future prospects overwhelming. Japanese cyberpunk is related to a type of anime, *mecha*. In contrast with U.S. cyberpunk, *Ghost in a Shell* depicts Japan as primary, universal, military active and globally affluent led by desirable cyborg women, which are key to foreign appeal of anime. The plot is set in Hong Kong, which has an orientalising effect, creates exoticism in order to create disorientation, playing with both exotic dislocation and navigational desire. The choice for Hong Kong, as the choice for Japan in *Neuromancer*, both expose imperialist desires in order to deal with their vulnerability and enjoy. Both novels create an "East" in order to create cyberspace where to get liberated from it. The presence of the female anime cyborg is connected by Chun with the pornographic subject: "the appropriation of the pornographic mode has also been a means by which the artificial woman has emerged (materialized) as an agent"[27], which provokes desire. The cyborg in the second novel is the female plug into cyberspace and allows the viewer's jacking in, disembodiment, in a form that parallels *passing* on the Internet by fetishizing the other.

The orientalising of the digital landscape through cyberspace has led to the emergence of Asian pornography and Asian as pornographic category in Chun's view. The theme of deviant oriental sexuality has in turn led to the regulation of cyberporn. It can be argued that Chun overestimates the influence of cyberporn and high-tech Orientalism in significantly marking the entire digital landscape, and that its influence is not holistic, but just one type of knowledge which the Internet enables, limited to certain uses and practices.

Chun's conclusion quite ambiguously connects the notions of real-time communications on the Internet with its democratic potential. She argues that virtual sex and real-time communications on the net disable the notion of disembodiment, offering instead a space of *passing.* But real-time communication as in the case of webcams webcams are never real time due to the lag between question and response, thus contributing to a feeling of disorientation. This disorientation is seen by Chun as potentially disruptive and truly public, a symptom of the collapsing boundaries between freedom and control.

In the last chapter, *Control and Freedom*, Chun revisits several notions discussed in the book, in order to expand on the relation of control and freedom with paranoia, especially after the 9/11 event. Going back to the advertisements analyzed in the third chapter, to which she adds an analysis of Cisco Systems' *Empowering the Internet Generation*, Chun contends that they promote amnesia, blindness as solution, in order to hide the user's vulnerability in contact with "the most intrusive media known so far"[28]. They respond with paranoid knowledge to technology's vulnerabilities, paranoid

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[25] Ibid., p. 188
[26] Ibid., p. 192
[27] Ibid., p. 231
[28] Ibid., p. 249

knowledge being driven by Jacques Lacan's "dialectic of jealousy"[29], which underlies the assertion: "the object (the Internet) is of interest to us because it is the object of another's desire"[30].

The 9/11 event brings an end to this second phase of Internet narratives, which picture it as a "happy public sphere"[31], as a race-free utopia, and hypertrophies paranoia. The rhetoric of the dangers of the Internet returns, replacing pornography with terrorism, moving emphasis from bad content to bad people, and revealing the propaganda behind the advertised equality of all on the Internet, in favour of Arvind Rajagopal's argument that "technology marks the boundary between civilization and its others."[32]

Chun interprets the reassessments of the Internet and the increased electronic surveillance measures as perpetuating paranoia because of the focus on the intentional good or evil use of the Internet, and the construction of an other who always threatens to use it in a dangerous way. The result of this increased paranoia is the construction of prevention through technological, instead of political means. While paranoia is specific to machine like reasoning as Chun argues, visible in the redundant back up of data, which is a good strategy in technological context, it does not represent a good solution to political problems: "preemptive actions often cause the very events they claim to be preventing"[33]. Through Lacan, Chun concludes that paranoia is what links freedom to control. A good example of this conflation, resulting from the focus on technological rather than political solutions, is the face recognition technology (FRT), which relies on racial profiling, by wrongly placing a liable to failures technology as infallible social control.

Chun revisits the *Interlude* of her book to underline the similarities and differences between Paul Schreber's paranoia, whose source was his awareness of the "rottenness" of power, and paranoia in the age of fiber-optics, which stems from the perception of the invisible power in the control society, as lacking or decaying. Drawing on Lacan's definition of the paranoid as unable to move from the imaginary to the symbolic, and Žižek's definition of paranoia as "the belief in the big Other which exists in the real"[34], in an age of decline of paternal authority, Chun contends that "Paranoia stems from the desire to compensate for a perceived weakness in symbolic authority"[35]. But further, the discussion of the relationship between paranoia, control technologies and freedom must be broadened to include the role of language. Burroughs claims that control stems from words in the same line as language as command is a central concept in Wiener's cybernetics.

The conflation of control with freedom today is based on the eradication of privacy as security measure. This reality of security constraints leads to a paranoid mindset in which the exhibition of sexual freedom appears as an expression of personal freedom, but is actually a sign of surrender to the lack of freedom imposed by the security measures. In this respect, Chun offers the example of the webcams, which turn surveillance into sexual pleasure. They seem to normalize exhibitionism and thus neutralize surveillance. In Chun's view, "Webcams encapsulate perfectly the relationship between delusional control and freedom"[36] The staged interaction on porn sites creates the illusion of user control through programming. The delusional freedom in relation to the operator of the webcam stems from the belief that it is an expression of the freedom of choice, of when and how to be filmed. Chun argues that both the operator's and the user's sense of control are delusional, and that they reveal and contest each other. Moreover, Chun considers that the whole phenomena of webcams and the real-time effect are delusional because they make the visual metaphoric by trying to render as visible, transparent a fiber-optic network which is inherently not transparent, but highly

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[29] Ibid., p. 251
[30] Ibidem
[31] Ibid., p. 255
[32] Ibidem
[33] Ibid., p. 302
[34] Slavoj Žižek, *The Ticklish Subject: The Absent Centre of Political Ontology,* p. 362, in Chun, *Control and Freedom,* p. 270
[35] Chun, *Control and Freedom,* p. 267
[36] Ibid., p. 283

mediated and necessitating translation. As Wolfgang Ernst stated, computers replace surveillance with *dataveillance*[37]. Nevertheless, the emphasis on the delusional visual is the source of the conflation of control with freedom.

Against the current redefinition of freedom through its ideological conflation with control, which reduces freedom to subjectivity and thus limits it, Chun argues that freedom exceeds control, which is much rather *a fact*, a condition of the possibility of being, which precedes the being and is independent from human possession. In line with Jean-Luc Nancy, Chun argues that freedom is something that cannot be controlled, or reduced to the free movement of the commodities in the marketplace. Although this freedom is not inherently good, it enables decision for good or evil. Chun locates this potential for freedom which makes our decisions possible in the gaps and failures of machines and technological control. Chun concludes her book by arguing that the democratic potential of fiber-optic networks lays in rejecting the conflation of freedom with control and, by revealing the invisibilities constructed by the apparatus of power "that tries to seduce us into denying our very experiences of its fallibility"[38], acknowledging our vulnerability in relation to the technology as the basis for a productive approach towards its improvement: "so that we might work together to create vulnerable systems with which we can live"[39]. Disappointingly, Chun does not develop anywhere in the book this promise of the fiber-optic networks regarding what exactly constitutes this democratic potential, the "something like democracy"[40], which, contrary to common conceptions, "stems from our vulnerabilities rather than our control"[41]

To conclude, the logic of *Control and Freedom: Power and Paranoia in the Age of Fiber Optics*, was to analyze and expose Internet myths which contributed to the Internet imaginary in its early years, in order to understand their effects in the conceptualization of the medium, from a critical cultural studies perspective, and to confront them with facts extracted from the analysis of technology from a media archaeology perspective. By confronting the representation of technology with its materiality, Chun exposed the myths that accompanied the emergence of the Internet in the 1990s: freedom, equality, empowerment, or, on the other hand, control, as being a reflection of our vulnerabilities in relation to the technology. While rendering the current resistive approach to these vulnerabilities as flawed because it leads to the conflation of freedom and control, Chun leaves open inquiries about future more productive approaches towards these vulnerabilities.

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[37] Ibid., p. 278
[38] Ibid., p. 302
[39] Ibid., p. viii
[40] Ibid., p. 170
[41] Ibid., p. 297