

**Movie/ Cinema:
Rearrangements of the Apparatus
in Contemporary Movie Circulation**

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I hereby declare that the work presented in this thesis is mine own.

Abstract

This thesis investigates how cinema's specificities are defined in relation to technological developments. I propose that the most appropriate way to do this is by taking the whole cinematographic circuit into account – that is, the complete set of socio-technical operations that are involved in the medium, as remote as they might seem to be from actual cinematographic practices. I depart from the definition of circulation as a socio-technical continuum of the production, distribution, exhibition and evaluation of movies, explaining how these activities might be enacted in three different technological regimes: film, video and digital computation. Then, following an account of the early history of the pirate film society *Cine Falcatrua* (2003-2005), I show how the specificity of the medium is constituted and preserved throughout its technical progress. Acknowledging the limits of traditional film and screen studies to deal with these questions, I attempt to find an alternative research approach by engaging in practice-based investigation using curatorial strategies. By bringing together and analysing different film and art pieces in an exhibition entitled *Denied Distances* (2009), I propose a framework that allows an understanding of how media technology are defined in relation to one another, exposing how seemingly expanded practices such as installations and performances might be contained within conventional cinematographic apparatus. I conclude by suggesting that, in order to keep up with the ever-changing nature of the medium, the study of cinema would profit from engaging the extremes of scientific criticism and art practice.

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Preface:

A History of Cinemas

Among the many video projects realized by Jean-Luc Godard, cinematographic auteur *par excellence*, probably the best known is the prodigious *Histoire(s) du Cinéma* (1988-1998). *Histoire(s)* is an eight-episode series composed almost entirely of excerpts from other movies – dozens of them – which the director reassembles using his own quotes and audiovisual annotations. Arlindo Machado once compared it to a memoir, in which Godard promotes a form of “full audiovisual thinking” that is able to express his love and hate for cinema in such a way that “cannot be recovered or understood verbally” (2003: 19). By bringing all these films together, the series interweaves many possible narratives of and about the medium, providing its overview as a complex and multifaceted object – one composed by pieces as different as *Arrival of a Train at La Ciotat* (Lumière Brothers, 1896), *Nanook of the North* (Robert Flaherty, 1922), *Rebel Without a Cause* (Nicholas Ray, 1955) and Godard’s own *Pierrot le Fou* (1965). One of the merits of *Histoire(s)*’s patchwork editing is to show these pieces not in isolation, but rather as interrelated, slipping into one another without necessarily becoming uniform. Thus, despite the director’s heavy hand, the series does not present a totalizing interpretation of cinema; it still leaves room for other *histoires* to be told. The almost uncountable number of films deployed underwrites such an approach, promoting them from a mere sample of data to a glimpse of possible connections from which the medium flourishes.

Similarly, this thesis intends to portray cinema less as a vast, isolated and unitary field to be uncovered and more as a living arrangement of things and ideas – an arrangement to which its very text is part and inevitably contributes. Moreover, the research here presented aims to examine the connection between medium specificity and technological development without brushing off their contradictions, in order to understand that these contradictions are nothing but essential to the processes it investigates. In order to do so, it avoids a systematic approach, which would suppress ambiguities beforehand by pinning them down through a sole scientific

viewpoint. Alternatively, the thesis adopts interdisciplinary strategies that could be compared to those of *Histoire(s)*. Much like Godard's work, it is a narrative of narratives.

From the outset it must be noticed that this work draws from a wide range of examples and theoretical frameworks, which provide different perspectives not only over cinema, but also over one another. This might provoke the initial impression of a *bricolage*. Conversely, I would argue that I am not gathering separated elements in order to form a stable model for cinema (in order to understand it), but rather producing a snapshot that is as wide as possible of the multidimensional connections that already exist within the medium, paying special care to not let them crystallize or slip away. Among these connections, the attention to the exceptional and anomalous detail means to express the uncontainable possibilities within the object and the many ways in which we can define it.

The thesis departs from the tradition of film and screen studies, grounding its inquiries in the body of apparatus theory developed by Jean-Louis Baudry (1983), Christian Metz (1983, 1986) and Jean-Louis Comolli (1985) – that is, at the crossroads between the experience and operation of media technology. These fundamental concerns about cinematographic mechanisms are coupled with some consideration to the technical images they produce, both in terms of Vilém Flusser's early musings about celluloid photography (2000) and the more recent works of Sean Cubitt (2004) and D. N. Rodowick on digital film (2007).

Following on such particularities of the field of cinema, this thesis calls upon a broader trend in media studies and philosophy, in a manner attentive to the materiality of processes of storage and transmission. The bridge here is made by curator Paolo Cherchi Usai (1999), who underscores the inevitable decay of film, and author Stanley Cavell (1979), who outlines the continuing transformation of cinematographic practices. With support from the works of Friedrich Kittler (1995, 1999, 2008, 2010), Matthew Kirschenbaum (2009), Lisa Parks (2007) and Gilbert Simondon (1958), I attempt to frame the abstract mediatic apparatus within the contemporary socio-technical milieu. Such an approach attempts to foreground the role of contingencies in the constitution of the medium and foster the awareness of

cinema as a process of becoming, thus overcoming the strict division between old and new media technologies.

Nevertheless, in order to execute this project, the scope of research should not be limited to a certain *literature* about materiality nor to the mere *idea* of contingencies – that is, to their representations. It would be paradoxical to uphold the importance of incidents, and yet deal with such capricious elements only in the most methodical, descriptive way. On the contrary, it seems imperative to *actually engage* in material activities, therefore opening this thesis to the real unpredictability of its object. Instead of quoting particular definitions of media technology, one ought to *perform* such definitions, mobilizing all the essential resources – not only logical, but also physical. In the present research, this is accomplished thanks to strategies equivalent to those of *Histoire(s) du Cinéma*: first, a degree of *operational reflexivity*; then, the resort to so-called *practice-based research methods*.

The reflexivity comes from the body of science studies, which represents a third theoretical layer of this thesis, underpinning the aforementioned fields of film and material technology. The works of Thomas Kuhn (1996) and Bruno Latour (1988) are deployed to highlight the historical correspondence between the production of knowledge and the crystallization of a technical milieu. In that sense, the many concurrent approaches to cinema appear as its constitutive parts, none of them able to provide an overall analysis of the medium. Rather, we are led to consider them together, paying special attention to the way they are organized in hierarchies and become separated from the everyday operations of cinema.

When challenging the existence of any dominant interpretation about the development of the medium, this research borrows from the increasingly popular strand of media archaeology – or, more precisely, from Siegfried Zielinski's proposal of an *anarcheology* (2008) that would subvert the authority ascribed to traditional historical accounts. However, here again, the interest in the preservation of *exceptions* calls for a radicalization of methods. It becomes necessary not only to dig up evidence for supplementary narratives about media technology, but also to assess the means through which these narratives are authenticated and normalised. Following the analogy, for the lack of better terms, this would mean venturing into a

critical experiment of *media museography* – one that would expose its own structures of authorization, tearing down the distinction between proper and improper interpretations of cinema.

This is where the practice-based strategies come into play. The full exercise of the *curatorial dimensions* intrinsic to every work of research allows for a rigorous consideration of contingencies, as they are turned into authentic obstacles that cannot be ignored. Here, one might also evoke Bruno Latour, for whom exhibitions “can explore new possibilities with a much greater degree of freedom,” allowing visitors and readers to compare different sides of the same controversy (2005: 31) – two features that seem useful when dealing with the unpredictable developments of media systems. Thus, through the organization of different cinematographic situations, and particularly the set up of the *Denied Distances* exhibition, this thesis makes an effort to produce a non-reductive understanding of cinema, bringing contradictions together without completely solving them. By these means, the examination of movie circulation in terms of a progression of technological regimes (as laid down in the first part of the thesis) is rearranged according to the spatial continuum defined by the proposal of the exhibition (the production of which is observed in the second part). Inasmuch as the networks of association established by each of these interpretations might contradict one another, they are both made valid within the context of the present research. In that way, the incompatibility of parameters is made positive, as it illuminates each other’s shortcomings and, more importantly, indicates the arbitrary condition of every analytical framework (whatever might be its degree of rhetorical or material coherence).

It is in this fundamental uncertainty that a crucial distinction between this research and Godard’s series lies. In *Histoire(s)*, many different pieces come together to portray a highly heterogeneous, but nevertheless consistent, medium. Conversely, what I mean to express with this patchwork of references is one single, albeit self-differing, arrangement for many possible cinemas: this is what I call the *cinematographic circuit*. The present thesis, as an unprivileged part of this circuit, cannot exist without its appropriation by the public. Given such circumstances, it is left to the reader to position herself in this narrative of becoming and sort it out. Thus, I hope to avoid another totalizing interpretation of media technology and offer

an *interpersonal* one instead – a definition that entangles my empirical engagement to the medium with *your own*.

A final disclaimer should be made in order to explain why a project so critical towards the body of film and screen studies remains firmly grounded on some of its most conventional concepts. Would these concerns not be better handled by one of the emerging fields dedicated to the exploration of new media? It would seem so. However, the complete dislocation of this work outside of the traditions of cinema research would probably undermine its analytical potential. One of the objectives of the present thesis is to defy the epistemological bias that buries any awareness of the continuing becoming of media underneath the superficial distinction between new and old technologies. To persist within the traditional framework of film and screen studies contributes to this agenda, because it actively challenges the boundaries of scientific understanding, whereas the displacement of an inappropriate subject to its own field (in which this object would be made proper) would simply leave these limits untouched.

Introduction

This is a thesis about cinema; more precisely, it is about how technological change is negotiated within the operation of the medium, thus resulting in the preservation, obsolescence or expansion of its conventional apparatus. However, it is not a work in cinema studies. On the contrary, it is based on an active effort to take a distance from the medium's traditional disciplines, incorporating them in its subject matter – in other words, this thesis is looking at cinema studies as “part of the problem.”

This perspective is motivated by the idea that current theories about cinema, based on the analysis of the image on the screen and particularly bounded to the filmic support, do not do justice to aspects of technical development that occur elsewhere in the constitution of the medium. Such an impression came to me when I personally moved away from the screen and took a position behind the projector of a student film society, in 2003. This position allowed me to perceive the medium in a systemic way that normally goes unnoticed – not only by the audience, but also by filmmakers, critics and scholars.

The group I was involved with employed home PCs to exhibit movies downloaded from the Internet. This practice revealed to me that the digitization of the cinematographic apparatus does not necessarily break with its historical conventions. New technologies can be used to emulate the medium's traditional effects, presenting barely any change to its modes of operation and signifying strategies. At the same time, the role of the projectionist granted me access to different processes that were already part of cinema, but remained suppressed from the public engagement with the medium, such as the curating of screenings, promoting festivals and workshops, and even reorganizing the architecture of cinema into other forms of audiovisual installation.

The way in which technological change brought these repressed processes into my experience of cinema appeared to be more relevant than the recurring discussions about copyright reform (such as Lessig, 2004) or the obsolescence of film (as in

Rodowick, 2007). By actively engaging with the medium underpinnings, I had apparently gained a deeper perspective of the connection between its specificity and its technical structure. This perspective can be understood by means of an analogy with electronic textuality, whose advent, according to N. Katherine Hayles, “presents us with an unparalleled opportunity to reformulate fundamental ideas about texts and, in the process, to see print as well as electronic texts with fresh eyes” (2005: 89). Because it requires the translation of traditional cinematographic operations into a new technical structure, the digitization of cinema seemingly creates similar opportunities to explore the constitution of the medium and its relation to other media.

This thesis aims to use my empirical experience with cinema’s underpinnings to open up new ways to define the medium, how it can be used and understood. It assumes that cinematographic experience is not simply a by-product of movie consumption, but also a way of inhabiting and making sense of technology. As such, experience is not rooted in a local apparatus, but rather distributed across the whole multi-layered network of processes involved in movie circulation – the cinematographic circuit. I characterize this circuit in terms of Gilbert Simondon’s technical object (1958) as an ensemble of theoretical and material elements reflexively integrated in the constitution of the medium.

The first part of the thesis undertakes a critical revision of current theories of the apparatus, setting the basis for the investigation of movie circulation. The prologue, borrowing ideas from Matthew Kirschenbaum (2010), foregrounds the existence of a *medial ideology* that institutionalizes the engagement with media technology. Therefore, I propose to deal with the specificity of the medium as an institutional concern.

The first chapter (*What is a movie?*) begins by analyzing the failed *première* of the movie *a knife all blade* (Brazil, 2008). A few seconds after the screening had started, the work was instantly mistaken for noise and interrupted by the projectionist. No one in the audience realized what had happened. In light of this situation, I will be challenging both the idea of an autonomous cinematographic object and that of a technologically neutral mediatic apparatus. On this basis, I propose that the effects of

technological development in cinema can be better understood if one makes an effort to take its whole circuit into account – that is, the whole set of apparatus, operations and parameters involved in the medium, as remote as they might seem to be from actual cinematographic practices.

The second and third chapters (*Movie circulation in the established cinematographic apparatus* and *Executable images*) expand on the idea of circulation as a socio-technical continuum of production, distribution, exhibition and evaluation of its own traces. They explore how processes of movie circulation might occur in three different technological regimes, based on the mechanical reproduction of film, the electronic transmission of video and the algorithmic processing of digital data. In each of these regimes, the chapters identify a standard *means of circulation* for the cinematographic object, which refers to the object's transcendental parameter of form. The means of circulation simultaneously keep the movie apart from and compatible with the cinematographic apparatus. Thus, from the clear-cut perspective of the circuit, a movie is revealed to be not simply a form that circulates, but a form resulting from circulation. By evoking artworks and mediatic practices that actively incorporate the traces of circulation in their forms and modes of operation, the third chapter concludes by asserting that the existence of the movie is always inferred from the *surface effects* of media technology.

The fourth chapter (*Fixing apparatus, congealing practices*) follows the early history of Cine Falcatrua (2003-2005), the student film society mentioned above, which employed personal computers and peer-to-peer networks to emulate normal cinematographic operations. This chapter delineates three aspects of the specificity of the medium: its materiality, normal apparatus and epistemological parameters. It also demonstrates how such aspects are constituted and preserved throughout the medium's technological development. This explanation is complemented in the fifth chapter (*The cinematographic circuit as a technical ensemble*), which outlines how the specificity of the medium results from the genesis of the circuit as a technical object, localizing new technologies within and without cinema. At the same time that it crystallizes the aspects of its specificity, this process of localization creates an invisible side of the medium, which accumulates the bulk of technological development. Taking this into account, the fifth chapter puts forth the concept of

impedance to measure the degree of specification of the medium in any given situation. Finally, it proposes the use of the concept of *dispositif* to describe every relational and situated arrangement of the circuit, notwithstanding the medial organization of its apparatus.

In the second part of the thesis, I explore the invisible side of cinema that is an inherent part of its circuit. It starts by considering that the medium's epistemological parameters, or the ways in which it is understood, are aspects of its specificity. This causes a scientific impasse: how is it possible to analyze the cinematographic circuit with a framework that results from it? Acknowledging the limits of traditional cinema and film studies in dealing with technological development, the prologue of the second part (*Projection studies*) attempts to find alternative research strategies. It takes its inspiration from *projection*, which is understood as a form of transport that entails the essential transformation of the image. The prologue proposes that an effective way of analyzing a *dispositif* is by foregrounding the most important projections that constitute it. In order to do this, it is above all necessary to approach research as a situated and relational engagement with the medium, a process that ultimately contributes to the meaning and value of cinema. By framing every form of investigation of the medium as a mediatic operation, the prologue concludes by suggesting that the researcher should engage in actual cinema making, thus reassembling its field of investigation and piercing through medial ideology.

Based on the methodological strategies outlined before, the sixth and final chapter (*Dispositifs in and within the Denied Distances exhibition*) uses the video exhibition *Denied Distances* (2009) as a framework within which to analyze different *dispositifs*, represented by the pieces included in the show. These pieces comprise experimental films, computer-based animations, documentaries, installations and performances that occupy the invisible part of cinema. They are organized according to the kind of "distance" in which they operate: the thickness of the screen, the depth of projection, the extensions of the city and the density of the circuit. By analyzing the works' individual mode of operation and the relation between them, the chapter foregrounds how the normal apparatus of the cinematographic circuit are constituted. By referring to their situation in the exhibition, it shows how new socio-technical practices can become localized within cinema.

With this thesis, I hope to promote new methods for dealing with cinema's complex materiality and modes of operation as well as means that do not reduce the continuing constitution of the medium to any a priori reductive description, and help us to understand how cinema relates to other media and fields of creation. I also expect this to allow for more positive ways in which to frame the transformations media are going through due to digital technologies, as well as to the transformations from which media have been born.

Part I:

**Prolegomena for the study
of the cinematographic circuit**

Prologue:

For an institutional characterization of media technology

Two vocabulary choices have been made in this thesis that might seem peculiar to the reader. The first is the employment of the word *apparatus* to refer both to one and many mediatic devices. Even though this use could cause some confusion, using *apparatus* to denote the plural is allowed by the Latin roots of the term, and is preferred in this thesis because it suggests the eminently multiple character of every apparatus, which both contains and is defined in relation to other apparatus. The second lexical quirk is the employment of the ambiguous term *movie* to describe the object of cinema, something which requires more extensive discussion. In this prologue, I'll explain this choice of vocabulary, as it helps to introduce important points of my argument.

One might wonder why I should choose *movies* instead of concepts that are clearer such as *cinema*, *film* or *moving images* as the point of departure for an investigation of cinematographic specificities and technological change. Pursuing a similar objective, David Norman Rodowick has already stated the futility of asking *what is cinema*. Rodowick adheres to Christian Metz's fundamental claim that the materiality of the cinematic signifier is inevitably *heterogeneous* (2007: 19), and it can be reasonably presumed that he would also agree with Arlindo Machado's idea that the underpinnings of the medium are essentially "discontinuous and fragmentary" (2002: 21). In order to cope with the inherent instability of the medium, the borders of cinema studies are "continually shifting," making it impossible for this discipline to sustain "permanent claims on its disciplinary territories" (Rodowick, 2007: 23).

The result is that cinema and film studies seem to be constrained by what Matthew Kirschenbaum calls a *medial ideology*: "a more comprehensive treatment of the material particulars of a given technology" (2009: 36). Put simply, medial ideology

simplifies a series of different socio-technical processes as a coherent mediatic practice – such as “watching a movie.” In other words, the universal question of *what is cinema* is not based on ontological parameters, but on *conventional* ones. As long as it is reasoned through its own medial ideology, *cinema is always cinema*, even though it can be something completely different. Therefore, from the *perspective of the medium*, all of the differences that might be seen as *essential* (such as those between photographic and digital images, between nickelodeon and multiplex architectures) are not in fact so, because they become *historicized*. The epistemological resistance to technological change can be better understood by considering the effects of such change in the everyday practice of the medium. In as much as the individual operations of cinematographic production, distribution and consumption are being transformed, Rodowick states that the “disappearance of the photographic ontology” (so dear to cinema scholars and *auteurs*) apparently provokes “no inherent discontinuity cleaving the digital from the analogical arts” – or, in other words, “while film disappears, cinema persists” (Rodowick, 2007: I).

In the face of the difficulties involved in defining the medium, Rodowick addresses it as an object of pure historical speculation (“what *was* cinema?” he asks) and opts to investigate *the virtual life of film* instead. He suggests that *film theory* might be the only tool to make sense of *cinema studies* after the disappearance of film (ibid: 3). In as much as I agree with this disciplinary dislocation, there seem to be problems in choosing film to measure the effects of technological change in the medium. As a concept for preliminary speculation, the problem of film is evident: while the idea of cinema has no technical dimensions in itself, that of film has them fixed *a priori*. How is it possible to employ film in an analysis of the trans-technical, trans-historical aspects of media? This is where the first advantage of the idea of *movies* lies. As the particular object of cinema, movies also persist after the end of film; unlike cinema, they are clearly transformed, becoming things such as videotapes, digital files and stereoscopic projections. Thus, movies can provide an internal perspective of the complex and changing constitution of the underpinnings of cinema.

If this is the case, why not embrace the concept of *moving images*, the “ideal form” that film archivist Paolo Cherchi Usai defines in opposition to the material existence

of film (1999: 2)? Rooted in pre-historical practices such as shadowplay and cave painting, moving images are “the most ancient of all the arts [and] also the most modern” (Cubitt, 2004: 5). Centuries before cinema, moving images already existed as a result of different techniques. After modernity, they became even more popular because of machines of vision¹ and mobility.² According to Charles Musser, cinema would just be a subset of moving images: those projected in a dark room (Machado, 2002: 23).

However, although the idea of *moving images* provides a reasonable framework to analyse and compare the formal aspects of different media technologies, it says nothing about their historiographical and epistemological implications. If cinema is considered to be just a particular case of moving images, how does one explain its primacy as a reference for the history, analysis and production of other visual media – especially the “new” ones (Rodowik, 2007: 97)? More specifically, how to judge the fact that types of moving images themselves are often regarded as *categories of cinema* – such as *pre-* and *post-cinema* (Machado, 2002), *expanded cinema* (Youngblood, 1970) and *live cinema* (Makela, 2006)? Such interrogations seem to be associated with the development and use of media technologies, but the concept of moving images is not helpful in their analysis.

One could also state that the self-evidence of moving images is the reason why they are not an interesting concept for investigation. Just as film has a technological a priori, moving images have a morphological one: they are *images that move*. This fact pins them down as a type of *visual sign* and it comes as no surprise that Musser defines cinema as a mere framing for the consumption of such content (in Machado, 2002). Movies, on the other hand, can be consumed in the most diverse contexts, such as broadcast to home televisions, streamed to mobile phones, or screened on media façades in broad daylight. More importantly, they exist in situations that are *not visual*. People not only *watch* movies; they also *go to*, *download* or *collect* them, for example. In other words, the idea of a movie seems to allow for more complex material and economic interactions. Sometimes, a movie is just the residual bulk of

¹ Such as the optical devices catalogued in Mannoni, 2003.

² Vehicles such as trains, elevators, airplanes – which, in the words of Anne Friedberg, “changed the measure of space and time” and “the relation of sight and bodily movement” (1999: 3).

surveillance recording, an object of copyright dispute or the rhetorical illustration for some sociological argument. If, as this thesis promotes, the inherent cinematographic character of these other situations and practices is to be considered seriously, then the formal regime of the cinematographic object cannot be taken for granted.

It is by paying attention to these concerns that I have chosen the movie as my starting point of investigation. Movies have an interesting status as objects, which another theoretical framework (more committed to hermeneutics) might address as *purely discursive*. They constitute neither a technological class (like film) nor an aesthetic one (like moving images), but rather a *conventional* one. They are a priori mediatic in an almost recursive way: movies are *the object of cinema*, combining the material and symbolic dimensions of the medium. Grounding my research in a conventional category allows me freely to explore its technological, aesthetic and historical dimensions. Moreover, it allows me to test its institutional limits as well, seeing how far the concept can be stretched without crumbling apart.

This conceptual flexibility authorizes the proposal that, just as they are not simply films, movies are not necessarily moving images. I hold this as a premise to test the inherent cinematographic qualities of some works that are normally rationalized as “expanded.” Examples would include Valie Export’s *Tapp- und Tast-Kino* (1968-1971), a performance in which the artist wore a small “movie theatre” around her breasts, inviting people to touch the body inside it; and Tony Conrad’s *Pickled Film* (1974), a film that is prepared like a culinary dish and then thrown (“projected”) on an empty, illuminated screen. Likewise, movies could refer to the “après-garde” *Found Dramas* of the fictional filmmaker James O. Incandenza, protagonist of the novel *Infinite Jest* (Wallace, 1996): works that had no actual audience, director, stage or set.³ To push this hypothetical horizon of a *potentially invisible cinema* forward, chapter 1 begins by discussing the case of a movie that was not watched.

³ James made found dramas by selecting a name at random from the phone book, which became the protagonist. Whatever happened to this person in the following hour and a half would be the Drama – which, of course, was never filmed and not even known by anyone. In the book, the found dramas are portrayed as both a joke on critics and a way to acquire grants (Wallace, 1996: 1026-8).

Chapter 1

What is a Movie?

Introduction

On 25 November 2008, my work *a knife all blade* was exhibited at the 15th *Vitória Cine Video* festival in Brazil. Or, more accurately, it was to be exhibited. Within a few seconds of screening, the movie was interrupted, and nobody in the audience realized what had happened. It was as if the movie had not existed, even after being present before the audience's eyes.

In this chapter, I will use this situation as a pretext to revise classic definitions of the technical image⁴ and of the apparatus, showing how limited these notions are when dealing with the actual operation of cinema. I will demonstrate that a movie should not be regarded as a self-evident, autonomous form, but is rather one that results from the workings of cinematographic apparatus. Therefore, it follows that apparatus should not be identified simply in terms of their surface effects; on the contrary, one must make an effort to grasp their internal processes, and the way they act on one another, if one is truly to understand their character.

Taking these ideas into account, I suggest that the essential elements of the medium must be thought together, putting forth the complementary definition of movie circulation and cinematographic circuit that will be developed in the chapters that follow.

⁴ Here, technical image is used according to the definition of Vilém Flusser to indicate images made partially or entirely with the aid of an apparatus, such as photography (2000: 14).

1. Blind Optics

One cannot understand what occurred to *a knife all blade* by analyzing the work alone. It is a very simple video piece, made using a mobile phone camera with the lens covered, so that no light could reach the device's CMOS sensor. In spite of this, the apparatus did produce some images, thanks to the digital compression that took place at the very moment of video capture. Nokia's low quality algorithm interpreted the complete darkness as an image to be processed and stored, generating pixel artefacts out of nowhere. The visual result of this "blind" recording was a-few-frames-long composition of small grey squares that succeed each other recklessly, in a kind of abstract animation.



Figure 1. 1: still frame from *a knife all blade* (2008).

Without a subject in front of its lens to inform it – a world of light to hold to – the camera worked just like the knife of Rabindranath Tagore's dictum, which says: "a mind all logic is like a knife all blade. It makes the hand bleed that uses it." The pure logic of video processing went wild, producing a movie that was an index of nothing but the machine itself. It could be said that the production of *a knife all blade*

avoided the use of the optical mechanisms of representation in which audiovisual technologies are traditionally based, foregrounding the suppressed aesthetic of their structural underpinnings.

This kind of *anti-figurative strategy* is not original at all; it is not very different from what Peter Kubelka achieved with his stroboscopic *Arnulf Rainer* (1960), or from Steina and Woody Valsuka's early video synthesizing techniques (in the 1980s). These works ignore the camera, not allowing any worldview to enter the optical system. What they do is to put the apparatus in a closed short-circuit, renouncing any kind of external input and resorting to a minimum of "creative" intervention (respectively, the sequencing of clear and black frames in the filmstrip and the modulation of the electronic signal). Hence, they produce visual patterns in a most self-contained (and straightforward) way. And yet they produce nothing but difference, revealing what is already in the system to be put out. Essentially immanent, they show the machine looking at itself through its own mind's eye.

Certainly, the different technologies employed by each work stipulate different levels of closure and intervention. Kubelka's film was prepared at a time and place completely separated from the projection space in which it was finally loaded and manifested. Valsuka's video synthesis, on the other hand, happened in the short interval it takes for the signal to get through its generator and reach the screen. *a knife all blade* apparently compresses the short-circuiting of the optic apparatus to the pure present: it results from the briefest moment in which the camera's blind sensor processes the "received" stimuli, generating artefacts. Likewise, it required the least possible amount of authorial activity: only the ready-made procedures of covering the lens and selecting when to cut the resulting image sequence.

These works show that the pure apparatus, without any sort of optical input, already provokes a *visual result*. From the standpoint of the running mechanism, such visuals would be a mere collateral effect of internal functions – of automatic processes of information, such as the projection of light; the flow of electricity; the computation of data. How should one classify this visual degree zero, in which technology itself is made evident? French philosopher Paul Virilio once proposed the concepts of *small optics* and *big optics* to distinguish between the way analogue and

electronic media deal with distance and produce presence (1992). Small optics, like photography and film, do so based on the linear geometry of light rays; big optics, such as television broadcasts, resort to the undulatory particles of signal transmission. Between the two, there is a fundamental difference in the *reach and speed of operation* that determines their regimes of representation. While isomorphic small optics “account for man’s immediate environs” (ibid: 82) and favour the measurement of real space, light-speed big optics can handle even cosmic scales (ibid: 89) and thus allow for the *perspective of real-time* – the dissolution of horizons and the ensuing illusion of *absolute presentness*. In addition to these two concepts, both anchored in the representation of an external referent, I intend to propose a third one: that of *blind optics*.

Blind optics may help us to think about the latest developments in image technology – either digital synthesis (the production of totally artificial images) or what Peter Weibel has called *neurocinema* (the complete virtualization of perception) (2003). However, this term does not necessarily characterize a third stage of visual media, based on computation. It is actually a critical perspective over all three historical paradigms of technical images – filmic, electronic and digital. It is what you get when you cover the lenses: the complete denial of worldviews, favouring the appearance of the apparatus itself – *the actual presence of technique*. From this angle, both space and time are inevitably “real,” because they are not represented: they are the specific place and duration of the apparatus. What is *shown* (on a screen) should never be analyzed without taking into account these immanent characteristics of media technology. The image is always conditioned by its technical underpinnings, which is made evident by the perspective of blind optics.

Does this mean that the physical conditions of media are its fundamental parameters of existence? Is the movie secondary to the realities of the film support; of the photographic apparatus; of the theatre architecture? No, not entirely. Of course, one should pay attention to Friedrich Kittler’s warning against oversimplifying general media technology by reducing it to its effects and applications (2010: 25). However, this does not necessarily lead to the adoption of the physical parameters of optics over the socio-cultural parameters of visibility as a means of characterizing media (ibid: 3). Even blinded, media technology can still be *visual*. Provided there are

means for output, storage or transmission, there seems to be an emergence of visual patterns such as *a knife all blade*. More importantly, the existence of an image does not necessarily imply that it *can be seen*, as the incident with *a knife all blade* demonstrates. As significant as the actual presence of technology is our way of engaging and making sense of it. Thus, to press the investigation of cinema as visual media further, one should ask: if it is invisible, if it cannot be seen, if it is overlooked, is it still a movie?

With that question in mind, I return to the botched screening of *a knife all blade*. The movie was the last one to be shown on the day's video exhibition. It should be stressed that it does not have any soundtrack or opening credits to foretell its beginning. Once the credits of the previous video had finished and compression artefacts started popping up frantically on the screen, the public could not immediately recognize that what they were seeing was a movie. Neither could the projectionist: taking it for noise in a bad tape copy, he just stopped the projection after ten seconds or so and turned on the lights, sending the audience home. As they exited the theatre, people asked each other why the movie, listed in the festival's programme, had not been shown.

What exactly had failed? Not the movie (there was no boom microphone appearing in a scene, no out-of-sync dubbing) nor cinema (a part of the ceiling did not fall onto the audience, no film got stuck into the playback device). Technically, everything worked as it should have. And yet no cinematographic experience occurred; no process of mediation was accomplished, and moving images could not be distinguished from visual noise – meaningful information could not be ascertained separate from the automatic processes of the mechanism. The movie and cinema had together, and in an absolute way, failed to *exist*. *a knife all blade* was supposed to be a short-circuiting of media – a minimal interruption of the apparatus to show the fundamental visuality of its underpinnings. Paradoxically, it *opened up* cinema completely, resulting in no visuality at all.

Hence, one can suppose that the technical underpinnings *are not* the defining condition of media. To be in a standard movie format (such as film or DV tape) does not make something a movie, even if it is properly operated as such. In that sense, it

is interesting to consider Rodowick's classification of Stan Brackage's *Mothlight* (1963) as a "motion sculpture animated by the projection apparatus" and of scratch films as "painterly objects animated by projectors" (2007: 59). Though I agree that these pieces (as any other) do not become movies by their mere animation, I maintain that they do so *while they circulate as movies*. This is not only an economic definition, but an aesthetic one as well: *circulation* should also include the movement that takes the image from the screen to the public's cognitive mechanism. It is not within this gap that *a knife all blade* disappeared?

2. Cinema as an open circuit

Does this mean that the movie is a result of the audience's perception? According to early apparatus theory, yes; in the words of Christian Metz, the image "is brought into being only by the gaze" (1983: 406). If one is to agree with Metz, it seems that some kind of operational gestalt (*or lack thereof*) is acting against the existence of *a knife all blade*. But how? Was not the audience looking? It could be reasonably argued that the apparatus does not *impose* any "cinematographic mode of perception" on the public. To be within the cinema's architecture does not necessarily mean to inhabit it properly, either for reasons of instrumental ignorance or critical resistance: one could not know where to look; one could simply decide to take a nap. However, this does not seem to have been the case. In the audience, everyone was sitting expectantly, silently looking at the screen – in the perfect state of *superperception and submotricity* that, according to Metz, characterizes the *cinema situation* (ibid: 409).

But elsewhere in the theatre, someone *did* take action. It was the *projectionist* – the usually passive functionary of the exhibition venue – who interrupted the movie, going against the curatorial authority that instructed him to exhibit this particular tape. This fact further illuminates our perspective about visual media from the standpoint of its actual technology. It shows that the technical processes involved in movie circulation are not simply those localized in the immediate surroundings of mediatic experience: they necessarily include all that is situated in relation to its

situation. Every architecture is localized in relation to others: the cinema auditorium does not exist if it is not paired with the projection booth – and with the offices where the screening programme was planned. It also depends upon the distribution companies that make the film available, the studios which produce it, the factories that manufacture cameras, the schools that train filmmakers, and so on and so forth.

To acknowledge the full extent and duration of cinema's technical underpinning also implies recognizing its complex occupation by different kinds of publics and practices: not only the audience, but also the projectionist, the curator, the moviemaker, the researcher, etc. When the movie is “watched,” it is watched by the means of this total apparatus of the *cinematographic circuit*. The visual phenomenology of apparatus theory has to be submitted to this technical rationale. Paraphrasing Metz (ibid: 406), I would state that *the image is brought into being by a series of confluent, public operations*. According to this idea, the definition of a movie necessarily entails addressing its cultural and historical dimensions.

Even though *movie* is usually recognized as a stable concept, movies themselves have changed drastically over the years – from low frame rate black-and-white silent pictures watched in cafes to widescreen digital blockbusters that can be consumed in the most diverse environments. In this course, their mode of operation has changed as well: for instance, the interruption that seemed an accident in the exhibition of *a knife all blade* would have been a normal occurrence in the first years of cinema, when the projectionist had complete editorial control over the film screenings, and movies were made to be operated in that way (Musser, 2002: 17). At first one might presume that the concept of the movie evolved in order to give the most accurate representation of reality or an adequate enhancement to human perception. In a way, this is what Rodowick is defending when he states that even the most abstract cinematographic works still presume a photographic (“real”) referent (2007: 59). However, following Jonathan Crary, one cannot disregard the fact that perception itself is a social construction, and that modern notions of visual “realism” are just abstract models rationalized by apparatus (1990). Along these lines, one could say that even *watching* is a mode of operating the movie that is defined by culture and history – a socio-technical process.

Given that technique itself depends on social organizations, how can one pretend that visual media should be rooted in ontological parameters? How can one pretend that the movie could be given anything but an institutional definition? Hence, a movie is not a result of what is real, but of what is *standard* – of the framing that defines its procedures of production, distribution and consumption. However, as the recounted incident of *a knife all blade* shows, this framing is not a rigid diagram, but a very complex interplay of boundaries. It is not because something was produced and distributed as a movie that it will be consumed as such. Albeit populated by automatisms, the cinematographic circuit is not automatic. Some things can always become irremediably out-of-place (or *out-of-time*): the spectator's gaze, the projectionist's activity, etc. When this happens and the circuit cannot close, full circulation does not occur – and no movie results.

In a way, the divergence between *a knife all blade* and the public was similar to the effect provoked by Orson Welles' radio rendition of H.G. Wells' *The War of the Worlds* (1938). Welles' adaptation situated the novel in modern times, and presented it as a series of news bulletins. Before starting the narration, the piece was properly introduced as a fictional work. However, this did not prevent many listeners (especially the casual ones, who caught the show in the middle) from believing that a real alien invasion was in progress. So even though the work complied with all of the formal rules set down for its proper circulation, it was received by the public in a frame that was completely different from the one it was intended to fit into. Certainly, while *The War of the Worlds* caused mass commotion and despair, *a knife all blade* provoked less than nothing. However, in both cases, the media output was mistaken as some level of reality. In the broadcast of Welles' adaptation, the script was received as an actual report of a Martian attack – it was *more* than fiction. In the exhibition of *a knife all blade*, the images were treated as just a glitch – they constituted *less* than a movie.

The case of *The War of the Worlds* echoes the most resonant anecdote from the annals of cinema history: that early spectators were frightened by Lumière's *L'Arrivée d'un train en gare de La Ciotat* (1895) because they mistook the image for a real train. Much of the veracity of this story has been disproved by the analysis Martin Loiperdinger made of the circumstances of the film screening (2004).

However, although it is clear that the audience was not afraid of being crushed under the locomotive, Loiperdinger states that they might have been “irritated” by a *hyperreal* form of perception to which they were not habituated (2004: 104). This new perception accounted for the propensity of the mechanism to transform a banal event, which the audience was used to seeing, into a fantastic image previously unavailable to the human gaze, marked by deep focus and distorted proportions (ibid: 101). Loiperdinger says that the experience of such visual effects of media technology was an inherent part of the spectacular appeal of the *cinématographe*, more than of its capacity to represent real movement (ibid: 102).

Thus, a momentary opening of a mediatic circuit, like the one that happened with *The War of the Worlds* broadcast, seems to provoke a situation similar to the founding myth of cinema. The similarity is that in neither of these cases did the public have any specific expectation concerning the mediatic object. Just as the first cinematic spectators had never seen a projected film, the radio listeners overrode the disclaimer that Welles’ narration was nothing more than a fiction. Not knowing how to engage with the mediatic representation, the public reacted in a direct way to the technologically infused *reality* that was being presented to them. This comparison allows us to put the specificities of the medium in a new perspective. It seems that these specificities correspond to certain expectations about the technology’s meaning and value; expectations that must be actively maintained. If they are not, then the public seems to regress to a primitive stage in which they experience only the crudest, denotative effects of technology. They literally do not know what they are watching or listening to.

In that sense, there seems to be a parallel between the maintenance of the socio-technical organization of the circuit and the historical definition of mediatic practices. This maintenance concerns not only processes that are *framed in*, but also those that are *actively framed out* – either to a specific moment in the history of the medium (i.e. to a *pre-cinema*) or to the medium’s “borders.” As I suggested before, in as much as the interruption of *a knife all blade* may seem absurd to the contemporary spectator, in the nickelodeon years a movie was a naturally discontinuous experience, due to the shorter length of films and the fact that people went in and out of the screening room whenever they pleased (Rosenzweig, 2002:

30). Moreover, in some situations, to be interrupted *still is* an appropriate way for an audiovisual work to circulate. The audience of pornographic movies – who habitually stop watching once their lust has been satisfied – would probably agree, as would the VJs that sample from feature films to add out-of-context scenes to their performances. This means that there can be different ways to operate a movie, and none of them is particularly *wrong*. They can nevertheless be *improper*, but this depends less of how the movie looks than of its socio-technical conditions of production, distribution and exhibition.

3. The movie as a closed form

Reiterating the institutional definition, I propose that a movie is the object specific to the domain of cinema. This statement could immediately be unfurled into three other ones, relative to different characterizations of this object. Economically, a movie is the particular *commodity* produced and exploited within the infrastructure of cinema. Technically, it is the *hub* of a series of common practices, which are in turn classified as *cinematographic*. Aesthetically, it is the autonomous *form* resulting from these practices.

Does *a knife all blade* comply with all these conditions? Apparently, yes. It is a moving image piece, done with a video camera, recorded on a DVD, submitted to and accepted by a couple of film festivals, generating cultural capital here and there. Nevertheless, a work can apparently accomplish all these things and still fall short of another definition of a movie: as the production of what Rodowick calls a *phenomenology of viewing* (2007: 140). According to the classical Metzian definition of the imaginary signifier, this phenomenology of viewing could be described as the perception of an absent, diegetic reality (1986). It could also be explained as the incorporation of a surrogate perception, implied in Anne Friedberg's concept of the *mobile virtual gaze* (1999). Either way, it means that the technical operation of (watching) a movie becomes a *mode of experience* that results in a virtual presence, other than the movie or the cinematographic apparatus. Failing

to produce this other presence, the movie does not fulfil the conditions for its own existence.

This reveals a discontinuity between the material and – let’s say for now – the immaterial existence of the movie – a disagreement that, according to early modern aesthetic theory, does not occur in paintings, sculptures and books because they are self-evident as objects (Rodowick, 2007: 13). These self-evident objects have an unambiguous regime of existence, allowing us to trace the same distinctions between their material and form notwithstanding the context. This would not be possible with movies due to their “hybrid nature as both an art of space *and* an art of time” (ibid). In saying this, Rodowick proposes that the “mongrel medium” of cinema challenges a fundamental aesthetic distinction, that between the autographic and the allographic arts.

As Nelson Goodman first defined them, *autographic arts* are arts of signature, limited by the action of the artist. An autographic object is concluded once the artist has completed her or his work; it is therefore unique: “any repeated manifestation must be either a copy or a forgery” (ibid: 14). This description suits all of the plastic arts and, in spite of its mechanical reproducibility, even photography – traditionally understood as “a unique record of a singular duration” (ibid: 15), the originality of which could be attested by the film negative. *Allographic arts*, in contrast, are those “amenable to notation” (ibid: 14), such as drama or music. They entail an essential difference between composition and performance, making them “two-stage arts.” An allographic object, conceived in a first stage, is only concluded upon its presentation in a second stage.

According to its presumed photographic nature, the movie would be a simple autographic object – a moving picture. As the signature of the moviemaker, the work would be entirely contained in its support of inscription. In that sense, its immaterial existence, as a phenomenological effect, would be as immanent to this artefact as an *aura*. If that were really the case, it is no wonder that the obsolescence of the movie’s physical support of inscription becomes a critical concern. Either in a

historical situation (e.g. the end of film) or in a particular one (e.g. the degradation of a family videotape), this obsolescence puts an end to the conditions for autography.⁵

However, the definition of the movie as merely autographic is already brought into question by its temporal dimension. Duration is not a quality pertaining to the physical support, but an effect of its enactment by the cinematographic mechanism. The physical support has to be projected in order to result in a moving image. The duration of the movie has to be enacted; it always depends on another stage to become manifest – a stage one could call the *situation of projection*. Hence, the dual nature of the movie can be characterized as follows: at the very moment at which it exists as a unique, original *viewing*, the movie is also a notation of its screening, and therefore of its experience. As such, it necessarily tolerates repeated manifestations – any one of which is no less original than another.

Admitting the allographic qualities of the movie, Rodowick also calls attention to the fact that there is no single cinematographic act. The movie results from “multiple creative acts performed both before the camera and afterwards, in the postproduction processes of editing image and sound” (2007: 15). After assuming the notational character of the movie-object, one could go further and think about the movie as the result of a series of technical processes, enacted not simply during its production, but also throughout its distribution and consumption. Comprising the activities of the moviemaker, of the projectionist and of the spectator alike, this would account for the whole circulation of the movie, providing us with a glimpse of the total apparatus that is the cinematographic circuit.

In the same way that it denies autographical self-containment, the movie’s existence would also challenge allographic performance. If one agrees with the fundamental agency of the audience proposed by Metz, one has to assume that the movie comes into being only when it is watched. Thus, the projected image is not a performance secondary to a visual score; it is an intrinsic part of the creation of the cinematographic work. How, then, could one trace a division between a first stage, in

⁵ I suppose the obsolescence of the movie’s physical support should be considered a critical concern, but because it disorganizes standards, making the circulation of a particular work more complex.

which the movie is composed, and a second one in which it is performed? It seems that the *potentially repetitive* movie only exists because of its *essentially autographic* enactment by the engagement of each and every spectator, in each and every one of its possible instances. That means that projections would not be mere *stages* for the exhibition of a form already defined in the movie's physical support, as might seem to be the case at first. On the contrary, projections would be the processes that essentially conclude a movie's production.

In order to understand the importance of projection, let's consider the exemplar case of *film projection*. To some extent, the enlarged moving images that appear on the screen are the result of automatic and prescribed operations over what was already inscribed on the film itself – *but this is not only what they are*; they are also the visual consequence of the very film projector, an effect of electro-mechanical engineering. Could the projector then be considered as part of the movie's notation? Would every movie be a collaborative work, the result of a partnership between the filmmaker and Bell & Howell, EIKI or Chinon?⁶ Or, to put it under a machinic perspective, could the film be taken as just an insufficient part of the projector? However it is phrased, the answer to this question seems to be affirmative. The projector and the movie's physical support must necessarily operate together in order to produce a cinematographic image. They are not associated in the same notational way an orchestra is with a symphonic score; they are connected like musicians to their instruments. The projection results from their confluent relation.

Therefore, the image is a form present not simply in the movie's support, but *in its situation of projection*. Before projection there is obviously no movie – no autographic, unique viewing. Furthermore, before projection there is no notation of a viewing or of an experience either. There are simply mechanisms. The notation is only presumed *after projection*. As Rodowick states, the movie is not “a haptic object or a stable self-identical form” – no pre-inscribed autograph or notation –, but “an absent, indeed an *absenting*, object” (2007: 22). It is impossible for it to be pinned down to a one- or two-stage regime of existence, because the movie is apparently concluded *elsewhere*. Only when the circuit is entirely run through and

⁶ Film projector brands. Personally, I would not mind sharing the production credits of a knife all blade with Nokia, the manufacturer of the cameraphone I used to record it.

the movie is nowhere to be found, it then *appears* – that is, it is made present as the missing negative, as it is thus finally *projected*. In that sense, I propose that the movie should not to be considered *a form that circulates*; but *a form that results from its circulation*. As its very name implies, a movie can even be invisible; what it cannot be is *immobile*. Only when circulation is complete does the movie attain the singular integrity of an object. The closure of the movie – its consolidation as a defined, autonomous form – corresponds to the closure of its circulation.

Nevertheless, the movie still appears to be self-contained, ontologically separated from the apparatus, and independent of its circulation. This autonomy is implied even in the traditional framework of cinema studies. On the one side, there are filmmaking premises committed to the rationalization and maintenance of *production* as the creation of a complete work; on the other, there is a critical theory that treats the apparatus as a fixed, technical landscape for *consumption*, one that is extraneous both to the movie and to its public. In-between them there seems to be an obvious lack of a theory of movie circulation – one built on the allegory not of the optical film nor of the visual screen, but of the *mechanical projector*.

Later in this chapter, and more particularly in the following ones, I will argue that this epistemological void and the illusory division it perpetrates are also collateral effects of circulation, which suppresses itself once it is completed. But before plunging into the *denied distances* of the cinematographic circuit and trying to make sense of them, let's have a more detailed look at the aforementioned theories of the apparatus and of filmmaking, as they also seem to perpetuate the illusion of the movie as a closed form.

3.1. Manufacturing wholeness (in the Russian avant-garde and After Effects)

The idea that the movie is not a closed form may at first sound as a mere transposition of Umberto Eco's concept of the "open work" to the field of cinema. Nothing could be more mistaken. Eco characterizes open works as those that reject "the definitive, concluded message and multiply the formal possibilities of distribution of their elements" (1989: 3). As examples, he cites contemporary

musical pieces in which “considerable autonomy [is] left for the individual performer,” who “must impose his judgment on the form of the piece” (ibid: 1). Thus, an open work would be an allographic piece with fundamental gaps in its notation, which must be filled during performance. According to this definition, movies would not be open at all. Generally, a movie is not different from a traditional work of art, in the sense that it is “a complete and closed form in its uniqueness as a balanced organic whole” (ibid: 4).

Furthermore, even the most “open” movie would never allow proper modularity. The automation of the movie’s “performance” – its *playback* – depends on the tight definition of its structure. As I said above, the movie’s support should more appropriately be seen as an instrument, not as some sort of “audiovisual score.” By stating that this instrument is not closed what I imply is that the “balanced organic whole” of a movie is not self-contained. Some of its most essential dimensions are actually determined by its technical underpinnings – what cinema theory has commonly called the *apparatus*. The duration of a film, for example, is not intrinsic to the film: it depends on the speed of the projection mechanism.

However, traditional premises of filmmaking seem to ignore these technical circumstances, as though it was possible to produce the movie as an autonomous form, which encompassed not only its aesthetic elements, but also its phenomenological effects. In the following subsections, I give two examples of such premises and proceed to offer a critique of them. The first is that of *temporal continuity*, as defined by the formalistic ideals of the Russian constructivist avant-garde. The second is *spatial integrity*, which seems to be completely attainable with the motion design possibilities of the After Effects software.

3.2. Temporal continuity and film montage

The most obvious exercise of the temporal qualities of the movie lies in the *narrative*, which is normally characterized by a high degree of economy. Professional handbooks suggest trimming the screenplay with the sharpest Occam’s razor; whatever is extraneous to the story is to be summarily discarded. Each scene

must be concise and convey as much information as possible, generating resonances and synergies that add up to the movie's internal integrity: with one shot, the protagonist is presented and the genre is made clear; a simple cut exposes both the physical setting and the relationship between the characters. Sean Cubitt says that this economy is driven by "the aesthetic of the organic unity," according to which "the ending of the well-made film structures everything that went before" (2004: 67).

According to Cubitt, the fundamental unity of the narrative structure is the *cut*, which "multiplies unities in hierarchies that always strive for higher levels of unification" (ibid). The final unification of these cuts is achieved through *montage*, their assemblage according to particular techniques. Montage must be kept tight, producing *faux raccords* and preserving both the manufactured continuity of diegetic space and the dialects of meaning. These effects of coherence are achieved *rhythmically*, as the movie captures and tunes the audience's attention to its pace. Mesmerized, the spectator is led from one image to the next as though the screen was a projection of his own gaze – "mobilized and virtual," in the words of Anne Friedberg (1999).

Significant principles of film montage were formulated by the directors associated with the Russian avant-garde during the 1920s. The renowned filmmaker Sergei Eisenstein found the poetic model for its techniques in Japanese *haiku*, three-verse poems with a restricted number of syllables (1992: 129). The haiku is an eminently descriptive form, from which metaphors and other figures of language are banned. For Eisenstein, such laconism compels the active engagement of the reader with the text: it creates gaps into which the reader projects himself (ibid: 130). Through this process, the text is elevated from a representational articulation of signs to a psychological arrangement, producing complex atmospheres and sensations. In other words, the formal economy can place the reader *within the writing*. Similarly, correct film montage rely on the viewer's imaginative labour, which transforms moving pictures into an intellectual discourse, able to "change the meaning of individual shots [...] or, more precisely, to construct a meaning from separate pieces of pro-filmic reality" (Manovich, 2001: 149). Therefore, in this classical model, the whole cinematographic experience also depends on the rhythmic qualities of the filmwork.

Montage defines more than the film's duration; it consolidates its form, creating a cohesive whole from discrete parts. Moreover, it does so in a way that anticipates the meaningful engagement of the spectators, subjecting the experience of the medium to the pre-planned intentions of the moviemaker. This formal economy seems to make the movie entirely self-contained, producing both its internal identity and its external stability, and thereby isolating it as an object autonomous of the structures of production and consumption. Put into these terms, it is not hard to understand why Lev Manovich states that media prior to electronic technologies essentially relied on montage (2001: 143). Like the most successful design strategies, montage produces an object compatible not only with the *logical directives* of cinema (such as telling a story), but also with the *physical contingencies* of its circuit. For instance, montage makes the most of the scarce material resources and time availability in cinema's industrial underpinnings. Just as the resulting film neither lacks nor exceeds "meaning," it fits perfectly into the theatre's screening programme (and, nowadays, into home disc's storage capacities). The organic unity of the film corresponds to the definition of a fixed length that allows the standardization of its economic exploitation. By doing so, it fosters the proper organization of cinema.

In that sense, should it be assumed that montage not only contains the movie as a whole, but also sustains the logic of cinema as we know it? Not entirely. As Cubitt himself states, before the cut is even possible, the movie has to attain the more fundamental quality of *the pure movement of images* – and this pure movement, as disorganized as it may be, depends on the proper adjustment of film to a matrix of "pixels" (2004: 22). Cubitt borrows this term from digital media to refer metaphorically to the standardized breakdown of continuous movement in discrete frames. Thus he describes how

[t]he moving image [...] begins life as a grid, dependent on the accurate registration of the frame in front of the lens of the camera-printer-projector of the Lumière cinematograph. Cinema starts out as a raster display, but rather than a spatial map like the bit map of computer images, it is a map of time. The frameline separating frame from frame distinguishes between past and future, negative and positive time, so that the frame itself, the present, appears as their pure difference, the moment of cinematic motion. (ibid: 32).

Therefore, the rhythmic continuity achieved through montage is not entirely contained in the final form of the film object; it also results from its enactment by the apparatus. The total control of the moviemaker over the work depends on her submission to the rules of this device. More importantly, the temporal duration of a movie, the essential dimension that separates it from a photograph, is not intrinsic to its “form,” but is an effect of cinema’s technical underpinnings. Even the most fundamental cinematographic operations, such as montage, are conditioned by the specifications of these underpinnings.

3.3. Spatial integrity and digital compositing

Different from its temporal duration, the movie’s spatial dimensions seem to be entirely contained by its support. This fact can be attested by the isomorphism between the film frame and the projected image. Even though a picture is often formed by separated elements, they are all integral to the individual frames. This wholeness of the cinematographic image is reinforced by rules of visual composition that were inherited from renaissance painting through the practice of photography. In general terms, compositing entails techniques for arranging different objects “in such a way that their separate identities become invisible” (Manovich, 2001: 136). Thus, the picture attains internal equilibrium and unity.

The original, photographic technology of cinema generally limited this organization of elements to the pro-filmic setting. Even so, Lev Manovich finds some early examples of post-production compositing in the *trompe l’oeil* of the movie theatre screen and in the “spatial” montage that occurs within a shot (ibid: 146, 148), which could be exemplified by Georges Méliès’ camera tricks. These possibilities have been largely expanded with the advent of electronic and digital technologies, which made still images themselves discontinuous. Rodowick states that, due to their technical constitution, such images are “always ‘montage,’ in the sense of a singular combination of discrete elements” (2007: 166). Thus, video brought about the technique of *keying*, which allows images to present a seamlessly “hybrid reality, composed of two different spaces” (Manovich, 2001: 150). This made possible what Manovich characterizes as *ontological montage*, further normalized by digital media:

“the coexistence of ontologically incompatible elements within the same time and space” (ibid: 159), such as the appearance of the same person in different parts of the image, without ruining its visual consistency.

Spatial compositing was spread throughout the whole process of moviemaking, and became one of its axioms – sometimes prevalent within regular film editing. A good example of this change of paradigm can be found in the movie *Russian Ark* (2002). Even though it is composed by just one (highly choreographed) long shot, *Russian Ark* consists of about “30,000 digital events” (Rodowick, 2007: 165), each one a “discrete alteration of image or sound data at whatever scale internal to the image” (ibid: 167). These events could be anything from a simple adjustment of the colours of a character’s hat to the transformation of the whole lighting of a setting or even the inclusion of falling snow in one scene. Therefore, although one might think that the integrity of the image results from the calculated arrangement of the pro-filmic setting, in fact it was largely created in post-production. The movie did not result only from the choreographed long shot, but also from the many hours of digital compositing that came afterwards.

Hence, moviemaking techniques seem capable of fabricating not only the continuity of diegetic time, but also the very integrity of the cinematographic image. This complete control over compositing could be represented by software applications for motion design and post-production such as Adobe After Effects. With this kind of software, digitized images from the most diverse sources can be completely adjusted to each other. These images are organized in separated layers, which can be animated in a number of sophisticated ways, and then combined through different modes of transparency and overlay. The layers are then processed together, compressed and exported in a separated movie file, as though it had always constituted a single image sequence.

There is no doubt that the resulting movie presents a complete *invisibility of layers* and a *continuity of movements* (Rodowick, 2007: 170). However, this only reinforces the illusion that the movie contains the complete image, even though it does not in fact do so. Just as the duration of the movie depends on its enactment by the apparatus, so does its visuality. Despite the isomorphism, the cinematographic image

is not contained in the film. There is at least a difference in size between the projected image and the one on the celluloid reel – a difference that is nothing if not *fundamental* to cinema.

Digital technologies make the movie even less of an integral, self-contained form. A digital movie cannot exist apart from the system in which it runs. To repeat Rodowick's maxim, *digital images are always montage* (ibid: 166). It is naïve to think that this condition only refers to their situation during moviemaking, and prior to exhibition. As Matthew Kirschenbaum states, "the visual and aural experiences" generated by a media player software are "an artefact of their own formal particulars" (2009: 103). The digital movie file exported from *After Effects* is no more continuous than the arrangement of individual visual assets in the software interface. Down to its core, the file is just a collection of codified binary data, which "means" nothing if the playback system cannot decode it – i.e. if the system does not "know the rules" it will be incapable of assembling the images from the code.

Of what do these rules consist? Besides the use of the right software, digital movie reproduction also requires the proper codecs. Codecs are algorithms for encoding and decoding audiovisual information: "they scale, reorder, decompose and reconstitute perceptible images and sounds so that they can get through information networks and electronic media" (Mackenzie, 2008: 48). Establishing a universal paradigm for the compression of information, codecs reduce drastically the size of a movie file, allowing its effective storage and transmission through digital means. J. D. Lasica proposes that it is only because of the MPEG-2 codec that DVDs became a viable support for movies. This codec reduces by 97% the amount of data needed to store moving image information, making it possible to contain an entire feature film on one versatile disc of 4,7 gigabytes without any significant loss of quality (Lasica, 2005: 88).

One could say that codecs set standards of data organization, making it possible to run the same audiovisual information in the most diverse hardware. A movie codified in the popular h.264 format can equally be played in Linux operational systems, portable media players made in Taiwan, the last generation of mobile phones and in the *Apple TV* device. Contrariwise, if the right codec is not installed,

the movie cannot be viewed at all (Mackenzie, 2008: 48). The fully composited *Russian Ark*, for instance, would result in no image, were it run in a computer that did not have the proper codec.

One might argue that this is pretty obvious; that it is like trying to show a film without the projector. Indeed, it is. But as demonstrated above, the film is but part of the projection apparatus. Likewise, the movie file is just a piece of the playback system. What is seen on the computer screen is not something contained in the movie file; it is the computer itself. The movie file is software: a data pattern that arranges the computer mechanism according to human (audiovisual) languages and systems of representation (Kittler, 1995). In order to do this, it must necessarily interact with other algorithms, such as the codec. Thus, codecs not only “influence the very texture, flow, and materiality of sounds and images” (Mackenzie, 2008: 48), but they are a constitutive part of movie visuals, as important as the movie data file. It could even be said that, when a movie is viewed on a computer, what is being seen is the work of codecs unpacking and organizing binary data according to their own complex spatial logic (ibid: 51).

Codecs have particular visual qualities, which are normally organized in favour of the image of the movie.⁷ Nevertheless, these qualities can become foregrounded in certain circumstances: for example, in the case of very high data compression or system glitches – or when there is no movie image to organize. What is shown in *a knife all blade*, for instance, is essentially the bare result of the cameraphone video codec. Some other works go much further in the exploration of this suppressed aesthetics as a way of criticizing the figurative primacy of film. One could mention, for instance, Sven König’s *aPpRoPiRaTe!* (2005), a script able to disorganize any movie file’s frame sequence while keeping the logic of codification, thus transforming it into a confusing mass of pixels. The ambiguous forms produced by this process can be very visually appealing, and it comes as no surprise that such kind of “codec aesthetics” have recently gained a catchy nickname (“datamoshing”) and became popular as a sort of *special effect* used in music videos such as *Szamár*

⁷ Although a study of the aesthetic qualities of video codecs is yet to be made, Rosa Menkmann did an extensive comparison of still image compression in her *Vernacular of File Formats* (2010).

Madár (David O'Reilly, 2008), *Evident Utensil* (Datamosher, 2008), and *Welcome to Heartbreak* (Nabil Elderkin, 2009).

3.4. The continuity and integrity of circulation

My intention in this section has been to demonstrate that the fundamentals of moviemaking, like montage and compositing, make a promise they cannot fulfil: that the movie in which they result is a complete form, with well-defined temporal and spatial dimensions, self-contained in its (analogue or digital) support. As I hope to have shown through the examples above, the film only has duration in the projector, and the video data file is only visual due to the playback applications. Therefore, the actual form of the movie depends on its enactment by the apparatus, making the movie's support no more than a piece of this mechanism. This means that the movie does not result from its mere "production," but from a collection of practices that go beyond moviemaking, and are enacted throughout the different, interconnected apparatus that constitute the circuit. The movie depends on the continuity and integrity of this circulation.

In the following two chapters, I will take a closer look on the concrete results of movie circulation through different technological regimes. In the fourth and fifth chapters, I will push forward the hypothesis that the standardization of cinematographic structures, in order to establish platforms for the normal operation of the medium, crystallizes the circuit in such a way that it becomes impossible to perceive the fundamental effects of circulation. However, before proceeding with these more elaborate assumptions, it seems fruitful to go back to the theories which I have just claimed to represent the essential counterpart of the movie's support: the cinematographic apparatus.

4. A genealogy of the apparatus

4.1. Origins: situated experience and the propagation of ideology

Ever since the beginning of cinema, the interplay between material structures and immaterial experience has been a subject of interest. As early as 1916, the psychologist Hugo Munsterberg attributed part of the responsibility for creating the psychological meaning of the “photoplay” to the architecture. The theatre would operate as a cognitive channel, foregrounding a certain mode of perception. Captured, the involuntary attention of the spectators would inform their bodies and minds, thus subtracting the very space of projection from view – in the words of Munsterberg, “external circumstances would bend over to the exigencies of consciousness” (1916: 33).

We became used to calling this mechanism, which enables the movie by suppressing itself, the *cinematographic apparatus*. Actually, the concept of apparatus only entered cinema studies in the 1970s, borrowed from Louis Althusser’s structural Marxist theories. For Althusser, apparatus are organizations that embody and propagate ideologies. Jean-Louis Baudry took this idea and imported it quite literally into the field of cinema, where he found the most powerful of all apparatus: one that takes the place of the very cognitive mechanisms of the public (1983). In Munsterberg’s early account, the theatre was almost an excuse for the meaning of the photoplay. Baudry proposes the contrary: that the psychological effects of the structure that “animates the spectacle” would always be paramount to those of the spectacle itself (1983: 397-398). According to Baudry, the cinematographic apparatus would substitute the (cognitive) organs of the audience with an ideological form. In that sense, the “exigent consciousness” mentioned by Munsterberg would not belong to the spectators, but to the *apparatus*, imposed over the public. Likewise, the “external circumstances” of the apparatus would not be *forcefully bent* by this consciousness; they would sneak out of its way, offering the movie as a diversion. Baudry’s apparatus is not one that is overlooked by a distracted audience; it actively hides itself in order to accomplish the cyborg takeover described above.

In this lies the birth of the modern critique of the medium, as an intellectual attempt to unveil the logic of operation of apparatus. Over the years, this effort has become less strictly political. For instance, where Baudry finds a mechanism overpowering the audience, Christian Metz sees an interplay between machine and human perception. Like his predecessor, Metz acknowledges the importance of the apparatus as the core of the cinematographic institution – a social structure that ties together the industry and the public (a “mental machinery”). Nevertheless, for him the ultimate aim of this mechanism is not ideological propagation but “filmic pleasure” (Xavier, 1983: 422). By foregrounding this almost pure mediatic function of the apparatus, Metz attributes a complementary role to the audience, proposing that the cinematographic experience would be based on two-level voyeurism. He states that the identification of the public with the mechanism is a pre-condition for the acquisition of the pleasure entailed by identification with the story (Metz, 1983: 405). Hence the materiality of the apparatus has necessarily to be taken into account by the audience if the immateriality of the movie is to become manifest.

Even more than Metz, Jean-Louis Comolli characterizes the apparatus as a sort of reflexive social dynamic – one that “manufactures representations” but also “manufactures itself from representations” (1985: 741). Once again, the hub of this interaction is the audience. However, contrary to Baudry and Metz, Comolli acknowledges a fundamental complicity between the public (an “ideological and social subject”) and the mechanism. He challenges the idea that the public is a passive consumer, stating that “there is no spectator other than one aware of the spectacle.” That means that, while watching a movie, the audience is also operating the cinematographic apparatus – it is *working at fooling itself* (ibid: 757-759). This idea elevates Samuel Taylor Coleridge’s concept of the *willing suspension of disbelief* to a technical procedure that describes “the heart of the viewing process” (Ferri, 2007: x). It implies that the audience does not ignore the mechanism whenever the apparatus holds its attention, but rather that the apparatus is able to hold the audience’s attention while they overlook the mechanism. In these terms, the very phenomenology of viewing becomes a collateral effect of a personal, active suppression of the mechanism’s technical materiality.

4.2. Reflexive construction of norms and behaviour

In the definition proposed by Comolli, the audience is so integral to the apparatus that its activity becomes almost complementary to the workings of this mechanism. Sean Cubitt makes this even clearer, when he says that there is an “isomorphism between projection and ‘audiencing’” (2004: 172). In that sense, it seems reasonable to correlate the *psychosocial structure* of the apparatus with the *metacultural dimension* of the *public*, using this term in the way it is defined by social theorist Michael Warner (2002). According to Warner’s concept, the cinema’s public would not be the mere aggregate of strangers constituting an audience but it would be a kind of rhetorical fiction composed of *norms of behaviour* (ibid: 25) and *conventions by which experience is instantiated* (ibid: 23). More than an *external* ideology, these *internal* norms and conventions are what seem to be implicit in Comolli’s view of the apparatus. Thus, to be within the apparatus would be to take on the position of its public, adhering to an implied behaviour that is *cinematographic experience* (resulting, collaterally, in the phenomenology of viewing).

Not existing apart from the “discourses” that address it (ibid: 72), the public could be seen as a kind of *negative of the apparatus* – the complementary opposite of the mechanism. This articulation of terms can produce an interesting insight into how the implicit modes of operation of the apparatus come into place. In the way it is defined by Warner, “anything that addresses a public is meant to undergo circulation” (ibid: 91). Hence, the creation of the social space of the public would not be defined in particular, localized, discourses, but by “their reflexive circulation” (ibid: 90). This means that, just as they do not directly reflect an external ideology, the modes of operation of the apparatus do not reflect its mechanical logic, but rather the way this logic is articulated socially. The internal conventions of any apparatus are actually created outside of it, in the public negotiation with other conventions, and in such way they are also promoted. This calls attention to the historical, hybrid construction of the “original” cinematographic apparatus, differing from but also drawing upon already instituted norms such as perspective projection, early optical devices, vaudeville spectacles and the bourgeois theatre. Furthermore, it suggests that the mode of operation of cinematographic experience is also institutionalized.

The consolidation of the public represents the normalization of such institution, the point at which it reaches the stage in which, although it still has to be learned, it seems *natural*, and its process of acquisition become imperceptible.

It is through the public, and more precisely by means of its experience of the medium, that the institutionalization of the cinematographic apparatus is completed. This process of habituation is clearly revealed in situations that challenge circuit standards. I will now briefly consider some cases of this: one work that promotes a new technology, another that resorts to the old conventions of cinematographic consumption, and finally one that was appropriated by a subculture – or, to use Warner’s term, by a *counterpublic*, one that disagrees with the norms and contexts of the larger environment (ibid: 63).

The first example is the slasher movie *Freddy's Dead: The Final Nightmare* (1991), whose theatrical release had one scene in 3D. Special glasses were distributed to the audience before the movie, but they were not to be used throughout the whole screening, only during that particular scene. It was the climax of the story, inside of the mind of the immortal psychopath Freddy Krueger. To explain to the audience how to use this device, the movie resorted to a very cheap narrative trick: when the moment came, the actual *character in the movie* who was going to get into Freddy’s mind put on 3D glasses which were similar to the ones the audience had received. (The glasses disappeared from the character’s face as soon as they were put on, like a proper apparatus should do.) Although it is disguised within diegetic reality, this strategy addresses the public from outside of the movie: it informs them how to understand technology in order to engage with and have the proper experience of it. In that sense, it is not fundamentally different from those warnings screened before the movie, informing the audience to turn off their mobile phones or where to go in the event of fire.

The second example is *Grindhouse* (2007), a work full of references to the universe of exploitation cinema both in its plot and in its structure. The most radical aspect of this is that *Grindhouse* actually comprises two different movies by different directors: *Planet Terror* (by Robert Rodriguez) and *Death Proof* (by Quentin Tarantino). The movies were to be shown together, one after the other, emulating the

double feature screenings typical of the cheap “grindhouse” theatres of the 1960s. Before and in-between them, there were some fake trailers made by guest directors, contributing to the general mood of parodic homage. For the multiplex audience, it was easy to grasp the “simulated” references: the appropriation of genre conventions; the fictional trailers; the computer-generated scratches on the image; and even the “missing reel” announcements. However, the public seemed to resist the idea of having two unrelated feature films being screened together for the price of just one ticket. According to a report about the work’s first commercial exhibitions, “many film-goers have been confused by the movie’s structure” and left the cinema “en-masse” before the end of the session, as soon as the first movie reached a satisfactory resolution (guardian.co.uk, 2007). Hence, the public was not able fully to conform to this re-enactment of the old conventions of cinema, something essential not only for the proper experience of *Grindhouse*, but also for its complete viewing. This shows the extent to which, once the audience’s expectations are consolidated, they might prevent radical changes in the apparatus (even when these changes mean a simple revisit to previous norms). The production studio learned the lesson: in DVD and international releases, *Grindhouse* was distributed as two normal, separate movies.

My final example shows the extent to which the public can define the mechanism’s mode of operation, establishing supplementary forms of experience. The case in point is *Rocky Horror Picture Show* (1975), a feature film based on the stage production of similar name. It became a cultural phenomenon when, two years after its release, it was introduced into the midnight movie circuit and gained a cult following. Regularly promoted at Halloween and other special occasions, its screenings have acquired a party-like atmosphere. The experience of *Rocky Horror Picture Show* involves much more than watching the movie. The audience goes dressed-up like the characters and behaves in a very special way. It would not be an exaggeration to describe the role of the public as a *performance*, requiring props and rehearsed lines. Among other things, the spectator is supposed to throw rice at the screen during the wedding scene; shout “asshole” every time the character Brad appears; and enact the “time warp” dance choreography (Freeman, 1994). Responding with relative precision to the film script, this mode of audience engagement also fulfils a kind of montage outside of the screen. How can one deny

that these acts are an integral part of the movie experience, if they represent its major appeal? The spectators perform and watch one another perform; the movie is just a backdrop for this exchange. In that sense, *Rocky Horror Picture Show* should be seen more as a kind of karaoke sing-along than as a music concert. This mode of behaviour is recorded and passed on spontaneously during the screenings or through unofficial channels such as fan forums. One can presume that a certain degree of convention must be in place to ensure the precision and maintenance of the ritual. In that respect, this informal tradition can be as authoritative as the sanctioned one: a counterpublic is also a public, working “by many of the same circular postulates” (ibid: 113). Just like any other group of initiates, the fans of *Rocky Horror* even have a derogative name for first-time participants in these screenings: they are called “virgins.” “Virgin guides” abound on the Internet, telling neophytes how to behave in order to have the “proper” movie experience.

These examples suggest that spectators actively take part in the apparatus not only in the situation of watching, as stated by Comolli, but also through contingencies that confirm and prepare such situation. In that sense, the proper immaterial experience of cinema is not conveyed by the operation of viewing alone (as was shown by the case of *Grindhouse*), but constructed through operations sometimes having little to do with image consumption (as in the appropriation of *Rocky Horror Picture Show* by its aficionados). Therefore, bringing Comolli and Warner together, one sees how the theory of the apparatus can start to develop towards the idea of a circuit: of the necessary localization of each mechanism and its operation in relation to others. However, something essential is still missing from the equation: the apparatus itself.

4.3. Functionaries and programmers

If the organization of the apparatus can be so easily explained in Warner’s metacultural terms, and if its modes of operation can be substituted by acquired social norms, what are the true implications of its *technological constitution*? It seems that apparatus theory has never been a way to deal directly with the question of technique, but a way to avoid it, favouring external, final causes of mediation (the psychology of the movie, the propagation of ideology, the phenomenology of

viewing, etc) over the “internal,” technical causes of the mechanism. Whatever their constitution may be, mechanisms become their expected operation: a motor-driven device used for film projection and a light cannon with a digital processing chipset are both *projectors*; a stretched white cloth and an electronic pixel matrix can be likewise employed as *screens*.

This approach may explain the mediatic “failures” of *L'Arrivee d'un train...* and *Grindhouse* as misunderstandings on the part of the public about basic structures of the mechanism. However, it does not shed much light on why *a knife all blade* was interrupted by the projectionist, who was supposed to know what he was doing, nor does it explain why the audience did not realize that the images they glimpsed before the projector was shut down were indeed part of the interrupted movie. To think this case through apparatus theory, one must entertain two possibilities: 1) that the *projectionist* is also part of cinema's public, who is allowed to “misunderstand” the mechanism, and 2) that the *image* is also technical, and as such defined by public norms and conventions. Within the apparatus, some things do exist as movies, while others, in as much as they might be inscribed in film and projected on screen, do not. Both ideas seem to call for more critical considerations about the technological constitution of the mechanism, as well as of the image.

In order to examine the technological constitution of cinema, one might resort to Vilém Flusser's contributions to apparatus theory. Flusser brings new actors into our context by referring to photographic practice and its particular mechanism, the camera. For him, apparatus would be “products of applied scientific texts,” which automate and embody techniques of image production (2000: 14). By texts, Flusser does not simply mean *discourses*, but *formulae* that abstract such techniques and make their mechanical implementation possible. By abstracting these processes, apparatus take them out of the reach of the users, ritualizing its own models of operation. In that sense, apparatus are *black-boxes* that hide technical procedures from the users' scrutiny: all that can be seen are the inputs and outputs of such procedures (ibid: 16). According to this perspective, what would be implicit in an apparatus would not simply be a certain ideology or norms of behaviour, but those pre-defined processes of image encoding, which Flusser calls *programs*.

However, the specific program of an apparatus is never its absolute reason or cause: it always exists as a function of *meta-programs*. Beneath the program of the camera, there is “the one composed by the photographic industry (which has programmed the camera), another composed by the industrial complex (which has programmed the photographic industry), another composed by the socio-economic complex, and so on” (ibid: 29). To this hierarchical organization as sketched by Flusser, a transversal arrangement could be added: in the same way that it responds to the meta-program of the industry, the program of the camera also has to be compatible with that of the projector. Therefore, apparatus cannot be “mere machines:” they are an interweaving of programs that function for the sake of one another, amounting together to a “super-black-box” (ibid: 71). Each apparatus is a constitutive piece of this total organization, which could be understood in terms of a socio-technical circuit.

Flusser’s theory also suggests a more complex organization of the public in two different groups of users, based on their relation with the apparatus. The first are *functionaries* who, as the name implies, work in function of the machine (ibid: 18). All that functionaries can do is to comply with or try to exhaust the pre-programmed possibilities of an apparatus (ibid: 26). The other group are *programmers* who, conversely, create apparatus by the means of programming. Since the potentially infinite structure of the circuit points towards the impossibility of an ultimate program, all programmers should be considered functionaries as well, committed to the rules of another meta-program (ibid: 29).

This proposal is significantly different from that of earlier apparatus theories, which considered only the audience as subject to the effects of apparatus. According to Flusser’s logic, filmmakers and projectionists would be as much functionaries of cinema as moviegoers. Even though one class seems more enabled than the other, they occupy the same level within the organization of the circuit (Ibid: 27). No matter how different their positions inside this structure might be, their operations are equally constrained by consumer technology industries (manufacturers of cameras, software editing systems, DVD players, etc), socio-economic institutions (governmental agency, copyright and market regulations, advertisement strategies, etc) and, of course, by one another.

If it is accepted that filmmaking and moviegoing are equivalent ways of operating apparatus, this proposal could be extrapolated to seemingly secondary practices. What about renting a DVD? Writing a film review? Uploading a video to a website? Making a remix? Organizing a screening session to close friends? All of these practices are ways to engage with the cinematographic circuit and, as I intend to show in the following chapters, all of them are constitutive of movie circulation. Moreover, they inform and shape cinematographic experience, at least in regard to the public contingencies involved in the viewing situation of movies such as *Grindhouse* and *Rocky Horror Picture Show*.

Giving an adequate sense of the importance of these secondary practices, I will put the dilemma of the projectionist who interrupted *a knife all blade* in clear terms. From the position of the “passive” audience, committed to the program defined by the projectionist, the pixel artefacts *could have been* a proper movie, as they were liable to be *watched*. However, the projectionist is only a functionary, and from his perspective the actual program projected seemed to be in conflict with the meta-program of the festival: while the later instructed him to screen such a movie, the first informed him that the screening was not possible. Hence, the apparatus stopped working for him even before it stopped working for the audience (*because* of him). The cascading break of circulation in this circumstance is clear: the projectionist interrupts the screening to save the audience from a supposed damaged copy; the audience, even if they had any doubt beforehand, became convinced that that it was not a proper movie because the projectionist (who knows better) interrupted it.

The only unusual thing about the whole situation is that the pixel artefacts *were a movie* after all. Moreover, the proper operation of projection could be attested by all of its inputs and outputs: not only there was an image on the screen, but the tape itself was in perfect condition and the video player’s timecode showed that it was running as it should. Why did the projectionist presume that the program had failed, against all of the technical evidence to the contrary? One can suppose that he was measuring these outputs according to an even more fundamental meta-program, but which? The specificity of cinema itself? Perhaps, but not as a primacy of photographic figurativeness. If that were the case, he would have shut down any abstract movie. The projectionist seemed to be following an unspoken principle of

non-presentation, derived from the truism that a medium cannot be its own object. This principle will become clearer when I explain the ideas of Hollis Frampton in a later section. It means that, in as much as cinema can *represent anything*, even itself, it should never *present* itself. In other words, the pure cinematographic apparatus cannot be in the place of the movie. If only visual effects of technology appear where cinematographic images should be, then mediation is not working properly. For the projectionist this represented more than an ontological impossibility; it responded to a professional interdiction: to allow the apparatus to come into view – for example, to let a DVD menu or the empty frame of projector light remain on the screen – would be to ruin the audience’s experience and to fail in his task (and risk his job). As the reader should remember, the raw visuality of the cinema underpinnings is exactly what the blind optics of *a knife all blade* intends to foreground. Unaware of the appearance of the movie, all that the projectionist could see on the screen was the bare effects of the apparatus, which had to be concealed. In a way, he did the wrong thing for the right reasons.

5. The image: abstraction of the world/ interruption of the mechanism

In this final section, I will show that even in the more technologically-conscious approach given by Vilém Flusser, the image is still considered as a representation external to apparatus, and not as a visual effect of its mechanism. Additionally, I will demonstrate how this assumption upholds the a-historical autonomy of the movie and the illusion of its fundamental distinction from apparatus, and propose a particular way to approach the materiality of technical images in regard to their circulation.

5.1. Techniques of abstraction

Flusser defines images as abstractions of the world – that is to say, a rationalized reduction of the number of its dimensions. Painting and photography, for example, involve the transformation of “the four dimensions of space-plus-time” into “the two dimensions of a plane” (2000: 8). These procedures of synthesis are realized by means of a certain technique of representation (such as perspective projection), which could be partially or completely embodied in an apparatus (ibid: 14). Therefore, both traditional forms of representation (painting) and technical images (photography) are produced in equivalent ways, with the difference being that the later have apparatus included in their process of making. For Flusser, this simple difference is not superficial but ontological. Since apparatus are products of formulae themselves, images that are produced through apparatus would be “indirect products of scientific texts” (ibid: 14). Hence, while traditional images would be a *direct representation* of phenomena, technical images would be *indirect representations of phenomena* through the *representation of concepts* (ibid: 14). This *indirectness* is difficult to perceive because, due to the black-boxed condition of apparatus, images appear to be “on the same level of reality as their significance” (ibid: 15).

However, from the standpoint I would like to favour in this research, the ontological difference emphasized by Flusser does not seem especially relevant. In the first place, I will argue that images have always been, first and foremost, a direct representation of concepts. Evoking the ideas of philosopher Jacques Derrida, I would say that even the most rudimentary forms of depiction depend on the “accumulation of traces that creates a framework for the graphic system” (1997: 46). Finger-painting on cave walls, for example, rationalizes physical structures and the organization of elements to provide a standard platform for symbolic articulation. In that sense, there are always apparatus involved in the production of any image. Visual representation always refers to this shared framework of operation (which is nothing but a *grammar*) before referring to the world itself. What an image *represents* might be subject to debate, but one can always assume that it *results* from the particular technique that produced it. In fact, this can be subtly inferred from

Flusser's own theories, when he says that technical images "abstract from texts which abstract from traditional images which themselves abstract from the concrete world" (2000: 14).

5.2. The historical dimension of technique

What Flusser seems to disregard is the necessary historical dimension of the production (and destruction) of technical apparatus – that what he calls the "abstraction of traditional images into texts" is a very long and contradictory process, involving years of research, engineering and their social appropriation. This process is nothing else than technological development, which cannot be entirely contained within any one individual device. Underestimating this fact, Flusser seems to naturalize technique, making it something a-historical that could be implemented by any mechanism. Thus his programs remain as immaterial (and as unrelated to the resulting image) as Baudry's ideology. In as much as Flusser's critical method entails the "whitening" of the apparatus' black-box and the disclosure of the mechanisms' internal programs, for his theoretical underpinnings it does not really matter which programs are involved in the production of an image, since its fundamental causes are always localized *outside of the apparatus*. On the one hand, images are just "significant surfaces," and their whole significance rests on these surfaces (Flusser, 2000: 8). On the other hand, what they signify is "something 'out there' in space and time" (ibid). This attention to input and output as the only fixed references for the analysis of the image leads Flusser to disregard the technological constitution of the apparatus, as though it was a mere intermediary, interchangeable with any other.

Therefore, although Flusser brings a more complex idea of technique into apparatus theory, he does not take into account its historical situation, and is not able to go much further than traditional film studies in the understanding of the resulting image. For him, as ambiguous as it might be, the significance of an image can be summed up in the "synthesis of two intentions: one manifested in the image and the other belonging to the observer," and a very attentive look is even able to "reconstruct [the image's] abstracted dimensions" (ibid: 8). One might wonder if this praise for

visual semiotics does not favour the invisibility of the apparatus rather than exposing it. If meaning is what constitutes an image and if this meaning is entirely contained in the surface, there is no real need to plunge any deeper into the mechanism to look for it. Thus, the analysis of the image and the critique of the apparatus do not seem to come together. The consequent separation leaves theory in prey to the medial ideology that not only puts images in place of the world (ibid: 10), but also in the place of the medium that produces them – the *movie* in the position of *cinema*. Cinema studies are thus reduced to the analysis of film. It is not surprising that, under the logic of theories such as this, the movie appears as a self-contained entity, autonomous from its circulation.

How to bring the image together with the mechanism, foregrounding the circulation of the movie? I will start by pointing out how precisely Flusser's theories are inadequate because they oversimplify technological development. In contrast, I intend to push forward the hypothesis that mechanisms are not the mere application of techniques for image production, but instead a constitutive part of this technique – in other words, that the “accumulated traces” that compose the framework for technique are not only texts or formulae, but also apparatus themselves. When one ignores this fact, the framework appears as a pre-defined and stable diagram that apparatus occupy as self-contained processes isolated from each other. This is the description of the circuit that could be inferred from Flusser's hierarchy of programs, which are subordinated to one another, but never involved in any meaningful feedback (with each other and with the “scientific texts” that produced them).

A quick glance at the history of the medium will show how insufficient Flusser's perspective is, especially if we reflect on the “mediatic crisis” provoked by technological development. Let's consider for a moment the illustrative example of the BitTorrent protocol for online file sharing, and how it was integrated into cinema. This technology was originally created in 2001 for the distribution of new versions of the GNU/Linux operational system among its users (Lasica, 2005: 223). Due to its particular efficiency with large data files, it was soon adopted by the movie pirate “scene” as a regular means for exchanging unauthorized digital copies of feature films. Thus, for a while, BitTorrent was considered either largely prejudicial to the cinematographic institution; or its salvation, as it enabled a wide

access to previously restricted works. History is proving that neither vision is correct. An attentive critic can easily perceive how, from its marginal position, BitTorrent is slowly being integrated into the norm of cinema as an alternative standard for movie distribution. It is presently being adopted by “independent” productions such as *Cafuné* (2006), *Steal This Film* (2006-2007), *Pioneer One* (2010), *The Yes Men Fix the World* (2010) and *Tunnel* (2011) (whose publicity included the tagline “On Torrents May 19”). Naturally, such normalization can only happen insofar as the transformation of movies in digital files becomes widely accepted – which, conversely, has been impelled by their dissemination through means such as BitTorrent.

Without going much further into this example, what I intended to show is that a mediatic apparatus does not simply result from the programming of its mechanism nor from the direct implementation of a blueprint, but also from the way the public appropriates and exploits its technology. The uses that characterize an apparatus are not pre-defined, or even fixed; they are constituted and transformed throughout time. In that sense, one could say that the “medial identity” of a technology, or the way it is deployed in conventional cinematographic operations, is never given, but always defined in relation to those of other technologies – those that are already established or forthcoming.

A historical perspective over technological development leads to an understanding of apparatus not as individual objects, but as elements that work together; they are the constitutive parts of a larger technical object that is the circuit. In characterizing the circuit as such, I directly refer to Gilbert Simondon’s philosophical concepts. For Simondon, a technical object is not “something given *hic et nunc*, but something that has a genesis” (1958: 18); its specific qualities result from a process of becoming represented by the development of synergies between its many different parts (ibid: 30). Departing from this definition, one would conclude that the position of apparatus in the circuit is not pre-defined by their individual identities, but arises from their relation to one another. It is this organization of apparatus that actually constitutes the circuit and, reflexively, results in their identities as individual apparatus.

Thus one can have a complete description of the circuit: while its spatial extension comprises every apparatus involved in movie circulation, its temporal duration is that of its *genesis* – i.e. of the process of becoming that connects these apparatus together. In other words, the temporal duration of the circuit is the period of technological development that results in the specific aspects of cinema. If we take this into account, we should start to wonder how this genesis is related to the proper history of the medium. This question will remain open until the fifth chapter of this work, in which I will give more attention to the implications of technological development in the definition of the medium's apparatus and practices. For now, I hope to have shown how the disregard for the historical conditions of apparatus hinders the understanding of the technical constitution of the medium and, consequently, of the image.

5.3. The technical materiality of the image

With the historical dimensions of technology in mind, we can better approach the material particularities of the image, which seem to be neglected by apparatus theory precisely because they are technical. For instance, when characterizing images as *signifying surfaces*, Flusser is very clear about what they *signify*, but does not give much attention to *what they are a surface of*. Paradoxically, in another work, he defines form and material as complementary: “[form] is the *How* of the material, and the material is the *What* of the form” (1999: 25). According to Flusser's definition, there seems to be no possibility to engage with any material except through its forms. At the same time, forms seem to be just particular ways of approaching a given material. To illustrate this, Flusser provides a very simple example: he says that to see a table is to see “wood in the form of a table” (Ibid: 24). It seems that the ontological division he makes between images and technical images prevents him from transporting this idea of complementarity into the theory of the apparatus. Having overcome such division, I hope to be able to extend this logic to my own subject – that is to say, in very simple terms, *that the image should be considered as a form of this material that is the mechanism*. In other words: *that the image corresponds to the surface of apparatus*.

The idea of *surface* seems to provide a comprehensive approach to the material dimensions of the cinematographic image. “Surface effect” is the term used by Friedrich Kittler to characterize mediatic signs that result from the flow of information through mechanisms of storage and transmission (1999: 01). Even though he is addressing the condition of media after the “general digitization of channels and information,” I do not see why a similar notion of surface could not be applied to visual apparatus that preceded computer technologies. If movie circulation is a process of information, it seems logical to characterize the cinematographic image as a surface effect of the mechanisms that allow and carry these processes on.

To illustrate the nature of surface effects, a lecture given by structural filmmaker Hollis Frampton in 1968 is significant. In a rather performatic presentation, Frampton suggested that what underpins cinema is the rectangle of projected light – “a confined space, at which you and I, we, a great many people, are staring” (1983: 194). Cinema would begin as this *bare effect* of the projection mechanism, and images would result from *subtractions* of it, just as a red filter subtracts green and blue spectra from the white light (*ibid*). What should be noticed is that these subtractions are made neither directly on the image nor on the screen, but *in the space of projection*. The image would always be a surface effect of the combined dynamics of the information of the apparatus – of projection and its calculated interruptions.

In Frampton’s description, image and mechanism are complementary in a way that is similar to Flusser’s definition of form and material. As in Flusser’s example, in its engagement with the apparatus, the public does not see the mechanism, but the image. However, the apparatus only appears as a *material* whereas the image appears as its form. It is the interruptions in projection that make the rectangle of light perceptible as the underpinnings of cinema. More fundamentally, it is the definitive interruption caused by the screen that, interposing itself in the way of projection, creates the rectangle of light. Thus, establishing the sensible contours of the apparatus, the surface is where both the (immaterial) movie and (material) cinema become manifested together.

The essential correspondence between image and mechanism is very perceptible in a dynamic situation such as light projection, but can be less obvious in an object such as a photograph, which seems detached from all of the physical structures that produced it. Is the photograph a surface of anything other than the paper on which it is printed? Indeed it is, if one remembers that no apparatus exists in isolation, and each of them is just part of the total apparatus that is the circuit. From this perspective, the photograph appears as the residual trace of a very long and complex chain of processes that started with the sensitization of film and went through different stages of storage and transmission, up to the “final” embodiment in photographic paper. *Final* is in inverted commas because it is naïve to think that the process of information of the image finishes there, since its circulation has barely started. The printed photograph is then shown in different exhibition spaces: it is bought and sold, re-photographed for a newspaper review, stored in humid archives, degrades and goes through restoration. All of this inevitably affects the image, which is always the surface of its accumulated circulation.

The distribution of a movie provokes similar transformations to its image. In that sense, film distribution should be understood as complementary to its enactment by the projector. In other words, the movie results from something more than the operation of an immediate and situated mediatic apparatus. Its image is a surface effect of many processes together, processes that happen in different rhythms and different scales and are not restricted to those that leave marks in the movie’s physical support. For instance, the transport of a filmreel through a series of screening venues over several months is as manifest in the image as the instantaneous projection of light that brings it into view. Likewise, the movie depends not only on physical traces in the actual film, but also on the particular situations and contexts in which the image appears. That is to say that the projected image is the surface not only of film or of projector, but also of the whole theatre situation, which for the public implies a series of expectations and activities such as going to the movie theatre, buying a ticket, behaving in the appropriate fashion, etc. It seems that *a knife all blade* failed because it was disconnected from these processes. While its screening was clearly a visual result of the operation of the projector, for the projectionist it did not seem to result from the process of curatorial selection. Therefore, for the audience, it did not result in the process of theatrical

exhibition. As these operations failed to connect to one another, no movie came to the surface of the circuit. Momentarily, cinema did not exist.

Conclusion

In this chapter, I hope to have shown that the essential dimensions of a movie are not entirely contained in its physical support. The duration of the cinematographic image, and even its spatial measures, result from the operations of apparatus. Such operations, which happen in different rhythms and on different scales, account for processes involved both in the enactment and the distribution of the work, some of which might not even be directly related to the movie's physical support. The outlines of a movie are properly defined only when these processes connect to one another and the circulation of the movie "closes." This fact puts the autonomy of the cinematographic object, as well as fundamental filmmaking activities such as montage and composition, into question. Moreover, it shows that the various apparatus involved in the production, distribution and consumption of the movie depend on one another, as do the different kinds of public engaged with the medium.

As a technical image, the movie can be thought of as the instance in which its processes of circulation are presented, no matter in what form we may find them: images on a screen, files on a hard drive, film reels in a storage vault, etc. Even before it has any meaningful resonance, as the imaginary signifier of an absent signified, object or story, the movie corresponds to the surface effects of the technology through which it circulates. In that sense, it is impossible to detach the movie from its underpinnings – from the socio-technical circuit of cinema.

However, what the failure of *a knife all blade* shows is that it is also impossible to detach the socio-technical circuit from the experience of the movie. In that sense, *surface* might be better understood as a verb – as the final action that closes the circuit, bringing the movie to the fore. It is not an action of machines, but of human individuals: it stands for the way in which processes of circulation are foregrounded by the means of public engagement. Thus, if the image is an abstraction of reality,

the surface is an abstraction of technique, one that defines which technological effects have proper mediatic meaning and value (the image, from which the movie is projected), which are part of the medial structure (the apparatus), and which are seemingly irrelevant for the medium's operation (its side-effects). Paraphrasing Flusser, one might say that to engage with the surface is *to experience the socio-technical circuit in the form of cinema* – which means in the form of a dichotomy between movie and apparatus.

Having established this, it seems necessary to give more attention to how the circulation of movies effectively comes to the surface of the cinematographic circuit. After a critical examination of theories of filmmaking, of the apparatus and of the technical image, I pass onto a direct analysis of the processes of circulation that bind movie to apparatus, as well as those that connect one apparatus to another, thereby forming the cinematographic circuit. In the following chapters, we will see how movies effectively surface in three different regimes of visual media: film, video and digital technologies.

Chapter 2

Movie circulation in the established cinematographic apparatus

Introduction

As we have seen so far, the traditional premises of moviemaking and the classical theories of the apparatus both portray the movie as a self-contained visual form, one that is largely autonomous from its technical underpinnings. I hope to have shown that, contrariwise, both the movie and the apparatus are insufficient per se. On the one hand, to attain the mere state of a sort of “notation of a viewing” (allographic instructions), the movie must be combined with apparatus. On the other, the mechanism of any apparatus could be seen as a necessary component of the autographic substance (as the material) of a movie. The visual form surfaces from the interaction of these elements – which, considering the way one apparatus is connected to others in the circuit, are not only *two*, but *many*. Thus I propose that the movie only exists through its circulation – in other words, that it results from its transport through the chain of mechanisms that constitute the cinematographic circuit.

It must already be clear that circulation implies the *enactment of the movie* in one mechanism: light going to the screen and back to the gaze, film loaded in the projector, tape running in the video deck, electricity flowing through computer chipsets. However, taking into account the interaction of one apparatus with others, circulation cannot be limited to these situated processes. The operations that *distribute movies* throughout the whole territory of the circuit must also be considered: the transportation of film reels from one place to another, the satellite broadcast of television shows, the transmission of data packages through the Internet.

Inasmuch as these scales of circulation seem to be ontologically distinct – one as micro and technical, the other as macro and socio-economic – they are necessarily intertwined in how the material and immaterial circumstances of cinema are defined. The micro-technical scale is not simply contained in the macro-economic one, nor is the macro-economic one entirely driven to make the micro-technical one possible. They resonate with one another as harmonics of the same frequency, establishing the rhythms of movie circulation. Distribution corresponds to synergies that connect one apparatus to another, just as the enactment of form represents the functional reason that holds one apparatus together as a technical object. The coherence of the circuit depends on the attunement of both scales. For example: for film distribution to be effective, the camera must work in accordance with the rules of the projector; that is to say, the technical principles that organize its mechanism for film projection.

The principles that make movie circulation possible are the standards of the medium, which can be both technical (e.g. film gauge; sound specifications; codification algorithms) and cultural (e.g. audiovisual syntax; genre conventions; modes of audience behaviour). Against a technological deterministic perspective, I propose that the standards are not causes completely exterior to circulation; they are negotiated in the process of circulation itself, as technology is employed in the practices that actually connect mechanisms to one another (and end up defining the fabrication of new apparatus). Therefore, just as it results in the movie, circulation puts cinema into place. In the fifth chapter, I will show more clearly how cinematographic practices are involved with each other in the continuing becoming of the circuit, and how this process reflects the specification of the medium.

For now, I intend to analyze how the interaction between the enactment and distribution of movies occurs and results not only in their material dimensions, but also in their “immaterial existence.” My analysis will be based on a comparison between what movie forms are expected from circulation and what actually results from these processes. In order to do this, I will examine movie circulation in relation to three different technological regimes: film, video and “digital media.” In each, I will distinguish a *means of circulation* – a definition of what is supposedly produced, distributed and consumed as a movie. I will also identify a hypothetical *parameter of*

form – which, more than any self-contained cognitive process (such as a phenomenology of viewing), would be a projection of the movie’s *pure identity*. Thus, I will show how these means of circulation and parameters of form coordinate the *operational principles* of each technology within the conventions of cinema. Finally, I hope to demonstrate how technical platforms are accumulated historically, therefore reorganizing circulation and defining the idea of cinema.

This investigation will be continued over the course of this chapter and the next. In the first part, I will give attention to technologies that are already part of the cinematographic circuit, while in the next one I will discuss aspects of digital computation that still have not been fully incorporated into the medium.

1. Photographic Film

1.1. Technical reproducibility and the final cut

Movies first circulated as film, an art form that belongs to the industrial age – one whose production entails the engagement with the technical reproducibility made possible by the factory regime established in the 19th century. No one has analyzed this situation better than Walter Benjamin, the original theorist of modern media. According to Benjamin, at the same time as it makes mass circulation possible, the mode of production of film involves high costs that actually require this kind of diffusion (1996: 172). Hence, film depends on abundant reproduction – if not of reel copies, at least of their screenings. While reproduction harms the autographic ontology of the traditional art object (its “aura”) (Ibid: 167), it fulfils the reproducible ontology of film. One could say that, with cinema, the *hic-et-nunc* of the individual object has been supplemented by the full extent of its accumulated circulation.

Nevertheless, the authentic “original” has not completely disappeared and been substituted by a mere notation. In the regime of film, it has subsisted as the model required by mass production: a matrix to which every reproduction (either copy or screening) refers. One can find the expression of this paradigmatic object in the

film's *final cut*. Final cut is a term that designates both the final stage of montage and the culminating filmwork. It represents the crucial horizon of film production, where the creative practice gives way to its outcome: a discrete artefact that embodies the visual drama in its most unequivocal structure. It is also a mark of authorship, its accomplishment being an exclusive privilege of the film director. Therefore, the final cut would establish a transition between the operations of inscription and those of transmission, creating the impression of a concrete entity completely isolated from the encompassing mediatic processes. It thus conceals the fact that the film, before being the representation of an absent reality, is the result of its production, distribution and consumption – of its circulation.

The illusion of immateriality behind the final cut is betrayed by its very name, which reminds us that the production of a movie actually involves *physical pieces that can be cut*. In that sense, the term also refers to how montage is actually accomplished, by cutting and splicing together footage from separated sources. Contrary to the photographic negative, the final cut is an index not of captured reality, but of its own manufacture. As different sections of film are turned into one reel, different scenes become a continuous narrative; the final cut celebrates the correspondence between these two integrities – the fixation of materiality under and because of the coherence of image. It is deemed *final* because no other cut could be made to the film without destroying its form. Synthesizing the process of filmmaking in an original matrix, the final cut produces the object that every reproduction is a reproduction of. Thus it guarantees that subsequent (public) practices will leave no trace in the movie, preserving the control of absent authorities.

1.2. The commoditisation of experience (in the example of the novel)

Just as it objectifies the image, the final cut seems to enclose the immaterial dimensions of film, or its potential imaginary existence. In order to explain this assumption, I will take a detour to compare the final cut with the *novel*, an artefact that better demonstrates other aspects of the same industrial regime that made film possible. For Benjamin, in the same way that technical reproduction provokes the end of the artwork's *hic-et-nunc* aura, the novel causes a radical change in the way

narratives circulate and are experienced, standing for the definitive commoditisation of the practice of *storytelling*. Therefore, I will approach the novel as a model against which to understand film's industrial means of circulation and its relation to the photographic form.

According to Benjamin, storytelling is a particular regime of narration in which the story only exists by the means of its *enactment*. Under this condition, a narrative is entirely dependent on the figure of the *storyteller*, who “takes what he tells from experience” and “in turn makes it the experience of those who are listening to his tale” (2002: 146). This original intersubjectivity of the story makes it inevitably situated, attached to the actual circumstances of the narrated fact and the present actuality of its narration. Even the most absurd fabrication thus has an empirical dimension, which is normally avowed by its *functionality*: it entails something useful, such as giving advice or shaping morals (ibid: 145).

The characteristics of storytelling can be noticed in the myth, which is not simply fictional, but also *foundational*, and therefore more-than-factual. A modern example would be the (inconspicuously cautionary) urban legends told around the campfire. In this latter case, one can clearly perceive how in storytelling the process of narration is not completely opposed to the experience of reality, but rather an attempt to come close to it. The storyteller normally affirms the authenticity of such cautionary tales by retracing their transmission back to the original experience (usually, of a slightly familiar authority – “a friend of a friend”). In that way, the story seems to register its own *history*, bringing together the reality of the present narration with that of the absent fact that first motivated it. At the same time, the practice of storytelling seems to track its own circulation: some elements that supposedly frame and encompass the narrative are revealed within it.

By means of storytelling, both the storyteller and its audience are involved in a self-reflexive process that seems anterior to the rigid distinction between the production and the consumption of narratives. Every person who has once listened to a story can someday take a turn as its teller, transforming the story in the process. If two storytellers dispute concurrent versions of the same story, the real one would be none of them, but the revision they would operate together. In this dynamic, the source of

the story is precisely “experience which passes from mouth to mouth” (ibid: 144) – and this occurs each time the story is told. A story does not exist apart from its continuous passing-on. For this reason, the story is the perfect example of a form that results from its own circulation. Storytelling should thus be classified as a dynamic process of exchange more than the transmission of the narrative as a pre-defined, discrete and integral form.

Nonetheless, this reflexive regime of existence seems to be limited to forms of oral communication, as Benjamin sees its decline in the rise of the novel (ibid: 146). The source of the novel is, after all, *isolation*: of the author in its *scriptorium*, of the plot between book covers, and of the reader with the text. These new circumstances are brought about by the technical topology of the printing industry and the reconfiguration of the modern city. Responding to them, the narrative is fixated as a physical object; the labour of writing and the practice of reading are rigidly defined against one another. Contained in a book, the narrative seems to flow throughout the environment without being transformed or promoting meaningful interchanges between its public in the same way that storytelling did. In the words of Benjamin, this sort of “autonomy” of the narrative entails a commoditisation of experience (ibid: 143). Hence, in comparison to the story, the novel is the perfect example of a form that circulates. However, this character is not intrinsic to the new literary model, as it arises from the production and consumption of narratives according to the technical underpinnings set by mechanical reproduction. Resulting from similar technical underpinnings, film apparently possesses the same autonomy.⁸

1.3. Circulation in a regime of mechanical reproduction (the case of the film)

Against Benjamin’s gloomy perspective about the demise of experience, one could argue that the regime of the novel entails its own modes of public participation and feedback. Albeit rigid, the division between the conception and circulation of a novel

⁸ In that sense, it is telling that Benjamin has concentrated his analysis of photography precisely in its mechanically reproducible character – to the fact that it can be *printed and reprinted*. Had he focused on the *chemical substratum* of film, which requires processing and development, he would have probably come up with a much more complex idea about the nature of this artefact and the effect it has on the artwork’s aura.

– analogous to that between the inscription and transmission of form – is not an ontological threshold. These activities are complimentary parts of the same circuit. Their correspondence becomes clearer once we take the material substrata of the novel into account. Personal experience does leave meaningful traces within the book (*ex-libris*, dedications, marginalia or other annotations) and without it (word-of-mouth comments, fan-fiction, exegesis, reviews). These traces inevitably inform public circulation and even the printing industry directives. This means that the self-reflexivity of oral storytelling still operates in the printed novel, but on a different rhythm and scale, one that is imposed by its technical underpinnings.

So, how would Benjamin's distinction between regimes of narrative and experience be carried into the cinematographic domain? Cinema appears only to have gone through a condition similar to storytelling during the short, early period in which it was more to do with the spectacle of projection than to the exhibition of films. The film industry soon established its economic underpinnings in the exploration of the movie as a product, crystallizing its enactment. The final cut plays a fundamental role in this definition; it allows the self-containment of the movie in a way similar to how the book allows the novel. However, one must remember that the final cut is only *final* within the medial closure of cinema – an illusion it contributes to maintain. According to the modes of participation in the novel as described above, I would argue that “secondary practices,” such as distribution and exhibition, leave material and conceptual traces in the movie. More importantly, being instances in which the film is actually made public, these practices are essential to the organization of the medium. Thus, they may constitute a privileged – if not the only – focus of experience.

Piercing through the medial filter, one may say that the exchange of experience and the dynamics of information that were once entailed by storytelling persist; all that changes with the new organization of technique is the rhythm and scale on which experience feeds back into itself and into the world. In cinema, this is actually more evident than in the printing press. Contrary to the novel, film copies must be repetitively screened to different publics. This constant re-transmission not only accelerates, but also exposes the process of information of moving images, which continues even after the supposed conclusion of the film manufacture. Once again, it

is medial parameters that prevent critique of taking account of these dynamics, if not as a form of noise and decay.

Film curator Paolo Cherchi Usai goes as far as to characterize film, the platform that originally made the movie possible, as “the art of destroying moving images” (1999: 2). According to Usai, no accident is necessary to “destroy” the moving image. Its very existence and circulation in film is the inevitable condition of a slow degradation, which may be “contained or delayed but not avoided altogether” (ibid: 7). Each exhibition of a movie represents a small aggression to it: the projector’s light wears its colours out, and the projector’s gears corrode its sprockets. Sooner or later, the projectionist will have to cut some damaged frames out of the film reel or they will risk getting stuck in the device during a screening. This preventive, chirurgical destruction of the moving image happens in order to avoid the total destruction of the commoditised experience. Thus, the film director’s final cut is inevitably re-cut by this mere functionary – the most economic form of the moving image, fixated on film, does not resist even one singular screening *precisely because* of the material substratum that allows its fixation.

Of course, being a curator interested in the impossible task of preserving *model images*, Usai seems to hold a highly negative opinion about the results of all this information. Conversely, one could say that the supposed degradation of film reveals the particular aesthetics of the medium underpinnings. This is actually exploited in Nam June Paik’s *Zen for Film* (1964), a piece that consists of an unexposed filmstrip that runs in loop through the projector. With every screening, the film accumulates dust and scratches, and the empty rectangle of projected light is slowly filled with these forms. Thus, a visual rhythm is created, and the movie “appears” as it wears out – not in one single screening, but throughout each of its exhibitions in different years and countries. Being an almost pure effect of naked projection, *Zen for Film* avoids abstracting its own circulation, employing what would otherwise be a negative process of deterioration *for* the production of visual forms. Just like a story, it is a film that records its own history, and cannot exist apart from its continuous passing-on. *Zen for Film* shows that, even after mechanical reproducibility, a movie is a form that results from its own circulation.

1.4. The model image and the conditions for film history

According to Usai, film circulation does not accomplish the flawless storage and transmission of a stable final cut, but a continuing destruction of moving images. In that sense, it seems that the only way to preserve the stability of moving images is *by never showing them at all* – “if the film had never been projected, or if its matrix had never been used for its duplication into a print” (1999: 32). But this impracticable solution is a paradox against the very existence of movies. As we have seen earlier, in sheer pragmatic terms, disconnected from apparatus the images *are not moving*. The movement is not in the images, but in their technical enactment. This paradox can lead us to conclude that the perfect movie, either decaying or inoperable, is always already absent from cinema.

Usai fills the inevitable absence of a moving image with the platonic hypothesis of a *model image*, which is the premise of the moving image’s perfect stability (ibid: 17). Concerned with the actual circumstances of film distribution and consumption, he defines this concept in very empirical terms: “a model moving image is the complex of all the visual information presented to a paying audience in a manner that allows each viewer to perceive such information in its totality” (ibid: 19). Such a formulation opens up the precedent for another reason for the degradation of the moving images, one which is relative to the (lack of) audience attention:

Several actions undertaken by the viewer at the margin of his main task [i.e. viewing] subtract several segments of moving images from *T* [the ideal running time]. However, these actions are often considered as a necessary complement to the viewing experience. In some cases, such occupations take precedence over the act of seeing, thus leaving the image in the background or redefining it as a pretext for other activities (ibid: 24).

Hence, the model image is defined as a *supposed totality*, relative to which both film circulation and audience attention are not simply *external*; they are also obstacles. For Usai, this supposed totality is the necessary parameter that enables the audience to separate movies from cinema – that is, to discern which traces of the screened image constitute meaningful information, and which constitute material

contingencies. In that sense, it would not be different from the “total invention” that the story becomes, after it is embodied in the novel. Usai states that without “contemplating the model image,” one cannot perceive the degradation of moving images (ibid: 20). This means to say that without the premise of its absent integrity, the movie would be entirely in prey to its material circulation and immaterial apprehension: scratches in the film would be seen *as part of the movie*, and the scenes missed because of a sneeze or yawn would *never have existed*.

I have just explained how the model image sets a horizon for experience, differentiating the movie from its (precarious) conditions of exhibition and reception. It is the awareness of this horizon, after all, that allows Usai to speak of moving images and film as separated entities. However, as Usai himself explains, the spectator does not perceive this division as a direct antagonism, something which would make him an “unaware witness of the disappearance of the moving image” (ibid: 7). For the spectator the image *is not disappearing*: it is forever preserved out of reach. The only thing that is disintegrated is its *instance*. Every mediatic experience presumes that, in an ideal condition, the model image is possible. Thus, the premise of an ideal movie also entails the premise of an ideal cinema. – or at least considers “the possibility of seeing [moving images] again in conditions that are identical to the previous ones” (ibid: 27) – i.e. a complete stabilization of contingencies, outside of the realm of technique.

Likewise, for Usai, the model image becomes the essential condition for the proper *history of the medium* (ibid: 4). He states that film, understood as a discontinuous collection of practices that fixes and destroys moving images, cannot be an “object of historiography.” With this proposal, Usai is once again referring to the medium as a technical process with both spatial and temporal dimensions – that is, as a process with a continuing *extent* and *duration*. From this perspective, all of the years spent in film production, distribution and consumption can no more be historicized than can the few seconds it takes a paper shredder to perform its function. These years do not constitute film history just as the 639 years taken to execute the latest rendition of John Cage’s musical composition *As Slow As Possible* are not the song’s history, but an integral dimension of the piece (BBC, 2003).

The proper *historicization* of the temporal dimension of a technical structure depends on awareness about it that comes from outside of the structure. It is the model image, indicating an extemporal parameter, which sets the “condition” for this epistemological shift (ibid: 4). It stands as the parameter from which moving images are seen not as the result of an instable process of information with a macro-temporal dimension, but as a stable form that changes (degrades) over the course of time.⁹ These changes can thus be described, and this is the medium’s history. Therefore, the model image, the ideal (and forever projected) form of the mediatic object (Usai: 4), also stands as the condition for the medium’s historical measure. This follows Gilbert Simondon’s idea that a technical entity is characterized not by the *hic-et-nunc* presence of a structure, but by its continuing genesis (Simondon: 18). The conclusion that can be inferred from Usai’s argument is that the premise of the movie’s integrity and the assumption of cinema’s technical ontology are relative to each other. I will now continue to analyse how this premise reacts to the intrusion of a new technology into the cinematographic circuit, which is electromagnetic video.

2. Electromagnetic video

2.1. Electronic transmission and the intensification of movie circulation

Nowadays video is a constitutive part of the cinematographic institution. Some statistics show that the trade in home video (both sales and rental) and the licensing of broadcast exhibitions contribute considerably to the total revenue of Hollywood studios (Paul, 2002: 83). Hence, in spite of their alleged antagonism to film, electronic technologies seem to have been integrated into the cinematographic circuit, cooperating at least with the so-called *mainstream* movie circulation.

How did this happen? When it first appeared, video indeed represented a break in the current regime of moving image circulation. First and foremost, it departs from a stable photographic referent. The electronic image, as explained by Arlindo Machado, “is the *translation* of a visual field into energy signals” (1988: 40). Both in

⁹ Of course, the model image *has* a temporal dimension: the movie duration. But this dimension, as I have argued before, is included in the movie’s form.

its production and its reproduction, video results from the process of *scanning*. Every individual “frame” of an analogue video is actually composed by two interlaced fields, each one of which is constituted by a certain number of horizontal lines.¹⁰ The video signal itself is continuous; it is only “folded” in the lines that form the image during its appearance on a screen. In that sense, video anticipates the procedural visuality that was attributed to the digital image in the first chapter.¹¹ This obvious technical nature leads to the impression that electronic images can be “created artificially at will and be processed by the receiver as pure information” (Flusser, 2000: 52).

To understand fully the meaning of these material changes to cinema, the dialogical aspects of electronic technologies must also be taken into account. In a way, the structures for the input and output of video are very similar: a speaker can act like a microphone; a signal converter, once paired with an antenna, can be used both to receive and to transmit signals; a tape deck can either play or edit audiovisual works. Everything that *receives* has the potential to *transmit*; everything that *replays* has the potential to *record*. Thus, in both micro and macro scales, electronic apparatus entail more dynamic modes of circulation than those allowed by the industrial mechanisms in which cinema was based in its early decades. So when Marshall McLuhan claims that the Electronic Age upholds a return to “oral or auditory modes” of communication (1962: 72), he is not only calling attention to the importance of *speech* in radio and television programs. He is also suggesting that, through these technologies, moving images can attain a regime of experience similar to the one entailed in the practice of oral storytelling: it can be intersubjective, self-reflexive and situated.

Hence, video would bring to cinema dialogical qualities that were not possible according to the industrial precepts of film. However, as I hope to have demonstrated in the previous section, film indeed allows for dynamics of information that are similar to storytelling, but according to a different rhythm and scale. In fact, as Arlindo Machado shows, earlier mediatic devices such as Edison’s phonograph and

¹⁰ The exact number depends on the system – NTSC, the American standard, has 525.

¹¹ A crude difference that could be made between both systems is that, while digital devices are active, co-operating in the execution of the image, electromagnetic ones are passive, barely establishing limits for the signal to comply with in order that the image can form itself.

the Lumière's *cinématographe* were completely "bidirectional," able both to produce and reproduce signs (1988: 25). Under this perspective, what change does video effectively represent to visual media? I propose that, more than the sheer transformation of the image's materiality, video actually causes *an intensification of the rhythm and scale of its circulation* – what McLuhan himself identifies as the "pressure of simultaneity" (1962). By making the image immediately available, both on the screen and to the public, video progressively effaces the distinction between the image and its enactment, and increases the interaction between movie production and consumption. Thus, it creates possibilities for the redefinition of medial practices.

I take a first example of these redefinitions from the domain of filmmaking itself. The case in point is the musical *One From the Heart* (Francis Ford Coppola, 1982), the first feature film fully to incorporate electronic technologies in its making. As reported by Machado, *One From the Heart* was produced "like a TV show": its final "cut" was already established from the beginning of the process in the form of an electronic storyboard. In other words, a "skeleton" of the movie was made, with all the scenes having their proper order and duration established in a video recording. From that point on, the movie grew topologically, as an accumulation of layers of image and sound upon this draft structure. Thus, "pre-production, production and post-production were all done simultaneously" (Machado: 1988, 184), becoming effectively indistinguishable from one another.

This new configuration of moviemaking results from the increasing feedback between different operations, caused by the compression of the rhythm of moving image circulation. Likewise, electronic technologies intensified the integration between distant apparatus by amplifying the structural scale in which moving images were enacted. It must be remembered that originally there was no videotape. Electronic images could not be stored, and only existed during the transmission of the electromagnetic signal. The organization of the signal in the monitor was continuous to its live reception from distant satellites. Thus, the local enactment of form was deeply integrated with its geographical distribution: any interruption in the satellite signal would instantly affect the image in the monitor.

Lisa Parks makes an overt comparison between video scanning and satellite transmission, stating that the live electronic image makes “a pronouncement about its own distribution, embodying in its quickly scanned surface an indication of the ways material has been transported from here to there” (2007b: 210). In this respect, one could refer to Kit Galloway and Sherrie Rabinowitz’s installations that employ satellite technology. As early as 1980, their piece *Hole-In-Space* showed the fundamental possibilities of videochat *avant la lettre*. This “public communication sculpture” consisted of two screens, one installed in front of an art centre in New York City; the other in the shop window of a department store in Los Angeles. For three nights, a bilateral transmission of live camera feeds connected both spaces, offering passersby with “an opportunity to communicate with the people displayed on screen in the window” (ibid: 209). In this way, *Hole-In-Space* – which Parks classifies as “an embodied extension of the satellite apparatus itself” (ibid: 210) – effectively established a complete structure for moving image circulation.

Douglas Davis’ “orbital performances” is another body of work that reveals how broadcast transmission constitutes electronic images. For instance, the piece Davis prepared during the 6th Documenta (1977) mimicked the format of an international TV programme: it was transmitted to 25 countries and featured “guests” like Joseph Beuys and Nam June Paik (and probably inspired Paik’s later *Good Morning, Mr. Orwell* (1984)). Besides playing the role of the “show director,” Davis himself performed in the last part of the transmission, called *The Last Nine Minutes*. In this segment, he metaphorically tried to reach the “unknown viewer on the other end,” represented by another person performing simultaneously from Caracas (Venezuela), keyed into the image (ibid: 211). The duration of the performance (the nominal *nine minutes*) was precisely the remaining time leased on satellite. Once this time expired, the transmission was interrupted, inevitably concluding the work. Thus *The Last Nine Minutes* showed that electronic images only exist as long as they are being transported, and that their dimensions are fundamentally defined by the structures of this transport. The ephemeral character of the piece is reinforced by the inexistence of any video recording of it.

Parks states that Davis’ performance “proclaims the impossibility of separating the work of art from the mode of its distribution” (ibid: 212). One might wonder if this

silent declaration is not a quality of *video in general*. Parks herself finds a deep antagonism between the culture of mechanical reproduction and what she calls “the age of ionospheric exchange” (ibid: 212). Intensifying the rhythm and scale of circulation, electronic technologies make it impossible to detach images from the video mechanism, proving that their reciprocal autonomy is nothing but an illusion. In that case, the integration of video into the cinematographic circuit would disclose the impracticable nature of the model image. Following Usai’s theory, this would undermine the transcendental conditions of cinema history and technical ontology, revealing the medium for what it is: a continuing process of information.

Has the incorporation of video into the cinematographic circuit dismantled the medium? Quite the contrary, video has reinforced cinematographic operations. Did this happen because film is indeed a superior platform to moving images, and therefore imposed its logic to video? Not exactly. As we will see in the next section, the filmic image is certainly very different from the electronic one – but the parameter according to which is *superior* to the other has nothing to do with movies *per se*. This parameter was inherited from photography and, in a way, is not even intrinsically visual. In fact, if we take the original meaning of cinema literally – from the Greek word for *movement* – the technology of video would be more appropriate for it than film, since it is subject to a more dynamic mode of distribution and includes movement in every single frame.

Therefore, the crucial point to be made about the assimilation of video into cinema is that the medium cannot be limited to any one technology, but results from their accumulation in history. In the cinematographic circuit, technologies supplement one another; to become integrated within the medium new forms and practices have to negotiate with those already established. Often this negotiation restricts emerging potentials – for instance, one can presume that *One From the Heart* had to be copied onto film reels in order to be screened, losing part of its videographic qualities. Less frequently, it is this interaction with old forms that actually enables new modes of circulation – e.g., although it was live satellite transmission that created the sheer possibility of *Hole-In-Space*, the public occupation of its structure resulted from a very traditional *word of mouth* (Parks, 2007b: 209).

As we will see in the fourth chapter, the place of such negotiation, which defines not only the organization of the medium but also its historical primacies, is the circuit itself. (As an exercise in speculation, I invite the reader to imagine an alternative world in which film was invented after video, and people kept complaining that it was too slow and stiff to be truly cinematographic.) For now, I want to stress that a change in the rhythm and scale of circulation does not imply in a direct transformation of medial parameters. In order for that to occur, the technological changes would have to be normalized in accordance to the circuit's current standards – or, conversely, to provoke their transformation.

Thus, after considering the extravagant possibilities of the electronic image in the examples above, I will now proceed to show how video was effectively integrated into movie circulation: first, through the (top-down) organization of technique, and then, by its (grassroots) appropriation. I propose that these two arrangements supplement one another in the negotiation of public standards, and result in a new hypothetical condition for the medium: *The Movie*.¹²

2.2. The crystallization of differences: release windows and the edit-for-TV

As was hinted at in the previous section, the domestic videocassette recorder was invented much later than video itself. It first appeared in the 1970s, and not as an apparatus for movie distribution but as a time-shifting device – “a machine that would allow users to assert control of their time, liberated from the fixed program schedules set by television executives” (Greenberg, 2008: 2). By then television was already popular, and the electronic transmission of movies occurred entirely through the broadcast media: since the mid-50s, old theatrical films were being exhibited as part of the networks' primetime programme (Seagrave, 1999: 53). Given that the general public had no direct influence on this arrangement, the technical changes in the topology of the cinematographic circuit were entirely negotiated by the movie studios and the television companies. These “big players” originally defined how the

¹² This term is borrowed from Joshua Greenberg, and it is important to stress that his use is essentially different from mine. While I am considering “movie” as the institutional object of cinema, Greenberg uses it as a sort of hypothetical parameter to qualify films-on-video. To avoid misunderstandings, all references to Greenberg's concept will be written capitalized.

rhythm and scale of electronic transmission and the material qualities of the video image could be made adequate to the means of cinema.

The main worry for the Hollywood studios was the competition of television over screening venues – which explains why at first movies licensed for broadcast had to be more than eight years old (ibid: 47). Thus, in order to prevent rivalry and preserve the predominance of filmic distribution, electronic transmission was integrated into it from the beginning through a mechanism: the *release windows*. The release windows represent how the availability of different versions of a movie is organized in order to prevent them from working in competition with one another. For instance, in 1972, the delay between the original screening of a movie and its telecast was six years (ibid: 123). This period has gradually been shortened and restructured, opening windows for home video, pay- and cable-TV. Supposedly, the pre-eminence of the theatrical release is still maintained because it establishes the legitimacy of the movie, setting its price “in all the ancillary markets” (ibid: 152).

More than preserving a business model, the release windows subject the frantic pace of electronic transmission to that of film distribution. In doing so, they give preponderance to one over the other, promoting the distinctions between video and photographic images as a *hierarchy*. I would argue that, from a technical perspective, these differences are mostly qualitative. Each image is in accordance with its own technology, and thus fosters particular symbolic strategies. Arlindo Machado stresses how video’s reduced depth of field and lack of visual detail make it more adequate to the small screen, in which the high-defined photographic image becomes “dissolved in the rain of scanning lines” (1988: 47). He states that the reticular texture makes electronic images more *tactile*; thus, in order to be properly *figurative*, video has to employ *metonymical* strategies such as decomposing motives in close-ups (ibid: 48).

In order to comply with the differences in structure and language between film and video, a movie must be transformed. Charles Tashiro explains that this is done through a conscious *film-to-video* translation, “designed to accentuate the similarities and minimize the differences” between both platforms (1991: 8). However, he reckons that this process always results in a new form, wondering if “the conscientious transfer [is] any less of a distortion” and “at what point do these

differences produce a product no longer a suitable signifier of the film signified” (ibid: 10).

The apparent neutrality of the term film-to-video “hides the reconfiguration of the text in new terms” (ibid: 8) – i.e. a complete transformation of the movie’s final cut. The first thing to be rearranged in the process is its temporal continuity: often, to fit in the programme schedule of a broadcasting network, the filmic narrative has to be compressed and interrupted at certain points, opening space for commercial breaks. Moreover, some of the very visual aspects of the movie have to be sacrificed, due to the difference in scale and aspect ratio between the cinematographic and videographic frames (ibid: 13). To be adapted to a 4:3 TV screen, the widescreen image of the theatre can go through one of two operations: one is called *pan-and-scan*, which consists of filling the video frame by cutting the lateral edges of the image; the other, *letterboxing*, maintains the horizontal dimensions of the image by adding black bands on the top and bottom of it.

Each of these operations has its advantages: while letterboxing maintains the movie’s visual composition, pan-and-scan is seemingly more transparent, preserving the cinematographic experience. Yet they both subordinate film to video in a specific way: the former, by literally suppressing parts of the image; the later, by making it smaller than the TV screen (as though it is lacking something) (Ibid: 14). Discussions about which is the more “appropriate” solution for translating film into video shows how arbitrary circuit standards actually are, as they result from a public negotiation between film technicians (“producers”) and TV executives (“distributors”), each of whom trying to defend their particular (aesthetic and economic) interests.

No matter what the “better option” might be, the core effect of the standardization of film-to-video processes is the crystallization of another means of circulation for the movie: the *edit-for-TV* (Greenberg: 134). According to this new element, the differences between the film and its exhibition on video are not only excused, but expected. The effects of the translation are not considered an alteration of the movie form, but the necessary framing to take it into another context. Nevertheless, the “real” movie is preserved elsewhere – as usual, outside of the image. (“You have to

see it in the theatre,” as they say.) Thus, in the same way as the premise of a final cut denies the fundamental effect of circulation on the film-object, the edit-for-TV hides the fact that the film-to-video translation should be considered a constitutive part of the movie production. It is an *edit*, after all. Had Tashiro considered this, he would have not been surprised by the fact that film-to-video is not just a “neutral movement” of the movie from the theatre to the television (Ibid: 8), but that it actually results in the movie’s final form – as any other process of circulation does.

2.3. The normalization of medial practices: home video and prerecorded tapes

Besides establishing a new means of circulation for the movie (in the edit-for-TV form), the integration of electronic technologies into the cinematographic circuit also transformed the definition of medial practices – and even consolidated new ones. In this section, I will take a look at such transformations, paying attention to the fundamental role of another public in the negotiation of circuit standards: the audience itself (“consumers”). In order to do so, I will refer to Joshua Greenberg’s studies on how the appropriation of VCR technology by aficionados effectively changed the way movies were distributed (2008).

Of course, the immediate changes caused by video to the notion of *watching a movie* cannot be ignored. With television, this elementary practice exceeds the passive situation of the theatre to include physical interaction with the medium in a domestic environment (Tashiro, 1991: 11). Therefore, the traditional “state of superperception and submotricity” is supplemented with the minimal labour of operating the video apparatus: turning it on, choosing the channel, adjusting image parameters, and so on. For Tashiro, this effectively means that the operation of watching begins to encompass some of the activities previously reserved to the projectionist, resulting in a sort of “proletarianization of the video viewer” (ibid). The positive side of this proletarianization is that the movie becomes an “object for control” by the audience (ibid: 16). This is especially true after the invention of the videotape, which made personal not only the decision about *when* a movie should be exhibited, but also gave direct control over its duration. In the words of Tashiro, the possibilities of pause,

fast-forward and rewind allowed the audience to “deconstruct” films and remake them to their own ends (ibid).

Control over time: this is what the domestic VCR was originally made for. In 1975, Sony introduced the Betamax as a device that enabled users to record television for later viewing (Greenberg, 2008: 21). In fact, there was not much else to be done with the equipment, since at that time a real market of prerecorded tapes did not exist. The production studios were not directly involved with the new technology, “not having even figured out whether they wanted to release their movies and television programs on tape, much less how to do so” (ibid).

Hollywood has always been very careful to retain control over its volatile product. This became clear with the case of Cartridge Television, the first attempt of distributing movies on magnetic tape, in 1972. The producers only agreed to licence works to this system because “[its] rental-only tapes could only be rewound using special in-store equipment (which included a tamper-proof counter for accounting purposes)” (ibid: 48). Thus, the studios could supervise both viewers and retailers. In that sense, Cartridge Television was a mechanism that artificially restricted its own technical possibilities in order to comply with an economic model, in a way that is not very different from present-day *digital rights management* strategies. Apart from this crippled functionality, the equipment was very expensive and did not sell well. The company went bankrupt one year later.

As Greenberg reports, for the first years in the existence of Betamax, the only works legally available on prerecorded tapes were public domain or pornographic ones (ibid: 21). What created the conditions for the proper distribution of movies on video, motivating the studios to re-enter this business, was the way the audience appropriated the VCR, establishing a complex socio-technical culture around it (ibid: 63). This culture started as a means to overcome the geographical limitations of broadcast: in order to increase the number of movies and TV shows available for taping, videophiles had to resort to one another. Thus the material recorded from television channels was often copied and exchanged by mail, in person or even in social gatherings made especially for this purpose (“taping parties”). By the end of

1977, hundreds of people were involved in these activities, giving rise to a nation-wide “user network for movie exchange” (ibid: 21).

Within this network, another form of technical awareness about the VCR took place, consolidating new operations. Besides the fundamental practice of trading prerecorded tapes, Greenberg mentions that of *tape dubbing*, whereby aficionados used to produce duplicates of the movies they owned in order to be able to exchange them. In the “invention” of tape dubbing, it becomes clear that the videophiles were engaged in “pushing their hardware beyond its manufacturers’ intentions” (ibid: 39). Even though dubbing was technically *possible*, it had not been predicted by the VCR marketing and design. Since there were no available instructions on how to do it, the users had to come up with their own ways, which often involved some sort of tinkering with the equipment (ibid: 23). As these new uses of the device became popular, they created the basis for a consumer marketplace, which soon developed into a topology of video retailers and chained rental stores (ibid: 5). In this way, the repurposing of home video became institutionalized, concluding its definition as an apparatus integral to the overall structure of movie circulation.

In this process of incorporation of the new technology, not only was the cinematographic circuit transformed, but so were the video devices: their identities were reorganized in accordance to medial parameters. From a mere time-shifting mechanism, peripheral not only to the television monitor but also to the receiving antenna (ibid: 12), the VCR was promoted to a central position in the chain of movie distribution as a playback machine. As this mechanism was integrated into cinema’s underpinnings, the *tape* became separated from it. With the development of the home video market, the tape was no longer approached as a mere interchangeable part of the VCR, but had an importance “in terms of the texts that [it] carried” (ibid: 42). By 1978, distributors and retailers were already referring to the prerecorded tape as “software,” as though it was no longer a material technology but an intangible, free-flowing product (ibid: 56). In other words, the tape had become autonomous as a physical support for the inscription of the movie, playing a role similar to the film reel.

It should be clear that, in a different way from the establishment of release windows, this secondary stage of the integration of electronic technologies into cinema did not result from an official decision promoted by institutions. The standards of home video arose from the direct appropriation of its mechanisms by individuals, motivated more by affective than economic reasons. Moreover, as Greenberg stresses, these standards were not determined by the physical characteristics of the new technology alone, but by a constructed *understanding* of it (ibid: 8) – a knowledge that was built recursively, through public engagement with the practices it allowed. In that sense, the circuit was not defined either by socioeconomic or technological causes. On the contrary, it was the process of circulation that, through its accumulation, turned the esoteric hobby of videophiles into a major industry and set the material horizons of home video, establishing it as channel of transmission. In a way, the circuit defined itself.

2.4. *The Movie and the conditions for medial hierarchy*

By the means of their reflexivity, both the institutional regulation and the public appropriation of electronic technologies were turned into medial conventions. I hope that this has clarified *how* video was integrated into the cinematographic circuit. However, it still does not explain *why* it took the secondary position it did, subjected to both film's aesthetic paradigm and its economic exploration. Was not video supposed to cause a revolution in the medium? If the movie's form on video is always excused as an *edit*, and its operation is being constantly defined by the audience, what prevents the dialogical regime supported by Marshall McLuhan from prevailing, or even having the slightest effect, within the organization of cinema?

To think this through, one has to consider the most radical consequence that electronic technologies had on the cinematographic medium, which is not even a *direct* one. It is that, after video, the moving image was no longer specific to the filmic support. In fact, video multiplied the possibilities of visual media. According to art critic Rosalind Krauss, video entailed a "heterogeneity of activities that could not be theorized as coherent or conceived of as having something like an essence or unifying core" (1999: 31-32). For this reason, Krauss proposed that electronic

technologies inaugurated a *post-medium condition* – one in which different material supports are “reduced to a system of pure equivalency” (ibid: 15).

If such are the reasons behind the end of the specificity of the medium, one might wonder if they have not been around as long as film. Have we not seen in the prologue that cinema is intrinsically heterogeneous? If so, and if video accepts the same visual forms as cinema, why has not one simply dissolved into the other? In other words, what makes the heterogeneity of video distinct from that of cinema? To answer this final question, let’s first have a glimpse on what the “utopia” of pure electronic information would actually be. To do so, I will refer to a work that fully embraces the dynamics of post-mediatic form – or at least tries to *express* them: Graziela Kunsch’s *Pornô* (2003-2004). This piece is based on a 21’ unedited long shot of the artist in conversation with the writer Stewart Home. In its original presentation, the movie

was exhibited in VHS format in a small TV, with headphones and two VCRs. The first viewer was instructed to make a copy of the video. The second watched that copy and generated a new one. The third made a copy of the copy of the copy. Each viewer made a copy of the video from the copy she received, until one of them considered useless to go further. 14 copies were made. After this process, the work was presented in 14 TV monitors simultaneously (Kunsch).

Thus, just as the emptiness of *Zen for Film* foregrounds the visual results of film circulation in the passive circumstances of theatrical projection, *Pornô*’s performatic instructions intensify those of video circulation in the private interaction with the VCR. To an extent, the final installation of the work could be seen as a study of how the long shot becomes transformed over its successive viewings. Throughout this process, the figurative organization of the image slowly gives way to the bare patterns of electronic transmission (“white noise”). This apparent degeneration of the movie – as an *audiovisual representation* – represents the actual *generation* of the work. In that sense, each viewing was fundamentally *positive*, as it added not only another screen to the final installation, but also new meanings to the image. These semiotic changes were made traceable by a “control of degeneration,” a piece of paper in which the viewers took note of their impressions about the work. The first few comments refer to the typical characteristics of a movie, such as its framing and

documentary credibility. As the copying goes on, one would expect that these remarks would be progressively substituted with observations about noise and the materiality of the image, but this is not what happens. References to degradation (and to difficulty in understanding) prevail on the comments about the *intermediary* copies (such as 8 and 9). However, these concerns seem to have been overcome in the final comments, as the last viewers raise questions about reality, oblivion and the “prime matter of artistic language making” (Kunsch).

This clearly indicates that a different understanding of the movie had arisen from the exposure of its circulation, less in terms of what the image represents than as a fundamental indication of the limits between the world and the medium. Thus, in *Pornô*, tape dubbing acquired certain qualities of storytelling – which is not a coincidence, but is certainly exceptional. In the everyday practice of the early videophiles, the activity of copying movies to videotape was considered strictly technical, and not part of the movie’s experience. Although the community of aficionados was engaged in inter-subjective and situated exchanges of knowledge, this was not expected to feedback into the movies’ form. Conversely, a great deal of information was shared precisely to keep movies as unadulterated as possible. Techniques for recording were developed; true “professional” ones were done from broadcast sources only, cutting out the commercials to save tape time and get as close as possible of the movie’s original montage (Greenberg, 2008: 27). More than an effort to avoid the appearance of circulation, this revealed an attempt, through circulation itself, to invert its results and recover part of what had been lost in the edit-for-TV.

The anxiety shown by the videophiles indicates the persistence of some unattainable reference, always already absent from the video edits. It is certainly not a transcendental model image, since the inherent figurative limits of electronic media rule out this possibility (Usai, 1999: 44). According to Greenberg, what set the parameters of movie operation on video was a *socially constructed archetype* – one he appropriately calls *The Movie*, and defines as “like a Platonic form, an idealized text existing only in the abstract, but appearing in various imperfect physical manifestations” (2008: 135, 133). Just as the final cut of a film evokes a model image, so the different video edits of a movie evoke *The Movie*.

The essentially abstract quality of this archetype means that its most perfect version exists in its less physical circumstances – i.e. nowhere else but in “the most complete isolation of the exterior world and its sources of visual and auditive perturbation” (Mauerhofer, 1983: 375). That is, in the classical cinema situation. Therefore, The Movie provokes expectations according to which sitting in a theatre becomes not just different from watching television, but actually more appropriate (Greenberg, 2008: 135). This contributes to the ancillary position of video, which “isn’t an inherent property of the media ecosystem” (ibid: 132). Hence, while the model image stands as a reference for the situation of cinema in the world, acting as the condition of the medium’s history, The Movie stands as a reference for its situation among other media, acting as the condition of its hierarchical position. In the end, it is this reference that makes the heterogeneity of video different from that of cinema, maintaining the significance of medium-specificity even in a post-mediatic era.

3. Digital computation

3.1. The illusion of immateriality and “superfluous” means

Unlike electromagnetic transmission, algorithmic computation – the operational principle of digital technologies – is not (yet) totally integrated into the cinematographic circuit. The popular association of filesharing with movie piracy indicates a degree of opposition to truly networked modes of movie distribution. Moreover, the circuit seems to resist the computational dynamics of movie enactment. In order to circulate within cinema, algorithmic processes must be rendered into a predictable sequence of images and packed as if they were stable artefacts (such as movie files or DVDs). Meanwhile, procedural animation (generated by real-time computer processes) remains restricted to works such as interactive installations, screensavers and videogames. From these continuing tensions, one can assume that the normalization of computation within cinema is still a largely incomplete process.

Having said that, I will begin to outline movie circulation in digital environments by focusing on the most seductive effect of these technologies: the illusion that, through them, media overcomes its physical limitations, becoming capable of “identification without ambiguity, transmission without loss, repetition without originality” (Kirschenbaum, 2009: 11). For a moment, let’s accept this impression as accurate – in other words, let’s consider that the “virtual life of film” really entails the complete dematerialization of cinema. As radical as this transformation might be, it clearly does not stand for the medium’s demise. Taking into account the contemporary industry and its practices, Rodowick has proclaimed that “while film disappears, cinema persists” (2007: i). Contrariwise, from the perspective that favours the medium as a regime of representation, its dematerialization looks like a form of definitive fulfilment.

Turned into codified data, the movie is made independent of a physical carrier, and therefore becomes immune to deterioration. Moreover, it becomes accessible as a *database*, a cultural form that Lev Manovich calls *key* to the computer age (2001: 216). Thus, the movie is also made navigable and subject to real-time, non-destructive rearrangements. For practical purposes, this represents a development of operations already typical of video playback, such as random access and colour control, which can be much more precise due to the digital object’s mathematical constitution. Additionally, digitisation integrates into movie consumption some of video’s editing possibilities – particularly those involved in versioning. Alternative material, such as dubbed soundtracks and different angles of certain scenes, can now be included within a movie’s original version (i.e. the movie file or DVD) and shown at the viewer’s discretion. In effect, this causes the final cut of a digital movie to be no more than a privileged video edit.

Another practical consequence of digital dematerialization is that it allows the movie to be released simultaneously onto different channels. Release windows, which have been shrinking for some time now, finally collapse: in 2006, Michael Winterbottom’s *The Road to Guantanamo* was the first movie to be made available

on theatres, DVD and the Internet on the same day.¹³ Even before that, whenever the studios did not take the initiative in effecting a simultaneous release, media pirates made sure that a movie would be almost instantaneously available on public networks, sometimes even before its official première.

In that sense, as codification reaches certain standards, it promises not only a visual resolution that film never had, but also the almost metaphysical availability of the movie. Never lost, entirely present, is the model image finally practicable? To answer this question, one must consider what is actually achieved through the new means of movie circulation allowed by digital technologies, which are literally superfluous to the previous final cut and video edits. I am referring to the behind-the-scenes *making-of* and the amended *director's cut*. The first are audiovisual narratives of the movie's process of production, which "almost any DVD includes" as part of its extras (Caldwell, 2008: 361). The second is a newer version of some movie, whose superior quality (and unprecedented compliance with the director's intention) supposedly makes it more authentic than the original release. Therefore, strictly speaking, these works are not *movies in themselves*, but *movies about another one*.

3.2. Making-ofs

According to John Thorton Caldwell, who did extensive studies on the movie industry's strategies of production, making-ofs are not exactly new: they have been shown on television since the 1940s (2008: 283). However, it is digital technologies that create the "ideal conditions under which the genre can be exploited as a dominant on-screen form," since they allow *endless repurposing of content* and *multichannel media market* (ibid: 284). To these possibilities, one could add another, which makes the making-of *meaningful*: its integration to the movie itself. Although the public is never obliged to watch the behind-the-scene extras, once this material is made available as just another chapter or soundtrack of the work (or another video on the same YouTube channel), the "deconstruction" of the movie is made integral

¹³ Still, *Winterbottom's* movie had a promotional premiere at the Berlin Film Festival one month before this release.

to its consumption, just as pausing and rewinding was in analogue video. The press of a button and, instead of dubbed dialogues, you may be listening to explanations about the choice of a scene's location from the director himself.

Hence, cinematographic production is made explicit. Does that mean the movie is finally acknowledged as an ephemeral result of continuing socio-technical processes? Not at all. In the words of Caldwell, as another mode of "industrial self-theorizing," the making-of is reductive and proprietary (ibid: 21). It does not even expose the production; it clearly *stages* it. A lot is said about the relationship between actors and the amount of special effects, but operations that are central to the circuit (such as fundraising, negotiation of licenses, topography of distribution and so on) remain suppressed from the public awareness. Therefore, Caldwell includes the making-of under a group of marketing strategies he calls *public disclosed deep texts and rituals* (ibid: 347). In that sense, the making-of would represent a sort of blatant virtuosity that capitalizes on the technical self-consciousness of the contemporary media audience.

It should be observed that the economic purposes of the making-of do not disqualify it as a mediatic paradigm. One cannot forget that, although the Russian constructivists had committed *montage* to a sort of political rhetoric, this technique came to be a core aspect of the general cinematographic form. In effect, the way making-ofs take the audience "inside" the production process (ibid: 348) is not very different from how the viewer is mobilized within the visual dialectics of montage. The making-of is not a genuine disclosure of movie circulation, but a highly controlled and calculated form of reflexivity. Instead of letting the informed audience speculate freely, the making-of affirms the (literal) value of a single work and the coherence of its individual making, reinforcing the autonomy of the movie even when digital technologies seem to make images overabundant and volatile.

3.3. The Director's Cut

Similarly, the idea of a definitive director's cut suggests that regimes of computation are not truly antithetical to cinematographic modes of representation. As noted by

Nathan Carroll, these works often carry the implicit validation that, on the contrary, “the best future for preserving film history lies in emerging digital technology” (2005: 26). Computer processing can erase film scratches and revive fading colours, restoring a movie’s original image. Besides overcoming this physical deterioration, digital technologies also seem able to achieve the true purpose of preservation, which is “recovering the work’s lost aura” (ibid: 18). In that sense, Carroll compares digital restoration to plastic surgery, as it rekindles public interest in an old movie at the same time as it adapts the work to “contemporary aesthetic and economic priorities” (ibid: 19).

Therefore, it comes as no surprise that the term evokes the *auteur*, appealing to his moral rights over the work. In doing so, it creates the impression that the director was either limited by the technical circumstances or wronged by the market conditions of his time, and thus unable to finish the work as intended. This implies that *the movie’s final cut was not final*. However, this fundamental mistake can apparently be repaired by digital technologies, allowing the audience to see what the artist originally had in mind. Under this excuse of historical justice, the preservation of a movie sometimes entails its substantial remaking.

Certainly, this process is not at all free from controversy. Let’s consider for instance the “special edition” of the *Star Wars* trilogy, released in 1997 to celebrate the series 20th anniversary and anticipate its prequels. In these “new” movies, dialogue lines were changed, continuity corrected and new special effects added to almost every scene through the use of computer-generated graphics. According to a report of the American Society of Cinematographers, director George Lucas has acknowledged these movies as the ones he always intended to make, and future audiences should consider the 1977 versions as “earlier drafts” (Magid, 1997). However, not every viewer was willing to accept this claim of authenticity. The alterations were considered extremely intrusive by the series’ fans and generated a lot criticism, especially on the Internet. One online review, for example, regrets that the first movies were dropped in favour of the special edition for a DVD release (Gnoll, 2004). After listing a number of reasons for the new version’s inferiority, the reviewer concludes by stating that he will “stick with [his] VHS copies of the original trilogies.”

The terms of this disagreement reveal that movie restoration is much more than a simple marketing drive; it is a true *process of recanonization* (ibid: 19). Officially, the director's cut is not supposed to be a new movie or an enhanced "version," but the movie as it should have been in the first place. Any possible dispute over this identity is inevitably overcome given that movie restoration "physically [changes] the content of film history" (ibid: 18). As the aforementioned fan website reports and Carroll explains,

for all practical purposes, the unrestored analog version of a film barely exists for DVD consumers except as primitive fragments used in comparisons. The digital restoration functionally supplants and rewrites the shifting memory of a slippery past (ibid: 27).

Hence, the director's cut also represents an application of digital technologies in the suppression of the effects of movie circulation. Computers, just as they seem to abolish cinema from its material restrictions, apparently put an end to the medium's historical determinations. In doing so, they not only reverse the physical degradation of the movie carrier, but also go against the accumulation of meaning and value that derived from the public appropriation of the work, after its original production was concluded. Therefore, the opposition of the audience to the restoration of *Star Wars* should be understood as a natural resistance, as the director tries to impose his individual authority against more than 20 years of collective engagement with the original trilogy.¹⁴

Conclusion

In this chapter, I have given an overview of how movies operate through technologies that are already inherent aspects of cinema. I wanted to show that, even in these medial apparatus, the circulation of a movie is not a cohesive process. The film seems to have objectified the image, making it infinitively reproducible and commoditising the experience of its viewing. Nevertheless, its mere existence as a movie requires the

¹⁴ Another case of a "film-history-destructing" remake is the digital version of Anthony McCall's classic *Line Describing a Cone*, dubbed 2.0 (2010), which got rid of all the risks that caused impressive visual effects in the image.

recurrent enactment by the projector and distribution throughout different screening venues. A self-contained and total model image is only possible outside of this reality. The film itself cannot be separated from the contingencies inherent to technique, which inevitably feed back into its physical support and public understanding, essentially transforming the movie. Thus film seems to retain both a dynamics of information and a regime of experience that could be compared to those Walter Benjamin attached to the idea of storytelling, albeit in a different rhythm and scale. This means to say that, even before the advent of electronic images, the movie was already a procedural result of continuing technical operations. The new technological regime only intensified the rhythm and amplified the scale of these operations.

One significant thing about the way that video was incorporated into cinema is how this process generated supplementary cinematographic forms and operations, such as the edit-for-TV and tape dubbing. These elements organize one technological regime in relation to the other, keeping the heterogeneity of video separated from that of film, and therefore preserving the transcendental autonomy of the movie apart from any media technology. As the implementation of domestic VCR shows, this renegotiation of the processes of movie circulation was not provoked by the engineering of the new technology alone, but depended on its reflexive appropriation by the whole cinematographic public. By these means, the technology that once threatened the underpinnings of movie circulation, its economy and aesthetics, becomes institutionalized and contributes yet another element in the organization of the cinematographic circuit.

I then began to address the use of computers in movie circulation by evoking two forms promoted by digital technologies that seem fully integrated to cinema: the making-of and the director's cut. In these last sections, I hope to have demonstrated that – in as much as they seem superfluous to actual movie consumption – the making-of and the director's cut are means that allow the rationalization of the movie form within the possibilities of computation. Therefore, they have the same supplementary function as the video edit in the preservation of the movie's autonomy in spite of any technological change. In the next chapter, I proceed to examine whether the digital means of circulation can actually achieve the perfect stability of a model image.

Chapter 3

Executable images

Introduction

In this chapter, I will continue to investigate the actual socio-technical processes of movie circulation, giving further attention to the use of digital computation in cinema. The technological qualities I intend to explore are precisely those that seem to make it impossible to incorporate computers into the medium without tearing it apart. These qualities could be summarized by the fact that computer-based images are *executable*, standing for running software systems as much as the applications that are used to play, edit, copy and distribute them. In that sense, movie and apparatus become completely mingled together. On the one hand, apparatus are operated by means of the visual effects they supposedly produce. On the other, the image dissolves completely into the procedures of its storage and transmission. However, this does not mean that either of them becomes immaterial – on the contrary, image and apparatus become further connected to the complex organisation of technical underpinnings, making it impossible to hide their mutual interdependence and their attachment to actual material circumstances.

Analysing how computers enact and distribute moving images, I end up evoking the concept of *code* as a parameter that sets conditions for medial property. According to this parameter, different media might retain their specific identities even if they become equivalent surface effects of the same socio-technical system. Extrapolating the institutional overtones of this idea, I aim to push forward the definition of the movie as an object of *imagination*, whose outlines result less from the images it foregrounds than from its reflexive movement amongst the cinematographic public. I conclude by performing a more detailed examination of the concept of *surface*, considering the way in which movies are projected from the public experience of technology.

1. Principles of computation

1.1. Early computers and software abstractions

To understand the nature of the moving images that result from computation, one must first pierce through the chief illusion maintained by digital technologies: that of the dematerialization of media. As it has been stated by Matthew Kirschenbaum, “there is no computation without data’s representation in a corresponding physical substratum” (2009: 27). This can be clearly perceived in the digital computer’s very early forerunners, such as the *abacus*. Dating from the BC era, this manual device organized calculus by the means of the movement of pebbles in a pre-defined grid. The correspondence between abstract and material operations was explicitly carried through the history of computing mechanisms to the *Universal Turing machine*, which Katherine Hayles characterizes as the “theoretical basis for modern computers” (2005: 176). The mathematician Alan Turing first mentioned this device in a paper called “On Computable Numbers, with an Application to the Entscheidungsproblem,” published in 1936. In the text, Turing defines computable numbers as those whose “decimal can be written down by a machine” (1936), thus establishing the possibility of being inscribed as a precondition for their existence. Furthermore, the paper describes a universal machine able to “compute any computable sequence” (ibid). Albeit hypothetical, such mechanism seems throughout physical, consisting of a scanner supplied with segmented tape “analogue of paper.” Computation occurs while this tape runs through the machine, which reads and writes symbols into the discrete sections.

A few years later, working independently, the German engineer Konrad Zuse would find a technical solution similar to Turing’s model to create the first programmable, fully automatic computing machine, the Z3 (1941). Z3’s programmes were stored in a sort of punched tape that was none other than recycled 35mm film stock. Lev Manovich sees this fact as highly symbolic: for him, it represents the reduction of media “to their original condition as information carrier, nothing less, nothing more”. (2001: 25). Nonetheless, it is more likely that Zuse’s reasons for adopting

film were related to this substratum's physical affordances and availability. As pointed out by Andrés Burbano, film has certain qualities that favour the computer's mechanical operation. Firstly, its sprockets and frame division guarantee a high accuracy of the step-by-step movement required for discrete (digital) calculus. Apart from that, film can be bent, "creating 'loops' that would allow the machine to perform recursive operations" (2009: 9). A final, but perhaps more important detail, is that Zuse had easy access to this material, since his grandfather worked in the German film industry (ibid: 7).

The Z3's architecture and mode of operation also make clear that there is no such thing as an immaterial dataset. For instance, just like present-day digital computers, Zuse's machine operated according to the binary numeral system, meaning that the symbols it employed in data processing and storage were just 0s and 1s. However, these "symbols" were not the pure representation of abstract values that the computer "read" – they were an arrangement of physical structures, as constitutive of the computer mechanism as cogs are part of a gear system. 0s and 1s actually refer to 1) the presence or absence of holes in the film, which mechanically induced 2) the position of the relay switches that formed the machine's processor, which in turn defined 3) the on-off state of the lamps that comprised the computer's output display.

In the Z3 and other early computing machines, these physical arrangements were interpreted as bits, and then translated into mathematical values and operations, by specialized human agents called "computers" themselves (Hayles, 2005: 1). However, as electronic technologies evolved and the machines grew in complexity, the interpretation of data was integrated as part of their input and output structures. These processes of translation were internalized as layers of software abstraction, which code and decode binary patterns prior to human operation, translating these series into forms more like those of ordinary symbolic systems (ibid: 108). In other words, they transform machinic patterns into information that a human user can actually make sense of, such as numbers and text. As primary examples of software abstraction, one can refer to the different programming frameworks (which aim to approximate the machine's syntax to that of everyday languages) and user interfaces (which aim to represent data according to useful metaphors). Other, more specialized

cases would be applications with a defined purpose, such as web browsers and movie editing suites.

On the one hand, abstractions are necessary to computer-based media because they perform the “work of translating between machine behaviours and human perceptions” (ibid: 57-58) – that is, they bridge the gap between the computer’s unfathomable procedures (for example, lighting up a complex sequence of coloured pixels on a screen) and its mediatic uses (“playing a movie”). However, while they do so, abstractions also divert the operation of the computer away from the actual processes of computation. In the words of Friedrich Kittler, software hides the machine from its users (1995); it makes the users overlook the very physicality of the computer, along with its particular kinetic and visual qualities, and stick to metaphoric representations – as if the computer was the dynamic “desktop,” with its neat icons and resizable windows, and not an electronic machine for information processing.

Therefore, it could be said that the incorporation of increasingly sophisticated abstractions to the computer system, coupled with the exponential increase of storage capacity and speed of transmission (Kirschenbaum, 2009: 34), are the main reasons why computer-based media *behaves* as if it was immaterial. In fact, at its core, even the most modern computer is a mechanism not so very different from the Z3 – or from an abacus, for that matter. In spite of their physical differences, all of them operate according to the same principles.

What principles are these? First, that computation implies particular forms of *organized movement*. While this is obvious in the operation of an abacus, with its clear-cut rules for sliding pebbles, it becomes dominant in the electronic computer, in which even stable data is motion-dependent. The bit patterns are not stored in a hard drive as fixed electromagnetic traces, in a way that is equivalent to the holes in punched tape. They are changes of voltage in the electric current flowing through this device, and therefore only exist when the computer is running. According to Matthew Kirschenbaum’s description,

the read/write head [of the hard disk] measures reversals between magnetic fields rather than the actual charge of an individual magnetic dipole. In other words, [the hard disk] is a differential device – signification depends upon a change in the value of the signal being received rather than the substance of the signal itself (ibid: 90).

The other fundamental principle to be inferred from the computer's structure is that these abstract patterns stand not only for datasets, but also for the instructions of data processing. In the Turing machine, for instance, the symbols written on tape not only represent input and output values; they also controlled all of the formal procedures of computation. In more complex digital computers, this means that “all code operations” – all software abstractions – always come down to one and the same thing: the aforementioned “signifiers of voltage differences” (Kittler, 1995).

Therefore, computer-based media would entail no strict division between inscription and transmission, between either datasets or instructions: in the computer, everything can be reduced to the (not immaterial but) constant information of the mechanism. This fact is summarized by Friedrich Kittler's idea that *there is no software* (ibid). In other words, that software is not something running in a computer – *it is the computer running in a particular way*.

1.2. The visual performance of the system and user interaction

What do these principles of operation tell us about the way computers enact moving images? First, the essential equivalence between datasets and instructions allows us to develop an idea that was put forward in the first chapter: that the movie file is software. To be more precise, one should say that it is a pattern of abstract information that must be enacted by the computer mechanism through a series of formal procedures. As such, the movie file is insufficient, since it is not able to control the functional operation of the system by itself alone. It must always interact with other algorithms (such as the operating system, the media player and the codec) in order to produce images. This means that the movie is not in the movie file – the movie results from the way the computer runs, as it translates and incorporates instructions partially contained in the movie file.

To better understand the nature of the images produced by these interactions, one could take a look at the inherent visuality of computer activity. As shown in the first chapter, the processes of circulation entail not only the organization (of the image) within the movie, but also without it – the way the image is framed and accessed by the means of apparatus. Thus, besides the visual qualities defined by the organizational logic of codecs (those that become apparent in works such as *a knife all blade*), one should also consider the very operation of user interfaces as part of the way a movie is constituted by digital computation.

It is almost redundant to say that the interfaces that supposedly frame and control the playback of a movie in a computer are software themselves. However, considering the interdependency between movie and apparatus, this fact has strong implications for the character of a digital film. It means that these interfaces are not fundamental, physical underpinnings: as much as the movie, they are rational organizations of the machine, resulting from the way the computer processes information. From this perspective, a media player window is no more a structure than the movie playing “inside” of it is. Ignoring the subtleties of computer architecture, it might be said that both the movie and its frame – including the dashboard that allows its random navigation and even the operational system in which the media player is being executed – result from the same interaction of algorithms. All of these “layers” are produced concomitantly while the computer runs; thus everything that is on the screen is of the same nature as a real-time abstraction of the machine.

This means that the “movie” and its “interfaces” are equivalent surface effects. Any distinction between the image that is inside a media player window and those that are outside it (such as control buttons or a sliding timeline) does not come from computation. Of course, these images are different, but not in an intrinsic way. What differentiates one from the other is not that they behave or react differently to user interaction, simply because what is reacting is not the images – it is the computer. The images are just an effect of the machine’s reaction. Contrariwise, what differentiates one image from the other is that *the user* reacts differently to them. This separation between “movie” and “interface” comes from the expectation the public has about the machine, which drives the way they engage with it. These

expectations make the users overlook the fact that the movie is no more spectacular than the system in which it is being played.

User interfaces have particular visual qualities that are themselves mediatic. This might be hard to perceive because, in everyday computer operation, the act of viewing is just a parameter for the reflexive agency over the system. In these normal situations, the gaze is specialized and becomes part of the machine. The operator is so immersed in an image that it becomes difficult to watch it: the *optical* dimension only matters while it is subjected to the *haptical* one. Not surprisingly, computer screens are still called *monitors*. The screen only exists in function of the mouse, of the joysticks and of the keyboard. The image only appears to make possible the manipulation of datasets; it is an input and output channel.

Nevertheless, when we take some distance from the direct operation of the machine, the sheer visuality of the computer is made evident. This distance can be historical: once again, it is fruitful to look into early computer mechanisms to realise that the processes of computation have a strong visual dimension. For instance, the collateral images formed by the inscription of data in punched cards, or the mechanical animation of rotating drums created by the calculations of an analytical engine can be mentioned.¹⁵ As I stated earlier, the first computer operators had to interpret such patterns in order to turn them into data. Nowadays, the machine interprets data into visuals beforehand, and so allows even more complex operations. These visuals include not only the mere transformation of binary value into symbols that the users can readily manipulate (numbers, words, images) but a whole set of choreographies performed by the interfaces in order to be more appealing: programme windows create smooth waves on the screen as they appear and twist when they are minimized; menus have adjustable transparency and cast shadows over each other; the desktop pulses with indications of the weather forecast or simulated lava lamps.

Those “eyecandy” effects do not directly contribute to the system performance – i.e. to the amount of useful activity the computer can accomplish with the available resources. In fact, they do quite the opposite, as they consume processing power and

¹⁵ The first programmable computer, described by Charles Babbage in 1837.

memory that could be employed in the “proper” manipulation of datasets. Even so, they *do* favour computer operation because they provide different forms of feedback to the users, making the interaction with the machine more organic. Hence, this sort of *visual performances* of the system exists to foster its transparency, making its operation more seamless and dynamic. The main reason these performances are difficult to perceive is precisely because one of their functions is *to create the invisibility* of the machine.

Another situation in which the spectacular quality of the system becomes clear is when the user is excused and direct control leaves her reach; then, all that she can do is to observe. For instance, this is what happens when interfaces are captured into a pre-recorded movie, such as in the music video *Again and Again*, by the North American duo The Bird and the Bee (2008). This piece can be found on YouTube under the name “Apple Mac Music Video.” The video explores the plastic qualities of the Macintosh computer’s operational system (OS X) and applications. In it, simple acts such as moving windows around the desktop and even writing into a word processor are revealed to be what they actually are: moving images on a screen. Nevertheless, these interfaces cannot be reduced to mere flat animations, since they result from and feed back into a network of processes that can go far beyond the local screen. When a window is moved around the desktop, something is actually happening to the computer system. The ending of the music video takes us back to this operational dimension of the screen, when it shows the song being bought and downloaded from an online store.

A better example that illustrates the lack of fundamental boundaries between images and interfaces in a computer system is *And Then There Was Salsa* (2010), an advertisement for a brand of tortilla sauce hosted on the Vimeo website. At first this piece and its page look like any of the others that can be found on Vimeo. Once the user presses the play button, as expected, the video starts running within the borders of the website’s flash player window. It depicts a 3D-modelled flamenco dancer on a hill of vegetables. As this character swirls through the scenario, however, the animation escapes its regular frame and takes over the entire browser. First, the layout explodes, covering the whole webpage with lush vegetation. Then, the player window enlarges, while tomatoes, onions and jalapeños start flying all around the

browser. The dancer takes over the screen and proceeds to slice Vimeo's logo just as she had sliced the cartoon vegetables, demonstrating that one image is no more "cinematographic" than the other. Thus what first appeared to be just an operational interface, contingent to the movie, becomes the most appealing part of its spectacle.

While the music video for *Again and Again* simply foregrounds the visual characteristics of computer interfaces, *And Then There was Salsa* literally mobilizes them in favour of the movie. Both pieces bring into question the distinction between operational and spectacular images. Thinking along these lines, one might wonder if there really are any limits between the interaction with graphical interfaces and the spectation of digital movies. I believe this question can be further illuminated by the subject of videogames, which employ images that are simultaneously operational and spectacular. Thus, the last example of this section will not be another "expanded movie," but a sort of constrained videogame: Ian Bogost's *Guru Meditation* (2010), developed for the Atari VCS and ported to the Apple iPhone.

In *Guru Meditation*, progression is relative to the ability of the player to stand still and not move the physical controls of the machine – either the Atari's joyboard/joystick or the iPhone's internal accelerometers (Bogost, 2010). While the controller remains inert, things happen: the user scores points and an animation plays on the screen. Therefore, in as much as it runs on a videogame console and is subjected to "interactive control," *Guru Meditation* incites a sort of behaviour that is more contemplative than any form of regular moviegoing. The player has to press even fewer buttons than when trying to watch a DVD.

By promoting this sort of bland interaction, *Guru Meditation* foregrounds the fact that the engagement with a computer system regularly involves activities such as handling the mouse, pressing metaphoric buttons and focusing on certain portions of the screen. The way the user suppresses awareness of these activities does not seem any different from the way a moviegoer ignores his own situation in the theatre in favour of the diegetic experience. In both cases, it is the engagement of the public that abstracts certain technical processes from the machine's performance, while making others relevant to the meaning and value of the work. Thus, while the

computer mechanism does not separate spectacle from operation, the user does, and in such way organizes her experience of technology.

1.3. The image in the computer: possibilities of the model image

Besides the lack of fundamental distinction between movies and interfaces, there is another, more important, characteristic of digital images that can be inferred from their nature as software: the fact that they depend on a supply of constant information from the system. In the first place, digital images are never properly *inscribed*. Even when they are supposedly “stored” in a hard drive, they only exist during the transmission of electricity through this mechanism (Kirschenbaum, 2009: 95). Moreover, since they are stored as *codified* datasets, they can only be displayed upon their real-time decodification by the machine. Therefore, even the most static and repetitive images, while they are being shown on a computer, are a consequence of procedural interactions – the effect of the unprecedented activity of the system.

The system activity defines the way movies are enacted by digital computation. Far from being reproduced or represented, movies literally result from the continuing operation of the machine. Again, this subtle difference can be better explained by referring to earlier, simpler computers. An analogy between a modern-day PC and the Turing Machine could be made. At first glance, one might think that a movie playing on a PC would be equivalent to the symbols written on the Turing Machine’s tape, once it has finished its calculation. However, it is not. These symbols are the final outcome of the Machine operation. In the previous subsection it was demonstrated that an image cannot be detached from the performance of the computer in such a definitive way and still be considered computer graphics. In that sense, it would be more illuminating to compare a movie playing on a PC to the *tape* of the Turing Machine, or to the complex choreographies that the tape undergoes, as it is erased and rewritten during the process of computation. Rather than a product of the computer, the image should be considered to be a real-time index of it. It is a hint of the electricity that flows from the power source, passes through the processing unit, and ends up exciting the pixel grid of the screen.

Before becoming any form of representation, a digital movie is just a fleeting trace of the running computer. This fact constitutes a strong argument against the myth that a digital image never degrades, and that it can be copied and reproduced without any loss. If one accepts that a digital image is this real-time index, then it has to be admitted that the image is never preserved and cannot be copied at all. According to this principle, the capability of digital technologies to fulfil the promises of a model image must be challenged. However, this is not because the digital representation misses “a literal spatial and temporal molding of the originating event” that Rodowick defends as the causal force fundamental to the photographic image (2007: 11). Such representations do have an originating event – one from which they cannot be disconnected. This event is computation. Conversely, it is precisely because of this material bond that digital images cannot be stabilized as a model images. After all, the substratum necessary for computation is not an infinitely reproducible mathematical construct, but a “messy world of matter and metal” (Kirschenbaum, 2009: 27). In other words, digital images are too material to become autonomous. Even less than photographic or electronic signs, the digital ones cannot be separated from their circulation.

In that sense, if digital technologies “propagate an illusion of immateriality” (Kirschenbaum, 2009: 135), it is because they further intensify movie circulation, just as video did before them. Electronic transmission first promoted a dialogical regime that shortened the gap between movie production and consumption. Computer processing, in turn, effaces the very division between operations of inscription and transmission, merging the enactment and distribution of forms. Therefore, it increases the rhythm and scale of circulation to the point that the nature of the movie as a process of information can be made apparent to human perception.

1.4. The movie through networks: the peer-to-peer multiplication of forms

The storage and sheer display of an image in a computer involves active processes of data decodification. So does the copying and transmission of a movie through broader digital networks. To make this point, I will evoke *Download Finished* (2007), a web-platform based on the *aPpRoPiRaTe!* application briefly mentioned in

the first chapter. This platform allows anyone to “find” movies on p2p systems and apply to them the same frame-scrambling procedures performed by *aPpRoPiRaTe!* on local files. In its mode of operation, *Download Finished* proposes an interesting analogy between the logic of codecs and that of data transmission. The work suggests that, just as a movie running in a computer is not simply contained in the movie file, a “film” found on a filesharing environment is not a mere version of original film. It is a completely new, collaborative work, which results from a process described as

the sum of [>1] the original film, [>2] the work of the mathematicians who laid the theoretical foundations for [>3] the programmers who designed the encoding software / the codec and [>4] the file sharer who finally uses all that software to intentionally make the [>5] film widely available. The processes behind [2] - [4] usually stay invisible, leading to the wrong assumption that [1] = [5] (!mediengruppe bitnik & König, 2007).

The previous section showed that digital technologies reveal the movie to be an effect of its constant circulation – in other words, a result of processes of information from which the image cannot be disconnected. Taking into account the proposal of *Download Finished*, one can state that these processes are not only internal to the machine, but also environmental, corresponding to the coordination of the transmission and preservation of audiovisual data in a wider socio-technical environment. According to that perspective, the obstacles for the stabilization of a model image are even more plural, starting with the high disposability of standards for data storage and codification (Usai, 1999: 44). As the media ecology changes, digital movies have to be translated into new formats or become “hieroglyphs,” as Usai called them (ibid: 46). For that reason, Matthew Kirschenbaum describes the eventual fate of all digital objects as to

inexorably be reduced to opaque code blocks, or BLOBs, as they become detached and drift away from their native software environments, and as those software environments themselves become distanced from the hardware running the operating systems that support and sustain them (2009: 234).

Hence, the preservation of digital objects depends on the access and maintenance of systems capable of interpreting them (ibid: 189, 186). Once its original ecosystem is

gone, a digital object has to be safeguarded in greenhouses such as software emulators. Conversely, these artefacts can subsist by being transcoded and spread throughout information networks. In that sense, arguing against the idea that the transmission and preservation of digital objects are both purely technical activities, Kirschenbaum insists on the “fundamentally social” dimension of these objects and their active reliance on network cultures (ibid: 21). The example he uses to illustrate this fact is the conservation of the self-degenerative codework *Agrippa* by hackers who made versions of it and distributed them in underground BBS¹⁶ forums (ibid: 218).

A digital movie is likewise “preserved” by being re-encoded and multiplied through different gadgets and websites, when it assumes their particular image formats and resolution. Considered in this light, the many movie edits that proliferate on the Internet – excerpts, parodies and domestic remakes – should not be considered as radical derivations of an original work. If the hypothesis that movies do not exist a priori and result entirely from their circulation is to be accepted, a remix must then be considered as just another instance of the “original” piece, having no particular identity as a cinematographic object, either derivative or not.¹⁷

These multiplications of the movie constitute its final development as a process of information, interweaving its meaning and value into the very social fabric of the network and blurring the lines between media consumption and production. One could reasonably argue that such circumstances are promoted because of the way in which the public is embedded in the structure of digital networks. For instance, the optimal operation of the peer-to-peer file-sharing system depends on the active participation of all of its users, who should be sending as much data as they are receiving. By adopting the role of a mere spectator and not retransmitting data, any user can weaken the whole network and neutralize the relative existence of a given movie. Not surprisingly, this passive attitude is strongly disapproved in the code of conduct drawn up by file-sharing communities, in which it receives the epithet of *leeching*.

¹⁶ *Bulletin Board Systems*, social network systems that preceded the World Wide Web.

¹⁷ Which does not mean that the original work has one particular identity either, that can be identified separately from its circulation. In fact, the identity of the original is sometimes set by its remix.

In the Internet, just as in a game of Chinese whispers, the audience is actively carrying out the transmission of information. Due to this radical transformation of the commitment the public makes to the structure of the medium, one could expect that the character of movie circulation would change as well. In that sense, the relevance of distribution as a sort of collective enactment of the movie comes to the fore. This premise is made clear in the case of “viral” videos. Viral videos could be said to be movies created entirely by their distribution, in an almost accidental way. By and large, they share a certain *readymade* condition. Most start their lives as nothing more than fragments of other works, pulled from different channels and thrown onto the Internet without much contextualization. In their original situation, these fragments could pass reasonably unnoticed. *William Hung- She Bangs*, now one of most recognized viral videos, was once just one among many failed auditions in an episode of the *American Idol* TV show. In 2004, this particular audition appeared online and propagated exponentially, as viewers passed it on to each other. In this way, without any market planning or central coordination, it achieved millions of hits, turning the rejected singer into a sort of celebrity. Thus, the video became something by-itself, with a meaning and value apart from the show it originally belonged to – but not apart from its online distribution.¹⁸

The viral, this regime of circulation turned into genre, seems like the perfect realization of an audiovisual form that results from processes of information. Therefore, one might wonder if these online works are entirely autonomous of a broader media circuit. In other words, could each of them be considered a circuit in-itself, disconnected from the normal mediatic apparatus? To answer this question, one has to consider the way in which online data is attached to its platforms of distribution, which is not only socio-technical, but also economic. This triple connection can be explained by referring again to *And Then There Was Salsa*. This piece was hosted by a specific video website, and it was not be available in any other environment. Its attachment to Vimeo goes beyond the space it takes on its servers and the way it is promoted within its community of design-savvy users. In order to make the vegetables fly all over the browser, the piece had to appropriate the visual

¹⁸ It is reasonable to say that, in this process, the original exhibition of Hung’s audition was also resignified and reevaluated.

interface of the website and, more importantly, interact directly with its software structure. The videomakers not only had to produce the animation in accordance to Vimeo aesthetics, but also to contact its webmasters in advance, in order to understand how the site works and be able to install specific scripts into it. Of course, all of these definitions demand long-term business negotiations, and it is no surprise that the user account which owns the video has badge of “sponsor” next to it.

The more it depends on the specific characteristics of its platform of distribution, the more a movie becomes attached to it. For instance, pieces that employ interactive features such as YouTube’s in-video hyperlinks and subtitling cannot be freely transported (e.g. sent by email, downloaded, etc) without being virtually destroyed. Just about any kind of displacement would cause a disruption to these movies’ particular significance and behaviour. Thus, an essential part of their operation seems to be crystallized within their platforms of distribution, restricting their circulation.

The cultural dimension of these online platforms also affects the identity of the movies they host. A video builds up meaning and value as it accumulates metadata such as tags, comments and replies – that is, as it becomes intertwined with the platform’s community of users. In order to exemplify how these characteristics can be essential to a work, one can refer to the online series *lonelygirl15* (2006-2010). Hosted on YouTube, this series was based on the fake video diary of a teenage girl with this eponymous username. Initially revolving around the character’s everyday life, the series soon turned into a sort of thriller, as it was revealed that *lonelygirl15*’s parents belonged to a mysterious religious cult and then she got kidnapped. To convey this narrative, the producers made full use of YouTube’s environment and community. The main character behaved just like a “real” lonely girl, responding to comments and interacting with other users – some of which were fictional as well, and posted videos that also constituted part of the movie’s narrative.

The experience of *lonelygirl15* would have been unlikely to be the same without the illusion of authenticity created by its particular platform of distribution and exhibition. More than the strategic appropriation of the video blog’s “language,” it

was the way the work could “accidentally” be found on YouTube as a genuine amateur video blog that produced its essential verisimilitude. Had it been on another website with a different user community, such as the semi-professional Vimeo, *lonelygirl15* would probably not have had as much success. In a movie theatre, it would not even have made sense. It was a confluence of processes, both internal and external to the image, that resulted in the movie’s particular identity.

Thus digital technologies do not seem to allow for completely autonomous movie circulation, detached from any platform. In fact, as they embed the image even further in the medium’s structure, these technologies create conditions for the platforms of distribution to get within the movie and use its circulation to propagate themselves. Movies acquired from p2p networks, for example, often carry a text file listing the release group responsible for its original upload, as well as the online directory to which the movie was first posted. This metadata is made in order to spread the names of such release groups and directories, upholding their influence in the particular economy of reputation that motivates the filesharing underground (Lasica, 2005: 53-55).

The pervasiveness of a website such as YouTube is even stronger. One might think that embedding a YouTube video in another webpage would isolate it from the original context, but what happens is precisely the opposite. The embedded video becomes overlaid by YouTube’s watermark and advertisements, as well as by links to other works in its database. It is as if, through the embedded video, the whole of YouTube had infiltrated another website. Being this invasive, the platform reinforces its superlative authority over the works it distributes – an actual form of *control*, better represented by its capacity to ban user accounts, take videos offline, and block access from certain countries.

It is therefore naïve to qualify the regime of circulation allowed by such platforms as simply participatory. What at first may seem to be authentic participation is just a medial way for the public to comply with the procedural nature of digital information. For a similar reason, there is no paradox in the fact that, as the movie form becomes more volatile, it also gets further entangled into the medium’s socio-technical structure. By entailing more dynamic principles of circulation, computer

processing goes as far as to change the conditions of medial *property and authority* – a topic to which I will dedicate the next section.

1.5. Code and the conditions of *property*

Digital information, and therefore the constitution of digital movies, is not immaterial. On the contrary, it can only exist by the means of continuing interactions taking place between physical and logical mechanisms, both among themselves and with human operators, and on both local and networked platforms. The nature of this procedural materiality will be analysed in detail in the fourth chapter, in which I discuss how movie circulation also defines aspects of medium specificity. In the meantime, in this final subsection about the employment of computation in cinema, I intend to give some attention to the immaterial substance from which software seems to be made: the code.

In my explanation, I will draw upon the wider historical perspective advocated by Friedrich Kittler, for whom codes “are not a peculiarity of computer technology and genetic engineering” (2008: 40). Kittler finds the roots of code in pre-Christian systems of command and communication that are operated by the means of encryption. He characterizes this process in accordance with Wolfgang Coy’s definition of “mapping a finite set of symbols of an alphabet on to a suitable signal sequence” (ibid). Primary examples of these systems are forms of secret writing as old as the Roman Empire, used either by the government or by conspirators. Such ciphers consist in reorganizing a message according to a given *key*, which works as a particular convention within the universal conventions of language. The circulation of an encrypted message is thus restricted to those who share this convention. Even if the physical carrier of the message is intercepted by those unaware of the key, its meaning would not be disclosed. In that sense, one can affirm that the message is not simply contained in the cypher – the message occurs when the cypher is operated through its key.

The code that supposedly contains the algorithmic procedures of a computer application is sometimes called its *source code*. This moniker might be misleading

because it gives the impression that the code represents the fundamental cause or essence of the application. However, source code is always conditioned by a sort of key: the rules of the programming architecture in which the application is supposed to run. In that sense, the real “source” of an application would be the complex series of software interactions that decipher its code. Nonetheless, according to the principles of computation described earlier, one must assume that these interactions are themselves abstractions of the machine’s processes. When the computer operation comes down to these processes, not even the zeros and ones of machine language really exist – they are a mere description of the discrete states of the running mechanism.

Considered in this light, one can start to see the difference between the ways a Roman conspirator and a computer “decipher” code. Whereas the former translates the code into a message he can understand and then performs its orders, the later performs the message by the means of its physical structure, incorporating the code before translating it into meaningful results. This means that the machine does not “understand” the meaning of commands such as “go to” and “print”; it responds to the way these commands affect its physical mechanisms. For that reason, the algorithmic logic described in a code is as *superficial* as the images shown on a monitor screen, in the sense that they are equivalent abstractions of the machine’s unfathomable operations. It therefore seems that the code is not a fundamental cause of computer processes, but instead a rationalization of processes that are latent in the machine. Put differently, codification would not be a genuine contingency for the operation of the computer, but another of its surface effects.

This fact seems to contradict what we have thus far seen. After all, if a movie is codified in a particular format, it cannot be played on a machine that does not have the proper codec installed. It might therefore be thought that code defines the fundamental possibilities for movie circulation. Yet, what should not be ignored is how this assumption is already tied to a specific notion of the movie and of what its proper manifestations should be. Provided that there are physical means, a movie file in an unspecified format *can run* on a computer that does not have the corresponding codec installed; it just does not provoke the continuous sequence of images one would be expecting. Nevertheless, the computer does process the movie as

information. Even when the machine “does nothing,” this does not mean that a million calculations have not been performed within it. However disappointing, an error message *is* a meaningful effect of these calculations. It stands for the way in which the computer exerts its material affordances, just as it does when a keyboard switch is closed or the processor overheats.

In that sense, more than defining the fundamental possibilities for a movie to exist, code specifies the conventional means by which computers can be used in normal cinematographic operations. Establishing these conventions, code organizes technology in favour of what would be the proper circulation of a movie. In the following sections, I intend to show how this is accomplished both algorithmically and legally.

1.5.1. Data standards and protocol

Computer code specifies how processes of information employ the materiality of the machine, controlling how physical components such as the processing and memory units store and transmit data. In doing so, codification allows for the establishment of a layer of medial operation, comprising conventional procedures and specific data standards – codecs such as MPEG2 and image formats like the 4k resolution. By employing such procedures, users do not have to worry about closing the right switches and lighting pixels up; they can just use the computer to play and make movies. In a similar way, data standards promote the uniformity of rendering routines – that is, of the way images are formed by different computer mechanisms. Complying with these standards, different systems can handle the same files in the same way.

This layer of medial operation allows for a common ground upon which movies can circulate according to the historically constituted norms of cinema. Moviemakers do not have to be concerned with computation; they do not even need to understand how the codification and decodification of data works. Thanks to codified standards, they are free to produce cinema as they have always done, employing applications whose interface simulate established procedures of film production. Their work

finishes where that of codecs starts: packing and unpacking data into complex signifying arrangements.

Therefore code organizes computers in favour of movie circulation, outlining shared platforms for the production and consumption of cinematographic works. By coordinating the simulation of the medium's traditional apparatus and operations, code defines what is proper to them. Anything that is codified as a movie, and therefore can be operated as a movie, *is* a movie. Allowing for this purely arbitrary definition of the cinematographic object, the implications of code are equivalent to those of a protocol. Alexander Galloway once used this concept to describe "how control exists after decentralization," in a distributed network fitting the model of Deleuzian control societies (2004: 29). This idea could also be used to explain how the specificity of the medium persists in a post-mediatic digital system – in other words, how it is still possible to identify "cinema" when cinema is no different from other computer-processed bytes.

Drawing from computer engineering, Galloway characterizes protocol as "a set of recommendations and rules that outline specific technical standards" that is at the core of network computing (ibid: 6). By means of compliance with a protocol, participants are able to connect with one another and form a previously nonexistent network. In that respect, a protocol is a technology of inclusion (ibid: 147). However, from the way it is embedded into the system, a protocol is also a very powerful technology of regulation, which synthesises the negotiation of the flows structuring the network (ibid: 74-75). In that sense, protocol belongs not to the realm of *discourse*, but of *possibility* (ibid: 52-53), establishing the conditions of existence in and of a given system. Since the sheer existence within the network depends on the acceptance of protocol, there can be no resistance to it: "opposing protocol is like opposing gravity" (ibid: 147).

The particular subject of Galloway's investigation is the Internet, that global network of networks. In rough terms, the Internet works as an agreement that both distributes information indiscriminately and regulates this distribution hierarchically. This shows that the freedom of universal connection depends on the submission to protocolar control. One should not think of this control as intrinsically harmful.

Without it, the network would lose its coherence: “if the Internet were truly rhizomatic, [...] it would resist the deep, meaningful uses that people make of it everyday” (ibid: 64). In that sense, one of the main functions of protocol is to sew the fragmented architecture of the network into an intelligible platform such as the Web, which users can experience intuitively. As it does so, protocol promotes the *continuity* of the network – a term that Galloway borrows from film theory (ibid: 64).

Likewise, I want to suggest that, by the means of data standards, computational processes are sewn into cohesive cinematographic operations. As much as code remains metaphoric within the computer, it sets a medial parameter for the engagement with the system. In that sense, code would be the computational equivalent to the model image, establishing the horizons for movie circulation in the new technological regime. As computers are turned into the medium of all media prophesied by Kittler (2010: 225), this parameter becomes necessary in order to situate cinema within itself. Approaching the pure specification, code defines what is proper to cinema – what belongs to its circuit. Within the digital circuit, whatever is not in accordance with particular modes of data organization – whatever is not codified as a movie, even though it may look like a movie – *is not a movie*. In other words, it cannot circulate as a movie: an operational system would not identify it with the proper icon; a DVD player would not be able to run it; a film festival would never accept its submission.

1.5.2. Copyrights and licensing

Because of code, participation in cinema seems to become not only purely technical, but also completely open. If circulation is defined by data standards alone, it is expected that, as soon as standardized technology falls into the hands of the audience, it would promote the complete dissolution of the authority over circulation. The centre cannot hold: personal computers are already able to make infinite, perfect copies of any movie file; domestic broadband connection can distribute these copies far and wide. From the standpoint of technical standards, the domain over the distribution and exhibition of cinema seems to have become public.

As much as this change might provoke drastic effects within the cinematographic market, it has even stronger results in the identity of the movie. Combined with what could be understood as new and cheaper possibilities of movie production, the authority over circulation is turned into a performance thereof, creating alternative means for movies to circulate.

One of these means is the *fan edit*, the cinematographic version of the literary fanfiction, in which a movie is completely recreated by the viewers by the means of re-editing the original scenes and combining them with other source material (sometimes even taken from other films). Elizabeth Hills calls attention to the increasing popularity of these unauthorized versions during the early 2000s. For her, one of the reasons was the public availability of apparatus (“software packages”) similar to those used by professional studios in the production of the original work (2002: 176). To this should be added the possibilities of digital compositing, such as those used in *Russian Ark*, which allow the ontological montage that makes the most radical re-edits to pass unnoticed; as well as the generalization of data standards, which allow the format and quality of the fan edit to be similar to that of the original. Due to technical contingencies, one might expect that any “fan” film done in the 90s would have been a crude work, distributed on low-quality VHS tapes – in other words, something inherently different from the original movie. Most contemporary fan edits, however, are technically indistinguishable from the official video versions available for domestic consumption. The only difference, besides the content, is that these works cannot be found on the authorized channels of movie distribution, being restricted to particular fan culture websites.

Given their technical quality, fan edits should not be considered as degraded versions of a movie, like the official edit-for-TV. They involve a substantial remake in the same terms as the original, one which is virtually able to take its place. In a digital network, fan edits seem to concur with a form I have identified as paradigmatic to digital cinema: the director’s cut. This opposition foregrounds the limits of code as the condition of pure specification. There could be no better example to us to discuss this than the film series subject to one of the most controversial director’s cuts – which also happens to be one of the series with the most fan edits: *Star Wars*.

Hills characterizes *Star Wars* fans as some of the most prolific filmmakers, actively engaged with expanding the mythology of the series and mixing it up with other audiovisual works. They form online communities to share not only the proper edits, but also production assets such as full 3D models of the series' vehicles (ibid: 177). To some extent, these activities are supported by the Lucasfilm company, which even organizes an annual Star War Fan Film Awards since 2002. However, the company places strict restrictions to the ways fans are allowed to appropriate their products. Their marketing discourse is clear: fan films are allowed as long as they have a celebratory nature, do not make money, and are not "offensive to our core audience" (Ibid: 180). Nevertheless, what can Lucasfilm do to hold the audience back, if digital code sanctions the most outrageous interventions into the movies? Most of the fans do not seem to be interested in getting any profit from their work or in making distasteful parodies. However, their passionate sense of ownership over the series is prone to lead to confrontations with the director's will – especially when they feel that he has betrayed them.

The case in point is the fan edits of the first Star Wars trilogy, especially *Star Wars: Episode I – The Phantom Menace* (1999), which was received with great disappointment by fans. In 2001, two years after the release of the original movie, a remake made by an anonymous fan garnished attention from mainstream media for "providing a more focused and better paced version of the film" (Phantom Editor, 2006). Almost twenty minutes of scenes were removed or re-arranged, causing a considerable change in the personality of the protagonist Anakin Skywalker and the nearly complete erasure of the character Jar-Jar Binks (Hills, 2002: 181). Called *The Phantom Edit*, the movie was later revealed to be the work of professional editor Mike J. Nichols, whose editing decisions were "based on the previous execution and philosophies of film storytelling and editing made famous by George Lucas himself" (Phantom Editor, 2006).

Just as digital technologies let George Lucas repackage his own work from the 70s in special editions, they allow fans to correct what they see as mistakes in the director's new films, making these works truer than true to the series mythological spirit. As I said above, as significant as these possibilities can be to film economy, they are even more so to the identity of the medium. The stronger effect of digital

technologies to the parameter of the model image seems not to be the loss of the photographic referent, but the collateral instability they provoke upon a movie's historical identity, which suddenly becomes open to revision and negotiation. In that sense, code seems able to realize the full potential of a movie as a result of circulation, since it authorizes not only one cut as final, but many – or none. If computer code sanctions the unrestricted public use of the medium, how can the restrictions established by a company such as Lucasfilms be enacted? In other words, in a cinematographic circuit organized by mere conventions, how can the authority of one party be assured over that of another?

In order to answer this question, we need to consider the way code defines belonging, although from a superlative perspective. What seems important is not only *what belongs to cinema*, but also *to whom cinema belongs*. In modern western civilizations, this question of authority and authorship has always been managed by a sort of code. Lawrence Lessig reminds us that, prior to the rules that organized computer systems, there had been one to regulate society and the economy: the law (2006: 5). Therefore, no matter how much computers take over traditional fields of society, the machine code remains subject to legal regulations such as national constitutions, business contracts and product licenses. As Lessig explains, the legal framework penetrates the whole computer media by the means of copyright (2008). Copyright regulation becomes omnipresent due to the nature of digital technologies, in which every manifestation of an object – every use of software as a “created product” – generates copies (2008: 98). Therefore, “every action must then be justified as either licensed or ‘fair use’” (ibid: 99).

Due to the character of digital technologies, licensing becomes a privileged way to regulate property over software, allowing it to be materialized as a marketable good. Machine code cannot literally be bought and sold; what is negotiated are the permissions for its copy and use. It is to this economy of access that the cultural industries resort when they can no longer sustain their monopoly over prime matter and the means of production. Just as the grounds of movie circulation have been reduced to data standards, its ownership seems to have been reduced to copyright. Licenses and contracts have become ways to contain the movie within the cinematographic circuit. Thus copyright law supplements machine code as the

condition of property over cinema. This is the final reason why the *Star Wars* fan edits cannot take the place of the rejected George Lucas' works; or why a remix is not accepted as a normal means for a movie to circulate on the Internet.

Computer-based works such as remixes are not part of cinema because they are not licensed. If they should happen to be, it is usually not as the movie proper, but as an ancillary form of marketing. Such is the case with the audiovisual remixes of blockbusters like *Snakes on a Plane* (2006) and *Take the Lead* (2006) made by the group Addictive TV (2011). Commissioned by the original producers of the movies, these remixes had the main objective of promoting the "real" theatrical exhibitions; they had the same value as Internet trailers. By serving marketing purposes, these remixes were excused from the law because they actually reinforce central control over movie circulation. Similarly, to enter the *Star Wars* film competition, participants have to consent to a distribution contract that gives Lucasfilm the rights to use their movies "in all media channels" (Channel Star Wars, 2011). By the means of lending prestige to the fans' work, such an apparatus of authorization legitimizes the company's universal ownership over them.

The definition of digital media seems then to have been moved into the juridical arena. For this reason, it is not surprising to see institutional efforts aimed at creating and maintaining "copyleft" frameworks more coherent to the logics of software. Instead of directly confronting copyright law, these frameworks intend to establish a sort of interface with it, by the means of alternative forms of licensing that reframe the way software is regulated. The most famous of these licenses is probably the GNU General Public License, created by Richard Stallman in 1989 to maintain the four basic freedoms of software use and development (run, study, modify and redistribute). Strategically planned as a programming subroutine, meant to assure unrestricted access to source code and inhibit its unacknowledged appropriation, the GNU GPL is considered by the Free Software Movement as its legal constitution (Tai, 2001). Another example of a neat copyleft framework is Creative Commons, a series of licenses maintained by an NPO founded by Lawrence Lessig. In accordance with its motto "some rights reserved," the Creative Commons website provides users with a free and easy way to manage the legal restrictions that subsist over their creative works. The users merely have to inform which permissions they want to

give to the public (such as share and modify) in order to get an appropriate license, with a self-descriptive name such as *Creative Commons Attribution-ShareAlike* and a “human-readable summary of the Legal Code” (Creative Commons, 2011).

On the one hand, the proliferation of such frameworks could be treated as an invasion of legal protocols into everyday activities. On the other, it is a clear sign of the contamination of law by the logic of computer code. To some extent, both of the aforementioned examples – the GPL in its mode of operation and CC in its customizability – behave as if they were software applications. They are even “updated” in versions and “ported” to other systems (i.e. the jurisdiction of different countries) (Lessig, 2008: 15). There is nothing preventing any individual from resorting to these strategies of “legal programming” apart from the general ignorance of the public about the way law works. In most democratic societies, anyone is able to propose a contract: “legally binding agreements in which two or more parties mutually promise to perform certain actions in the future, which are characteristically encoded in the form of impersonal instructions within the legal document” (McClellan: 2010). In that sense, instead of adopting an institutional license, moviemakers could create their own form of copyright, either as a way to negotiate labour and authorship, or even as a discursive apparatus. An example of the latter is the license of the application *VRStudio 5.2*, made by the Brazilian VJ Spetto. With clear humorous undertones, the license has different restrictions depending on the nationality and profession of the end-user: while Cuban and Iraqi residents are able to use the application for nothing, Australian ones must pay a minimum annual fee of US\$ 500, and Brazilian lawyers cannot use it under any circumstances (VJ Spetto, 2007). Thus, the license has the subtle character of a political statement (or a pastiche thereof).

Finally, if the legal code alone seems able to outline the circulation of a movie, one should be free to entertain the idea that licensing itself can be a form of moviemaking. This is the case with Cezar Migliorin’s project *Artista sem Idéia* (Artist Without an Idea, 2005). With part of the prize he won in a Swiss film festival, Migliorin put out a call for what would be *his* next movie. A public call such as this can be considered as a form of contract between the proponent and whoever responds to it accordingly. It stated that anyone could submit an audiovisual work of

any format and duration to Migliorin, provided it was already finished and previously unseen. Upon a certain deadline, Migliorin would select one of the pieces he had received and pay US\$ 1,000 in exchange for its authorship. According to the call, the winning piece would remain completely unaltered, except that the line “a film/video by Cezar Migliorin” would be added to its credits (Migliorin, 2005b).

Migliorin has declared that his intention was to criticize the humiliating way in which calls for work drive an artist’s life and production. His project was meant to reflect upon the aesthetic effects of these calls and resist the “fetish of the credits” that transforms an artwork into a mere vehicle for the prestige of the author. From a moviemaking perspective, *Artista sem Idéia* was an attempt to employ the legal schism between labour and authorship to “create an audiovisual situation in which a real *contretemps* appears,” so that one is able to obtain images “that are not contaminated by the action that produces them” (ibid).

After publicizing the call, Migliorin received and answered more than a hundred emails, which made him feel “as if [he were] a company, an organization.” However, whether he obtained the uncontaminated images he wanted, we cannot know. In the only comment on Migliorin’s YouTube channel, user *TribunadoRock* asked about the project in 2008, but there is no answer. The project’s blog states that one video among the participating ones (number 111) had been chosen (Migliorin, 2005a). Apart from this brief notice, it is hard to find any other tangible result of *Artista sem Idéia*. In the spirit of the project, it is hard to tell if the selected movie has been disguised among pieces of undisputed authorship in Migliorin’s filmography. Maybe “number 111” was not good enough to be included in any exhibitions, or the whole call was a farce from the beginning. In that sense, if the aim of *Artista sem Idéia* was to create “a machine that operated in an autonomous and unpredictable way, one that regulates but does not dominate its social and aesthetic effects,” the lack of a visible movie could be seen as proof of its success: a *pure circulation without a closure*.

Nonetheless, as one speculates about *Artista sem Idéia*, the movie seems in some way to be realized. Attentive to Migliorin’s intention, it might be argued that the movie has already been there, in all of the contradictory possibilities contained within the call. The publication of the call and the ensuing public debate was a way

for its code to run through the socio-technical network. In that sense, it was also a form of projection of its cinematographic possibilities – a projection that ends when the results of the call are finally outlined, for example when someone reads Migliorin’s blog post. In what measure are these results different from “a movie that one doubts is a movie, so great is the force with which it points outwards,” which is precisely the outcome the artist wanted to achieve? It may be that images uncontaminated by the actions that produce them – i.e. by circulation – are impossible. Conversely, it may also be that a movie is less a product of images than of shared conventions and that the action that finally produces it is the public’s imagination. If that is the case, the movie *Artista sem Idéia* seems to overlap so closely with the imagination that underlay it – its code – that its circulation becomes barely noticeable.

2. Circulation across different technologies

This section intends to draw a parallel between processes of movie circulation in the aforementioned technological regimes. Thus I expect to erase the impression that such regimes are fundamentally distinct, when in fact they supplement and interlace each other. This examination of their similarities should foreground the general medial nature of the resulting movies, which is defined regardless of the technological differences in the systems employed by cinematographic production, distribution and exhibition. It should also suggest some of the reasons why cinema, being essentially heterogeneous, remains specific even though technological development impose themselves against its established means of circulation – leading the way to the questions that will be addressed in the following chapters.

2.1. A concatenation of projections

We can start by organizing the concepts outlined so far into the following table, which offers an overview of all the regimes of circulation described in both this chapter and the previous one.

Technical support	Operational principle	Means of circulation	Parameter of form	Condition for medial...
Film	Mechanic reproduction	Final cut	Model Image	History
Video	Electromagnetic transmission	Edit-for-TV	The Movie	Ecology
Digital information	Computational processing	Making of/ director's cut	Code	Property

Table 3. 1: Movie circulation within different technological regimes.

This summary allows some preliminary comparisons, which reveal that the different regimes actually operate in a similar way. As a pre-defined set of moving images, the movie must always conform to a certain *means of circulation*. This means of circulation provides a standard way to contain the movie within a given *technical support* and transmit it according to its respective *principles of operation*, which govern both the enactment and distribution of visual forms. The signified image remains external to the system, as a sort of *fixed parameter* according to which the success of these operations can be measured. Therefore, the image also becomes a condition for the technology's *medial identity*, for how technique is mobilized in favour of movie circulation.

As the movie is transported to a new technical support and becomes articulated by different operational principles, it must go through another means of circulation. The movie's original means remains external to this second regime, providing the basis for a new formal parameter. The main difference is that this new parameter is no longer supposed to be an image of reality: it is openly acknowledged as the image of an image. Thus a sort of hierarchy of representation is created, subjecting the medial nature of the new system to that of the old one. In that sense, technologies of audiovisual representation do not substitute, but supplement each other in the organization of the cinematographic circuit.

Arranged in a historical sequence of technological development, Table 3.1 shows the accumulation of audiovisual forms in terms of what is traditionally considered to be

cinema. Originally made in film, a movie would correspond to its final cut. Transported to video, these images must necessarily be transformed in accordance to the new technological underpinnings. Nevertheless, as Greenberg's idea of *The Movie* implies, the final cut persists within the images as a hypothetical parameter to the video edit. Likewise, when the film is digitized, the code stands for the sum of the final cut and all of its potential edits, even the ones that have never been made. Thus, code justifies its authority over all of the variations of a movie within the abundance of digital media, legitimizing the particular choices of a director's cut.

The logic of movie transport could be applied the other way round. Works that rely on the characteristics of electromagnetic transmission or computational processing could never circulate properly on film except by the means of a paradigmatic representation – in other words, as a movie of the movie. In fact, it can be assumed that different regimes of circulation exist within the same technological underpinnings, and a work made in one cannot be transported through another without going through some kind of calculated deformation. Examples of this would be the theatrical exhibition of a film made for art galleries; the broadcast of a direct-to-tape fiction; or the publication in Vimeo of a VJing performance. These cases, which are far from exceptional, suggest that a movie's means of circulation is not directly determined by media technology. On the contrary, as I intend to show in the following chapters, the means of circulation actively contribute to the organization of such technology.

Nonetheless, one should not consider any means of circulation as constituting the absolute definition of a movie or the fundamental cause of its circulation. Before it can be regarded as the final cut that corresponds to a model image, the projected film is the result of its own transport within and between apparatus. The same is true for a video edit or any kind of digital image: to a certain extent, their constitution is technical before being mediatic. The means of circulation is an attempt to congeal technical processes in favour of the movie's parameter of form. Nevertheless, technique responds to its own dynamics, making the storage and transmission of a mediated viewing necessarily imperfect. It is in that sense that film – and video, and digital information – are arts serving to destroy moving images. However, without technical processes to carry on circulation, there would be no moving images to be

destroyed either – no viewing to be mediated, and no form whatsoever to be stored or transmitted. Nor even the parameters that define a movie’s identity can be considered external to these processes; after all, the transcendental totality of a model image must necessarily be inferred from the insufficient or flawed traces of movie circulation.

While they destroy moving images, the technical processes that constitute circulation literally produce the movie. Hence, the fundamental principle behind movie circulation should be found not in storage or transmission, but in *projection*. Every transport of the movie, either in time or in space, entails its transformation, conversely resulting in the fundamental information of cinematographic apparatus. Echoing Stanley Cavell’s idea that film is a “succession of automatic world projections” (1979: 105), I suggest that circulation can be theoretically decomposed as *a continuing concatenation of projections*.

Each of these projections is situated, relational and ephemeral, materially distinct from every other. The means of circulation stand for a way to understand and articulate them around the steady presence of a particular movie. In that sense, the means of circulation becomes itself a projection of the technical consistency of the cinematographic object that stands apart from its production, distribution and exhibition. In other words, it stands for a conventional limit between the form of the movie and the operation of apparatus – the boundary where one ends and another begins. Hence, while a parameter of form organizes the *outer limits* of circulation (the relation of media technology to the mediated reality), the means of circulation organizes *its inner limits* (the relation of the mediatic object to the technical apparatus).

Having said that, one important thing to emphasize is that neither of these organizational boundaries of movie circulation has a visual character. As the first exhibition of *a knife all blade* demonstrated, it does not matter whether and how images appear. Images are irrelevant to the manifestation of the movie if they are not experienced as an appropriate consequence of cinematographic operations. Henceforth, the closure of movie circulation seems to depend on the way that the public apprehends the surface effects of the technical processes. More than an

indication of this closure, the surface stands for the threshold from which these processes are made sense as cinema, and therefore are able to close. By paying attention to this, I intend to put forth the hypothesis that a movie is outlined less by the moving images that apparently constitute it than in relation to the conventional surface effects of the total apparatus. In other words, that even when invisible, a movie can become manifest.

2.2. The surface: abstraction of the circuit/ interruption of reality

If one were to examine the socio-technical processes that constitute the cinematographic circuit, one would see that the “absenting object of the movie” (Rodowick, 2007: 22) is no simple phenomenology of viewing, but the movie itself. A stable and self-contained visual form is nowhere to be found among cinematographic apparatus. The presence of this object is inferred from the traces that result from its technical circulation. The actual cinematographic image seems secondary to this inference, existing as a corollary of it: one is watching a movie as one becomes aware of cinema. In the final section of the chapter, I will examine how this awareness of the medium is related to the circuit’s surface effects, and characterize cinematographic experience as being one of engaging with technical processes in favour of movie circulation.

The primary outcome of the projections that constitute the cinematographic circuit is the so-called surface effects of apparatus: manifestations of the machine’s inner workings, such as the flicker of coloured lights on a screen and the rhythmic vibration of speakers. In the closure of movie circulation, such effects are apprehended not just as material traces of technical processes, but also as a sign of the movie’s meaningful presence. Therefore, once all technical processes have become resolved in a surface, a conclusive projection seems to happen: the inference of the movie’s identity. Summoning the movie as an objectified form, this final projection stands for a suppression of the technical reality of the circuit in favour of its understanding as a process of mediation.

In more than one sense, the surface could be considered the negative of the image. The image is both an abstraction of the world and an interruption of apparatus, constituting a self-evident representation regardless of its technical causes. The surface, in turn, has the opposite double nature. On the one hand, it is an abstraction of all the complex, continuing processes that constitute movie circulation. On the other, it stands for an interruption of reality, a locus in which the engagement with technique follows particular medial rules that cause representation to become “real.” In other words, the surface is where the image becomes *cinematographic*, and therefore a sign of the movie. This transformation could be compared to the willing suspension of disbelief essential for mediatic experience. However, instead of a perception of a reality contained within media, the surface would imply the perception of media in technology, separating those technical processes which compose the movie, those which compose the apparatus, and those which are irrelevant to cinema.

As the place where media technology is organized, the surface not only produces a particular presence, but also suppresses several others. One must remember that the effects brought about by the technical contingencies of movie circulation go well beyond the screen. Even though cinema is generally classified as an audiovisual media, in fact its circuit is as multi-sensorial as reality itself. A normal multiplex screening includes the freshness of air conditioning, the smell of popcorn, the presence of the surrounding audience, and so on and so forth. All of these stimuli are constitutive to the cinematographic experience, and sometimes form its most appealing aspects. Nonetheless, they are not considered part of the movie produced within the experience. The surface operates this tension of presences, simultaneously foregrounding a consistent (audio)visual form and suppressing other stimuli, which are nevertheless fundamental for the constitution of the movie.

By assuming that the movie is bounded not to any image, but to the surface, one starts to realise that the existence of a cinematographic object is not a phenomenon of direct vision, but of public imagination. This idea could be explained according to a definition given by conceptual artist Cildo Meireles about the accomplishment of an artform. Meireles states that an artwork does not simply “happen” in any of its repeated occurrences, as an exhibition or as documentation; the work is brought into

being by the means of its enunciation (Cameron et al, 2000: 109). In other words, an artform would exist not because of the actual presence of any artefact, but by means of its reflexive acknowledgement as an artform, and this regardless of the availability of the artefact. Applying the same definition to the cinematographic object, one could say that the movie exists when the public reckons its outlines in circulation, in spite of the appearance of any image. Thus, as the name implies, a movie can even be invisible; what it cannot be is immobile. In this ontological horizon, there can be detected the dialogical qualities of oral communications that, in different rhythms and scales, remain at the core of cinema technology.

It was in fact by the means of mere dialogue that *a knife all blade* came into existence: immediately after its botched projection, at the time when the spectators were leaving the screening and asking each other why the work was not exhibited. In this open acknowledgement of its absence, the movie was made present, meaning that its circulation had somehow closed. But how could the public miss the work, if they had failed completely to grasp the traces of its circulation in the first place? The reason might be that, even though the spectators did not see the image on the screen, they probably grasped traces of its circulation from elsewhere – for example, the name of the work printed on the exhibition programme, which could be found in the festival's catalogue, in the local newspapers and even hanging on posters to be found at the entrance of the theatre.

Printed material such as catalogues and posters is clearly part of the festival apparatus. They attract and inform the public, affecting their awareness of upcoming screening situations. Therefore, what these objects bring about should also be considered as a constitutive part of the cinematographic surface alongside the screen. Yet I would also underscore the fact that a movie might differ radically from the traces of circulation from which it is inferred. References in a poster (or in a thesis such as this) project the movie not by presenting its supposed form, but by implying how it will be or has been. In relation to these promotional means, movies subsist either as imminent potentials or as historical conjectures. Sometimes this might be the only way for them to exist – which is the case of a work such as Douglas Davis' orbital performances, which did not result in any video recording.

Surfaces other than the screen are what normally allow the circulation of certain aspects of a movie that cannot be projected through its physical support. This is especially true for things that happen after the work is made public; becomes selected for film festivals, generates profits, wins prizes, is commented upon, compared, analysed and remixed, gains a cult following in a foreign country and inspires new moviemakers. The meaning and value that a work accumulates as it is engaged by these situations might define its outlines much more than its process of production. Nevertheless, most of the time, this meaning and value cannot feed back into the movie's means of circulation, and must therefore be propagated through other structures. An illustrative example of this is *The War of the Worlds* radioplay, generally identified less as the adaptation of a sci-fi novel than as the source of mass panic among its original audience. Although this panic cannot be "heard" in the audio recording of the piece, it is well documented in the many reports and studies about it.

Through these apparently secondary structures, the circulation of a movie can promote qualities that are not evident in the work, essentially informing itself. This can also be perceived in the case of *a knife all blade* which, after its first exhibition, became "the movie that was shut down by the projectionist." This information has been added to the synopsis of the work, and is sent along with a DVD copy in response to any call or opportunity for exhibition, with the intention of influencing the curatorial committees to select the work.

Conclusion

The analysis of how movies are enacted and distributed by computers demonstrates that there is no ontological incompatibility between digital technologies and traditional cinematographic operations. I have thus attempted to summarize the basic principles behind movie circulation regardless of the technologies employed. In doing so, I ended up by characterizing circulation as a concatenation of projections, in which every transport of a movie provokes its transformation. The movie's contours cannot be detached from these socio-technical processes, and must

therefore be inferred from their surface effects, despite the appearance of images. This definition is intended to support the hypothesis that the object of cinema is not bounded by aesthetical or formal parameters, but by institutional ones.

I now come to the point of asking where the medium's institutional parameters come from. In other words, how is the conventional imagination about media technology set in place? Assuming that the circuit is not a fixed background over which movies circulate, but the shared material from which every movie form is made, one could expect their definition to be reciprocal. As the history of the public appropriation of VCR technology demonstrates, the "cinematographic" aspects of any device come from the way this device is employed in movie circulation, something which consolidates it as an apparatus.

Therefore the concatenation of movie projections should also be seen as series of vectors that arrange the circuit – the progressive specification of the medium. In that sense, I want to propose that it is within circulation that cinema's materiality, automatisms and epistemological paradigms are established. In the following chapters, I intend to show how this process of specification is accomplished, by examining the development and negotiation of the aforementioned aspects of the specificity of the medium.

Chapter 4

Fixing apparatus, congealing practices

Introduction

It was a movie screening and I was organizing it with some friends, but I do not remember the exact date. I should have been able to check this information on one of the photocopied posters we used to promote the event, but it is very difficult to get hold of one nowadays. Most of this material was destroyed once it became incriminating evidence. Even online banners about the screening were deleted. What I am sure is that it was early in 2004, and it was probably a Wednesday, since that is the day of the week in which the *Cine Falcatrua* film sessions were normally held.

The lack of references is expected. When there were almost no digital cinemas in Brazil, Cine Falcatrua was a Brazilian group that organized free movie screenings using desktop computers, employing domestic PCs as film projectors and p2p networks as curatorial sources. Because of the way such a practice could be associated with piracy, the group had to be very conscious about the traces it left behind. Nonetheless, the agenda of Cine Falcatrua was not really concerned with an outlaw fight against copyright, nor in the mere democratization of moviegoing, but rather in the exploration of the specificities of cinema.

Examining the history of Cine Falcatrua, this chapter intends to demonstrate how the aspects of the specificity of the medium – such as its materiality and operations – are produced by particular organizations of socio-technical processes. In doing so, it suggests that these aspects are also part of the effects of the medium, corresponding to conventions of engagement with its circuit. Finally, I propose the concept of *mediatic impedance* as a measure of how well specificity can be recognized in relation to particular organizations of technical processes.

1. Cine Falcatrua: rearranging traditional apparatus with inappropriate technology

In its early days, Cine Falcatrua was no more than a film society of the Federal University of Espírito Santo (UFES), localized in the southeast region of Brazil. Even though it was officially registered as a community project convened by the Social Communications Department, in fact it operated almost completely autonomously. The support of the department was mostly *pro forma*: an institutional clearance that authorized the use of college equipment (such as video projectors) and spaces (such as auditoriums). Apart from that, the screenings were planned and organized by the students themselves – a group that was loosely formed by half a dozen people from the Journalism, Psychology and Visual Arts BAs.

It is impossible to be precise about the participants because they fluctuated a lot over time. As in a typical grassroots activity, the very division of roles between the organizers and the audience of the screenings was very fluid; it was not unusual for people unrelated to the core group to bring their own films to be screened and to help set up the equipment. Sometimes, these new people would stick around for the film society's next planning meeting, whereas old participants would tend to disappear completely, drawn away by course deadlines and the other perils of student life. Altogether, it was a very dynamic and heterogeneous group, and perhaps its only remarkable particularity is that it did not include anyone directly involved with audiovisual production, study or criticism, because the University did not have any such courses. So, in the matters of actual cinema, the participants could all be considered *amateurs*, consumers, uneducated laymen.

Nor were the motivations behind the project cinephilic in the first place. In fact, one might say that Cine Falcatrua resulted from a confluence of availabilities: of space, of equipment, of media. In the second half of 2003, there was a student occupation in the old theatre of UFES, which the rectory was planning to convert into a classroom building. If that were to happen, the academic community would lose not only one of its cultural spaces, but also a part of its living history: in the 70s, the theatre had been home to *Cineclube Metrópolis*, a film society that was central to the articulation of

the national *cineclubist* movement and to the cultural resistance against dictatorship. During the occupation, students were trying to keep the theatre up and running as much as possible, in order to call attention to the rectory's decision and provoke public debate about it. This opened up the space for all sorts of activities.

Not long before the occupation, different University departments had received brand new DLP video projectors. This equipment, which was moderately expensive back then, was basically being used for slideshow presentations during classes. Some teachers and students from the Journalism course saw this as a waste of the device's potential; they believed that the projectors could be better employed in the exhibition of films, fostering cinema studies and giving body to a discipline that was virtually non-existent on the course. The projectors were certainly meant for this sort of activity; as in any Brazilian federal institution, all that was necessary to satisfy the bureaucracy was for a project formally to request the equipment from the Communications Department.

To these two local "opportunities," a third, a global one, must be added to the list of Cine Falcatrua's causes: the popularization of peer-to-peer networks. In 2003, with the increase in domestic bandwidth and more efficient video codecs (as reported by Lasica, 2005), online filesharing had already broken the barrier of DVD-quality feature films. Thus, although Brazil was not greatly favoured by the international schemes of film distribution (both mainstream and alternative), media-savvy computer users could access countless movies by the means of the Internet – from unreleased blockbusters to long-forgotten videoart pieces and independent documentaries from foreign lands.

The university students can be certainly counted among those savvy p2p users. Not surprisingly, filesharing was something they were actively doing during the theatre occupation. Camped in the college building, the students had brought their own personal desktop computers along, and were using the University connection – considerably faster than their domestic ones – to download movies around the clock. Since their PCs had no composite video output or DVD recorder, which made it impossible to watch the movies on a normal TV, the students would from time to

time gather in front of the machines' standard 15' CRT monitor for improvised home cinema sessions.

For all of the reasons set out above, the appearance of a film society seemed to be, if not natural, at least favoured. The film society was able to respond local demands as 1) a regular activity during the theatre occupation that 2) put the University's projectors to better use. Moreover, it also gave structure to a geographically situated, face-to-face dimension of filesharing culture, by providing the students with a platform from which to show the movies they downloaded for one another, in a theatrical context closer to the traditional cinematographic one. Thus, the students were able to "share" movies not only with anonymous peers but also with their close colleagues and the local community. As I intend to show, this ended up raising them from being mere media consumers to assuming the roles of projectionists and curators – as well as involuntary copyright activists.

The film society was initially baptized *Videoclube Digital Metrópolis*, in homage to its predecessor. Although there was no direct relation between the two film societies and their objectives, the name should suggest a similarity of methods and a continuity of the 70s debate about the politics of culture into contemporary discussions about the culture of technology. The Videoclube Digital simply envisaged free, weekly screenings of audiovisual works from different genres. In the first, the movie shown was *Matou a Família e foi ao Cinema* (Júlio Bressane, 1969), a classic Brazilian underground title. This session was attended by a very modest audience – about twenty people, as far as I remember. In the second, it showed *Kill Bill: Vol. 1* (Quentin Tarantino, 2003), which had just hit the Internet, and would not be officially released in Brazil for some time. This popular title attracted more people; most of the seats of the theatre were filled. By word-of-mouth, the film society was building a reputation and becoming part of University life.

However, when people came back the following week for a third screening, they could not find where it was. The theatre was closed, its auditorium had been stripped and was already on the way to being reformed. The student occupation was over. What had happened to the film society? Perhaps its application had taken too long to be approved by the Communications Department – because when it finally was, the

theatre was no longer available. Having barely staked out its territory, the Videoclube Digital had already lost it.

Nevertheless, it still existed, but now in a completely different form. From that point, the film society had to look for a new place to use every week, adapting its screenings to the most diverse situations – even outdoors. This required some technical improvisation and unexpected changes that could not be communicated to the audience in advance. Thus, with a semi-nomadic condition, the film society acquired a public nickname that exposed the apparent disorganization in which it thrived: “Cine Falcatrua,” from a word that in Portuguese means *hoax* or *scam*, and is normally used to address forms of political corruption.

The new alias also reflected the ambiguous character of the material shown by the film society: on the one hand, “Frankenstein” personal computers, digital video projectors, old mono speakers and makeshift screens instead of the normal projection apparatus. These sorts of equipment could not be incorporated seamlessly into the architecture of the exhibition space, as was to be expected in a standard movie theatre. They had to be put in place and assembled together at the time of each screening, normally in front of the arriving audience. After everything was set, the projector would inevitably be found in a vulnerable position in the middle of the auditorium; sound and power cables would be spread all over the floor. Someone had to keep an eye on the equipment during the whole session, to prevent people from tripping over it. Even so, problems occurred every now and then. A personal computer was a very instable movie player back in these days.



Figure 4. 1: The semi-nomadic condition of Cine Falcatrua: the public and the projection device come together in the same space.

Similar improvisations were going on the screen as well: as I mentioned before, the film society's programme was mostly constituted by movies found on the Internet, from disputed or illegal sources – who could assure their legitimacy? Although most of the copies screened in Cine Falcatrua were no different from a movie's final cut transported to digital format, some were a long way from a standard means of circulation which tries to efface traces of projection from the image. This was especially common if the movie was new and still had received no official domestic release from which a proper digital file could be ripped.

Among these “bootleg” copies, two types frequently presented in the Cine Falcatrua's sessions were *cams* and *screeners*. The first are illegally recorded from the movie theatre by someone in the audience; the second are made from promotional VHS or DVD copies distributed to the press and to video stores, sometimes even before the movie's theatrical première (NS/VCDQ, 2010). Both kinds can be usually found on filesharing networks. One particular thing about them is the way they expose their extraordinary process of circulation in the movie itself. Cams usually have an organic image, characteristic of film reprocessed through

digital video without any care, so that its colours, framing and speed are altered. Their sound is often muffled and overlaid by extraneous noises. In fact, they are little more than movies of a movie, made in precarious conditions – conditions that come to the surface when the image goes out of focus or is interrupted by the outline of some spectator who was present at the original screening. Screener copies, on the other hand, have perfect technical quality. However, the movie's content is almost never the definitive one. Some have not yet gone through all of the stages of post-production, and so are lacking in colour correction, image filtering or even special effects. Others have specific marks that identify their extra-commercial condition, like on-screen warnings or gaps during which the image goes black and white. By and large, the (otherwise suppressed) circulation leaves irreversible traces in these copies; self-biographical, cams and screeners tell a story that is not only the movie's, but also their own.

Therefore, one could say that the Cine Falcatrua screening sessions denied their own mediatic nature by assuming their technical reality – a reality not only of movie production, but also of all individual processes that brought together each particular screening. Even when the movie copy had perfect image and sound, the subtitles were frequently done in a hurry by the film society's members, presenting typos and awkward typesetting that revealed their amateurish confection. Nevertheless, even more important was the fact that every film session demanded an active effort to arrange structures that were a given in a normal cinematographic situation. The audience could witness – and often collaborate with – the constitution of the cinematographic apparatus. In other words, the closure of the circuit was exposed to the public as part of the movie's experience. Thus, Cine Falcatrua seemed to promote forms of engagement with cinema that eluded the logic of pure representation and emphasized aspects of media as a form of present communication – more than a place to watch movies, the Cine Falcatrua sessions were a place to get together with other people.

The point of this chapter is that this whole distinction – between a normal and an alternative form of cinema – is bogus. The normal structures of the cinematographic circuit are not given; they result from a process of normalization that coincides with the accumulated circulation of movies. The medium's material underpinnings,

modes of operation and parameters of identity – everything that makes the medium specific – are nothing but institutional standards. These standards are processes that become crystallized by the means of *synergies*; or the fixation of places and the congealing of practices to one another. Just as movie circulation is suppressed through the movie's means of circulation, the constitution of the circuit's standards is denied by the mediatic apparatus and the operations that result from them. In that sense, the specificities of the medium are nothing more than habits, liable to be recreated from scratch or completely circumvented at any given situation. It follows that not only should the practice of Cine Falcatrua be considered as cinematographic as any other, but also that “normal” cinema should be considered to be a mere collection of instances in which circulation is momentarily congealed by the engagement of the public with certain operations.

Lately activities like those of Cine Falcatrua have gained a suitable name: *pirate cinema*. In general terms, pirate cinema consists of downloading movies from the Internet and screening them for free. During the exhibitions, the group distributed leaflets teaching the audience how to do the same. Thus, Cine Falcatrua promoted unauthorized online structures as a proper means for movie circulation and rich curatorial resources – no matter whether they were open p2p networks or more serious web directories such as *UbuWeb*, which collects dozens of avant-garde pieces made by artists such as Nam June Paik and Marcel Duchamp. In doing so, the film society meant to bridge the gap between private media consumption and the cinematographic institution. Not surprisingly, the group of students became more efficient than the regular processes of film distribution. Employing the terms of Flusser, one could say that, from mere functionaries of apparatus, they literally became their programmers, able to define how apparatus work (2000). More than once, Cine Falcatrua had been able to exhibit a movie to an audience of hundreds, months before its official release in Brazil. Particular examples are the aforementioned *Kill Bill: Vol. 1* and the documentary *Fahrenheit 9/11* (Michael Moore, 2004). Likewise, the film society managed to take to its screen dozens of independent and/or alternative works which have been censored or forgotten, or that were simply not sufficiently interesting (that is, profitable) to be accepted for distribution in the area in which it operated.

This was more or less the case on the particular day I am trying to recall. We had found a digital copy of *Amor Estranho Amor* (Walter Hugo Khouri, 1982) – which, given its quality, was probably ripped from a VHS tape. This movie is rather polemical because it features Xuxa, a famous Brazilian celebrity, playing the role of a prostitute who sleeps with a 12-year-old boy. The movie was made in 1979, when Xuxa herself was 16, at the beginning of her career. By the time of its release, she had already become a popular children’s show host. On the premise that she had never authorized the use of her image, she took out an injunction that completely prohibited distribution of the movie across the national territory. Hence, *Amor Estranho Amor* acquired a legendary status: even though a lot of people had heard about it, few were able actually to get a glimpse of the movie.

We expected the film session to be completely crowded, and took special preparations. We booked a 200-seat auditorium and started to set up the equipment well in advance. Nevertheless, half an hour before the screening was supposed to start, all the places were already taken, and more people kept coming, occupying the aisles. As far as I remember, to present two consecutive screenings was out of question, because the auditorium would have to be closed at a certain hour. So, to accommodate all of the people who had come, we decided to transfer the session to the yard outside.

This last-minute change is exemplary of the technical malleability of Cine Falcatrú in comparison with normal cinematographic situations. Dislocating the equipment, the group was able to arrange the screening in a way that would have been impossible in a conventional movie theatre. What restricts the movie theatre is not its commercial bias; any multiplex manager would be more than happy to accommodate more public than a screening session allowed if she could afford to do so. However, this is not viable because the normal apparatus are fixed, integrated to a certain architecture, bounded by certain rules (maximum space capacity, fire safety, etc). Technological change alone is not able to overcome this operational inertia. For instance, the normal movie theatre incorporates a technology such as digital projection in a way that accords with its historical premises, integrating the screenings to online networks of distributions, which are thus able to control them

(De Luca, 2005: 49). Instead of making movie exhibition more dynamic, this makes it even more streamlined and restricted.

Disconnected from these institutional facilities and even from the local buildings, Cine Falcatrua could exploit all the potentialities of digital technologies. Of course, it could not be claimed that this was entirely positive. It reflected the fact that the University was not prepared to support a film society. Without the normal underpinnings necessary to it, making cinema would always be vulnerable and laborious. As I described above, even an auditorium screening involved a sort of calculated effort. However, setting a projection outdoors was no more extraordinary than a normal screening; it only required different operations.

If the University was not ready for cinema, the public seemed very well prepared. At first this was an advantage. People understood what was going on and, individually or in small groups, mobilized in order to help with organizing the screenings. When we decided to move the *Amor Estranho Amor* exhibition, for example, some people from the audience themselves carried the screen to the new place. However, as the audience became habitués, they started to assume the role of regular patrons – a mass of consumers wanting to have a service delivered. From that point, the only form of engagement they expected was the normal cinematographic one: to watch a movie with no intrusions. They therefore became unsupportive and intolerant about any form of improvisation.

Both the inhospitality of the public space and the conventions of audience behaviour reached an extreme on that day – maybe because too many technical adaptations had to be made and too many people to organize at once. After we left the auditorium, it took us some time to find an appropriate place for the exhibition. When we had settled, we realized that there was no power source at hand (or no way to hold the screen still – I'm not sure which). In any case, we had to move again. By that point, the film session was already more than an hour late starting, and people were getting impatient. When we finally found another place, they were quick to get into position – however, leaving no room for the projector.

Hence, although the equipment was easy to transport, it was not so simple to handle the audience. Some videotapes were made that day, and they show us asking a huge crowd to open up some space on the grass on which they are sitting. They do not appear very cooperative. We attempt to place a metal table amidst them on which to install the projector, but they pushed it out of the way. We had completely lost control of the situation. We found ourselves as mere functionaries of the apparatus. I could not help but think that this was a form of mediatic experience – a very intimidating one. Only after considerable effort the screening could finally take place. This incident led me to realize that a principal way that the cinematographic circuit resists change is by supporting normal operations and apparatus. Although the closure of circulation does not depend on the already established specificities of the medium, it is fostered when it complies with them – as in a normal movie theatre situation.



Figure 4. 2: The organizers of Cine Falcatrua arranging the projection amidst spectators.

However, there is another way through which the circuit resists change: by suppressing any possibility of it according to its pre-established parameters. Months later, we would discover that the cinematographic institution was prepared for Cine

Falcatrua in the right measure. It acknowledged it as a cinema of sorts, but did not recognize it as part of its authorized apparatus. From the standpoint of filmmakers, distributors and exhibitors, what we were doing was not an alternative form of film study or a valid experience in audiovisual consumption. It was a copyright crime. We had messed with code, the parameter of movie circulation in the present technological environment; thus, we got involved in a property dispute. The expected outcome followed: in August 2004, UFES was sued by some Brazilian film distributors which made a claim of “unfair competition.” At the same time, the members of the film society received a criminal complaint from the Brazilian Intellectual Property Defence Association (ADEPI).

Thus the story of Cine Falcatrua touches upon different aspects of the circuit, providing an object able to materialize the complex negotiations of medium specificity under pressure of technological change. In the next section, I will delve into the technical nature of cinema and go through the processes that bring it together, using Cine Falcatrua’s first years of activity (2003-2005) as a continuous reference to our investigation: the film society’s grassroots screenings, the distributors’ writ and how the conclusion of this affair affected both the medium and the group.

2. The specificities of the medium as standards for circulation

The previous chapter demonstrated how movies are effectively produced by circulation. I concluded by warning against the idea that the circuit would be a mere fixed background over which this process occurs. The beginning of this chapter should have provided some evidence of this: if cinema was completely defined by predetermined circumstances, something like Cine Falcatrua could never have existed – the only way that movie circulation could be accomplished would be in accordance with the medium’s technical parameters.

This certainly does not imply that the circuit can be driven by technological change or student projects alone. As was also seen, the film society faced several

difficulties: first physical, then operational, and finally institutional. In a certain way, this resistance to Cine Falcatrua's activities could be taken as the inertia of the structures already in place to enable movie circulation. However, as I intend to show, such structures are positioned by means of the mediatic experience, as it crystallizes technical processes into medial operations, apparatus and parameters. In that sense, I want to propose the idea of *dynamics of specification* which, paired with processes of circulation, produce and maintain aspects of the specificity of the medium.

This section treats what are considered traditional aspects of this specificity: the physical substance that sets the conditions for practice; the man and machine operations that effectively constitute it; and the critical framework that makes it possible to assess its meaning and value, allowing for reflexive or emergent engagement. Calling upon the notions of *materiality*, *automatism* and *scientific paradigm*, I expect to foreground the procedural nature of these features. In other words, I intend to show that the aspects of specificity are not inherent to any particular device; they are determined by continuous negotiation, ranging from the choice of criteria adopted in a newspaper review to the sort of mass interpretations required for digitizing analogue media (Hayles, 2005: 89). In the course of these negotiations, technologies old and new are accommodated within cinema or, conversely, placed in supplementary fields – which end up reinforcing the medium's particularities nonetheless.

The following chapter will propose that the processes of specification accumulate as the becoming of the medium. In that light, the aforementioned aspects could be associated with different levels of technical concretization: *materiality* corresponding to the self-evidence of the element; *automatisms*, to the crystallization of functions in the individual; and the *scientific paradigm*, to the naturalization of technique by the means of the ensemble. Similarly, these aspects can be related to those of movie circulation: the material support, operational principles and formal parameters. The actual means of circulation is left out precisely because it stands for the unspecified gap available for the public to operate freely within.

The following subsections will seek to demonstrate that what Cine Falcatrua did was to extrapolate the margins of specificity and operate within the dynamics of

specification themselves, provoking a short circuit that exposed the arbitrary distinction between *making cinema* and *reinventing it anew*. In that sense, as I seek to expose how the medium is constituted, I will be investigating how it resists change.

2.1. Materiality: physical characteristics and signifying strategies

The first chapter argued that neither the movie's spatial nor its temporal dimensions are entirely contained within its physical support; they depend rather on the compliance of this artefact with certain mechanisms – the aspect ratio, for example, the results from the projector lenses; the image speed, from its frame rate. Nonetheless, materiality is still considered the fundamental aspect of medium specificity: even after decades of electronic image, film remains synonymous with the movie, and its obsolescence is taken as the final stage in cinema's demise. One can only assume this to be because film sets the primary limits of expression within the medium. The reel's gauge and length, for instance, define a movie's visual definition and duration, while its chemical emulsions define what kind of visual stimuli can be captured, how they are inscribed, and how long this process will take. By thus shaping how the movie is to be made, the physical support seems to shape cinema's mode of expression.

What such explanation fails to take into account is that these material limits are not natural, but engineered – or, in Flusser's terms, pre-programmed. The flickering squares shown in *a knife all blade* are not the visual manifestation of some raw physical potential of reality, but the result of the calculated logic of digital image compression. Film does not grow on trees; it is the product of a historically situated industrial process. Brian Winston chronicles the “invention” of colour film as a long development starting in 1897, with independent experiments, and ending only in 1935, with the release of the Kodachrome amateur film stock (1996: 50). During these years, technologists were trying to come up with the proper chemical solution to capture colour in the short exposure time allowed by the film camera. The studios however were not interested in any colour film, but one that was able to reproduce Caucasian skin tones in particular. This desire directed the way the film industry

appropriated scientific discoveries and applied them to the making of an actual product, which was nonetheless biased (ibid: 39).

The final definition of technical standards virtually black-boxes its development – or localizes it as an object for socio-political critique, excluding this development from the medium’s direct concerns. The filmmaker is not the one able to change standards; it is left for him to come up with a new lighting technique for capturing darker skins (i.e. exhaust the apparatus’ programme, if that is what she needs or wants) or to oppose the industry altogether on socio-political grounds (as some vegan moviemakers do by avoiding the use of film because it contains animal-made gelatine). Therefore, as film becomes the support of cinematographic representation, it is alienated from its own manufacture; it is turned into a physical fact, a condition for mediation. In setting the parameters for mediatic abstraction, the material support is, itself, abstracted from technique.

The cultural dimension of technique draws attention to the procedural dimension of materiality. Hence it might be useful to evoke N. Katherine Hayles’ definition of this term. Speaking of the digitization of literary texts, Hayles characterizes materiality as “an emergent property created through dynamic interactions between physical characteristics and signifying strategies” (Hayles, 2005: 3). She argues that the physical attributes of an artefact are potentially infinite, and some of its properties are even beyond our scientific knowledge – in terms of the computer, she gives the example of “the polymers used to fabricate the case, the rare earth elements used to make the phosphors in the CRT screen, the palladium used for the power cord prongs, and so forth” (Hayles, 2002: 32). Each particular work mobilizes some of these possibilities in the production of meaning and value, through strategies of public engagement that “include physical manipulations as well as conceptual frameworks” (Ibid: 33). Thus, the materiality of a work is not specified in advance; it results from the work’s own strategies – and in that sense, it is inevitably inferred from the results of circulation.

A case in point is the movies of experimental filmmakers such as Len Lye and Stan Brackhage, which avoided employing the photographic qualities of film, resorting instead to other of its physical characteristics. In Brackhage’s *Mothlight* (1963), for

example, even the division of frames is ignored, and the support is used as a mere surface for a collage of real insect bodies and dried leaves. Upon being projected, the continuous sequence of flattened detritus is turned into an abstract animation whose indexical nature cannot be entirely suppressed. Len Lye's *Free Radicals* (1979) similarly departs from the denial of the medium's characteristic light sensitivity. This work was made using direct scratches on the already developed, black film stock. As in *Mothlight*, it is the apparatus that discretizes traces that are continuous in the film and transforms them into lines that move from one side to the other of the screen. In a more deliberate way than *Zen for Film*, these works bring the sorts of physical traces that should normally be ignored into the very substance of the movie – noise into signal, so to speak. In doing so, they subvert the normal organization of the medium's materiality, revealing a broader scope for it.

On a basis similar to Hayles, Matthew Kirschenbaum differentiates between the *formal* and the *forensic* materiality of any given mechanism, corresponding respectively to its characterization as a product and as a process (2009: 15). According to him, “forensic materiality rests upon the potential for individualization inherent in matter,” taking into account every possible way that an artefact is physically affected – in other words, foregrounding an autographical, ever-changing identity. Formal materiality, on the other hand, “is an abstract projection supported and sustained by its capacity to propagate the illusion (or call it a working model) of [a certain] behaviour” (ibid: 11). Thus formal materiality is a kind of projected materiality, which manifests itself only through certain (pre-programmed) ways and takes into account only a limited number of (pre-defined) operations.

Kirschenbaum makes this distinction about the purpose of digital objects which, in spite of being stored as ever-flowing system states, appear as coherent desktop metaphors. Likewise, formal materiality could appropriately describe how the physical properties of any medium are organized to produce particular effects in response to certain operations. Nevertheless, as long as these effects are achieved, it does not seem to matter whose operations are employed. The experimental film mentioned above, notwithstanding their unorthodox production, ended up materialized in a way that could be handled within the physical limits of cinema – in the form of film reels that could be loaded into a projector and screened.

If the materiality of cinema is a result of the organization of certain physical characteristics that simultaneously abstract them from the medium, there is virtually nothing to prevent this aspect from being implemented through a different technical substratum. This is why Rodowick talks about film having a *virtual life*: because it can (formally) reincarnate itself into another (forensic) body, and so continue. All that needs to be done is to decide *what* constitutes this life, so that the operations that sustain it can be translated into new ones. For the Digital Cinema Initiative (DCI), a consortium of the six major film studios formed to decide on the technical specifications of digital cinema, the material effects of film could be summarized by a standard of image codification and resolution (dubbed 4k, because of the number of pixels in the screen width) (De Luca, 2005: 149). But is this also true for the general public?

In order to answer this question, one must look into the present organization of the cinematographic circuit. DVDs have reduced the gap between film and video considerably; although they have less visual definition, they are normally presented in proportionally smaller screens. Since their appearance what seems to particularize film in relation to other movie carriers is not, for most people, precisely its superior visual quality, but the (indeed physical) conditions of its availability in the marketplace. The material denominator of film is that it is presented 1) earlier than video, on 2) the big screens of 3) collective spaces. Internet piracy had already made the first criteria achievable with digital technologies; the development of larger TVs and home theatres, the second; all that was missing was for something to provide the collective nature of film consumption.

Cine Falcatrua had it all. Given this alternative approach to the materiality of film, it is not difficult to see the film society as a proper cinema, and according to these parameters as being more efficient (“more of a cinema”) than the other theatres of its time. Certainly it was a materiality *organized* in a completely different way, but one which amounted to the same effect. What could be (forensically) described as the projection of poorly codified audiovisual data – running on a personal computer – installed in precarious conditions, was (formally) abstracted as a privileged means of

gaining access to a movie, in a particular way that only film could have made possible.

In that sense, albeit similar in effect to conventional film projection, the kind of cinema practised by Cine Falcatrua involved different physical hindrances. Whereas the scarcity and wearing of film were no longer a problem, the installation of the apparatus certainly was. Most public spaces are not appropriate for movie screening; at that time even the university auditoriums had still not been prepared for video projection. It was necessary to create places for the screen, projector and speakers; find enough power points for all the equipment; connect one to another with the right cables; secure the ineffable distance between projector and screen; create and maintain a certain degree of darkness for the whole session. None of these procedures were automatic; thus, along with the new materiality, new “cinematographic” operations were also needed. Each one opened up a weak spot in Cine Falcatrua’s performance of the specificity of the medium, which could ruin it completely. I lost the count of how many movie sessions were severely delayed because we were missing a simple p2-p10 plug, a small piece used to connect the computer audio output to normal sound speakers.

The number of contingencies incorporated into this situation ruled out the possibility of a proper final cut, video edit or director’s version. As I said before, most of what was on Cine Falcatrua’s screen were movies of the movie, which presented undeniable marks of their circulation. Nevertheless, this seemed to be excused precisely because of the means by which a movie was shown by the film society: as its irreproducible screening, which foregrounded the context that was brought together to make it possible. In these situations, “noise” was also made a constitutive part of the signal. To a certain extent this particular means of circulation produced a social dimension that appealed to the audience. More than the mere exhibition of a video file that people could watch at home, each screening was a situation to be experienced in itself. Thus the “alternative” cinematographic operations seemed to be legitimized by a similarly alternative (and however provisory) imagination of what constituted cinema.

2.2. Automatism: human-machine operations

As we have seen, materiality can prescribe the conditions in which mediatic elements are brought together, but it does not describe the processes that are necessary for this to happen. For instance, a new film technology cannot be properly used if no one has any clue about how to operate it. Conversely, a film made without any camera may indeed result in a movie, as long as it can be presented on a theatre screen. It is thus impossible to isolate physical elements from the technical strategies that mobilize them – programs, operations and public habits. On the contrary, I expect to have shown how these strategies can sometimes provoke material effects attributed to an element that is not physically there. Thus, although the unauthorized data files found on the Internet did not possess the material predominance characteristic of film, Cine Falcatrua could organize their presentation in a way that emulated this feature. As it did so, the film society simultaneously revealed that this predominance is not inherent in the physical element, but comes from its situated operation.

Since the notion of materiality cannot take into account every situation of the medium, one is obliged to supplement it with another aspect of specificity: the *automatism*s. This concept originally appeared in Stanley Cavell's book *The World Viewed*, published in 1979. Cavell defines any medium as a collection of automatism, operations that "circumscribe practice, setting the conditions for creative agency and the artistic process" (1979: 43). This idea was recently appropriated by Rodowick to understand how cinema can subsist as a form of artistic expression, despite the fact that the medium's photographic ontology is completely destabilised by digital technologies (2007: 41-42). Indeed, Cavell's concept is a very useful one for dealing with the technological and social changes in the nature of cinema because it acknowledges the medium as involved in a process of continuous self-transformation.

Within cinema, automatism would encompass skills as technically different as framing a scene, operating the camera, screenwriting, handling specific montage techniques, conveying emotions through the soundtrack – and even knowing how to

behave in the theatre. In terms of a vocabulary that I have already established, it could be said that automatisms characterize a conventional way of engaging with technical processes that turns them into mediatic operations. The mastery of automatisms simultaneously produces the medium's public. One cannot participate in the medium except through its automatisms, in other words the many different processes involved in the operation of watching a movie.

Together, a group of automatisms consolidates a *tradition* which outlines the medium; everything that is made through them "is assured of a place in that tradition" (Cavell, 1979: 104), and consequently within the medium. This tradition also creates a context for the mediatic object: "a given movie can naturally tap the source of the movie medium as such" (ibid: 103). Such a perspective makes the actual physical support secondary in the definition of cinema's specificity. In order to be cinematographic, a work only needs to result from the proper cinematographic automatisms – whether it involves being made in film, being screened in a theatre, or being sold as a movie.

But how are automatisms established in the first place? According to Cavell, from other automatisms. They are not only "the material of aesthetic creation," but also "the result of artistic practice" (Rodowick, 2007: 42). A creative act may establish a new automatism, which might be incorporated into the medium's tradition by the means of its *serialization* (Cavell, 1979: 103). According to this logic, one could describe the difference between the Flusserian functionary and the programmer as such: while the former is satisfied with mastering the already established automatisms, the latter explores and extends them, contributing to the medium's tradition (ibid: 107). In that sense, one could also picture the development of a medium as the accumulation of automatisms-over-automatisms. Cinema is built over the photographic operations of film shooting and development. Departing from these inaugural automatisms, which were already popular when the Lumières' *cinématographe* became successful, the animated projection of film was created. Animated projection opened up techniques of representation such as Georges Méliès' tricks and D.W. Griffith's parallel narrative. Following that, other operations came: the Russians' dialectical montage; Orson Welles' camera angles and use of

soundtrack; Alfred Hitchcock's methods for playing with the audience's anxieties; and so on and so forth.

In the sequence by which automatisms develop, one creator resorts to techniques established by those that came before her; techniques that had already become public conventions, readily understood by the cinematographic audience. Then she extrapolates them to establish new ones, which at first surprise the public, but afterwards also become normalized. When these techniques are adopted so regularly that they become expected they have attained the level of automatisms. One can see examples of this normalization in the commercial popularization of the parallel "cut-back," which was a novelty that no one had foreseen when Griffith created it back in 1908 (Eisenstein, 1949: 200), or in the way Hitchcock's signature style deteriorated into a cliché of the suspense genre.

Each step in the chain of automatisms builds upon prior ones; while it opens aesthetic possibilities within the medium, a new automatism also sediments those that came before it. Thus, as the medium develops, it is also specialized. The progressive consolidation of a tradition makes it so that the engagement with the medium gets more and more entangled in specificities. At the time of the Lumières, a person only needed to know how to operate the cinematographic camera – a device whose parameters were not so different from those of a photographic one – in order to create a movie. Nowadays, proper movie production depends on the mastery of an extremely complex audiovisual syntax, which probably would not make sense to the cinema pioneers (but which many video blogging teenagers understand anyway).

However, as the medium gets more specific (in itself), the forms of engaging with it seem to become proportionally more abstracted (from its technology). While a contemporary moviemaker must know sophisticated montage tricks and what appeals to the public taste, the particulars of the camera operation are no longer important to her work, nor is the way those montage tricks actually take effect. To a large extent, movie production seems to have become a conceptual endeavour; these are mere details, to be delegated to an employee or to a machine. This is why a proposal such as Migliorin's *Artista Sem Idéia*, which delegates the whole moviemaking activity to others, may still pass as a valid form of moviemaking.

Throughout the history of the medium, a similar degree of specialization can be perceived in the role of the audience. The “original” cinematographic experience entailed a very rudimentary engagement: to assume that what was on the screen was not real, so that it could be enjoyed as a series of moving images. A particular way of occupying the space was promoted in the first years of cinema to ensure the uninterrupted operation of the device – to ensure that projection would indeed reach the screen. Ever since this automatism was put in place, the audience has been progressively trained in spectatorship, acquiring intricate cognitive mechanisms that depend on constant awareness of movie production and its apparatus. To watch a contemporary blockbuster, one needs to master not only the basic assumption that cinematographic representation is not reality, but also the specific techniques of each representation. One needs to know the meaning of certain cuts and framings, the difference between a final cut and a video edit, as well as the poetic workings of a trick such as the one in *Persona* (Ingmar Bergman, 1966), in which the film reel seems to burn. Confronted by this scene, maybe even Méliès, one of the savviest filmmakers of yore, would have thought that things had gone bad, and asked the projectionist to shut down the machine. It is not that the contemporary public knows more about the medium’s technology than Méliès did; it is that they have incorporated a certain way of automatically responding to it in certain situations. The movie theatre is a very controlled space: the audience assumes that, if something really had been broken, someone else would surely take care of it (as they assumed with *a knife all blade*). If no employee is doing anything, the emergency lights are not blinking, then it is all part of the spectacle.

The bodily and spatial behaviour of the cinematographic audience has become significantly more complex as well, although in a different way. As can be seen in the warnings shown before any theatrical screening, the public nowadays has to perform a series of procedures (e.g. turn off mobile phones) and take notice of certain physical conditions (e.g. emergency exits) in order to watch a movie. If not, they risk being expelled from the movie theatre (or getting trapped inside of it, in case of fire). Nevertheless, these preparations go mostly unnoticed, just as do the subtleties involved in the operation of a VCR player or in the acquisition of a movie from the Internet. Thus, it seems that movie consumption has become a practice as

abstract as its production. Watching a movie can be as “anti-cinematographic” as the episodic viewing of a low-resolution audiovisual file in a mobile device over the course of a week during commuting. At the end of this process, who would deny that the movie has really been watched?

However, even though earlier automatisms are made invisible, they still seem to be in place; if not immediately present, at least fixed deep in the circuit’s underpinnings. One cannot expect an operation to go completely against the medium’s tradition and still be incorporated into it. Let’s consider for instance Brakhage’s *Mothlight*, mentioned in the previous section. This work did not follow any of the filmmaking conventions of its time. Nevertheless, it still adhered to the basic operation of projection that has been particular to cinema since its inception. As experimental as it was, it still managed to be a movie. Nowadays, *Mothlight* can even be found in an anthology DVD released by Criterion. This is a significant proof that the work has been incorporated into the canon of cinema, and as it has it has widened the meaning and value of the operation of movie production.

However, the same did not happen to a piece like Paul Sharit’s *Epileptic Seizure Comparison* (1976), even though it seems to be a much more conventional movie than *Mothlight*. Firstly, it is a photographic work, while Brakhage’s was not. It consists of 16mm footage of two different medical patients suffering convulsions from epileptic seizures. Made for scientific studies, such images are more than figurative: they are documentary. Altered in an optical printer, the scenes alternate with sequences of rapid flashing colours that supposedly follow the rhythm of the patients’ brainwaves. Therefore, one could reasonably affirm that *Epileptic Seizure Comparison* results from the fundamental automatism of the cinematographic medium: the capture of real-life movement and its reconstitution by the projection mechanism. However, the work also introduces new processes in the way this projection is to be arranged. *Epileptic Seizure Comparison* must be presented on two screens, one above the other; the screens are positioned in the corner of a room with the surrounding walls covered in reflective paint, to amplify the rhythmic effect of the flashing lights.

The description above demonstrates that Sharit's work is not simply a movie; it is an installation. But why would one presume that? Possibly because the work cannot circulate as a movie, since the reproduction of its fundamental automatisms would require critical rearrangements of traditional cinematographic apparatus. These automatisms cannot be contained by a simple video edit, as was the case with *Mothlight*. For instance, they cannot even be translated into a proper final cut. Sharits himself has done a single-screen version of *Epileptic Seizure Comparison*, in which the reels are all shown in sequence, but he presents it as a different work – after all, this situation clearly impairs the “comparison.” This impossibility of rearrangement shows that, while some creative acts might transform cinema, either by specializing or widening the collection of automatisms by which it is constituted, others might inaugurate a whole new medium (Rodowick, 2007: 45). Being unable to expand cinema, adding up to its traditional automatisms, *Epileptic Seizure Comparison* becomes a form of *expanded cinema*.

What exactly defines which automatisms can be incorporated into cinema and which inaugurate a new medium? Speaking in terms of a “tradition,” Cavell seems to ground this ontological division in a sort of historical primacy. However, historical reasons do not explain why *Epileptic Seizure Comparison*, which employs automatisms even older than *Mothlight*'s, could not be turned into a movie. It might be that the piece engaged with the material thresholds of the medium in such a way that made it impossible for it to circulate according to the means available to the movie form. However, this answer does not seem conclusive either. The previous section demonstrated that materiality is defined by operations; the identity of apparatus is not given by technology alone but is collateral to automatisms.

The incorporation of a new automatism into cinema seems to depend less on the technical processes that are already established within the medium than on how the accumulation of such processes has abstracted the medium from its technology. This distance between media and technique allows new processes to get within the vague operations of movie production and consumption as long as the definition of such operations remains undisturbed. For instance, because movie consumption has been abstracted as though it was limited to a single screen, *Mothlight* can exist in situations as different as the theatre and a frame inside an Internet browser and still

maintain its operational identity, while *Epileptic Seizure Comparison* cannot even exist as a cinematographic object without being radically transformed or requiring the installation of further equipment.

The way in which mediatic operations are abstracted from technical processes might even allow the displacement of the medium's original automatisms. What could better exemplify this fact than Cine Falcatrua? Although the group's practice could be considered as a mode of film screening, a closer examination would reveal it to be something completely different. The automatisms employed by the group came from fields such as Internet filesharing and urban intervention. In the same way it did not resort to cinema's specific materiality, Cine Falcatrua did not adopt any of its traditional automatisms – it just achieved their effects. Using personal computers and other domestic equipment, Cine Falcatrua could emulate the apparatus of movie distribution and exhibition that have never really been there. In that sense, the film society could be better described as a sort of continuing collective performance or installation, which accepted multiple forms of engagement from the public and was able to present audiovisual works of different sorts.¹⁹

By combining and serializing the automatisms it borrowed from other fields, Cine Falcatrua was slowly building up its own cinematographic tradition. The group was getting to know the right places to find movies of a certain kind, how to advertise the screening sessions, what to do when the projection system crashed, and never to forget a p2-p10 adapter. Conversely, the university was also getting used to Cine Falcatrua, a fact that optimized its activity. After a few weeks, the college employees were already familiar with the group members, making it easier to borrow equipment and book auditoriums. Thus, despite the historical reference to other film societies, what Cine Falcatrua was effectively doing was establishing a new, and rather localized, mediatic practice.

As the group acquired operational coherence, its structure was also being crystallized. Once a certain procedure was put in place – i.e. an automatism was established – it became difficult to do without it. In other words, it became harder to

¹⁹ It is telling that Cine Falcatrua would have shown *Epileptic Seizure Comparison* in a better condition than it would have done to *Mothlight*.

deal with the actual situation that such automatism should be taking care of (i.e. suppressing). This can be better understood by referring to the *Amor Estranho Amor* screening mentioned in the introduction to this chapter. At the time the screening happened, Cine Falcatrua had already become much less nomadic than in its early days. After about four months of activity, the group had been able to prepare a calendar of screenings and secure a more-or-less stable place for them: the auditorium of Cemuni IV, a building that belonged to the Design department. This is where *Amor Estranho Amor* would have been exhibited. When the space was filled to capacity with many others wanting to get in, the screening had to be moved. This fact, which some months earlier would have been the normal condition of the film society, resulted in something calamitous – not only because the organizers were taken by surprise, but also because the public no longer came with the intention to help.

The situation foregrounds the fact that one of the biggest obstacles to the activity of Cine Falcatrua was nothing else than the automatisms already ingrained in the public. When the audience adopted the attitude of “angry customers,” it was in fact engaging with the cinematographic apparatus in the proper way. After all, the cinema’s public was prepared for (free) movie screenings, and did not expect to parade with digital equipment across a university campus looking for a place to install it. The more educated the public is in the tradition of a medium, the more intolerant of structural improvisations it seems to become. The more Cine Falcatrua became recognized as existing within this same tradition, the more it would be open to reprimand for these sorts of improvisations.

In conclusion, I want to propose that Cine Falcatrua could be considered as the contrary of an expanded cinema piece, which departs from cinema and inaugurates its own field. Coming from outside of the medium, Cine Falcatrua was able – and in some ways forced – to assume its place. With a couple of rather crude automatisms, the film society satisfactorily mimicked operations that had taken more than a century to be established. The fact that Cine Falcatrua could contend with the cinematographic apparatus on the basis of its effects (and despite its historical development) should lead to a re-evaluation of what Cavell meant by the medium’s *tradition*. This tradition does not seem to grow from the pure history of the medium,

but rather organizes this history, just as it abstracts technology within and without the circuit. In other words, it is an institutional primacy that disguises itself as historical.

Having said that, I seem to have reached another aspect of specificity, which establishes the final threshold according to which the medium resists or accepts change. In the same measure that the medium's physical attributes depend on their technical operation, these operations seem to rely on parameters that communicate to one another and evaluate how legitimate they are. To a certain extent, these parameters could be compared to the medial ideology mentioned in the previous chapters. However, by constraining the very understanding of technology, such parameters seem to operate not at an overtly ideological level, but on an underlying *epistemological* one. As the next section will demonstrate, this epistemological level is integral to the cinematographic circuit, and it posed the definitive obstacle that stood against Cine Falcatrua's activities.

2.3. Epistemological paradigms: conventions of understanding and imagination

2.3.1. On becoming traditional

There is an inherent romanticism in Cavell's concept of mediatic ontology, according to which automatisms simply arise from other automatisms. While Cavell acknowledges the medium as the context of its own development, he does not make it explicit how *active* this context is – in other words, how the accumulation of automatisms might generate momentum and inertia. The idea that a creative act alone might transform or even create a new medium presupposes a large degree of autonomy to subjective agency, whether human or machinic. If that was the case there would be nothing as fragile as medium specificity; the personal agenda of any filmmaker, or the invention of a new audiovisual technology such as video, would change how cinema was defined once and for all. But these inventions have not; and they never could, at least without going through a deep transformation themselves.

To understand why, we must examine what exactly it means for an automatism to become part of the medium's tradition. This is not an instantaneous, uncomplicated process. From the outset, it depends upon the fact that the automatism is made public; the new technique must become known to the relevant people. Furthermore, the actual conditions of the automatism have to be implemented within the medium's circuit. These two stages, which cannot be separated from one another, could be understood as providing the *localization* of a new technique amidst the already fixed mediatic operations.

Concurrently, to accommodate a new technique, the medium underpinnings must be disarranged. This implies not only a mobilization of physical structures, e.g. the reorganization of the chains of production and consumption, along with the substitution of already-installed platforms and the mass adoption of compatible devices. More crucially, the logics behind circulation must be reformed: what the procedures the mediatic operations might and should entail, what is relevant to the mediatic experience, and what constitutes the mediatic object. This reform is conditioned by the promotion of new modes of public understanding and imagination. Ultimately, technological change must go through the modification of the socio-economic laws that regulate the organization of the medium and the academic disciplines that set the paradigms for its professional use, critique and evaluation.

Therefore, it is to be expected that the establishment of new automatisms will always face some degree of structural resistance. This is because, much like the circulation of movies, the localization of technique is not pre-planned and implemented from outside of the circuit but is negotiated and executed from within the circuit itself. Thus localization must obey the circuit's rhythm and match its scale; above all, it must follow its conventional criteria. As vulnerable as these criteria seem to be, sometimes they are all that prevents a different engagement with the technological structures that are already in place. This is made clear in the case of Cine Falcatrua: the film society did not invent anything new but basically just appropriated the available technologies and coordinated them. Although this was enough for the group to operate "as cinema" at a local level, it was not sufficient to change the definition of the medium in order to accommodate the group's practices. On the

contrary, it was Cine Falcatrua itself that had to be reframed the more it attempted to promote its activity within the established circuit. The cinematographic public did not receive it as “proper cinema,” but as a form of piracy or cultural activism. Thus, even when the film society was not morally condemned for what it was doing, the effects of its activities remained at a strictly economic or political level. This means that the actual effect of its activities upon the mediatic definition of cinema was constantly denied.

Hence, the medium’s tradition should not be considered as a mere sedimentation of automatisms based on their inherent efficiency. It is a principle of organization that defines how technological change is able to feed back into the medium. Tradition sets paradigms of understanding according to which automatisms are signified and evaluated even before being implemented – as was the case with Cine Falcatrua, which, from the outset, appeared to be a form of socio-political protest rather than actual cinema making. In this process, tradition defines the “legitimate” procedures for the critique and transformation of the medium. Concurrently, it rules out all other procedures as amateurish, experimental, illegitimate, unauthorized, or illegal.

2.3.2. Tradition as a source of imagination

Tradition seems to represent the final aspect of medium specificity. According to it, things “belong” to the circuit even before being localized within it. In that sense, tradition seems to have an effect similar to that of medial ideology, which narrows the understanding of technology in terms of its mediatic use. Likewise, tradition stands as a prerequisite for the imagination of the medium, which produces the set of commitments to which one must adhere in order to become part of cinema’s public. In that sense, tradition seems to bear an epistemological weight, which could be compared to that of a *scientific paradigm*, as defined by Thomas Kuhn.

In Kuhn, science is portrayed as a self-centred field which focuses on the problems it poses itself and is divorced from reality. According to him, scientific research is driven by paradigms, which are “universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners”

(1996: x). Paradigms naturalize scientific practice. Once it is accepted as fundamental, a paradigm informs the worldview of a group of people, establishing a field within which “normal” science subsists: a set of shared rules, standards and values that are abstracted from this prior achievement (ibid: 10). Among other effects, the agreement about standards allows for the creation of a professional sphere (ibid: 19). Much of the success of scientific practice derives from the effort this group makes in defending the worldview abstracted from the paradigm (ibid: 5). Therefore, through acceptance of a paradigm, normal practice refers to and reinforces its own ontology:

The commitments inspired by the paradigm are both metaphysical and methodological. As metaphysical, it told scientists what sorts of entities the universe did and did not contain. As methodological, it told them what ultimate laws and fundamental explanations must be like (ibid: 41).

However, while it pushes science forward, the devotion to a paradigm restricts its scope. The accepted standards define which challenges scientific research can engage with, both in the terms of what is possible and of what is relevant. Anything that falls outside of this range is “rejected as metaphysical, as the concern of another discipline, or sometimes too problematic to be worth the time” (ibid: 37). For that reason, the mere exercise of a paradigm can never lead to its overcoming. When normal practice leads them to follow extraordinary directions, at the moment when the compass of the paradigm ceases to function, science “relaxes:” “scientists begin to behave differently, the nature of the problem changes” (ibid: 24). As interesting as they might be, any results that cannot be articulated in a way that is consistent with the paradigm “[remain] *mere* facts, [that are] unrelated and unrelatable” to the field (ibid: 35).

Both historical and historicizing, the scientific paradigm seems to be an appropriate model to understand how the medium’s tradition operates. Once some form of engagement with media technology strays too far from its paradigm of understanding, such a practice is framed within a supplementary domain (e.g. another medium, an expanded field, the art world) or restricted to another sphere (e.g. a socio-political or economic one). This alienation is not imposed by some arbitrary interdiction, but is naturally carried out by the public. This means that

disregard for online filesharing is not exclusive to the big Hollywood studios. Before Cine Falcatrua, the very audience of the film society did not seem to imagine p2p networks to be something potentially cinematographic, and even less as an actual substitute for the chains of movie distribution. Because of the traditional way in which the public understood cinema, they approached filesharing as a mere makeshift solution.

The fact that Cine Falcatrua was entirely constituted by laymen in the cinematographic field seems to have been fundamental in creating a rupture with the established paradigm, giving room to new automatisms. For a trained projectionist in 2004, it would probably be unthinkable to exhibit a movie straight from a personal computer, as the film society used to do. Instead of relying on a domestic device that she was not prepared to use, the projectionist would expect to have a copy of the movie on a DVD. This would require a series of procedures that would make the film society's activity much less dynamic, and proportionally more laborious and expensive. Firstly, after having been downloaded from the Internet, the movie file would have to be converted to MPEG-2 to be made compatible with DVD technology. Given the processing power of the computers available to Cine Falcatrua, this conversion could take several days. Moreover, although the software necessary for DVD recording could be obtained at no extra costs (as freeware or cracked applications), the hardware was still a huge obstacle. At the time, DVD-R drives were still an expensive peripheral, out of the reach of most undergrad students' allowances.

If the participants in Cine Falcatrua had been trained as projectionists, it is very likely that the film society would have never existed in the first place, for they would have been paralyzed by the lack of traditional technological conditions. Nonetheless, precisely because they were not proper functionaries of the cinematographic apparatus, the members of the film society did not have any of the conventional expectations. In that sense, the lack of specialization gave the film society's practice a character similar to the "collective assemblages of enunciation that absorb or traverse specialities" that Felix Guattari saw in the Italian free radio movement of the 1970s (Goddard, 2011: 11). In this way, Cine Falcatrua was able to imagine how to

engage with the technologies it had at hand, becoming the programmer of a different cinematographic apparatus.

2.3.3. Arrangements for implementing dissidence

The true obstacle for the kind of cinema proposed by Cine Falcatrua was not the difficulty of implementing new physical structures, but of finding ways to propagate its counter-paradigm within the established cinematographic circuit. In the history of the film society, it is possible to see that the medium's paradigm of understanding resists the dissemination of practices that are essentially opposed to it not by direct confrontation but by making it challenging for these practices to become self-sustainable. This can be perceived in the way that cinema's publicity apparatus did not make itself available for Cine Falcatrua's practice. For instance, it is very revealing that the group had great difficulty in promoting its screening sessions. Although every local newspaper had a daily column with the programme of the city's cinema screenings, they never included Cine Falcatrua. If this exclusion seems natural, it is precisely because one is immersed in a paradigm of understanding. There is no reason, technical or otherwise, why a "cinema programme" must refer only to what is running at multiplex theatres, or to what is repeated every day in a number of sessions, or to what has its content specified in advance. These are all conventions for understanding.

Unable to adjust itself to these conventions, all that Cine Falcatrua could do was to take care of its own publicity. In the college campus, this could easily be done by means of a strategy long used for student parties and rock gigs: photocopied A4 sheets posted up throughout the University buildings. This cheap method was paid for by the participants in the film society themselves, although some voluntary contributions were given at the screening sessions. Later the film society would also get support from the University copy shop. Allied with word of mouth publicity, this strategy secured an attendance of around 40 people for each session over the first few months of Cine Falcatrua – consisting mostly of UFES students and staff.

The posters did not seem to reach a public outside of the University, though. Even people who lived in the area neighbouring the campus were not aware of the film society activities. To overcome this obstacle, Cine Falcatrua resorted to another feature already in place: social networking websites, especially Orkut and Fotolog, which by 2004 were very popular in Brazil. The film society created accounts in these websites on which it published its weekly programme and spammed it using special software and the goodwill of the user community. This method was particularly successful because it allowed information about the screenings to be changed at the last moment, as was often necessary. One could say that Cine Falcatrua got into these online platforms much as the Lumière brothers got into Parisian cafés: its objective was to appropriate their public as its own, in order to use them as the missing part of its apparatus. Whereas the Lumières were looking for a bourgeois audience, the film society aimed at the local youth, which regularly employed these websites to share information about nightlife and cultural activities with their friends.

The social networking method was super effective. The first session to make use of it – a *Kill Bill* double bill that screened the two episodes of Quentin Tarantino’s movie in sequence – gathered about 300 people. Certainly, the mainstream popularity of the piece, whose first part had just been released in the local multiplexes, was in its favour. Nevertheless, from this point onwards, Cine Falcatrua’s screenings had an average of 150 patrons, many of them from outside of the University. The film society had become part of the city’s cultural life.

Even though the social networks took care of advertising Cine Falcatrua as a film society, they did nothing to promote the kind of medium the group envisaged: a cinema driven by operations beyond the producing and consuming of movies. The newly formed audience attended the screenings just to watch movies for free, not expecting to participate in setting up the projection, and even less to curate and host their own screening sessions afterwards. Hence, as simple as it had been for Cine Falcatrua to emulate the material particularities of film and mimic the technical operation of projection, a real transformation of the public’s understanding of the medium seemed beyond the group’s control.

One way to promote a change in the public's mentality could be through the pedagogic mechanisms already available in the cinematographic circuit, such as newspaper reviews and academic courses on filmmaking and screen studies. However, Cine Falcatrua only interested the newspapers as a subject matter; they were not open to the film society's idea of cinema as a framework for movie criticism. Besides, the fact that Cine Falcatrua was an academic project did not make it easier for the group to influence the University curriculum either, due to the bureaucracy of the institution. Thus, the project also had to come up with particular strategies to pass its techniques and paradigms on.

The film society first attempted to add a pedagogic dimension to its ordinary practice, bringing education about the medium closer to its experience. It did so by frequently performing the set-up of projection in front of the audience, sometimes with their participation, and urging the public to replicate the screenings on their own. This continuing "training" was also documented in fanzines that were distributed during the film sessions. These fanzines consisted of half of an A4 page, folded and printed on both sides. They were photocopied along with the posters, and had a circulation of around 80 copies. In total, eleven issues were brought out between March and July 2004. The publication normally contained 1) the synopsis of the movie of the day; 2) a review of the one screened during the previous session; 3) a small do-it-yourself tutorial, with themes such as "assembling your own movie theatre."

The tutorials in the fanzine give a good idea of the range of skills that Cine Falcatrua was trying to pass on to the audience, and therefore of the kind of cinematographic paradigm it wanted to promote. The first tutorial was about obtaining movies for exhibition, and it compared the availability of titles in a video store with that in p2p networks, suggesting websites and applications that could be used to find new content. The second explained where it was possible to obtain subtitles and how to play them on any computer. The third described how to set up a movie screening, suggesting the use of collective spaces (like a community centre) and whatever kind of "projector" was available (such as a TV).

Proposing that these seemingly “alternative” technologies would be as cinematographic as traditional ones, Cine Falcatrua’s pedagogic attitude aimed not only at transmitting new techniques, but also at challenging the common sense view about what cinema is. In the tutorial published in the first week of July, an attempt was made to expose the issue of online filesharing through a different perspective: “it is not a dispute between copyright and piracy; between major [studios] and indies; between liberalism and communism. It is just the [cinematographic] industry going through an internal conflict, a sort of latent puberty.” By saying this, the film society was attempting to take filesharing out of the frame in which it had been placed in accordance with cinema’s paradigm of understanding, and to underscore how the transformation of the medium’s tradition was more significant than the issue of film piracy.

Later on, Cine Falcatrua would also promote its practice by the means of workshops. These activities were organized during special events such as film festivals, academic seminars and cultural exhibitions. Some examples that could be mentioned are: *Digital Film Societies*, organized during the II Caparaó Ambiental Video Exhibition (MoVA Caparaó, July 2005), which aimed at teaching the inhabitants of the small town of Irupi to organize their own movie theatre (since the place had none); *Living Along a Free Cinema*, at the cultural centre SESC Consolação (September 2006) and the Federal University of Uberlândia (February 2007), which revolved around the manifold ways in which people can engage with cinema through digital technologies; and *Self-Sustainable Cinema*, at the *III Mercosul Young Filmmakers Festival* (September 2007), in which the participants (the entitled filmmakers) converted their own movies into digital files, subtitled them and uploaded the results to websites such as YouTube and The Pirate Bay.

While these workshops confronted the socio-economic division between the production, distribution and consumption of cinema, Cine Falcatrua also organized other courses aimed at challenging the technical separation between movie and apparatus. Examples of the second type would be *Introduction to Creative Emulation* (SESC Pompéia, July 2006), *Hacking the Cinematographic Projector* (UFES, November 2007) and the *Porn Screenwriting Laboratory* (Centro Cultural Mariantônia, May 2008). These titles should be an indication of the directions in which the group wanted to push understanding of the medium.

This section has demonstrated that, in order to operate as cinema, Cine Falcatrua had not only to ape the medium's materiality and operations, but also to cope with the way cinema is traditionally understood both by specialized professionals and the general public. In order to secure its position within the cinematographic circuit, the film society was obliged to establish its own structures for publicity and pedagogy. This fact illustrates how the tradition of the medium is supported by means of seemingly secondary apparatus, which propagate and reinforce the understanding of the primary ones. Procedures like film studies and marketing are inherent to movie circulation and the structures that exert them, such as the academia and advertising channels, are as much part of the cinematographic circuit as any exhibition venue. While the exhibition venue is the place in which the medium traditionally exists (e.g. can be experienced), the academia and the advertising channels promote a paradigm that naturalizes this existence. As the following section means to show, this naturalization establishes conditions not only for understanding and analyzing the medium, but also for holding authority over it.

2.3.4. Tradition as the source of authority

Until now the history of Cine Falcatrua has pointed towards success: first in mimicking cinema's particular operations, then in setting up structures to propagate its practice within the cinematographic circuit. From this perspective, it seems that the group would be able to challenge and maybe even affect the medium's specificity. However, this is not what happened. When the cinematographic circuit finally acknowledged Cine Falcatrua as part of it, the group was made *illegal*. This final outcome of the film society's adventure illustrates how strongly the arrangement of the cinematographic apparatus can be imposed by the means of seemingly secondary structures.

After some months of activity, Cine Falcatrua had become part of the cultural life of the city. Its weekly sessions were attended by dozens of people, and it is safe to say that almost everyone in the metropolitan area was aware of the film society's existence, since it started to be regularly covered by the local media. Even though its

screenings were still not given in the newspapers' cinema column, they would occasionally be listed among the city's cultural activities. In addition, Cine Falcatrua had been the subject of a couple of front-page newspaper and TV reports, which portrayed the film society as part of a growing students' movement.

In July 2004, this press coverage reached national levels: Cine Falcatrua attracted the attention of *Folha de São Paulo*, one of the largest Brazilian newspapers. The first contact was made online: one of Folha's reporters, looking for someone to interview for an article about Video CDs, stumbled upon Cine Falcatrua's community in Orkut and decided to make a small report about it. He interviewed the participants of the film society by phone and sent a photographer to document one of its screenings. Used to giving interviews, the group answered the journalist's request by explaining how the project worked, highlighting how it allowed the students to have their own cinema and experiment with movie exhibition within the University. Used to working in accordance to the precepts of news journalism, the reporter felt obliged to listen to the "other side" of the story, and asked for the views of the Brazilian Association of Copyright Defence (ADEPI) about Cine Falcatrua's practice.

This revealed another way in which the traditional understanding of cinema was informing the localization of Cine Falcatrua into its circuit. If the participants of the film society had been asked who they were against, they would have probably pointed to the passive moviegoers, draconian theatre owners and filmmakers who did not care about whether or how their works were exhibited. By challenging these people, the film society would be assuming a position in a dispute between two mediatic paradigms. However, this is not how the cinematographic tradition – i.e. the established paradigm, which Cine Falcatrua contested – would frame the film society's activity. This meant that, by consequence of common sense, Cine Falcatrua assumed an obvious part in the disputes between copyright holders and "free culture" that were becoming newsworthy because of increasing music and film piracy. The journalist, even though he was as positive as he could be about the film society, had to follow this paradigm when writing his story.

Thus, when the report appeared, on 29th July 2004, it contained declarations by ADEPI's representative that condemned the activity of Cine Falcatrua as criminal.

As the text spread across the country, it attracted the attention of two film distribution companies – Lumière and Europa Filmes – which had works that had been exhibited by the group: respectively *Kill Bill* (Quentin Tarantino, 2003) and *Fahrenheit 9/11* (Michael Moore, 2004). Less than two weeks later, UFES (which was officially responsible for the film society) received a writ filled by these companies, along with a criminal complaint made by ADEPI against the participants in the project. The writ accused the University of engaging in “unfair competition.”

As ludicrous as this claim might sound, it could be understood as a certificate of authenticity for Cine Falcatrua. In a way, it was an acknowledgement that the film society was doing the job of proper film distributors. However, it was not doing so through the film distributors’ traditional means, but through more efficient ones – means efficient enough to be qualified as unfair. Therefore, as the writ legitimized the film society’s activity as cinema, it disauthorized it within the cinematographic circuit.

Hence, the writ did not elevate the practice of Cine Falcatrua to a new form of cinema. On the contrary, it reduced it to mere “illegal exhibitions of copyrighted material,” and so gained a hold over it. From this point on, the challenge of the film society was not to propose a different perspective about the specificity of the medium – stating, for example, that a movie was secondary to its exhibition – but to *uphold these perspectives in a law court*. The established paradigm had brought the negotiation of medium specificities back into its traditional territory, where law was acting as the final arbiter of cinema’s ontology.

Different sectors of the University reacted in contradictory ways to the writ: the rectorate intended to put all the blame on the film society’s participants, as though they had not only committed a crime, but also betrayed the ethos of the institution. Teachers and students defended the film society on the basis that academia should be allowed to investigate and experiment with alternative technologies of film distribution. Organized civil groups that supported Cine Falcatrua, such as the Espírito Santo’s Documentary Filmmakers Association (ABD-ES), did so on the basis of a supposed “democratization of culture,” meaning that cultural products such as movies should be made accessible to as many people as possible. The

problem with these discourses is that neither was true to what Cine Falcatrua proposed as the underpinnings of cinematographic practice: for instance, that experimentation should be inherent to *any* engagement with media technology, and that culture is less about producing and consuming objects than about establishing the ways in which these things should be accessed and exchanged. In other words, it advocated a cinematographic practice more attentive to processes of circulation than to the institutional paradigms of the circuit.

In November 2007, the writ was finally resolved. The people officially registered as participants in the film society were summoned and interrogated by the police, but no one ended up in jail. UFES, on the other hand, was condemned to pay compensation of about R\$ 4,000 to the distribution companies – derisive if compared to the absurd R\$ 480,000 originally requested. Nevertheless, the prosecution had some positive outcomes, however collateral they may seem. After it became known nationally, the controversy about Cine Falcatrua became a pivotal influence on the reorganization of the Brazilian Confederation of Film Societies, which had been virtually inactive since the 1980s. The public defence of Cine Falcatrua was one of the first causes to bring the new members of the Confederation together: they released an open letter supporting the group, and published it in the first number of their newly created magazine. The affair was also one of the most debated topics at their first conference, in 2004. The consequent political articulation of film societies led the Ministry of Culture to create a funding programme for “Digital Diffusion Hotspots” in 2007, which aimed at providing equipment for movie exhibition and a package of Brazilian movies on DVD to about 100 film societies from all over the country.

Therefore, while UFES was being condemned for allowing the activity of Cine Falcatrua, one could say that the film society’s practice was finally being localized within the cinematographic circuit, by the means of the creation of secondary structures for its institutional sustenance and propagation. In other words, the film society’s practice had also become paradigmatic. Certainly, this localization caused other setbacks besides the martyrdom of Cine Falcatrua. For instance, it led the Ministry of Culture to define specific parameters that a group had to meet in order to qualify as a proper film society. The Ministry also standardized the equipment to be

used and the films to be exhibited by such institutions, and retained direct control of the activities in which they were involved (about which the groups had to inform the Government in periodical reports). According to the contract of participation in the Ministry's programme, the film societies were forced to make a certain number of screenings per month and they were warned that they risked having their equipment confiscated if they exhibited unauthorized works. In other words, the localization of the film society's practice crystallized it, making it less an active process of movie circulation and more another fixed structure within the circuit.

As for Cine Falcatrua, the group maintained its weekly screenings after the writ. However, the number of people involved in its organization had diminished considerably, making it necessary for those few remaining to be much more focused and responsible. Thus, it would not be wrong to say that the lawsuit also crystallized Cine Falcatrua itself, further separating the people directly involved with it from the general audience. The group gained defined contours and from this point on, it was seen less as a film society than as a sort of arts collective. By coincidence or not, in the year following the writ Cine Falcatrua was highlighted in *Rumos Artes Visuais*, a biennial project that maps young artists in Brazil, some of which it selects to participate of contemporary art exhibitions all over the country. In other words, while Cine Falcatrua's activity as a cinematographic institution was regarded as criminal, the art world received it wholeheartedly as an emerging aesthetic trend.

Between 2006-2008, without giving up its pirate screenings, Cine Falcatrua worked in partnership with respected cultural institutions and exhibited works in some of Brazil's most traditional art venues (such as Paço Imperial, Paço das Artes and Museu da Vale). In this new context, although the group's activities had not changed, they were completely re-defined from being concerned with curating cinema to producing art. Piracy, which was the method of the former, was turned into the distinct subject of the later – the characteristic that made Cine Falcatrua's practice particularly meaningful and valuable as art. If the new context therefore made the activities of the film society easier to carry out, it could be argued that it reduced them to being nothing but performances.

In summary, just as cinema's paradigm of understanding is negotiated by means of apparatus that are seemingly secondary to the medium, from fanzines and workshops to copyright law, the transformation of this paradigm also generates such apparatus, as it was the case with the government funding programme for digital film societies. Reforming the medium's tradition, these new apparatus work in favour of accommodating emerging practices within the cinematographic circuit. Practices that are not implemented in this way can be moved outside of cinema, into a field where it is possible to understand and promote them, in this case the art world. Both outcomes crystallize automatism within apparatus that are organized across a larger circuit.

3. Impedance: medium specification and the resistance of the circuit

The history of Cine Falcatrúa demonstrates that qualities normally considered specific to cinema are not inherent to any technology, architecture or platform. These qualities result from complex socio-technical processes within and between the structures of its circuit. In that sense, there seems to be a relation between the medium specificity and the standards of movie circulation, which creates correspondences that crystallize such processes. In other words, no technology is intrinsically cinematographic, not even film (e.g. photography) or projection (e.g. magic lanterns). Conversely, all of them *could be* – and indeed are, once they become properly localized within the medium's circuit.

Hence the medium does not seem to have a fixed ontological horizon, but one that is constantly shifting according to the never-ending localization of technologies, both old and new, within its circuit – a dynamics that resonates at phenomenological, operational and epistemological levels. Just as processes of circulation result in a movie, this localization of technology seems to result in the medium. Therefore, instead of thinking of the aspects of medium specificity as static, one could better understand them in terms of cyclical *dynamics of specification* that happen as the circuit is arranged and disarranged.

The dynamics of specification seems to promote the coherence between technical processes, provoking the refinement of material attributes, the depuration of mediatic operations and the sophistication of its parameters of analysis. It also seems to lead to an increasing organization of the medium, represented by the growing separation between the processes that constitute the movie and those that constitute the apparatus. This specialization of operations comes at the price of the congealment of mediatic places and practices. In other words, the dynamics of specification fixes processes of circulation as the circuit's structures. The more specified a medium seems to be, the less it allows the rearrangement of its established apparatus and operations, making it harder for it to localize a new technology within its circuit.

I now pass on to examine the correspondence between the degree of specification of a medium and its resistance to technical variation. For this purpose, the idea of a mediatic circuit reveals an interesting metaphorical dimension. It is known that the effects of an electric circuit, such as heating and lighting, result from its resistance to the flow of the electric current. Roughly speaking, the more the circuit resists, the better the current can be directed and the more precise these effects can be. A value called *impedance* accounts for the degree of resistance in the so-called alternating current circuits, in which the movement of electricity periodically changes direction. High impedance implies not only in the high resistance of the circuit, but also in less variation of the current – in other words, in a less powerful but more organized circulation. Conversely, lower impedance causes a more dynamic circulation, but proportionally less stable effects.

One can partially appropriate the meaning of impedance as a metaphor by which to identify different situations in which the medium is more or less specified, and proportionally more or less resistant to technical variations, according to the degree of organization of its circuit. Put differently, impedance would be the correspondence between the degree of medium specification and the resistance of its circuit in any given situation. The higher the impedance, the more specific the medium appears to be; the more purified are its material attributes, the more refined are its normal operations and the more sophisticated are the parameters used for its analysis. Conversely, it becomes more difficult to localize new technical processes within the medium.

In a low impedance situation, on the other hand, the medium underpinnings are not completely congealed. The separation between movie and apparatus, as well as that between functionaries and programmers, is not very stable. The public is likely to put one element in place of the other, perform actions that their role does not allow, or embrace contingencies as part of the mediatic experience. In such a scenario, although it is certainly more laborious to achieve particular (“specific”) mediatic effects, it is also possible to provoke a wider gamut of them.

To grasp the difference between high and low impedance situations better, one could compare a screening taking place in a multiplex in a shopping mall with a Cine Falcatrua film session. In the multiplex, the technical elements are all organized in a stable arrangement. Likewise, there are well-defined roles the public can take: as audience, usher, programmer, projectionist, etc. Each of these roles stands for a firmly fixed position in the circuit, and therefore entails a particular mode of engagement with cinematographic technology. The audience, for instance, is expected to fulfil a certain task and nothing else. The outcome of this collective engagement is also well defined: it results in the flawless reproduction of the movie to a paying, seated audience, and takes place at a fixed time.

In Cine Falcatrua, on the contrary, the technical elements had to be rearranged anew before each session. There were no specific roles for the public to take; whenever they assumed any of the traditional modes of engagement with the medium, chances are they would get frustrated, because the outcome would not be what was expected – as occurred with the *Amor Estranho Amor* screening mentioned in the introduction to this chapter. This means that the “flawless reproduction of a movie” can never truly be achieved. On the other hand, Cine Falcatrua made it possible to “reproduce a movie” in conditions that would be traditionally unmanageable: for example as a sudden improvisation in a University yard, bypassing commercial censorship.

This does not mean that impedance is a negative characteristic. On the contrary, enabling the public to discern the dynamics of specification from processes of circulation, impedance is a pre-condition for the experience of the medium despite its technological causes. A hypothetical zero impedance is no more beneficial to the

medium than a hypothetical infinite one, which would make all forms of technological engagement impossible. Standing for *total circulation*, zero impedance does not allow for the minimal parameters to entail any closure – the momentary congealment in which technology allows itself to be abstracted and substituted by the reality of cinema.

Finally, it must be said that high and low impedance situations are not mutually exclusive, but complementary. Cine Falcatrua pirated blockbusters produced by Hollywood studios to foster its practice; in a similar vein, the illegal film society was appropriated as an icon for the regulation of certain cinematographic activities. Thus, high and low impedance situations seem to build upon one another over the course of the history of the medium.

Conclusion

This chapter has demonstrated the relational nature of cinema. By analysing the socio-technical-processes involved in the appropriation and screening of movies it has given examples of the way the medium's seemingly stable specificities are in continuous negotiation. By the means of standards, these socio-technical processes become arranged together, fixing the apparatus and congealing practices within the cinematographic circuit. This supports the theory that cinematographic apparatus have no intrinsic mode of operation; their conventional character is a consequence of the way in which they are connected to one another. In order to accommodate technological change, such apparatus and practices have to be rearranged. These rearrangements follow an oscillation of the medium's impedance, in which unstable circumstances are mobilized in favour of the establishment of conventional ones.

This framework seems to provide a more critical approach towards the analysis of the technological development of cinema, in which the progressive normalization of the medium is directly connected to the disorganization caused by the localization of new socio-technical processes contained within its underpinnings. Following this assumption, the next chapter will read the history of cinema according to the theories

of Gilbert Simondon, in an attempt to see this history not only as a consequence of the medium's technology, but also as a long term iteration of its circuit, through which the medium's technology becomes fixed, used and understood as cinematographic.

The cinematographic circuit as a technical ensemble

Introduction

Expanding on the relational nature of cinema, this chapter means to show that the conventional identity of the medium does not exist apart from the technological changes of its underpinnings, such as the digitisation of audiovisual data and the proliferation of electronic screens in domestic spaces. Therefore, the identity of cinema should not be considered opposed to these changes. On the contrary, this identity is defined precisely by the means in which the cinematographic circuit organizes emerging technical processes and thus reorganizes itself, as it strives for operational coherence. To understand the development of cinema technology, I will analyse the history of the medium in the light of Gilbert Simondon's theories, by which technical reality is characterized as a form of inter-mediation between human and nature and not as being opposite to culture (1958: 11). In doing so, I will portray the dynamics of specification outlined in the previous chapter as the vectors that drive the *technical becoming* of cinema, from which its technology emerges as cinematographic.

Roughly speaking, becoming is the means through which a technical object acquires concrete identity and an autonomous mode of operation, thus defining itself in a way that makes it different from other technical objects (Simondon, 1958). Paying attention to Simondon's concepts, I propose that the apparent demise of cinema caused by digital computation would correspond to a discontinuous but major improvement of the cinematographic circuit, through which the new technologies would be accommodated while the medium's conventional identity would be reformed in order to accept them. Thus, once the new technologies become properly localized within the circuit and all of the medium's conventions are reformed, it

would be as if cinema had never changed, or had simply been developed in order to *become* what it should always have been.

Considering the technical becoming of cinema, one could say that it is not the mere novelty of technology that poses a problem to the conventions of the medium, but the disarrangement of old elements provoked by the localization of this new technology within its circuit, which disrupts the established correspondences between apparatus and practices. For instance, by the time that Cine Falcatrua appeared, digital technologies were already part of cinema: they were used extensively in movie post-production, being a standard intermediate for both commercial and independent moviemaking (Rodowick, 2007: 8). What the film society did was not to introduce personal computers into the cinematographic circuit, but to dislocate them within it. This rearrangement was enough to unsettle medial ideology, since it demonstrated that these machines could well replace film as the central hub of movie distribution and exhibition. All that was necessary was for the computers to run the right applications and be supported by certain auxiliary structures – in other words, that there were internal and external correspondences that integrated the PCs into the processes of movie circulation.

While Cine Falcatrua had to work hard to settle these correspondences, nowadays they seem to have become crystallized within the circuit's standards: the necessary video codecs and applications come pre-installed in every playback device. Digital movie files can be easily acquired from online services that rent or sell them to the domestic market (like the iTunes store) or from companies that transmit them by satellite to screenings venues (such as the Brazilian Rain Networks). Likewise, cinema architecture is prepared for it: digital projectors can be found hanging from the ceiling of most theatres, directly connected to their projection booths and sometimes to networks of online distribution; cables are incrustated in the walls, nowhere to be seen. The apparatus are all in place and what were once laborious procedures have become effortless synergies. Thus the rearrangement of technical processes seems to have been normalized a part of the medium's apparatus.

The following section will demonstrate how this normalization of technology is driven from within the circuit. It will also show that, as it congeals technical

processes into mediatic operations, the becoming of the medium suppresses certain potentials of technology, creating an “invisible part” of cinema in which the dynamics of specification are carried out. The medium is connected to other media and fields of creation through this invisible side. Examining these connections, the second section of the chapter will put forth the concept of *dispositifs*, in order to underscore all of the suppressed processes that allow and sustain particular apparatus and practices.

1. The history of cinema and its technical becoming

After an emerging technology is localized in the cinematographic circuit and made proper to cinema, the apparatus and practices it entails become normal to the medium. This ensuing normalization allows us to trace the continuous identity of cinema in history, notwithstanding the technological metamorphosis of the medium. In that sense, cinema could be understood in terms of Simondon’s definition of a technical object, which is not a given, but “a unit of [its own] becoming” (1958: 19).

Simondon has revealed the complexity of technical objects’ mode of existence in his work. For him, these entities are not mere assemblies of material, nor are they self-sufficient subjects (ibid: 12); rather they are relational systems characterized both by the resonance of their inner elements and by the way they are integrated into the outer milieu. By stating that technical objects are “not such and such a thing [...], but something that has a genesis” (ibid: 18), he implies that they possess a fundamental historical dimension. Therefore, instead of speaking about the identity of technical objects, Simondon rather speaks in terms of their *becoming* – the process through which a technical object is rendered *concrete*.

In a similar vein, the previous chapter demonstrated how the aspects of specificity that characterize cinema’s conventional definition are in fact the result of the continuing dynamics of specification. Following this lead, it is possible to approximate the idea of specification to Simondon’s concept of becoming, in order

to highlight the fundamental historical dimension of the cinematographic circuit, which encompasses both continuous and discontinuous improvements.

1.1. The normalization of technology according to the genesis of the medium

Simondon has specified three different stages in the becoming of a technical object: the element, the individual and the ensemble. Seen through his framework, cinema would correspond to an ensemble: a technical object that has attained a greater level of concretization, in which technique can become firmly integrated into culture (1958: 16). The evolution of the object towards this stage is not driven by increasing automation – which for Simondon represents “a fairly low degree of technical perfection” that has “economic or social, rather than a technical, significance” (ibid: 13). On the contrary, it depends of a certain *margin of indetermination* that makes machines sensitive to outside information, enabling them to be articulated together (ibid: 13). It is in these connections between machines that Simondon places the human being, comparing him to a *conductor*: “it is through him that the members of the orchestra affect each other's interpretation” (ibid: 13).

While pure automation is sufficient to produce an industrial device with its own particular logic, it does not necessarily create margins that allow technical elements to be coordinated into an ensemble. This distinction can shed a new light on the competition of moving image apparatus that preceded cinema. For instance, while a device such as Thomas Edison's *kinetoscope* entailed the successful automation of earlier contraptions, this characteristic was not enough to emancipate it from the pre-cinematographic milieu, so inaugurating a new circuit. Albeit more expensive and sophisticated than other optical toys, the kinetoscope could be handled within a regime of circulation similar to theirs, being shown as a curiosity in exclusive machine parlours and amusement fair-like situations. In that sense, the problem of Edison's invention might be precisely that it was *too automatic*, replicating the one-to-one mode of engagement of its forerunners and integrating the image's physical support into its chassis. The kinetoscope presented itself as a self-contained commodity which could only be modified with difficulty, but could very simply be

transported through the already established media underpinnings without interfering with their technical organization.

If the kinoscope seemed to lack any substantial indetermination, the Lumières' film projector, on the other hand, was full of it. When the *cinématographe* was first created, it had no proper place or audience. Hence, it occupied spaces where it was not meant to be – such as cafés and shops – and borrowed their public (Machado, 2002: 78). Moreover, for the device to work, these spaces had to be constantly adapted to the medium (e.g. keeping the line of projection unobstructed and maintaining the lighting at a low level). Within a few years, the makeshift public would be educated to constitute a movie audience and the spatial adaptations would be crystallized in the architecture of movie theatre – coincident developments that I have analysed in a previous work (Menotti, 2007). This may lead to the impression that the *cinématographe* co-opted the local public and mobilized the space around it, giving birth to cinema by its own effort. From the perspective of Simondon, however, what happened was the opposite: the projector was fixed at the origin of the medium *because* the adjustments it required from the external milieu were later developed into synergetic correspondences. This normalization, which conflates historical dimensions with conventional ones, could be seen as a primary result of the *genesis* of the medium.

Genesis is the evolution that a technical object undergoes, through which it is made concrete; it becomes “a system that is entirely coherent with itself and entirely unified” (Simondon, 1958: 21). In its most primitive form, a technical object is an abstract organization of *elements*: “each theoretical and material unity is treated as an absolute that has an intrinsic perfection of its own that needs to be constituted as a closed system in order to function” (ibid: 20). Such a statement could be used to describe not only the first Lumières' screenings, in which the “intrinsic perfection” of the projector had to be arranged in relation to that of the café space, but also Cine Falcatrua's pirate sessions. In the detached elements it is already possible to identify particular physical attributes that would constitute the materiality of the medium. However, at this stage of becoming, the closure of circulation still depends of processes seemingly external to it. On the one hand, for the organizers, it involved finding a power source, installing the projector and the screen, connecting the

appropriate cables, and preventing people from sitting in front of the projection light. On the other, for the audience, it meant paying attention and adopting behaviour that they were not accustomed to, at least not in a café. Therefore, at this first stage of becoming, the physical aspects of cinema could already be specified, but not its mode of operation.

As the technical object evolves, the contingent arrangements that allow its primitive functioning are “fixed and crystallized in functioning structures” (ibid: 18). The processes that used to coordinate the disconnected elements are supplemented by a fixed mode of usage by these structures, giving rise to operations such as “moviegoing” and “film screening.” According to Simondon, usage “brings together heterogeneous structures and functions in genres and species which get their meaning from the relationships between their particular functions and another function, that of the human being in action” (ibid: 18). By the means of these functions, the object seems to attain a concrete *individuality*. In terms of the aspects of medium specificity, this could be translated as the establishment of automatisms such as the mediatic apparatus and practices. This can be perceived in the consolidation of a place such as the movie theatre, whose architecture incorporates the actions previously necessary for projection.

The concretisation of technical objects increases towards the ensemble, in the final stage of which each unit becomes attached to the rest by “reciprocal exchanges” in a way that “it cannot be other than it is” (ibid: 19). In the ensemble, individual principles of operation seem to resonate into one another, according to multiple causes that are external to the unities, but internal to the ensemble. In that sense, one can appreciate the growing correspondence of operations such as “screening” and “filmmaking” due to standards both physical (such as film gauge and frame rate) and logical (like the movie’s average duration and narrative patterns) that become ingrained into their respective apparatus. Attaining such a level of concretization, “technical reality becomes regulatory” and therefore “can be integrated into culture, which is itself essentially regulatory” (ibid: 16). Thus the ensemble also seems to bring about the paradigm of understanding that, promoted by regulating bodies and schooling institutions, provides both methodological and metaphysical coherence to cinema.

While the standards fixate correspondences between different units, they seem to circumscribe a margin of indetermination that is internal to the ensemble. In other words, these standards leave some room for the units to be moved within the ensemble and affected by human agency, through which the whole can achieve meaningful exchanges of information with other ensembles. When it comes to cinema, the pivot of such open interventions is none other than the movie. It is by the means of movie circulation that apparatus communicate with one another in the cinematographic circuit, and even with other media and fields of creation. Hence, the technical indetermination of cinema seems to be nothing other than movie circulation.

In the concretization of cinema as a technical object, it is possible to notice an escalation of the medium's overall impedance, as defined on the previous chapter: apparatus become progressively fixed and practices congealed, streamlining the meaningful exchanges into the transports of the movie. It follows that cinematographic operations are increasingly restricted to the limits of the movie's means of circulation, such as the final cut. In that sense, as the medium becomes more technically concrete, its operation seems to become more abstract: from the *presentation of the cinématographe in different venues* it moves on to the *projection of films in theatres* and finally to bare *movie consumption*. Thus abstracted, the means of circulation seems to be turned into a norm autonomous from technique, and even preponderant to it: emerging apparatus are localized within or without cinema according to their compliance with this norm. When a device such as the TV appears, it first communicates with the established circuit not by the means of a direct connection to its apparatus, such as the film camera or the projector, but through its capacity to handle the movie's means of circulation.

More than defining *which* apparatus and practices are cinematographic, the means of circulation defines *how* they can be so. This explains why technologies that would otherwise disturb the means of circulation become integrated into the circuit as its supplements. It also clarifies the kind of competition that the cinematographic institution sees in a practice such as Cine Falcatrua's, which challenges the idea that mediatic activity should be restricted to the movie's means of circulation. In its

pamphlets, Cine Falcatrua described what they did as “doing cinema without making movies” – that is, it was an attempt to create “cinematographic” exchanges in places where there should only be standard technical connections between apparatus. Thus, the drive of the film society could be explained in terms of what Felix Guattari – writing about free radios – designated as “a post-media era in which the media will be appropriated by a multitude of subject-groups capable of directing its resingularisation” (Goddard, 2011: 9). In other words, to keep the negotiation of the specificities of the medium open to its public. This is precisely what seems to be avoided by the incorporation of digital technologies into movie circulation as described in the introduction to this chapter, in which new technical processes become localized in a way that preserves the definitions of movie production and consumption – the former as the manufacture of an autonomous set of moving images; the later as a purely visual operation. Thus the normalization of emerging elements in relation to the established apparatus and practices seems relative to the localization of certain technical processes within the circuit, along with their suppression from direct mediatic operation.

As new technologies go from disruptive to normal and become cinematographic, how are they really changed? More importantly, how is the medium changed? In order to examine these transformations, I will now turn my attention to the contingencies that are suppressed in the course of technical genesis.

1.2. The invisible side of cinema and the primacy of multimedia

Simondon states that the evolution of technical structures is driven by their own internal necessities (1958: 21). Upon reaching the stage of ensemble, it seems that these necessities unfold in a topography apparently external to the object, but which overall is consequent to it. In that sense, it would be more than symbolic that the Lumières’ projector also worked as a camera (Cubitt, 2004: 32). This bilateral operation would confirm the originality of the *cinématographe*, which already contained a correspondence between the operations of filmmaking and screening, prone to be developed into that between movie production and consumption. Thus,

the *cinématographe* would have led to projection booths, film studios, distributing facilities and the like.

It is in this light that the ensemble should be considered as something beyond the mere units from which it is constituted. These units are symptomatic of a logic of territorialisation that expands and sustains technical becoming. As Simondon puts it, “it is not the production-line which produces standardization; rather it is intrinsic standardization which makes the production line possible” (1958: 21). In that sense, the standards that make apparatus possible could be related to the dynamics of specification that allow for the coherence of the medium’s underpinnings. While upholding cinematographic operations, the genesis of cinema also carries on the medium’s continuing specification.

Considering the similarly technical character of both dynamics of specification and cinematographic operations, one may be led to ask why some of the ensemble’s necessities not only become fixed, but are *fixing*, while others are not only open for the public, but actually *require its engagement*. In fact, there seems to be no fundamental difference between these two classes of processes. Their separation could be explained according to the technical synergies that grow in the course of the medium’s genesis (ibid: 30). It is by means of these synergies that the medium either resists or accepts change. Through them, technology becomes the opposite of a mere “physical translation of an intellectual system:” it “approximates the mode of existence of natural objects” (ibid: 46).

Nothing describes the naturalization better than the famous Kodak slogan from 1888: “*you* press the button, *we* do the rest” (Sontag, 1979: 53). This means that the company (“we”) took over a number of processes that until then were an inherent part of the photographic operation, reducing the engagement with the apparatus to the emblematic point-and-shoot. This was made possible because of a new camera model the company was promoting among the general public, which used a roll film carrier. This object could be easily loaded into the camera and rewound once completely used. It included in its costs the developing and printing services, which were provided by the company itself: the customer just had to send the camera back to Kodak in order to receive the finished pictures a few days later, along with the

camera loaded with a new film. Later versions of the advertisement substituted the slogan for “*it* does the rest,” conveniently imputing the suppressed processes to the film carrier, whereas this object did not actually do any of “the rest.”

Such advertisements indeed imply that photography, which involves dealing with the automatisms of the apparatus, necessarily depends on dynamics that are external to the device. Kodak had these dynamics streamlined in a large industrial facility, which was kept away from the customers. In its place, it presented the film. With this substitution, the practice of photography also became streamlined; it was promoted as the mere capture of images, as though it was a pure visual operation. One certainly cannot ignore how the *advertisement* itself takes part in this transformation of the public dimension of the practice. The logic of figurative representation behind the photographic apparatus is thus reinforced; concomitantly, the film carrier is isolated as an artefact that stands for a series of fundamental processes of information. Abstracted, these processes are not perceived in terms of the technical infrastructure they demand, but as a certain rhythm and scale imposed upon photographic practice: the standard number of pictures a film can hold and the time it takes to send the film to Kodak and receive the pictures back.

This logic can be transported to cinema, which is based on principles similar to photography. On these grounds, it is possible to compare a session such as Cine Falcatrúa’s with a digital movie screening in a conventional theatre. Both indeed break with what is normally considered the most fundamental aspect of cinematographic practice: film. Nonetheless, while the former makes this break obvious due to its technologically exposed nature, the latter streamlines all of the processes involved in this disruption, disguising them so that the disappearance of film goes unnoticed. The computation is running smoothly in the projection booth; high-quality audiovisual data arrives by an encrypted Internet connection, and the projectionist has been previously trained in the operation of all these devices. The audience does not have to wait for sound speakers to be placed, nor does it risk getting a glimpse of the machine’s operational system in the middle of the exhibition because the antivirus’ license has expired. Most of those viewing the movie will never know that some movie projectors run on a Windows system which is similar to the one they have in their personal computers (De Luca, 2005: 159). The

conventional mode of engagement of the public with the movie is thus promoted; the internal margins of indetermination of cinema are preserved. On the other hand, what is *behind these margins* has changed completely.



Figure 5. 1: Cine Falcatrua setting up a screening in a theatre space (Jun 2004).

The first chapter has demonstrated that the proper operation of the cinematographic apparatus depends on the conscious engagement of the public. In the words of Jean-Louis Comolli, one of the late apparatus theorists, “there is no spectator other than one aware of the spectacle” (1985: 757). Expanding on the socio-economic dimension of cinema, Sean Cubitt has affirmed that “audiences constitute the media that constitute them in a dialectical antagonism of mutual creation, mutual annihilation, and that this is entirely true to the shifting nature of the commodity” (2004: 10). Examining the technical genesis of the medium, one can see how limited this awareness is, and so is the mutual constitution of audience and media.

In as much as movie consumption might presume movie production and vice-versa, neither of these activities fully acknowledges the processes out of which they are constituted, nor the structures that are fixed between them. The awareness of the

public seems attached to a certain part of cinema: devices such as the screen and the camera; practices such as shooting and montage. Another part, which Comolli dubs the *invisible side* of the medium, remains largely ignored: negative film, chemical processing, subtitling, projection, and so on (1985: 745). Not surprisingly, the elements that are “invisible” within cinema are also those that fall behind the margins of indetermination that are internal to the circuit – in other words, the “predetermined” structures and dynamics that are a condition for movie circulation, and not the movie circulation itself. In this way a division between “structural” and “symbolic” processes is promoted. On the one side, there are the underpinnings of the medium and its dynamics of specification; on the other, cinematographic language and the operations of movie circulation.

Is it telling that, almost 30 years after Comolli’s text, the visible side of cinema has remained pretty much the same. Maybe the only significant change is the attention now given to digital compositing and special effects (see, for instance, Rodowick, 2007: 6). Meanwhile, a lot has been added to the medium’s invisible side: release windows, video codecs, online networks, copyright negotiations and marketing campaigns, etc. In public debate about these elements, they are invariably considered important *to* the medium. However, this simultaneously implies that they are not important *as* the medium. These new issues seem to affect the movie business, historical preservation and cultural significance, but not cinema’s ontological definition or aesthetic possibilities, at least directly. As it was the case with Cine Falcatrua, the engagement with invisible processes takes us into territories apparently far from cinema, such as governmental bureaus, software companies, darknet forums, courts of law and university yards. This means that the medium’s dynamics of specification remain alienated from everyday mediatic practices, in places that are completely external to them.

The alienation of such dynamics hints at the complexity of the circuit’s borders, which rationalize technological changes within and without the medium. In that sense, so-called “anti-cinematographic” devices have since long been part of cinema. Even before the complete substitution of the movie’s physical support, the “new” technologies are already old as far as the medium is concerned. They started by influencing its operational principles and means of circulation. Although video was

not regularly used to record feature footage until recently, it has had a strong effect in the practices of shooting and editing since the 60s because of the incorporation of the video assist to the film camera (Machado, 1988). Likewise, it was in response to early competition with TV that some characteristics considered intrinsic to cinema, such as the screen size and horizontality, have been intensified (Greenberg, 2008: 138). Certainly, it is not necessary to wait for the complete disappearance of celluloid film for cinema to become computerized: virtually every movie since 2004 has passed through a digital intermediate (Rodowick, 2007: 7-8).

By paying attention to these examples, we come closer to understanding the heterogeneous nature of cinema. It means that so-called “multimedia” or “transmedia” processes coexist within the single medium. More precisely, they exist even prior to the concretization that separates the dynamics of specification from cinematographic operations. What still does not exist is a parameter to qualify these processes as cinematographic, and even less as multimedia. Before “proper” digital cinema appeared, there were peer-to-peer networks, codec packs, subtitling communities; there were practices such as those of Cine Falcatrua, which did not acknowledge any strict separation between film, videogames, Internet, urban intervention and academic research. After digital cinema, there is just movie distribution and exhibition, which must comply with appropriate standards. In other words, once the conventions of the medium are reformed, these processes are made contingent, suppressed from mediatic operations or cast out into other fields.

Along with the suppression of technical contingencies, the full possibilities of the technology are also denied. Within cinema, processes such as developing negatives, transferring files, advertising a screening and setting up a projection are just a structural burden; these operations can only fulfil any poetic potential they might have outside of the cinematographic circuit. Whenever such potentials are to be acknowledged within the medium, it must be through its normal means of circulation – that is, turned into a movie. If such acknowledgement is not possible or sought after, the practice often finds its place in some sort of “expanded” field or in the art world – which is precisely what happened to Cine Falcatrua.

In conclusion, I hope I have demonstrated that the genesis of cinema separates technical processes into the dynamics of specification and mediatic operations. The synergies that constitute the former pose a certain resistance to the normalization of new technologies within the medium, as long as these technologies are not rearranged according to this separation. The conventional cinematographic apparatus and practices are kept in place at the expense of such displacements of emerging elements. In that sense, the apparatus should not be considered the cause of the medium's becoming, but one of its *continuing consequences*. As Simondon explains, the machine is a result of organization and information (1958: 16). Thus, just as a movie results from and stands for its circulation, the apparatus result from and stand for the dynamics of specification that are consolidated by the becoming of cinema. In that sense, apparatus are likewise inferred from the superficial effects of the circuit, as a sort of background over which the movie as a figure stands, or the material from which the movie as a form is made. Naturalized, the conventions behind this division remain overlooked.

1.3. How cinema is constituted in history

Technical synergies can be acknowledged as the essential drive of the medium's becoming. As they get established, separating the dynamics of specification from processes of circulation, these synergies produce the mediatic coherence of the circuit. They do so by abstracting some essential processes from public engagement, while revealing others as specific to the medium. This creates an "invisible side" to cinema, which grows exponentially as new technologies are normalized within its circuit.

This subsection examines in further detail the ways in which this normalization of technology happens. In other words, it addresses how technological change can be absorbed by the medium and rationalized through its genesis. This will allow a more comprehensive perspective about the differences between the use of digital technologies in Cine Falcatrua's practice (which went against the medium's conventions) and their current standardization (which preserves these conventions).

Once again, I will resort to Simondon's framework, which establishes that technical progress occurs in a twofold rhythm, alternating *continuous and minor improvements* with *discontinuous and major improvements* (1958: 32). Whereas the former preserve the organization of the technical object, merely "lessen[ing] a disadvantage which could not be converted into a positive aspect of the functioning of the whole" (ibid: 33), the later provoke its complete rearrangement, "increasing in an essential manner the synergy of functioning" (ibid: 34).

Minor improvements would account for those that, respecting the established positions of the cinematographic apparatus, facilitate their connection. As an example, Simondon cites the "self-lubricating bearings" that would reduce the attrition between different parts of an engine, making it run smoothly (ibid: 34). One could propose a similar definition to the minor improvements of cinema technology: they are those that lubricate the circuit so that the normal processes of movie circulation become progressively unobstructed. Examples would include higher resolution cameras and new codecs, which increase visual fidelity and favour the production, distribution and consumption of the movie as a visual form (i.e. without altering its definition).

However, as they diminish the "harmful effects" of residual oppositions between already localized processes, minor improvements do not contribute to their synergetic coupling, which would eventually lead to the concretization of a technical whole. In fact, Simondon proposes that minor improvements *prevent* this concretization, by "blind[ing] us to the real imperfection of a technical object" (ibid: 34). Paying attention to this point, it could be said that the rationalization of digital technologies only in terms of the visual resolution of cameras and screens overshadows the most critical effects that these technologies may have on cinema. While the industry is concerned with these minor improvements, the real transformations that digital technologies could effect on the processes of movie circulation are avoided.

Major improvements, on the other hand, would transform the scope of conventional mediatic operations, redefining the limits between movie production, distribution and exhibition. This rearrangement of circulation, followed by fundamental changes

in the structure of the circuit, would promote further concretization of the technical ensemble. This means that, besides allowing for the localization of a new technology within the medium's circuit, major improvements would reform aspects of the specificity the medium so as to comply with such localization. For that to happen, Simondon states that "what was an obstacle should become a means of achievement" (ibid: 25). The technology that was disrupting the organization of the medium becomes integrated into its dynamics of specification in such a way as to push its evolution forward.

Thus major improvements would account for all of the technological turnovers that have changed the nature of cinema, such as the active integration of sound and colour to film or the reform of theatre architecture in reaction to electronic transmission. These turnovers represent the resolving of technical antagonisms and their ensuing normalization in the course of the medium's genesis. In this sense, they also represent the transformation of a synchronic tension between different models of cinematographic operation into the diachronic development of media technology. Once digital computation is properly localized within the cinematographic circuit, it will probably inaugurate another stage in this evolution of the medium. When this happens, the idea of "digital cinema" will be turned into an oxymoron that highlights the historical condition of a previous "analogue cinema," much as "sound cinema" does to "silent cinema."

By the means of major improvements, the medium seems to become what it was always meant to be. The most drastic changes in its underpinnings are thus accepted as the ultimate fulfilment of its ontology – even if the same changes had earlier seemed to threaten this ontology. While the reason these improvements are *major* might be obvious, it may still not be clear how they can be *discontinuous*, since they seem coherent with the medium's technical evolution. In fact, as I intend to demonstrate in the following paragraphs, these improvements are only made coherent through the perspective created by the evolution of the medium which they provoked.

I could start by unpacking Simondon's declaration, which characterizes a major improvement as a double movement: in order for an *achievement* to occur, an

obstacle must first be highlighted. In other words, there needs to be some element that brings the antagonism between technical models to the surface of the medium, so that this antagonism can be resolved. Framed according to this formula, unauthorized practices like those of Cine Falcatrua should be understood not in opposition to the later standardization of digital technologies in cinema, but actually as leading it. This seemingly paradox can be made clearer by the means of a comparison between the reforms of mediatic conventions and the vicissitudes of normal science. In order to do this, I will correlate Simondon's framework to Thomas Kuhn's ideas about scientific progress, demonstrating how the development of media technology is understood through cinema's own epistemological conventions (meaning both the everyday engagement with the medium and the analytical discourses that make sense of it).

Kuhn states that the practice of normal science, bounded by the institutional directives of its paradigm, could be compared to a puzzle-solving enterprise, in which experiments always depend on "the assured existence of a solution" (1996: 37). Thus, normal science "does not aim on novelties" and "when successful, it finds none" (ibid: 52) – an approach that drives practitioners away from questioning the limits of the paradigm. In that sense, normal science would be analogous to Simondon's minor improvements, which overshadow technical antagonisms and prevent any fundamental transformation in the underpinnings of the medium.

In order to escape from the self-absorbing loop of normal practice, the scientific field has to go through a *revolution*: a complete transition from one paradigm to another (ibid: 12). In a way similar to a major technical improvement, a scientific revolution has a critical outcome: it simultaneously produces a new gestalt over the field (ibid: 112), transforms the perception of its history (ibid: xi) and rebuilds the commitments of professional groups (ibid: 181). Examining the structure of a revolution, one is in a better position to describe the constituents of the discontinuity of the major improvements. The transformation of a paradigm does not happen all at once, in a "eureka moment," as the myth of scientific discovery would have it. It is a long-term process brought about by *anomalies*. Anomalies are the inadvertent results of scientific experiments that violate the expectations that are "implicit in the design

and interpretation of established procedures” (ibid: 59). In other words, they contradict the paradigm, exposing its limits.

In cinema, anomalies would account for modes of engagement with technology that reveal the conventionality of mediatic practices and apparatus – for example, when p2p filesharing shows that computer networks could have other cinematographic uses than being a channel for film reviews. As it does so, anomalies not only appear to highlight the hidden potentials of the technology, but also challenge the established aspects of the specificity of the medium. As anomalies recur, Kuhn says that they lead to a *crisis*: a scenario in which “the existing institutions have ceased adequately to meet the problems posed by an environment that they have in part created” (ibid: 92). In a crisis, the established circuit seems no longer to be able to preserve the norms in which its organization is based.

For movie circulation, which like science is what Kuhn characterised as a community-based activity (ibid: 179), a crisis only happens when anomalies acquire a certain public dimension. One person alone, ripping movies from DVDs and storing them in her personal computer, does not pose any threat to the specificity of cinema. Thousands doing the same thing and exchanging the results, on the other hand, probably do. In that sense, a crisis becomes marked by the proliferation of what Michael Warner calls *counterpublics* – collective participants of the public sphere that are “defined by their tension with a larger public,” and whose “exchanges remain distinct from authority and can have a critical relation to power” (2002: 56). A similar notion of *counter-apparatus* could be used to address those structures that, while participating of the cinematographic circuit, are defined by their tensions with the norms of movie circulation, such as the filesharing networks.

However, at the same time as they challenge the medium’s norms, such counter-apparatus could be seen as essentially propositional. Just like a counterpublic, they “[enable] a horizon of opinion and exchange” (ibid: 56) that would account for the plurality of “speculation and tentative hypothesis” that Kuhn states is necessary to give rise to a new paradigm (1996: 61). In that sense, a practice such as Cine Falcatrua’s is not a mere critique of the economic model of the medium or of the social constraints of movie distribution, but an attempt at another cinema, whose

conventions would be able to accommodate certain potentials of digital technologies within its specificities.

The proliferation of counter-apparatus would explain the discontinuity involved in the introduction of major technical improvements. Just as a scientific paradigm must be broken in order to assimilate anomalies and re-enable normal science (ibid: 53), the cinematographic circuit must be thoroughly disarranged in order to accommodate the new technologies and reorganize movie circulation. It is as if the circuit had to be *liquefied* before crystallizing once again. What follows is an overall depletion of the medium's impedance. Nevertheless, in the aftermath of a so-called "revolution," a new paradigm appears as the natural heir to the outdated one. Impedance rises again, as the technical ensemble becomes further concretized. Anomalies that once put the medium at risk are now fully integrated into its circuit, preserving the specificities of the medium. The preceding crisis is seen as an expected modification of the medium's individuality occurring in the course of its technical genesis (ibid: 18).

Such is the prerogative of history: as soon as the messianic promise of revolution becomes *actual*, it is immediately *secularized*, "marking human time without fulfilling it" (Buck-Morss, 1991: 242). At such a moment, extraordinary possibilities that were available during "revolutionary now-time" become lost. Hence, the technical evolution of cinema is as exclusive as it is cumulative, and can only be understood if both perspectives are joined, which enables all that is being left out of the medium to be considered: those cinemas that have been despised, forgotten or isolated in "expanded" fields of their own. In practical terms, this would mean understanding cinema "in the light of the openness promised by early film" and see its specificity as *self-differing* (Krauss, 1999: 44).

Walter Benjamin believed that social forms and technological processes are closer to a *Messianic dimension* in their birth as well as in their decay (ibid: 41). These moments allow a double focus that "illuminates both industrial nature's utopian potential and, simultaneously, the betrayal of that potential" (Buck-Morss, 1991: 245). Paying attention to the structure of scientific revolutions, one could say that this is because, during these breakthroughs, the hidden side of the medium is brought to its surface. In other words, in the course of major technical improvements, the

dynamics of specification suppressed within the circuit are made public. Thus, before the medium that-is-to-be is defined, one has a glimpse of other media that-could-be – all the “Cine Falcatruas” that, after the period of crisis, are prone to be rationalized by the means of the progressive history of the medium.

These tentative cinemas, based on the anomalies that are suppressed from the medium once its conventions are reformed, could equally be appreciated as uprisings, in accordance to Hakim Bey’s concept of *temporary autonomous zones* (T.A.Z.) (1991). In its failure to fulfil revolutionary intentions, an uprising “suggests the possibility of a movement outside and beyond the Hegelian spiral of that ‘progress’ which is secretly nothing more than a vicious circle” (ibid). As a violation of the “law” behind the medium’s technical evolution, a T.A.Z. refutes the apparatus that stands both as its historical result and primary cause. In that sense, Cine Falcatrua momentarily allowed the practice of cinema to be utopian exploration. In doing so, it revealed the conventional circumstances of the medium – the same reality that cinema, projecting its own history, suppresses: that its apparatus are not the cause of the specificity of medium, but the by-product of its specification.

2. Apparatus and *Dispositifs*

In the third chapter, I proposed that the surface of cinema should not simply be understood as the production of a presence (that of the movie), but mainly as the suppression of different other ones (of the many processes that constitute circulation). What this implied is that the actual experience of the medium perpetuates the separation between its visible and invisible processes and, therefore, its specificity. The effect of every cinematographic experience, situated and relational, is to sublimate circulation even in its most obvious traces (e.g. scratches in the film; subtitles; letterboxing; etc), projecting the movie as a stable, autonomous form. Its intended result is to create in the audience the impression that they are watching precisely what the author has created, which is the same thing that other people had watched before and will always watch, across all the nations, ages and technological platforms. But are they?

The projection of the movie as an autonomous form depends on the awareness of its situation as the cinematographic apparatus. The existence of the movie is never *by-itself*, but always *negative to* the cinematographic underpinnings. In that sense, the apparatus is never suppressed from the mediatic experience, but inferred from it along with the movie. However, it is always inferred as a sort of abstract, ideal mechanism, despite the most intrusive burdens of specification (e.g. the theatre's isolated location, the unavailability of codecs; etc). As Flusser explains, the word "apparatus" comes from the Latin verb *apparare* ("to prepare"), and can be roughly translated as "an object which makes itself ready for something" (2000: 21). Thus the term implies that this "something" existed before technique – an operational reason beyond the cinematographic structures, which would enable and organize them.

Nonetheless, what an activity such as Cine Falcatrua's demonstrates, by exploiting low impedance situations, is that cinematographic apparatus are no more abstract than the movie is autonomous. They have no operational reason outside of the medium's evolution: like other aspects of its specificity, the apparatus are produced by cinema's becoming, which culminates in every single experience of the medium. This means that apparatus are not abstract, but *abstracted*. They do not provoke cinematographic experience, but are prompted by it.

Essentially informed by the medium's technical progress, an apparatus is not able to be critical about it. That is, it cannot account for its own situation: the complex arrangement that, coordinating visible and invisible processes, produces the apparatus and suppresses contingencies so that it appears natural. If both movie and apparatus are secondary to this mediatic dynamic of presences, then what exactly provokes the experience of the cinematographic work? For instance, how to call the different elements in the activity of Cine Falcatrua that made it *cinema* instead of another media? In other words, how to identify the particular synergies and connections within the circuit that, cutting across various apparatus and practices, result in a given surface?

To analyse the constitution of surfaces further, it is useful to draw from the work of Siegfried Zielinski. In an attempt to localize modern media in a larger history of “audiovisions,” Zielinski evokes the Foucaultian term *dispositif* to identify the arrangements in which audiovisual discourses are reified (1999: 18). In such arrangements, “the audiovisual overlaps other specialist discourses and partial praxes of society, such as architecture, transport, science and technology, organisation of work and time, traditional plebeian and bourgeois culture, or the avant-garde” (Ibid: 19) – in other words, mediatic operations are situated amidst the various processes that constitute its circuit.

For Zielinski, *dispositifs* provide media studies with a more comprehensive perspective than “isolated types of apparatus” (e.g. devices such as a praxinoscope, film, the TV monitor, etc). Because a *dispositif* is “an identifiable historical concretion where the fractures and fissures are visible” (Ibid: 18), one could say that it allows us to grasp the outlining of the internal margins of invisibility that result from the medium’s technical progress. In other words, a *dispositif* makes perceptible the interactions that constitute apparatus and keep them separate from movies, as well as cinema from other media and “partial praxes of society.” The analysis of the early years of Cine Falcatrua in the previous chapter, as well as that of the failed screening of *a knife all blade* in the first, were attempts to frame these situations as *dispositifs*, foregrounding in each of them what was truly relevant for the constitution of the cinematographic apparatus and of the movie.

The term *dispositif* also carries an interesting etymological appeal. It is rooted in the Latin verb *dispositus*, which can simply mean “to arrange.” Hence, while “apparatus” evokes an a priori reason, *dispositif* focus on the present organization of things. It turns one’s attention from the isolated elements to the way they are situated in relation to one another in time and space. Given that perspective, one is able to contemplate not only the overt interactions between the given elements, but also the hidden connections that, running through ancillary fields and resorting to seemingly collateral processes, sustain the given elements (cinematographic apparatus and practices) in place.

In his work from 1999, Zielinski enumerates four *dispositifs*: a “heterogeneous ensemble of picture machines,” cinema, television and the complex kit of “advanced audiovision” (1999: 19). This classification certainly reveals the focus of his research interests back then, and it should not be taken as exhaustive. There is no reason to limit the idea of *dispositif* to these pre-established, conventional stages of mass media. Analytically, the term could be employed to address any arrangement that allows a given mediatic experience, regardless of its rhythm or scale, and from which such experience cannot be abstracted. In other words, a *dispositif* could refer to the pure situatedness and relationality that a particular surface is the effect of.

In my attempt to understand how cinema and technology organize one another, the primary *dispositif* to consider is the entire cinematographic circuit, whose surface effect is the medium itself, and whose duration is the medium’s history. This seemingly totalizing arrangement could be taken as a complex vector upon which other *dispositifs* partially superimpose and reinforce, and partially cut across. For instance, the arrangement involved in the screening of a commercial feature in a multiplex theatre would mostly coincide with synergies already established within the cinematographic circuit (making it an obviously cinematographic situation). On the other hand, a video festival or the exhibition of a film like *Grindhouse* would dispose conventional elements in a slightly uneven way, while still respecting the medium’s technical margin of indetermination (therefore, stressing their own particularity as special events). On a further side of this spectrum, one could find a piece such as Rafael Lozano-Hemmer’s *Body Movies* (2008), an interactive installation that employs procedures that are invisible within cinema as a direct way to engage the audience in its poetic interplay (so that, as integral as it can be to the cinematographic circuit, the installation remains outside of the medium).

Besides allowing the apparatus to be classified according to their degree of belonging to cinema, a *dispositif* also does the opposite: it exposes which synergies in the circuit are actually relevant to a given surface, demonstrating that what is most essential to a movie’s meaning and value sometimes extrapolates the range of conventional cinematographic operations. This perspective would give the necessary importance to the cult following of *The Rocky Horror Picture Show*, which – with its props, rituals and websites – cannot be contained by normal means of circulation.

Conversely, it would embrace the fact that a particular screening of *a knife all blade* has marked the movie's meaning and value forever, in a way that its mere process of production could never do.

Above all, this approach creates the condition for a transversal understanding of cinema, attentive to the medium's genesis and the primacy of multimedia. As a *dispositif*, the cinematographic circuit seems to be in constant interaction with others, which simultaneously include and are included within it. Disregarding how these other *dispositifs* are understood through the medium's own conventions (as tentative, pre- or post-, expanded or live cinemas), one gets to see the dynamics of specification not simply as processes that maintain cinematographic apparatus, but also as the continuing promotion of the medium as a parameter for other media.

In other words, the *dispositif* is precisely where media differ from one another. The belief in the a priori specificity of cinema frames a practice such as Cine Falcatrua's as its unauthorized emulation; a clumsy copy of real movie exhibition. When, on the contrary, such specificity is considered collateral to cinema's technical becoming, the film society appears to be a side effect of the normalization of emerging technologies within the medium. However, once Cine Falcatrua is accepted as being as much a *dispositif* as any of cinema's conventional operations, the normality of one over the other is denied altogether. According to this final perspective, one is the writing – or arrangement – of the other in the history of its own practice. As much as the film society takes part in the genesis of cinema, so does the medium take part in the genesis of Cine Falcatrua. Why then do we assume that the “real” cinema prevailed, instead of presuming that it became real because it prevailed? Conversely, if Cine Falcatrua's practice was to be turned into a norm, would it be any less conventional?

Pointing towards the *ungovernable* that originally concerned Michael Foucault (Agamben, 2009: 24), a *dispositif* accounts for everything that cannot be fully represented, abstracted or normalized. By adopting this notion to frame one's engagement and experience of cinema, an incommensurable horizon of possibilities for the medium appears. In the light of all of these possibilities, every effort to escape and even overturn the limits of a media-specific understanding becomes

especially pertinent. To get a hold of the complexities of the cinematographic circuit, it might be relevant to frame cinema as a mere stage in the history of other devices or to analyse the medium according to foreign parameters. Cinema could be approached as a post-magic lantern or a pre-video; as too slow for the Internet or too flat for real life. Such a method would benefit a research aimed at investigating the vicissitudes of the medium without becoming subjected to them.

Conclusion

This chapter has related cinema's dynamics of specification with the synergies that are constituted in the course of the medium's becoming. These synergies consolidate the medium underpinnings by creating a technical margin of indetermination which is internal to the cinematographic circuit, in which cinematographic operations can be performed. This margin represents the conventional separation between the symbolic and the structural processes of movie circulation – the visible and invisible parts of cinema.

Throughout the genesis, the circuit is constantly localizing new technologies within or without the medium, either by incorporating emergent practices and apparatus (and making them normal) or by isolating them in other fields (and thus suppressing them from cinema). Nevertheless, a peek into the invisible side of cinema reveals that other media exist within the medium's conventional operations, and technologies that supposedly contradict its ontology might in fact be essential to it. This means that the processes that constitute the circuit are only organized according to the way the public experience them. The becoming of cinema is never definitively concluded, but is still going on in each and every engagement with the medium.

In order to examine the practices that differ from cinema regardless of the understanding conventionalized by the medium, I suggested supplementing the idea of apparatus with the broader concept of *dispositif*, recovered from the work of Siegfried Zielinski. For my purposes, a *dispositif* would account for all of the processes that result in a given surface, whether or not they coincide with the normal

arrangements of the cinematographic circuit. This means that a *dispositif* could encompass both the operations entailed by conventional apparatus, the invisible dynamics and synergies that keep those apparatus in place, and even the contingencies that might be relevant to a particular situation, putting into question what actually makes it “cinematographic.”

The focus on *dispositifs* allows for a situated investigation of cinema, exposing the most diverse ways in which its circuit can be engaged. In doing so, it also shows how each of these engagements either contributes to the medium’s genesis or, on the contrary, fails to do so. In that light, practices, whether cinematographic and not, appear not only as the culmination of the medium’s history, but also as essential parts of its continuous making, unmaking and critical evaluation.

Part II:

Rearranging the field

Prologue:

Projection studies

Introduction

In the first part of this thesis I put forward the idea that the cinematographic circuit produces not only each and every instance of the movies, but also their shared material: the apparatus and practices that constitute cinema. Complementary to processes of circulation, there are dynamics of specification that organize the underpinnings of the medium, normalizing new technologies and thus preserving the specificity of cinema. One of the aspects of this specificity is a paradigm of understanding, which was defined according to Thomas Kuhn as a common model employed for the operation and study of the medium (1996: x). This model provides the basis for activities such as the engineering of cinematographic devices, the activity of moviemaking and – of course – academic research and criticism about cinema.

However, inasmuch as the medium's own paradigm might be appropriate for the study of elements within cinema, it seems sufficient for an investigation about its circuit – in other words, for the study of the processes that define what cinema and the movie are. How can a framework that results from the specification of the medium enable the analysis of the dynamics that constitute it? The answer is clear: it genuinely cannot. This seems to be the reason traditional apparatus theory cannot cope with recent developments in cinematographic technology, which make obsolete the physical support and operational principles upon which such theory is based. Thus the investigation of a mediatic circuit cannot rely upon the conventional methods and bibliographic references used for the study of the corresponding medium – models that suppose the a priori existence of the medium. In fact, these models should be approached as part of the subject matter of research. Therefore, the

study of media circuits should always entail an epistemological, self-reflexive dimension.

In approaching this thesis about the cinematographic circuit, it proved to be impossible to make an uncritical appropriation of the methodologies of film and screen studies – the body of disciplines traditionally concerned with audiovisual media. The limits of these disciplines seem to coincide with those of the image, thus ignoring its character as part of the surface of the circuit. Metaphorically it could be said that these disciplines *do not even get to the projector*. Revolving around what is shown on the screen, their methods leave the analysis of cinema in prey to a “screen essentialism” that is similar to the one that Nick Monfort sees in new media studies: “a prevailing bias [...] toward *display* technologies” (Kirschenbaum, 2009: 31).

Thus, film studies seem able to handle only the superficial effects of circulation, and not how these effects come into being. It comes as no surprise that “film” remains a solid and almost transcendental reference to them, trapping traditional cinema research in the dilemmas of representation and making the relation between media and technique a difficult one to sort out. Matthew Kirschenbaum writes that this is the “logical consequence of a medial ideology that shuns the inscriptive act” (ibid: 43) – in other words, which suppresses the actual storage and transmission of data. Based on the first part of this thesis, Kirschenbaum’s statement could be expanded to: *an understanding that shuns the entire process of circulation*. Thus, I ask again: how can an approach which is defined by the rejection of circulation possibly analyse it?

1. Research as a practice embedded in the medium’s conventions

Traditional film studies seem to have their cause and effect in the impedance of the circuit, which proves to be a sort of epistemological closure as well. In the same way that it stratifies circulation into domains of production and consumption, impedance defines a field of scientific research. Just like any other conventional mediatic practice, the scientific field borrows its internal coherence and legitimacy from the

organization of the circuit – synergies that it not only takes for granted, but also contributes to enforce.

A simple break of the traditional paradigm of film studies – e.g. a reform of its objects – does not seem enough to reveal the constitution of the circuit. Every transformation of the medium’s paradigm of understanding entails a reorganization of apparatus (such as concepts and research methods) in order to maintain the medium’s impedance. An epistemological revolution, once resolved, erases its traces (Kuhn, 1996: 137) and establishes conventions anew (ibid: 144). As film takes on a “virtual life,” its institutional imperative is barely questioned and movie circulation remains impenetrable, since the processes it actually requires remain secondary to conventional discussions about the nature of the image.

To exemplify the restrictions of traditional film and screen studies in dealing with processes of circulation, such as the incorporation of new technologies into conventional practices, I will consider two recent works that have engaged in this endeavour: David Norman Rodowick’s *The Virtual Life of Film* (2007) and Sean Cubitt’s *The Cinema Effect* (2004). Both are rigorous efforts, motivated by the emergence of a so-called “digital cinema.” However, neither goes as far as seems necessary in order to probe the nature of the medium; in similar ways, both limit their enquiries to its supposed object: film.

From the outset, both Rodowick and Cubitt seem unable to escape the traditional film studies’ theoretical framework, and in both there is a lack of reference about topics such a computer-based media. The only title in their respective bibliographies that comments directly on this subject is Lev Manovich’s *Language of New Media* (2001), a book that sits easily on any shelf about the history of cinema because of the chronological relation it creates between “new media” and cinema. This kind of “specialization” can be a clear impairment: for instance, when analyzing a movie such as *The Matrix* (Cubitt, 2004: 228-235; Rodowick, 2007: 111-129), both seem stuck with the usual topics of a film review: special effects, modes of representation of time and space, narrative structure and implied discourses. Neither even mentions the fact that the movie’s story is organized in a trilogy that includes a short animated prequel and a videogame between its second and third instalments – a fact that

shows how its narrative naturally exists across different platforms, revealing the primacy of multimedia disclosed in the fifth chapter.

Rodowick seems to be particularly overcautious about computer technologies, approaching them more through theoretical and philosophical concepts than by considering actual artefacts and experiments. He openly acknowledges that his primary motivation is “the disappearance of the photographic ontology” (2007: i), assuming a position in the traditional debate about meaning and representation, and consequently adopting its premises. It is in accordance with these premises that he distinguishes the constitution of digital images from that of photographic ones.²⁰ For him, while the photographic image’s “process of transcription is continuous in space and time, producing an isomorphic record that is indivisible and counterfactually dependent on its source” (ibid: 113), the digital image is pure information, and therefore has no temporal and spatial qualities (ibid: 125). An approach more attentive to technology could contest this distinction in two ways: first, by stating that the analogue image is not isomorphic at all, as it constitutes a bi-dimensional abstraction of a tri-dimensional space, whose form is barely similar to that of its referent (Flusser, 2000); second, that the digital image has an undeniable material substance and is connected to the spatiality of the computer mechanism and the temporality of its processes (Hayles, 2005; Kirschenbaum, 2009). Thus, from the perspective I want to put forth, both photographic and digital images are “indivisible and counterfactually dependent” on their respective circulation; at the same time, they are similar processes of information within the circuit in different rhythms and scales. The insistence on a fundamental difference between these two kinds of images does nothing to explain the persistence of the cinematographic conventions despite the transformation of its technological underpinnings. Hence, Rodowick’s distinction is too limited for the present thesis, which is interested precisely in practices and situations that put cinematographic conventions into question.

Cubitt’s work, on the other hand, begins with the promise of a much more engaging undertaking. Interested in finding “what cinema does” (2004: 1), he stands for a kind

²⁰ Which also results in a false separation between “digital capture” and “digital synthesis.” As the example of *a knife all blade* shows, even lens-based digital photography is essentially a process of artificial synthesis.

of film studies that starts “prior to the constitution of either the model or the represented as a given” – therefore, “not with things but with relationships and especially with change” (ibid: 5). Nevertheless, it becomes clear from the way the book is structured that his supposed attention to the effects of the medium is nothing more than an acute awareness of moving images themselves. Organized in chronological order, the chapters correspond to particular models of filmmaking (“Magical Film;” “Neobaroque Film;” “Cosmopolitan Film;” etc) that Cubitt puts together by analysing certain movies. Inasmuch as these analyses may be driven by a relational intention, the movies are not truly seen within their processes of production, distribution and consumption, but against the vast socio-technical scenarios of their times. In this context, the only real transformation seems to be that of history; the works stand as ideal artefacts that could not be anything other than what they are given their historical context. In summary, the disregard for indexical referents allows Cubitt to concentrate on the resulting image, generating original insights about its temporal and spatial qualities, modes of addressing the audience and narrative conventions. However, borrowing from Peircean semiotics and taking the very concepts of film and film analysis as a given, his framework still does not seem able to go much beyond the conventional parameters of meaning and representation.

It is not my intention to perform a systematic critique of every attempt in traditional film and screen studies to incorporate new technologies into this field, nor to debate the legitimacy of such efforts. Such researches are important and many, and constitute fundamental references to this thesis. Nevertheless, as I have tried to show through the aforementioned examples, the paradigms of normal scientific practice adhere to the conventions of the medium, such as the isomorphism of the photographic image or the objectivity of filmic representation, reinforcing the circuit’s impedance. For this reason their methods are unable truly to expose the workings of movie circulation.

2. Disassembling *dispositifs*

Disregarding the screen, to what shall we turn? Where can an object for the critical investigation of the cinematographic circuit be found? A close reading of the previous chapters would reveal, through some obvious hints, that it lies in *projection*. The third chapter proposed that projection would be the atomic element in which movie circulation could be decomposed. The fifth has portrayed it as the iconic technique that inaugurates cinema, representing the fundamental milestone for its technical progress. The principle of projection reminds us that no transport is neutral: neither the transmission that carries a form through space nor the inscription that preserves it over time. Movies, emerging from the public experience of the medium, are situated and relational; they result from their displacements. As can be demonstrated by the example of *Zen for Film*, whose image is the pure accumulation of traces of circulation, *to transport is to inform* – in other words, every movement of a movie effectively determinates its actual form.

A study of projections would involve trailing the displacements of a movie and considering what happens before the screen, thus allowing for the production of differences between image and surface. Its concern would be to understand how conventional apparatus and practices are constituted and then integrated into one another. Its method could be described as the *analysis of dispositifs*: an examination of the processes at work in each cinematographic situation, assessing how these processes differ from the normal arrangements of the circuit, how they might extrapolate cinema, and what efforts the medium might be doing to contain them.

Modelled after a conventional mediatic operation, the methods of projection studies could take some cues from recent academic work based on the examination of technical objects. One particular case to which I have already referred is Matthew Kirschenbaum's study of digital data (2009). Adopting a media-specific analysis – i.e. one that is “sensitive to the minute particulars of its medium and the idiosyncratic production and reception histories of the work” (ibid: 129) – Kirschenbaum avoids studying how data is represented in surface effects, favouring instead its inscription on inscrutable hard drives. In an attempt to resist screen

essentialism, he opts for the field of computer forensics, which is applied upon “the behaviours and physical properties of various computational storage media” (ibid: 45). Rejecting data’s “formal” materiality in the name of a “forensic” one (ibid: 103), he intends to pierce through medial ideology and show that “what appears to be homogeneous at conceptual level are compounds at logical and even physical levels” (ibid: 4). Thus, Kirschenbaum expects to reveal the hidden processes behind the seemingly immaterial software code: “inscription, mechanism, sweat of brow (or its mechanical equivalent steam), and cramp of the hand” (ibid: 39) – processes that will eventually take him to the outmost boundaries of the circuit: “the fundamentally social, rather than the solely technical mechanisms of electronic textual transmission” (ibid: 21).

Another example of such technological-aware research is Lisa Parks’ work on satellite transmission (2007a). Borrowing a concept from curator Amelie Hastie, Parks identifies satellites as one among many “obscure objects” within representational and time-based media – a proposition that clearly echoes Jean-Louis Comolli’s idea of the invisible side of cinema. This obscure condition makes satellites an especially valuable object for the study of social and economic circuits of exchange. Being “a symptom of a complex institutional history and imperceptible signal traffic,” they suggest lines of force between transnational political powers, global media economy, technological zones and flows of information (ibid). Interested in this epistemological potential, Parks calls for a *materialist history* of such technologies, which would involve “shifting some critical attention beyond the screen” and “taking distribution seriously as a site of media history and criticism” (ibid).

To some extent, Parks’ approach to the transmission of electronic signal is analogous to the one adopted by Kirschenbaum towards the inscription of digital data. Both researchers face a similar problem in the elusiveness of their objects, which are invisible but not due to mere occlusion: just as satellites have to be orbiting the Earth in order to be able to transmit signals, so hard drives must be physically isolated within the computer, protected from residues, in order to work properly (Kirschenbaum, 2009: 75). Their workings depend upon these situations. Neither the signals transmitted nor the data stored can be appropriated by human perception:

they must be processed by and through distance. Taken from their original position and put in direct contact with the public, neither satellites nor hard drives would *work*; displaced and revealed, they cannot constitute *dispositifs*. In this respect, they both resemble the film projector. For proper projection to occur and the movie to be preserved, the projector must remain out of reach. Enclosed inside its booth, the projector is protected from the hands and eyes of the public – including researchers. However, once it is taken out of this isolation, it is no longer projecting properly.

The existence of projection always depends on indirect access to its structures. Projection cannot be abstracted and brought to a laboratory, if not by the means of the objectification of its effects. In that sense, it seems impossible simply to disassemble a *dispositif*; the result is always another surface. How can the complex meanderings of the circuit be disclosed without being ruined, and therefore falsifying their analysis? The strategy adopted by Kirschenbaum and Parks was to *engage actively* in the production of such surfaces. Kirschenbaum openly admits that, just as it entails the presentation of scientific evidences, forensics is the “construction of a rhetorical argument” (2009: 21). His work involves not only finding neglected traces of inscription in code, but also speculating about these traces, thus producing their meaning by conjecture. Parks goes even further in this enactment of the research object in proposing the literal production of its visibility. On the principle that satellites are inaccessible, “ephemeral forms of culture that move through and vanish in the air,” Parks states that their operation can at most be inferred. This could be done by outlining vectors of signal distribution, based on data that is publicly available such as the satellites’ footprints (the maps of their geographical reach) and lists of carried signals. For her, the ideal technique would be to create dynamic visualizations of signal traffic, able to extrapolate the static data and project the complexity of both discursive and operational dimensions of audiovisual media (Parks, 2007a).

From these examples, one can suppose that any form of “projection studies” should not simply involve the study of projections. It should also be a mode of research that *operates by the means of projections* – conceptual, cartographical or curatorial strategies to produce awareness of what is suppressed by the medium, without disarranging it completely. In that sense, it could be inspired by Matthew Fuller’s

approach to *media ecologies*, which draws from the post-structuralist literary studies of Kittler and Hayles and from Felix Guattari's contributions to the concept of ecology (2005: 5). In Guattari's work, this concept arises from a certain practice – namely, his active involvement in the Italian free radio movement during the 1970s. Michael Goddard therefore suggests that such concept leads to a framework which is closer to ecological movements than to mere environmentalism (Goddard, 2011: 7). Media ecologies would entail not only recognizing the environmental conditions of media, but critically engaging with them. According to Fuller, “the only way to find things out about what happens when complex objects such as media systems interact is to carry out such interactions – it has to be done live, with no control sample” (2005: 1). In Fuller’s work, this approach is proven to be highly scalable, addressing systems such as pirate radio, a series of photographs and a website.

In a similar way, projection studies should organize situations that enable insights into the invisible part of cinema, avoiding the congealing of circulation or turning its obscure objects into mere trinkets. In that sense, it is also useful to borrow Siegfried Zielinski’s definition of projection as a “media strategy located between proof of truth and illusioning” (2006). Zielinski remarks that, before the strict separation between the fields of dioptrics (the physics of the visible, related to seeing machines) and catoptrics (the production of visibility, related to image machines) in the 17th century, scientists used projection as a technique to display phenomena beyond the reach of human perception, such as sunspots and electricity (ibid: 82, 95). Nowadays, similar methods of translation are employed by contemporary media art to create visualizations that could fulfil Parks’ plans of putting the massive satellite traffic on view in complex interactive maps (ibid: 98). The appropriation of these *dispositifs* as scientific instruments not only supports the idea that sometimes the best way of *looking through* is *to look at*, but also to promote a critical acknowledgement of the epistemological dimension of any media.²¹

Now, I proceed to refine these strategies by considering some of the caveats made by Lisa Parks herself about her own work.

²¹ I.e. that every media promotes a particular paradigm of understanding (and thus engaging with) technology and the world.

2.1. Opening up the black boxes

In her appeal for satellite cartography, Lisa Parks requests the reader not to lose sight of the “financial, temporal, regulatory, and intermedial dimensions of the satellite economy” (2007a). These are processes that cannot be easily represented in a map of signal transmissions, no matter how dynamic and complete it might be. Her warning should remind us that no analytical model can get a hold of the complexity that is essential to the circuit. In fact, it risks obfuscating it further, as it tends to disguise its own nature as a superficial result of circulation.

Parks does not give any express indication about how to pay attention to these other, unmappable elements. Aware of the *mediatic dimension of science*,²² I intend to supplement projection studies with references taken from the sociology of Bruno Latour. Latour points out that, at some point in history, all of the concepts and artefacts that are now basic dogmas of science were subject to dispute (1988: 2) – in other words, as Kuhn would say, they were anomalies (1996: 52). However, as they become embedded into normal techno-scientific practices, these concepts and artefacts are turned into black-boxes: “no matter how controversial their history, how complex their inner workings, how large the commercial or academic networks that hold them in place, only their input and output count” (Latour, 1988: 3).

To some extent, in the way both Kirschenbaum and Parks approach their objects they are limited by this perspective – which is also that of a Flusserian functionary, for whom the apparatus is a black-box. Concentrating their analysis on traces of input and output (such as the inscription of code, the satellite footprints, etc), they comply with the reliability of such traces, while at the same time disregarding the historical dimension of the processes that produce them. Thus they risk promoting the identity of their respective objects as fundamental, contributing to the black-boxed condition of hard drives and satellites.

²² I.e. that scientific practice depends on mediatic apparatus and strategies of representation in order to fulfil its objectives.

As if *contra* Flusser, who proposes to infer the apparatus' programme from its inputs and outputs, Latour suggests that the only critical way to approach a black-box is by opening it, "moving in time and space until one finds the controversial topic" that leads to its closure (ibid: 4). Following these controversies, it would be possible to glimpse the apparatus' inner structure and the networks that hold it in place – in other words, to understand every apparatus as a *dispositif* that superimposes on the circuit. According to what was shown on the fifth chapter, one could say that Latour wants to pay attention to the discontinuities that result in the concretization of technical objects. Thus he supports the study of science *in the making*, "leaving aside all the prejudices about what distinguishes the context in which knowledge is embedded and this knowledge itself" (ibid: 6). In analogy, one should aim for a study of *cinema in the making*, rejecting the distinctions between the structures through which a movie circulates and the movie itself.

2.2. Provoking anomalies

Parks is very cautious in declaring that signal maps "should not be understood as a positivist gesture to see, know and master, but rather an attempt to generate critical spaces for exploring other obscure objects of media studies" (2007a). In that light, she clarifies how the ultimate purpose of her methodology is to use "satellites and signal exchanges as objects to think with in a way that may expand possibilities for historical and critical research in media studies" (ibid). Paying special attention to the ephemerally of *dispositifs*, Parks wishes to avoid promoting a new, object-centred paradigm – one that, in her opinion, "ultimately privileges institutional legitimation over passionate investigation" (ibid). In other words, she is not interested in simply creating a field of "satellite studies."

In spite of the expression that I have adopted to describe my methods, I must make clear that this is not my intention either. The idea of "projection studies" is meant to contrast with the focal concentration of traditional film and screen studies, and not to establish "projections" as a literal research object. Resisting the impulses to institute a new paradigm, I consciously aim for a technique able to provoke anomalies. In that

sense, I should emphasize that, rather than doing a thesis *about projections*, I am determined to promote research *as a form of projection*.

I reaffirm my intention to disclose what exists before the screen – e.g. the processes of circulation that result in a particular surface, or the dispositif that puts certain apparatus into place. Nevertheless, I intend to do this *in spite of the screen* – that is, regardless of the resulting surface and the teleology it might inspire. Instead, projection studies should consist of exercises that foreground other, latent organizations of apparatus, processes of circulation and modes of engagement with the medium. Framed as research questions, these exercises should be concerned less with *what is cinema?* than with *what if cinema?..*

The speculative approach of projection studies could be supported by Siegfried Zielinski's notions of *anarcheology* and *variantology*. The first term entails a resistance to the almost transcendental authority of History, in the way it is promoted by forms of research based on physical traces and official documents – therefore, a “history” that is no different from the “evidences” produced by forensic arguments. Praising “fortuitous finds” and the figure of the heretic, Zielinski states that anarcheology should evade the identification of “a standardized object of an original experience” and struggle to keep open *a sense of possibility*, “[attaching] no more importance to what is than to what is not” (2008: 27-28). Therefore, he characterizes it “not [as] a philosophical study,” but as “a collection of curiosities” (ibid: 34).

In a similar way, variantology tries to react to academic disciplinarity and the “programmatically standardisation” of research trends (Zielinski, 2006: 2). With this concept, Zielinski aims to describe the study of situations in which “phenomena that are diametrically opposed [...] congregate beneath a provisional roof in such a manner that at any time they are able to drift apart again and operate autonomously” (ibid). Borrowing from the idea of musical variations – the different interpretations of an initial theme –, Zielinski proposes to make these studies integral to the everyday praxis of research (ibid: 3). According to him, the methods of variantology should be characterized by lightness and ease, curiosity about other disciplines “above any immediate points of contact with one's own subject” (ibid: 3) and, more importantly, a radical kind of epistemological indifference: “long-established

concepts should be generously thrown open for re-consideration” (ibid: 4). When I reflect upon the way I have investigated cinema, the movie and its apparatus, all of these premises seem very reasonable. The detachment from the paradigm of traditional film studies allows for the free exploration of other disciplines and practices, exposing alternative modes of analysis that are still ignored.

3. Reassembling the field

What is the best way to combine the methodological threads outlined above, so that projection studies are really able to open new spaces for theory and practice within the cinematographic circuit? To answer this question, I could refer to the critical strategies employed in the first part of this thesis. It should be noted that, more than a literature review, what was done there was a sort of *work review* – be it the work of Paolo Cherchi Usai, that of George Lucas or even that of Kodak. Under the assumption that an apparatus can have conceptual implications just as a text can have material ones, I have chosen to deliberately ignore any a priori distinction between them. Art pieces (such as *Zen for Film*) and technical systems (such as peer-to-peer networks) have been considered seriously – side-by-side with concepts like “scientific revolutions.” In that sense, it could be said that they were not only analysed as subject matter, but quoted as sorts of non-verbal statements about cinema.

Thus the sheer construction of my theoretical framework depended on disrespecting the boundaries of academia and getting the so-called “field” within it. Likewise, I propose that case “studies” should blur the separation between the production of theory and practice itself. These studies should depart from a provisional disorganization of the field, so that the practice of doing research has to go through the epistemological effort of setting its boundaries anew. With that, I hope that such studies can respond to Zielinski’s call for *radical experiments*,

which aim to push the limits of what can be formalized as far as possible in the direction of the incalculable and, vice versa, to assist the forces of

imagination to penetrate the world of algorithms as far as it is possible (2008: 10).

Their purpose should not be the mere identification and exegesis of particular situations in the field, but the arrangement of critical *dispositifs* that sensitise the public to the unfathomable processes of circulation. Such *dispositifs* could take the form of workshops, installations or exhibitions. Besides the immediate value of these events in the publicization of research results, one should acknowledge their role as operations of research themselves – i.e. loci through which knowledge is *projected*. In that sense, these *dispositifs* are particularly interesting because they respect the complexity of the medium in two different ways: first, by foregrounding research as an activity that occurs through apparatus and contributes to their establishment; second, by exposing the researcher as an agent within the circuit, whose practice is subject to real and unexpected contingencies.

Conclusion

Acting upon the premises outlined above, in August 2009 I took up an invitation to curate a video exhibition as an opportunity to test the ideas developed in the first part of the thesis. My proposal, *Denied Distances*, was to explore different spaces suppressed within the cinematographic circuit, exposing the sorts of processes that are performed in each of them. In order to do this, I selected works from expanded fields – such as experimental video and media art – and arranged them according to the position they would occupy in the conventional structure of the medium. By this means, I also intended to highlight how different media are contained within cinema, challenging the dynamics that consolidate the medium's underpinnings and keeping it distinct from other fields.

The fact that *Denied Distances* had to be a *video* exhibition was also strategic to my investigation. To be included in the programme, every participating work had to conform to the same means of circulation: a video edit. For some pieces, this meant the work itself; for others, a telecined version, its public documentation or even a complete re-edit. Taking into account each work's "original" arrangement and

comparing it to the way that the piece was included in the exhibition, I was able to appreciate processes of circulation and how they effectively result in the movie, producing not only the form that the public experiences, but also feeding back into the “original” that is projected from this experience.

In the next chapter, I intend to analyse this exhibition as an experiment in curating, highlighting how the organization of the works included in it informed one another, simultaneously producing the exhibition’s particular meaning and value. In doing so, I hope to foreground the role of the many contingencies in the selection of the works and the actual making of the event. My intention is to examine *Denied Distances* both as surface – a situation in which movies are experienced by the public – and as *dispositif* – an arrangement of apparatus that cannot be isolated from one another. Drawing from concepts defined in the first part of the thesis, I hope to overcome the conventional separation between movie and apparatus, as well as that between cinema and other media, and in this way to expose how these elements are mutually defined.

Chapter 6

Dispositifs in and within the *Denied Distances* exhibition

Introduction

In the second chapter of *Deep Time of the Media* (2008), Siegfried Zielinski praises the fortuitous findings in scientific investigation by recalling how some of Anastasius Kircher's main cosmological ideas were the product of a literal sidetracking. On its way to investigate the Vesuvius, the ship in which Kircher was sailing was severely slowed down by the eruption of different volcanoes. This "nightmare experience," says Zielinski, "had a lasting impact on his thinking," which informed, among other works, the twelve books of *Mundus Subterraneus* (2008: 21). Realizing the underground connection between the eruptions and the tides, Kircher proposed an interpretation of the world in which "the fiery core of the earth becomes *the* central phenomenon," thus inverting the normal astronomical precepts of his time (ibid: 22).

From Zielinski's account, one can see how a shift in the scientific thinking can be brought up by mere *chance*. By preventing him from reaching his original focus of interest, the eruptions allowed Kircher to escape the bounds of discipline and gain a completely new insight on his subject. But there is nothing really *fortuitous* about this fact. As a parable, Kircher's story reminds us that a field of investigation cannot be – and in fact has never been – isolated from its worldly context. More than being constrained by everyday life and its contingencies, critical research takes its ultimate inspiration from it. Diverting professional itineraries, personal trajectories may actually even push them forward, leading to paradigmatic shifts.

This relationship between professional and personal activities, which can be translated as an interdependence between research and practice, has proven to be central to the present thesis. For instance, it was a particular screening of my own *a knife all blade* video that brought my attention to the lack of autonomy of the cinematographic object. Someone less attached to the piece would presumably take it for granted, seeing the occurrence as an obvious failure of the exhibition mechanisms. Personally disturbed, I came to realise that the cinematographic work is not formally stable, self-evident or even self-contained: its very existence is a mere counterpart of that of apparatus of circulation, and depends on the activity of many people. Likewise, it was my participation in the Cine Falcatrua film society that, putting me in the normally invisible position of a projectionist, allowed for a deep understanding of the processes through which cinematographic apparatus are constituted. This led me to perceive how medial ideology frames technology, highlighting the conventional character of the specificity of the medium.

A similar coincidence in the early days of this research gave me the opportunity to extend it outside the boundaries of academia, putting my methodological hypothesis to test at the same moment they were being developed. In 2009, soon after having defined the present research objectives, I was invited to curate a video exhibition as part of the *Mostravideo* project, in Brazil. This seemed to be an excellent opportunity to analyse cinematographic practices by their own means – in other words, to investigate the medium not only through pure intellectual speculation, but also through its *making*.

1. Denied Distances, Critical *Dispositifs*

1.1. The high-impedance circumstances of *Mostravideo*

Mostravideo is an annual exhibition project coordinated by the Itaú Cultural Institute, an organization sponsored and managed by the bank Itaú. According to its website, Mostravideo intends to “showcase the most instigating and inventive works of video artists, new media and experimental cinema” (Mostravideo, 2010). It started in 1997, aiming to disseminate contemporary audiovisual production outside of the

main metropolitan centres – namely, Rio de Janeiro and São Paulo – in Brazil. Hence, it is a project that addresses the issue of circulation from its outset, as it attempts to overturn the crystallized topography of movie distribution.

As its name suggests, Mostravídeo consists of weekly video screening sessions. The screenings are organized in monthly thematic programmes, put together by guest curators. They run from April to November in two different cities: one is always Belo Horizonte, capital of the state of Minas Gerais, and the other changes from one year to another. In 2009, the second city was Vitória, my hometown – which is probably one of the reasons I was invited to participate, playing the role of a “local specialist.”

My proposal was to have an exhibition based on my current research about the cinematographic circuit. However, the possibilities of doing so were clearly restricted by the pre-defined apparatus of Mostravídeo. My academic work could only inform the circumstances of the exhibition to a very limited extent: since I had to be present for a talk, the date had to be defined in accordance with the PhD calendar. Hence, the exhibition was set up for August 2009 – after the annual assessments at Goldsmiths College, and before the start of the new term. Apart from that concession to my schedule, the project gave me a very rigid frame to work with: four theatrical screening sessions, being an introductory one of 60 minutes and three others of about 90 minutes. This structure was stipulated by contract, making me legally obliged to adhere to it. Therefore, I was not able to set up new apparatus or propose different forms of engagement with the audiovisual medium; all I could do was to define a theme for the exhibition and chose the appropriate contents for its programme.

This apparent inflexibility of Mostravídeo results from the way the project itself has been committed to different apparatus throughout its history. Firstly, there are the exhibition venues employed: the *Palácio das Artes* and the *Metrópolis* movie theatres, respectively in Belo Horizonte and Vitória. The exhibitions organized within Mostravídeo had to comply not only with these places’ physical architectures, but also with their logical organization, fitting in the empty slots of the theatres’ regular screening programme. More importantly, through the Itaú Cultural Institute,

Mostravideo is also firmly attached to the Brazilian State. The Institute is partially funded by the means of public tax exemption, and is therefore susceptible to governmental scrutiny. It is accountable for everything it does, including the Mostravideo project. For that reason, the exhibition had to be organized according to a heavily bureaucratized institutional paradigm. The inclusion of any work in the programme had to be contractually authorized by its distributor, and paid for with a standard fee. Hence, while it provided a solid connection to movie distributors and a budget to negotiate with them, Mostravideo put clear restrictions on the selection of works. For instance, even if I had access to a proper copy of a movie and its producer had verbally agreed with the exhibition, the work could not be included in the exhibition programme if the actual contract had not been signed in time (as happened once).

For these reasons, the circumstances of Mostravideo must be seen as high-impedance ones. The operational stability that the project provides depends on fixed positions within the circuit, which simultaneously restrict the engagement with audiovisual media. Thus, the Mostravideo exhibition stands for a situation very different from the Cine Falcatrua screenings, whose precariousness allowed considerable room to dislocate apparatus and deviate from conventional mediatic practices. As such, it also represents an interesting way to complement the exploration of the cinematographic circuit that was done by the film society in an evident low-impedance context.

1.2. The exhibition as a research method

In response to the Mostravideo invitation, I proposed an exhibition programme called *Denied Distances*, which was deeply influenced by this research. Before explaining the topic in detail, I will outline how the very scope of the exhibition allowed for a tactical engagement with the situation of Mostravideo, fostering opportunities to explore the cinematographic circuit through the making of the event.

My idea was to show works that operated within what I termed “the hidden distances of the cinematographic circuit” – the spaces where the invisible part of the medium

takes place. Borrowed from different media, these works employ cinema's structural processes – such as light projection, digital codification and electronic transmission – as explicit parts of their poetic strategies. By showing them, I was expecting to expose the constitution of the cinematographic circuit.

However, this meant including works such as installations and performances in a regular theatrical exhibition. The fact that these works are incompatible with the conventional cinematographic apparatus is very significant. It implied that their mere screening in a movie theatre depended on radical transformations, since they all had to be made into video edits. For 16mm films, this meant simple telecines; for performances, unedited video recordings; for installations, whole documentaries that had the pieces as their subject matter, and so on. The artworks were thus exhibited as their own derivations, making it impossible to hold any claims for the originality of what was being shown. This fact subtly foregrounded the works' circulation and their particular arrangement in the exhibition.

On the one hand, the video exhibition was a way of employing cinema's own mechanisms to share and publicize my findings about the medium. In that sense, it could be considered an essay in itself – the original sixth chapter of this thesis, which was produced not as an *academic text*, but as an *audiovisual situation*, complying with cinema's discursive affordances and limitations. Because of this, each of the movies was shown not only as the work proper, but also as a case study, whose analysis was done through a sort of “playlist rhetoric.” This rhetoric is constituted by the movie's particular position in the exhibition programme and the way it was arranged in relation to others. Hence, I mean to emphasize how the localization of the movies within the exhibition defines their meaning and value – specifically, how their transportation into *Denied Distances* transforms them. At the same time, I intend to show that what frames the movies is not a pre-existing structure, but one that results from their joint organization at the moment this organization is activated by the public experience. These two aspects stand for the dual character of the exhibition, respectively as a *dispositif* and a surface. They also represent how the circulation of works and the specification of mediatic structures result from the same processes, being complementary to one another.

Taken as an active effort to reassemble the field of research, the exhibition enabled the localization of theory within the socio-technical organization of the medium. The making of *Denied Distances* involved the direct engagement with processes of circulation, making it impossible to appropriate such processes as mere illustrations of the theoretical discourse I was trying to convey. Although the role of curator turned me into the programmer of the exhibition, it also made me even more of a functionary of the other structures of the circuit, and therefore considerably limited by what Flusser terms *meta-programs* (2000: 29). In that sense, I was not completely free to organize the exhibition as the perfect legitimation of the concepts outlined in the first chapters of this thesis. I was throughout restricted by the manifold contingencies of the circuit, from the limited availability of screening copies and screen time to the existing demands of the Mostravideo project and the difficulties of getting in contact with movie distributors. Thus the circumstances of the exhibition made clear how constrained my research (like any other) is: it is not an outside, immaculate perspective over cinema, but one attempt to organize the medium from within – a *dispositif* open to the circuit's incidents and possibilities. In that sense, the exhibition represented a self-reflexive strategy for media studies.

The most straightforward way to read this chapter is as 1) a case study about *Denied Distances*; which simultaneously accounts for 2) the case studies that the exhibition entailed; and 3) a report of its making. In that sense, it carries on three interconnected levels of analysis. The most superficial focuses on the curatorial diagram and the movie theatre situation that ties the programme together, framing the participating works' meaning and value. At the same time, the works are considered individually, taking into account how they expose the structure of the cinematographic circuit and how this confrontation affects the experience of both. These two threads are punctuated by insights into the circumstances of the actual event and the role that contingencies played in its realization.

Complementing one another, I hope these perspectives can do justice to the fractal and essentially irreducible nature of the circuit I am trying to delineate. I also expect this framework to produce further insight into the way media are constituted in relation to socio-technical processes – especially in what concerns the crossovers and

segregation between cinema and other audiovisual fields within contemporary contexts.

1.3. About the topic of *Denied Distances*

From its title, it should be clear how much the proposal of *Denied Distances* owes to the present thesis. The exhibition's curatorial statement attempted to situate the conventional cinematographic apparatus in relation to one another, calling attention to the processes that bring them together and the spaces in which these processes occur. It departs from Vilém Flusser's idea that the technical image is an abstraction of the world enacted by the camera, which operates by suppressing the depth of field into a two-dimensional form (2000: 8). The curatorial statement proposed that, by itself alone, such suppression is not enough to produce *cinema*. The proper mediatic experience only happens when the architecture of projection removes an equivalent dimension from the audience's gaze as well. As the statement says, "the depth of projection is denied so that the depth of field may exist," transforming the mere image into a movie.

The statement goes further, affirming that such coordinated abstractions are the essential principle of the medium's operation. It upholds that "it is in the seemingly empty gap between the [projector] lamp and the [screen] frame that cinema occurs:" a space simultaneously occupied by the light beam and the audience body. Expanding on that, it can be said that the most basic cinematographic apparatus – camera, projector and screen – are not cinematographic by themselves: what makes them cinematographic is their reciprocal localization. Once this localization is taken into account, the flow of images from camera to screen, albeit planned, seems far from straightforward. Vast and largely ignored territories appear between them, articulating the practices of filmmaking to those of moviegoing and vice-versa. These are the *denied distances* to which the title of the exhibition refers: not only the spatial dimensions abstracted in the production of a technical image, but also the corresponding *technical* dimensions abstracted in the production of the medium's surface. To put it differently, one could say that "denied distances" refer to the

places in which the complementary processes of circulation and specification – such as film projection, digital codification and electronic transmission – are enacted.

In accordance with the framework provided by Mostravideo, four distances were originally designated, one for each screening session: the *thickness of the screen*; the *depth of projection*; the *extensions of the city*; and the *density of the circuit*. Later, due to an unforeseen unavailability of space in one of the exhibition venues, the sessions about the depth of projection and the extensions of the city had to be combined together. The division according to this volumetric trope provided a way to organize the selected works and, through them, potentially to classify others. Contrasting with the explicit dichotomy between movie enactment and distribution, this continuum of distances indicates the nature of circulation as continuing information. It also overcomes the division of technological regimes that is normally considered fundamental to media, describing the circuit as an essentially heterogeneous space of technical accumulation. Metaphorically, the unexpected combination of programmes could be taken as a sign of the medium's fluid structure, in which every stabilization or point of reference is only a momentary congealment.

Turning one's attention to these denied distances, it is possible to understand how the seemingly natural correspondence between movie production and consumption is secondary to Comolli's division of cinema into a visible and an invisible part (1985: 745). The medium is preserved as long as the invisible dynamics remain able to localize technique within conventional practices such as film recording, editing and screening. Being the loci that sustain cinematographic operations, the denied distances are also where the bulk of technological development is accumulated and nullified according to its conventional parameters. As such, these suppressed spaces remain unavailable for cinematographic engagement: just as the projector beam cannot be interrupted, these distances cannot be occupied without ruining the experience of the medium.

The exhibition planned to present works that operate in these spaces, enabling other sorts of experience. The pieces originally come from fields more or less outside conventional cinema, in which they were classified as normal works: art films, computer-based animations, Internet documentaries, installations, performances, and

so on. All of them employed techniques and devices not entirely strange to the cinematographic field. However, the images they produced seemed to be but a pivot for various forms of the desecration of cinematographic apparatus: screens are torn apart; projections interrupted; the texture of video signal and the processes of editing become exposed; and even “unauthorized” movie distribution is promoted. In each case, the flat image seems overall to be secondary to these more substantial surface effects.

2. First programme: The Thickness of the Screen

The first dimension to be examined in the exhibition was also the primary one to be abstracted from any conventional cinematographic experience: the thickness of the screen. The main condition necessary to watch a movie properly is precisely *not to see this apparatus* – even though the screen is right in front of the spectator’s eyes and, in fact, is what makes the movie visible in the first place. Therefore, screens are normally treated as mere flat surfaces, composed of only height and width. One talks about their area, aspect ratio and resolution, as if these characteristics were all that mattered to the screen. Nevertheless, to be able to hold an image, the screen must have some density – and in order to be dense, the screen has to be *thick*. Because it implies solidity and opacity, the thickness accounts for the most material aspect of the screen. It means that, if it is in the wrong position, the screen can actually *hide the image from the gaze*.

The works included in this first programme explored this immediate materiality of the movie underpinnings. For curatorial purposes, the idea of thickness implies three different meanings: one is absolutely literal, referring to the actual physical screen; and two are quite figurative, indicating spaces contained within the image. Concerning these latter, one could say that the first is metonymical, implying in the movie’s physical support; the other, metaphorical, refers to the absent pro-filmic scene.

In a circuit that is completely analogue, these three thicknesses would belong to domains of completely different natures, represented respectively by the screen, the film reel and the filmed setting. However, they have already started collapsing into one complex dimension with electronic technologies. During a live television broadcast, for example, the triple thickness stands for the whole distance through which the video signal flows – from the setting, through antennae, satellite and cathode ray tube – until it rests on the monitor’s glass surface. Nevertheless, these arrangements equally correspond to continuums of circulation that become suppressed within the screen. Among the operations employed to affirm these arrangements, one can mention the use of queer camera movements (which stress the confines of the setting/frame) and post-processing (which reveals the limits of inscription). With the significant exception of Guy Sherwin’s *Paper Landscape* performance, all of the works included in the first screening session of *Denied Distances* employed these strategies to some extent, foregrounding the image either as a trace of its own technical circulation or the hub of its own mediatic experience.

2.1. *WVLNT* – Getting into the flatness of photography



Figure 6. 1: still frame from *WVLNT*.

WVLNT (Wavelength for Those Who Don't Have the Time) (Canada, 1966-67/2003, 15'), the work that opened *Denied Distances*, is a derivative one: the recording of a film. This piece is a video version of Michael Snow's *Wavelength* (Canada, 1966-67), a film considered by many critics as a masterpiece of structural cinema. For instance, its first screening was celebrated by Jonas Mekas as "a landmark event" in the history of the medium (Enright, 2007), and the piece has even been called "the Citizen Kane of experimental cinema" in the online catalogue of an avant-garde film distributor (Totaro, 2002).

Filmed on 16mm stock, the original work is described by P. Addams Sitney as "a forward zoom for forty-five minutes, halting occasionally, and fixed during several different times so that day changes to night within the motion" (2002: 352). The scene starts with an open view of a loft and ends in a close-up of a photograph of sea waves hanging on the room's opposite wall. These initial and final framings correspond respectively to the wider and narrower zoom settings of the camera lens. The whole trajectory is accompanied by a sine wave that goes from a very low to a very high pitch – the film title's *wavelength*.

As the camera eye pierces through space and inexorably concentrates on the far-away point, a series of small events happen in the room: people enter and leave the place; they mess with some objects; a man falls dead on the floor; a woman phones to report this incident. At the same time, things happen to the *film itself*, which goes through different colour filters. However, this series of occurrences does not seem to constitute the "plot" of *Wavelength*. An attentive spectator, after having watched the whole film in the confines of a movie theatre, would probably say that the main action that is happening is the zoom. This systematic navigation ignores all of the actions going on around and about it, as if the characters were just part of the furniture. In this respect, *Wavelength* could be said to be similar to a close-circuit surveillance recording – an almost unconscious, involuntary gaze over the place – if it weren't for the zoom.

The zoom represents the correspondence between a progressive redefinition of the visual field and a continuous change in the arrangement of the camera's mechanism.

This is easy to be inferred by anyone who is barely literate in cinematographic language. The awareness of the camera eye's tardy movement seems to cause an unsettling tension in the spectator – a tension that, according to Annette Michelson, “grows in direct ratio to the reduction of the [visual] field” (1987: 175). The zoom suggests a threshold, a culminating horizon, which produces a kind of automatic drama. This drama competes with the sequence of actions happening in the room. Where is the camera eye leading? Why it does not focus on “what is going on?”

One could better understand the tension provoked in cinematographic spectatorship by *Wavelength* by referring again to Anne Friedberg's concept of the mobilized virtual gaze. According to Friedberg's idea, the spectator's gaze is kidnapped by the apparatus and substituted by a sort of simulacrum – a form of “received perception mediated through representation” (1993: 2). Normally, this is for the public's own benefit: the apparatus frees the audience's perception from the time and space of the projection – “real” time and space – and incorporates it into the time and space of the movie – the narrative. The mobilized virtual gaze goes where the spectator cannot, showing precisely what is going on: bird-eye views of the landscape; the hand in the pocket of the villain; riots on the other side of town. This is summarized by montage, which turns visual continuity into dramatic continuity. The best illustration of such a principle is the *faux raccord*, an editing technique in which the optical similarity between two different shots smoothly moves the spectator's consciousness from one point of the story to another.

In *Wavelength*, the mobile virtual gaze is extremely present. Predominantly, it is what happens in the film. As mentioned above, the disembodied movement seems to constitute the main drama of the work. Its excruciating slowness is forced upon the superperception of the theatrical spectator, becoming almost a test for his or her concentration. The attempt to follow the human activities on the screen can be a fatiguing experience for the audience. Conventionally, the tension involved in watching a movie is localized and resolved by means of the narrative – by making sense of the story told by what is framed on the screen and inferring what is left out. According to this tradition, the public inevitably clings to the hints given in the action that occurs in the filmed room. However, the virtual gaze does not comply with its expectations, as it avoids framing the scene “properly.” Instead of

overlooking the time and space that are irrelevant for the “narrative,” the camera eye just zooms mechanically, as if it were what it effectively is: a machine, obeying its own inhuman logic.

For Sitney, the concurrence of things happening “in the room of *Wavelength*” and things happening “to the film of the room” causes the public to experience a constant shift between “cinematic illusion and anti-illusion” (2002: 353-354). One can imagine a conventional spectator, attempting to follow and make sense of the actions in the screen, while the camera eye just inexorably penetrates filmic space: “betrayed” by the apparatus, the audience shifts its attention from the overall image to the individual occurrences in the film; then to the limits of the screen; and finally to themselves and their surroundings. Thus, they become self-aware, as though they were cast out of the image. Instead of just watching the film, the spectators also come to examine the situation they are in: the time and space of projection. They realize that things are also happening *in the room in which Wavelength is being screened*, and one of these things is *cinema*. The ending of the film, in which the photograph of the sea gets to occupy the whole frame, can be seen as a confirmation that the screen is no window, but another limit of spatial representation. As Michael Snow himself explains, “in *Wavelength*, the space starts at the camera’s (spectator’s) eye, is in the air, then is on the screen, then is within the screen (the mind)” (ibid: 352).

Hence *Wavelength* dislocates the engagement with cinematographic technology: from the gaze at the screen to the body in the theatre, one experience of the medium becomes another. In that sense, Michelson says that the work is paradigmatic in the way it deals with the convergence between epistemological inquiry and cinematic experience (Michelson: 173), operating a radical change between cinema as a mode of consciousness to the consciousness of cinema itself. However, the film does not provoke this effect by itself alone. As much as it results from *Wavelength*’s peculiar imagery, the effect depends on a *depletion* of the traditional cinema situation. In order for this to happen, *Wavelength* must be exhibited in very specific, controlled conditions – namely, the standard theatrical ones. Any other arrangement of apparatus – in which the public can be easily distracted, change channels or fast-forward the image – makes it impossible to attain the essential experience of the

work. No wonder that Michael Snow considers that the people that watched *Wavelength* on YouTube “had not actually seen the film at all” (Williamson, 2011: 211).²³

Thought of as a *dispositif*, *Wavelength* cannot be separated from the movie theatre context in which its experience seems so fatiguing. In a way, the piece is a *site specific* one. Its most important effects depend not only on the particular images it depicts, but also on the constrained situation created by the traditional cinematographic apparatus, in which the audience is entirely subject to the rhythm and scale of these images. Therefore, *Wavelength* could never truly exist on video, since this would make it possible to divorce the images from the highly controlled setting of the theatre and, conversely, allow their essential duration to be under the control of anyone with a remote. This reliance of the work on its architecture of consumption is subtly reinforced by the fact that *Wavelength* is only available in 16mm film format, radically restricting its conditions of exhibition.

In that sense, the later *WVLNT (Wavelength for Those Who Don't Have the Time)* could be seen as more than a mere version of *Wavelength* in digital video, as it necessarily assumes the position of the original work in certain conditions, substituting for and preserving it. This was the case in *Denied Distances*, whose screening venues lacked a proper 16mm film projector, so being unable to show Snow's piece from the 60s. *WVLNT*, the movie that actually *was* in the exhibition, is clearly different from the work described so far. Nevertheless, following the hint of the work's subtitle, I intend to propose that *it is the same work in a different iteration* – i.e. “for those who don't have the time.” Basically, the footage of the original film was transferred to video and then divided into three distinct segments of the same duration. These segments were then adjusted to equivalent transparency and put on top of each other, without going through any further editing. This resulted in a three-layer “sandwiched” fifteen-minutes audiovisual loop, which is the only version of *Wavelength* that officially exists in video. The rental is \$75 Canadian dollars for each public screening.

²³ The video that can be found on YouTube (“*wavelength (1967)*”) is also a bad copy, cut down to the ten minutes allowed by the website's restrictions.

Perhaps the most intriguing thing about this version is why Snow did not adopt the obvious solution to reduce *Wavelength*'s duration, by multiplying its playback speed. The reason might be that speeding up, while preserving the visual qualities of the original film, would cause considerable more violence to its rhythm. It would completely destroy the soundtrack (which is also kept unaltered in *WVLNT*, just superimposed and mixed) as well as the pace of the actions that occur within the scene. Thus, I'd like to propose that Snow's strategy for compressing time can be taken as a statement about what is most relevant to the work, and must be preserved throughout its circulation: regardless of the visual outcome, the duration of *Wavelength* can be *folded*, but never *abbreviated*.

Moreover, Snow's strategy seems to expose how the materiality of the video signal relates to that of traditional film. It shows that video does not simply compress cinematographic time and space: it stacks them up and rearranges them. In *WVLNT*, the flatness of the photographic image – to which film can always be reduced, as the ending of the original *Wavelength* affirms – is analysed and folded into itself by the modulation of the electronic signal. The depth of field and the optical filters of the original footage are lost, substituted by an image transition that never ends or begins, illustrating the fundamental difference between the thicknesses of analogue and electronic screens as I described at the beginning of this section.

If in the original *Wavelength* the virtual gaze did not seem to focus on anything specifically, only to move forward, in *WVLNT* it seems to focus on too much. Once again, the spectator is made to observe the gaze – but now there are many, concurrent ones. Therefore, albeit free from the constraints of the movie theatre, the public must force itself into a very focused mode of attention, in order to be in a position to dissect the image and devise what is being shown. This exaggerated editing overstates the fact that the circulation of the work outside of its original context transforms its meaning and value. By making *WVLNT* in such way, instead of just creating a direct transposition of the early *Wavelength*'s images to video, Michael Snow took a step forward and directed these transformations himself, in accordance to his own authorial intentions.

2.2. *A Man. A Road. A River.* – Escaping from the videographic grid



Figure 6. 2: still frame from *A Man. A Road. A River.*

If I were to designate a proper video equivalent of Michael Snow's work, one that updates its critical strategy to contemporary media platforms, I would evoke *A Man. A Road. A River.* (Brazil, 2004, 10'), by Marcellvs L. The works have interesting correspondences that appear more clearly when they are put one after another in a video exhibition programme. While Snow's film is entirely constituted by a zoom in into a photograph of the sea, Marcellvs' video is made of a zoom out of a river. Both adopt a very systematic framing mechanism. However, while the former completely ignores human action, the later seems obsessively driven by it.

In brief words, *A Man. A Road. A River.* is the recording of a man crossing a river on foot. He follows a road that ends in that river, enters the water without reducing his pace, and gets out on the other side. The camcorder seems to be set on a tripod opposite him, organizing the scene from a frontal perspective: as the man undergoes the crossing, he approaches the recording mechanism. However, the image is arranged in such a way that he never actually seems to move forward. The video

starts with the zoom in its narrower setting, and slowly opens up as the man gets closer to the camera, almost as if trying to keep him within the scene – to keep him distant. The paradoxical result is that, no matter how much the man walks, he remains more or less fixed in the middle of the frame. We get the slight impression that it is the landscape that is traversing him, until the zoom reaches its wider setting, establishing the last limit of the scene in the physical position of the camera. Thus the apparatus is no longer able to contain the figure – the man passes besides the camera and disappears forever from the screen. All that is left for the audience to see is the rural landscape he has just traversed.

The trajectory of the anonymous man is not the only one depicted in Marcellus' work. There is another, within the mechanism itself, which goes from the inscription of the image to figurative representation. To understand it, one must consider that the most extreme setting of the camcorder zoom is not *optical*, resulting from the modulation of light through a set of lenses, but *digital*. Inasmuch as they seem to have the same result, these two operations involve completely different processes. The digital zoom is not a real approximation to the recording subject, but a form of *cropping* of the recorded image. Thus, although it happens during the capture of the image, digital zoom could be considered a form of post-processing – a performance of software algorithms. It is not accomplished by the arrangement between the recording mechanism and the scene, but within the camcorder's blackbox.

The digital zoom enlarges the scene at the expense of the image's resolution. Pushed to its limits, it reveals the discontinuous organization of the platform of inscription. Just as when a video monitor is seen through a magnifying glass, the result is not an actual enlargement of the represented image, but its analysis: the exposure of its constitutive structure. Thus, the beginning of *A Man. A Road. A River.* shows mostly video itself – abstract patterns of electronic information that should be organized to result in a figurative image, but are not. It is pure texture. As the camera zooms out, the audience is allowed to follow the synthesis of the photographic image – the production of a figurative flatness that is not natural to video. By the internal rearrangement of the mechanism, texture becomes text.

With its minimal choreography between man and camera, *A Man. A Road. A River.* takes the spectator from one fundamental limit of image production to another. The first limit is the recording mechanism and the platform of visual inscription, which are suggested by the accumulation of digital artefacts that opens the video. The other is the actual physical location of the camera and its position in the setting, which can be inferred by the disappearance of the subject under surveillance onto the extra-frame, at the very end of the piece. Thus, *A Man. A Road. A River.* indicates both the internal dynamics of the cinematographic circuit and the encompassing world that has been abstracted from the image. The initial confusion that the public might feel about what is being shown on the screen is turned into frustration at losing the man from sight forever, as soon as his features can be clearly distinguished. The rearrangement of the recording situation coincides with this transformation of the cinematographic experience, suggesting that the limits of a *dispositif* are always close to the limits of mediation.

2.3. *Flatland* – Cutting across digital codification

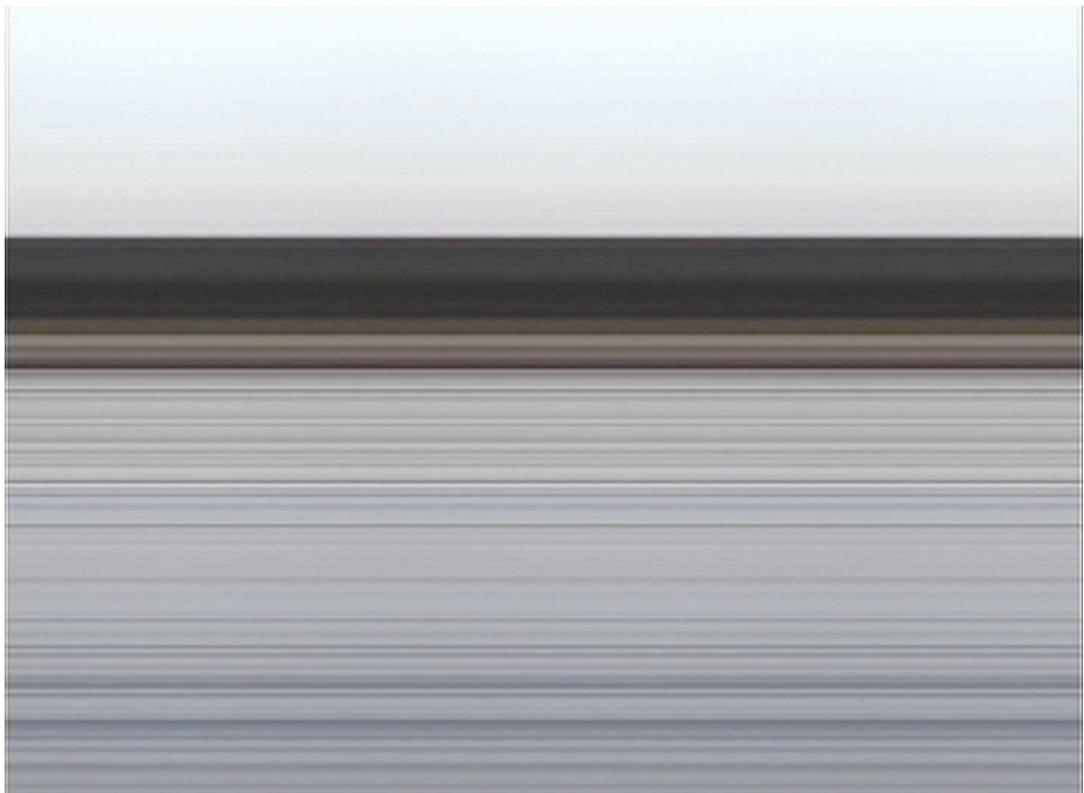


Figure 6. 3: still frame from *Flatland*.

The next work shown in *Denied Distances* concluded the transition from one metaphorical thickness of the screen to the other. While *Wavelength* mainly described the physical setting, and *A Man. A Road. A River.* took the audience from inside the camera to a world outside of the image, *Flatland* (Brazil, 2003, 8') presented an almost pure *landscape of the mechanism*. This piece, by artists Angela Detanico and Rafael Lain, recipient of the 2004 Nam June Paik Award, is constituted by a series of eight short animations of multicoloured horizontal lines. The lines have one-pixel width, and are stacked from the bottom to the top of the screen. They do not move, only continuously change colours.

Although they appear to be formed by completely abstract, synthetic images, these animations actually have a photographic base, and aim to be the most accurate description of a specific place. The place is the Mekong River in Vietnam, where Detanico and Lain had an artists' residency. Hence, it is another work based on a recording procedure arranged in relation to a large body of water. However, instead of going into or out of the liquid, in *Flatland* the camera went along the river. Afterwards, the resulting images were treated according to a similar logic of transversality.

The artists spent several days travelling along the river in a boat, recording what they saw. Later, when analyzing the resulting footage, they could not come up with an editing solution that expressed the monotonous flatness of the horizon they had experienced. This led them to resort to a very radical operation: they isolated eight frames of the raw video material and, in a computer, sliced these frames into columns of pixels, which were then stretched to the width of a full frame. Thus, each frame was transformed into 640 other ones, then organized in sequence and synchronized with sounds from the actual footage. Therefore, each of the resulting animations is a kind transversal "zoom" that cuts across a video frame, going from one side of the image to another.

One might say that this transversal rearrangement of the image puts the spectator within its constitutive process. In *Flatland*, it is as if the public was inside the computer, witnessing the processes that organize vision. However, this is no more

than a metaphor – the seeming dislocation of the public promoted by the movie is not a real disclosure of movie circulation, but another of its effects. For the actual systems that produce the image one organization of pixels is as valid as any other: in their computational core, everything is reduced to patterns of bits. Moreover, the experience of the public inevitably flattens all of the processes involved in circulation, abstracting them from the surface of the medium. Inasmuch as the spectator can be brought “inside the image,” she always remains against the surface. An apparatus can be seemingly analysed and cracked open, but the dispositif is never fully breached – it can only be momentarily destabilized.

The metaphorical character reduces the critical efficiency of *Flatland*. Contrary to the previous pieces, the mere exhibition of *Flatland* does not promote any reorganization of the public’s experience of the medium. The movie does not immediately suggest what was abstracted from its circulation, and it is even hard to pay attention to its particularities without any additional explanation. Both times I had seen the work prior to including it in the exhibition it was introduced by a talk with the artists. In *Denied Distances*, this oral explanation was substituted by a text in the exhibition folder, detailing the making of the work. Therefore, to be “inside” *Flatland*, the public first had to go outside the movie theatre, where there was enough light to read the synopsis of the work.

2.4. *I’ve Got a Guy Running* – Direct control over the scene

The impossibility of a movie to disclose the mechanisms of its own circulation can be better understood by comparing *Flatland* to the work that followed it, *I’ve Got a Guy Running* (USA, 2006, 8’), another piece produced through heavy digital post-processing. This video by Jonathon Kirk is also based on recorded footage, though not originally produced by the artist: Jonathon appropriated some images of precision bombing publicly released by the U.S. Department of Defence. The original video shows some kind of military group from afar. The crosshair in the middle of the screen suggests that we are looking through the threatening gaze of an unseen enemy, which pans slowly from one side to the other, following the soldiers’

movements. There is a muffled narration about the activities going on the screen, which the sniper seems to be reporting to a distant, higher, authority. Suddenly, the soldiers become uneasy, and one of them seems to reach for weapons. In response to the statement in the title – “I’ve got a guy running” – comes the order to fire. The result in the scene is immediate: shots go off, blowing up two people and a vehicle.

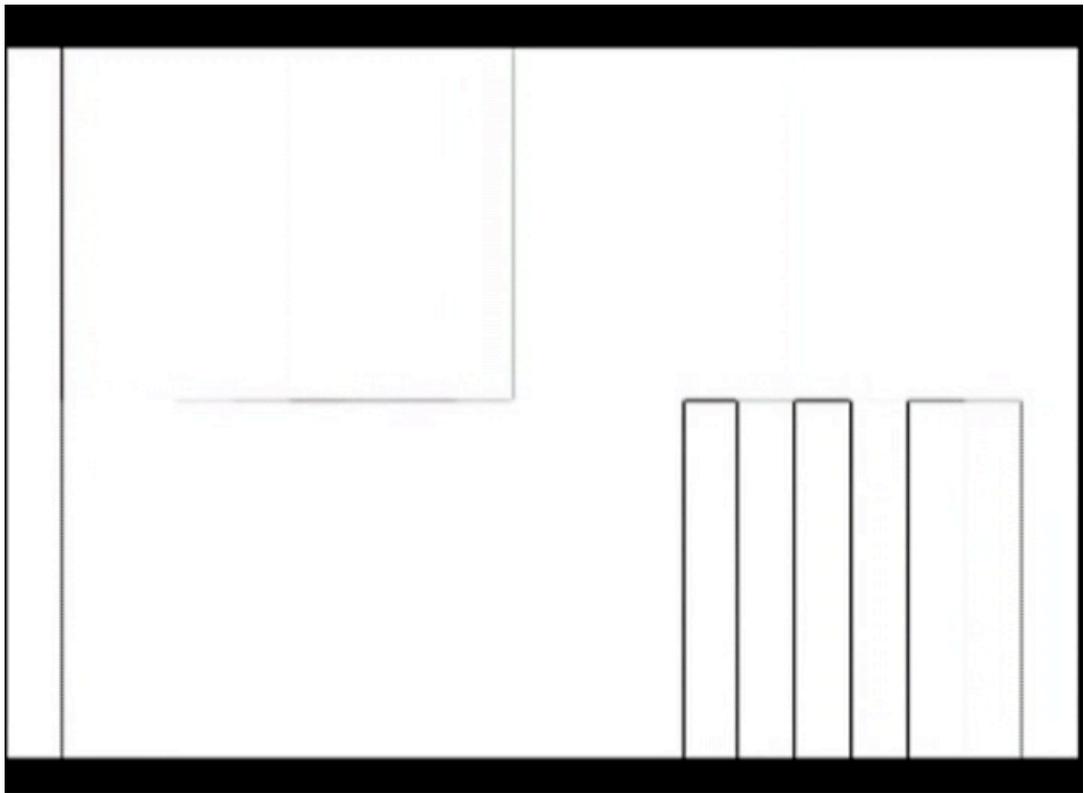


Figure 6. 4: still frame from *I've Got a Guy Running*.

In Jonathon’s work none of these events can at first be recognized. The original images underwent some algorithmic filtering that transformed them into a series of moving rectangles. Throughout the video, the filters are slowly tweaked, changing some aspects of this pattern – multiplying the rectangles or deforming their shape. The initial melodic soundtrack is progressively substituted by the original radio dialog. As time goes by, the amount of filtering is progressively reduced, allowing the audience to identify the crosshair and some low-resolution silhouettes, up to a point that the whole scene is finally revealed – a scene that some spectators have probably seen before, on some TV news report. This revelation happens just in time for the climatic shooting. Therefore, whereas in *Flatland* the amount of post-processing is uniform throughout the whole movie, in *I've Got a Guy Running* it

decreases progressively, becoming a kind of drama that takes the spectator from one understanding of the image to another. In this respect, Jonathon's piece operates very similarly to Marcellvs' – with the crucial difference that the subjects do not escape from the gaze of the camera: they are killed beneath it.

Or should we say *by it*? After all, the threshold to which *I've Got a Guy Running* takes the spectator is not that of pure visual representation. What it reveals is not only the existence and position of a passive camera, but also its participation in a more complex socio-technical activity: the very destruction that it depicts. Elements such as the crosshair, the radio dialogue and the panning movement reveal to the spectator that this cannot possibly be her gaze, virtual or otherwise. In fact, it is not a cinematographic gaze at all, but a mechanism of surveillance and control, which produces images not as its main objective, but as the collateral remains of its operation. These images come from a piece of military propaganda: a known video, with a pre-set mediatic value, that has already circulated elsewhere and can be found on the Internet if you know the right keywords to put into your search mechanism. As such it is the product of another industry, much more reliant on the automation of vision and the deflection of gaze than cinema: the armaments one. By appropriating these images, *I've Got a Guy Running* hints at the connection between the cinematographic circuit and technological warfare, exposing a link that has been already outlined in the works of Paul Virilio (1989) and Friedrich Kittler (1999) about the bellicose origins of the optical technologies used for entertainment.

2.5. *The Girl Chewing Gum* – Remote authority over the footage

The camera is more than a passive apparatus recording the scene. It is part of the complex arrangement that defines and controls it – a structure that extends far beyond the setting in time and space. No work in this selection challenges this fact better than *The Girl Chewing Gum* (United Kingdom, 1976, 12') by John Smith. At first, the film looks like the raw footage of some fictional movie. There is a street, and we can hear an unseen director giving orders to the passers-by, as though they were a cast of extras in a very complicated choreography – “Now the mother and the two boys! I want the smaller boy to point to the right and now pass the glass behind

you” shouts the disembodied voice. Thus, the work seems to reveal to the audience the very operations that arrange the pro-filmic scene – traces of the extra-frame, which should have been removed from the filmed material during montage.



Figure 6. 5: still frame from *The Girl Chewing Gum*.

However, before the public starts to believe that *The Girl Chewing Gum* is a piece of direct cinema or the making of another movie, the controlling voice becomes its own parody, when it begins to direct the movements of the world:

Now I want everything to sink slowly down as the five boys come by. Stop. Good. I want the clock to move jerkily towards me. Stop. I want the long hand to move to the right revolution every hour, and the short hand to move to the right revolution every twelve hours. Now, two pigeons fly across and everything comes up again until the girl chewing gum walks across from the left.

Every one of these orders is followed by the designated movement on the screen. Nevertheless, once again a minimum familiarity with cinematographic production informs the public that what the voice is referring to are just the visual effects produced by the movements of the camera (pan and zoom) and the natural

contingencies of the world (flying birds, clocks ticking), which cannot be completely excluded from the scene. Therefore, *The Girl Chewing Gum* overturns the impression that the diegetic world moves around the spectator's gaze (or vice-versa), showing that in fact these two elements remain firmly in place while the cinematographic apparatus between them are rearranged. Initially denying this fact, the voiceover stands for all that the processes of circulation that simultaneously produce and are abstracted in the production of the image. Once it is revealed as its own parody, the voiceover suggests the complexity of the mediatic effects provoked by these processes. The public comes to realize that the supposed director is not really giving orders to actors, but describing the actions of previously documented subjects: he is giving sense to images caught randomly on camera. The narration was not recorded simultaneously with the images but later, as a kind of analysis of the raw material. It is not something that should have been suppressed by the editing, but that was added during montage.

Similar to the visual filter applied by Jonathon Kirk to the U.S. military video, this narration is an operation that does not come before, but after, the moment of filming, in order to rearrange the recorded footage. Not so long after it feigns omnipotent control over the whole world, the voiceover also pretends to be omniscient, describing facts that are not visible on the scene, such as the employment and the destination of the passers-by (“the dentist continues on his way to the bank”) and the context in which the images were captured (“[the restaurant] Steele’s is situated in an area with a high immigrant population, dominantly West-Indian and Greek”). In a crescendo of revelations, the disembodied voice ends up describing the location of its own recording: “I am shouting into a microphone on the edge of a field near Letchmore Heath, about 15 miles from the building you are looking at.”

The miles that separate the cinematographic setting from the place where the audio was recorded are traversed at the end of the movie, which cuts from the long-shot of the street to a view of the aforementioned field. This cut evokes one of the longest distances suppressed from the images of *The Girl Chewing Gum*: the one between filming and editing, which includes all of the asynchronous processes enacted during the production of the film. The last scene suggests how far from the setting the production of images must be taken.

However, the owner of the disembodied voice is not to be found even in this faraway place: all that is shown on the screen is an empty landscape. This is a reminder to the audience that they are watching a movie, and the filmmaker is still in control of what is shown. The disembodied “director” is not the real authority which is able to control the experience of the movie – he is just another character, another mediatic surface effect. Any revelation that happens on the screen is nothing more than a representation of a revelation – or an accident. Thus, no matter how much the awareness of the medium can be shifted, the surface resists, hiding away the most essential parts of the circuit. Perhaps this tension could be overcome if we were there, in the place of the director – but in that case, what would be left of cinematographic experience?

2.6. *Three Transitions* – The absent artist within the surface



Figure 6. 6: still frame from *Three Transitions*.

The authority suppressed in the gap between recording and processing images is also foregrounded in the following work, *Three Transitions* (USA, 1973, 3'). While *The Girl Chewing Gun* commented on what is abstracted between the filming and the release of a film, this piece by videoartist Peter Campus exposes what is hidden in the immediate situation of a video closed circuit.

As the title implies, the work consists of three exercises with video transition, exploring the possibilities of compositing images by means of modulating the electronic signal. In the first, Campus cuts through a yellow paper wall and passes through it. The scene is recorded simultaneously by one camera focus on his back and another on the opposite side of the wall, resulting in a superimposed image of both spaces. Thus, at the same time as he goes into the wall (and escapes the limits of the scene) it is as if he was passing through his own body and then came back to face the spectator. The second exercise resorts on chroma-keying, an operation that substitutes parts of the image of a particular colour by another image. This scene is a close-up of Campus's own face, which he systematically covers with coloured ink. As his skin disappears under the pigment, it becomes a sort of screen for another, pre-recorded image: that of his face again. The sequence finishes with him trying to match the contours of his face with those of the image incrustated in it. The last exercise is based on the same technique, with the opposite result: Campus, outside the frame, is holding a coloured paper that plays the role of the screen-within-the-screen – or better, of a mirror, in which his face can be seen. He sets fire to this surface; as the flames destroy the image, they also appear within it, revealing the synchronism between what is inside and what is outside the frame.

All of these sequences operate by the means of reversing the camera eye – but that is only possible thanks to the existence of another camera, as well as to an electronic system able to modulate their signals together. Hence, the images suggest an extra-frame space not only in the surroundings of the recorded setting, but also in the complex video apparatus. While the norm of film montage is the rough cut that brings separated scenes together, that of video editing basically consists of the modulation of the continuous electronic signal – a technological difference that also informs the adaptation of *Wavelength* into *WVLNT*. The making of a traditional cinematographic work, based on film, needs to be taken from the setting to the

photographic laboratory and then to the editing room – and even to the movie theatre, in order for the image to appear as it was meant to. Electronic technologies compress all of these architectures into devices that can be close-circuited in the same room, and hence monitored in real-time. All of the three transitions, inasmuch as they seem to have gone through some kind of posterior editing, were probably recorded as they appear on the screen. This mode of production can be inferred by Campus' fleeting gaze towards the extra-frame in the last two sequences, when he seems to be looking at an external video screen. He is probably monitoring the same images that would later constitute the work, so that his performance is properly adjusted to the arrangement between cameras. Thus the camera has not only recorded the images, but also informed the artist's performance, making the production of the piece already a heavily mediated experience. This illustrates Vilém Flusser's idea that the artist, the programmer of certain apparatus, is no more than a functionary of others, obliged to respond to their arrangement.

Hence, another important "revelation" of *Three Transitions* is the artist himself. Following the hint given in the voice-over narration in *The Girl Chewing Gum*, Peter Campus is the first authority truly to become present on the screen of *Denied Distance*. The whole piece is, after all, based on his body and its transformation into image (and, subsequently, into screen). In a way, this bodily presence also has to do with the particularities of electronic technologies, whose standardization brought audiovisual media closer to everyday life and to an immediate human scale. Among other effects, the portability of the camera and fluidity of the videographic image led to the popularization of audiovisual performance as an art genre. It is in this context that the appearance of Campus must be understood. Therefore, as he shows himself, he does so as a performer, and his authority over the work is dramatized and fully preserved by certain genre conventions that the public should be aware of. The difference between these conventions and those of traditional cinema is highlighted by the way *Three Transitions* was localized within the *Denied Distances* programme, between a film critical of its own making (in which the director insinuates his power, but never reveals his figure) and a performance critical of its own place (where the performer destroys the apparatus to present himself).

2.7. *Paper Landscape* – The present body through the dispositif



Figure 6. 7: presentation of *Paper Landscape*.

The appearance of the artist/filmmaker on the screen is further explored in *Paper Landscape* (United Kingdom, 1975, 10'), a work by Guy Sherwin which concluded the first *Denied Distances* session. Among all of the pieces presented so far, Sherwin's was the only one that exposed the literal thickness of the screen to the audience. In it the performance consists of the projection of a Super8 film onto a transparent cellophane screen. Sherwin is positioned behind the screen, and paints it white from the bottom to the top as the film is projected. His activity is simultaneous with the one executed in the movie, in which a much younger Sherwin is behind an opaque paper screen which occupies the whole frame. Sherwin's image slowly rips pieces from the screen's image from the bottom to the top, revealing himself and the landscape behind it as he does so. Hence, at the beginning of performance, the projection consists of pure white light cast over the artist. It seems that he is attempting to protect himself from the image, painting the physical screen precisely where the filmed screen is ripped off. Thus, every part of the landscape that is

revealed comes to rest upon this surface – as if in a form of analogue chroma-keying, in which further opacity creates transparency. When the screen image is completely ripped off, Sherwin’s image turns back and walks in the direction of the horizon, disappearing into the distance. Then, the real Sherwin cuts the physical screen with scissors, passes through it, walks towards the projector – his shadow interrupting more and more of the image – and shuts it down.

Setting limits for the projection to rest upon and become an image, Sherwin performs the arrangement of the conventional cinematographic apparatus, only to destroy it. The projected image and the screen, coming into being and progressively conflating into one and the same landscape, are finally ruined by the artist’s conclusive gesture. As Sherwin’s body comes to the surface, moving through the material limits of the cinematographic apparatus, it inevitably becomes a screen – the main recipient of the projector’s light and the central focus of audience attention. However, instead of being flattened within another frame (like Campus’ face in the video monitor), Sherwin’s body is free to move along the axis of projection. The artist thus approaches the source of light and, from the platform that allows the gaze to encounter the image, he is turned into a wall that prevents them from meeting each other. This last movement of the performance describes the modulation of one screen into another by its dislocation within the arrangement of apparatus. This simple (yet dramatic) reorganization takes the audience to the operational limits of the cinematographic circuit. In that sense, the act of concluding the performance by shutting down the projector should not be seen as symbolic, but as a real annihilation of the possibilities of cinema by cutting off the power.

Collaterally, *Paper Landscape* exposes another dimension of the circuit: its overall duration. Every surface is the result of a long series of ulterior processes and contingencies; thus the time of the *dispositif* cannot be reduced to the time of the experience. Without leaving cinema, it could be said that the screening of a super8 film abstracts not only its filming, editing and distribution, but also the whole chain of events that made these activities possible, such as the invention of that particular film gauge and its popular availability. Within the *dispositif*, one makes sense of part of these activities as the work of cinematographic production and part

as the history of the medium. These two rhythms, compressed into mediatic experience, are also flattened by the *release date* of the filmwork.

The release date is a fallacy that coincides with the final cut, punctuating a radical change in the meaning and value of the different operations involved in a *dispositif*. Once the work is released, it seems that all that follows are passive processes of reproduction and decay. However, as little importance as these dynamics might have to the coherence of the movie as a commodity, they actually inform the cinematographic experience through various means. These include not only the traces that circulation leaves in the movie's physical support, but also the architectural surplus sometimes needed to make up for the obsolescence of its principles of operation (such the installation of archaic projectors and tape decks or the emulation of old software systems). On a cultural level, the circulation of a work after its release also informs the audience (building up the understanding of the medium and expectations about the work), as well as cinematographic language (resonating in other works as a reference, model or parody).

The longer a work circulates in public, the more of the so-called medium underpinnings surface within its experience, revealing the movie as still being in process. Nonetheless, the gap between the release date and the exhibition date localizes the work in relation to the medium's history, organizing its experience in a way that suppresses such understanding. The physical traces and radical changes in the situation of consumption, which are evidences of the movie as a process of information, are excused as contingencies that have nothing to do with the operation of the medium. An old work is watched with a gaze strongly informed by its release date, which compensates for its original situation instead of highlighting what is necessary for the continuity between this past arrangement and the present conventions of cinematographic language and structure. Thus, by means of historical contextualization, the continuing dynamics of specification are also abstracted from experience.

Historical contextualization ends up normalizing *dispositifs* by turning them into examples quoted in textbooks, *clichés* whose cultural saturation exhausts all of their critical potential. A work such as *Wavelength* attempts to resist such a simplification

of its processes by means of its video version. Instead of being the definitive crystallization that crowns the cultural saturation of Snow's masterpiece, *WVLNT* is a derivative work that makes reference to this very process of technical translation. Just as the suppression of letters in the work's title alludes to the compression of its running time, its eccentric release date (1966-67/2003) points towards the accumulated duration of its production, which cannot be simply reduced to the mere digitization and editing of *Wavelength* into an audiovisual sandwich, but also includes the making of the original film and its continuous circulation throughout almost thirty years. This release date underscores the fact that the main cause of *WVLNT*'s existence is the cultural significance of the original work, coupled with the impossibility of detaching it from a certain context of consumption. Following this logic, one might ask why the work's date was not given as (1966-67/2003/2009), thus alluding to the moment of its screening as well. In fact, this absence marks the precise limit of *WVLNT*'s contours: as Snow's video piece, the work is also subject to a standard means of circulation that abstracts its production, allowing it to be contained within *Denied Distances*. Thus (1966-67/2003) stands for the period of the production of the work when it was under Snow's control, while (2009) stands for the moment of its exhibition.

In any case, the date of the screening is as insufficient as the date of release to give account of all of the different timeframes that operate in a given surface. Just as the processes that come together in a cinematographic experience started long before the release of the experienced work, they are not really concluded by its exhibition. *Paper Landscape* (a work dated 1975) demonstrates this fact not only because of its performative nature, which approximates the time of the work to that of its exhibition. The bare presence of Sherwin's real body, prevailing over its visual simulacrum, produces a vector pointing outwards from the work and of its exhibition – outwards from cinema itself. Confronting the forever-young Sherwin with its ageing double, the performance highlights the years that have passed not simply in the history of the medium, but also as a distance that separates the filmed activity from the present projection. The audience is led to reflect on how, without changing, the performance has changed throughout the ages, and imagine a time when the real Sherwin can no longer take the place of its image and the work can no longer be re-enacted. It is as if *Paper Landscape* counted its own duration; more than an

illustration of passing time, it becomes its result; more than pertaining to a certain year, it is the way this year pertains to the present – and to possible futures. Thus it suggests the bare life that goes on outside of the borders of the circuit.

3. Second programme: From the Depth of Projection to the Extensions of the City

Inasmuch as they depended upon or revealed certain hidden arrangements within the cinematographic circuit, most of the works shown in the first programme of *Denied Distances* were entirely compatible with a normal screening situation. After all, their meaningful surfaces practically superimpose upon the screen, an apparatus readily available in any movie theatre. All of the years between the production of *Wavelength* and its digitization – all of the kilometres between the river Mekong and wherever *Flatland* was edited – can easily fit within this thin amalgam of cloth and light, since they have been previously compressed onto the proper means of circulation. Even though these works might turn the screening space upside-down in the minds of the audience, they preserve the physical integrity of this place. The only work that truly disrupts its limits is *Paper Landscape*. By finally ripping off the screen, Guy Sherwin invades the space of the audience, affirming the public's presence along with that of his own body. Thus, this negative space of denied distances is made positive again.

The same disrupting movement is what makes it impossible to enact Sherwin's actual performance within *Denied Distances*. The original *Paper Landscape* demands some dimensions that are unavailable in the context of a conventional video exhibition; therefore, its participation had to be by means of audiovisual documentation alone. In order to allow the circulation of the performance, the video recording flattens its particular spatial organization as well as any contingencies of the original situation. As it compresses a three-dimensional arrangement into its two-dimensional image, the documentation inevitably fixes the duration of the work and the age gap between both Sherwins, thus normalizing its most critical arrangement. The recording process also incrusts into the surface interruptions such as the couple

of heads appearing in front of the screen; now that the time and place they occupied has been abstracted, these obstacles are forever fixed, covering part of the performance.

Due to their particular character, all of the works included in the second programme of the exhibition had to go through a similar transformation. Being forms of installation and performance, they operate on an architectural level that is impossible to construct in a conventional theatre situation. In fact, they destabilize the essential vector that organizes such space: the depth of projection. As mentioned before, this is also the fundamental distance that is suppressed from cinematographic experience. Projection can be considered the technique that truly inaugurates and defines the medium. Even though *kinesis* comes from the Greek word for *movement*, moving images were already popular by the time cinema as we know it appeared. What set the iconic Lumières' device apart from others was that it produced 1) enlarged moving images for 2) a mass audience. These two characteristics – one formal, the other economic – result from projection.

The acknowledgement of projection could raise audience awareness not only about the space of movie consumption, but also about the complex interplay of the temporal and spatial regimes being negotiated during a screening. Performances that engage with projection reveal the architectural demands with which the cinematographic apparatus leads the spectator to conform. They also recover the three-dimensionality of the place and set the image back to human scale and proportions – or at least, under human control. The fundamental incompatibility between these works and the conventional cinematographic apparatus results from the fact that they both operate in equivalent socio-technical structures – the former employing them as part of their form, the latter as architectural underpinnings. For that reason, the only way to present such works in a conventional video exhibition is by the means of their audiovisual documentation, which sadly abstracts part of their inherent arrangement – precisely the part that is most critical to the movie theatre situation.

3.1. 4'22" – Compressing the space of projection in the screen

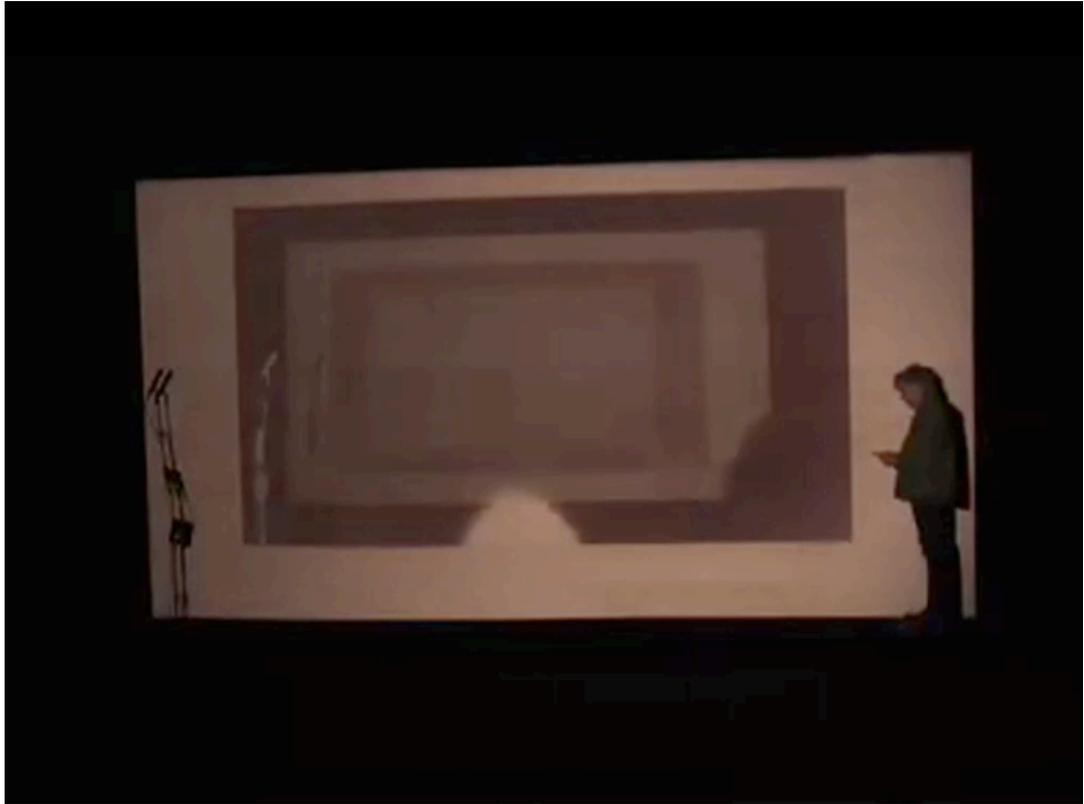


Figure 6. 8: still from 4'22".

The audiovisual documentation of performances or installations, and the differences it produces in such pieces, is the basis upon which William Raban created his 4'22" (United Kingdom, 2008, 4'30). In the same guise of *WVLNT*, 4'22 is an update of a classic expanded cinema work to contemporary cinema technology, foregrounding the movie's circulation across different technical underpinnings. In this case, the original piece is Raban's classic 2'45" (1975):

In this piece, a 16mm projector, not loaded with film, projects white light onto the screen, for the amount of time specified in the title. This was the standard length of a 100ft reel of film. The artist announces the piece from the front of the room, and a film camera next to the projector records the entire event, including the screen, and the audience, and any sounds they might make. The following evening the process is repeated, with the film shot the previous night (which has been rapidly developed) being projected, and so on. Every time the event occurs, the film shown is a record of every previous showing (Curham & Ihlein, 2007).

The visual outcome of this process is a fractal composition in which each screen/screening is contained within another, resulting in an image not dissimilar to the one produced by a video feedback loop. This fact is not surprising, since both kinds of image result from similar abstractions, produced under different technical conditions. In the particular structure employed by 2'45", the immediate circulation of the signal through a closed video circuit is expanded: the film is taken to a not-so-close photographic lab, developed, and then brought back to the screening room on the following day. These feedbacks produce a growing palimpsest of interruptions in the accumulated surface, including not only Raban's performance, but also the silhouettes and reactions of the filmed audience, which take the place of the initial light projection and the silence of the room. With each iteration of 2'45", the material contingencies become further incrustated in the image, making it more movie and less cinema. Older traces fade into noise and deformed shadows. The cornucopia of screens thus creates a measure of the distance "folded" between consecutive screenings thanks to the degradation of image quality and scale. The reference for this measure is Raban himself, occupying the unfolded space and time of the present projection when he announces the piece.

This series of screenings/performances resulted in a work that "begins and ends with the period of its own making" and "a film which IS its showing, different each time, always the sum total of its past screenings" (Raban, 2008). In that sense, there can be no exhibition of 2'45" outside of its original cycle of screenings. Thus 4'22" acts as a supplementary piece similar to *WVLNT*, made especially for *Expanded Cinema, The Live Record* seminar, which was held at the British Film Institute Southbank on 6th December 2008 (McIver, 2008). 4'22" re-enacts 2'45" using 35mm film reels, and respecting their specific duration (hence the name). The work went through five iterations in the week that preceded the BFI seminar, all performed in the same screening room where the event was going to be held (NFT 3). During the event, a final public screening/ performance of the piece was enacted. This performance was final not only because it concluded the specific cycle of screenings of the new work, but also because it resulted in a DVD version that has since then become the means through which 4'22" exists in other situations. This is the piece that was included in events such as *Denied Distances* and the *22nd International Documentary Film Festival Amsterdam* (19-29 November 2009). Thus, the most fundamental difference

between the new version and the original of Raban's performance is the persistence of this trace that allows its further circulation – the final difference that crystallizes the previous process of differentiation, and could be understood as a kind of subsistence of the original piece that simultaneously denies and contributes to its essence.

3.2. *Horror Film I* – Projected light from theatre to shadowplay

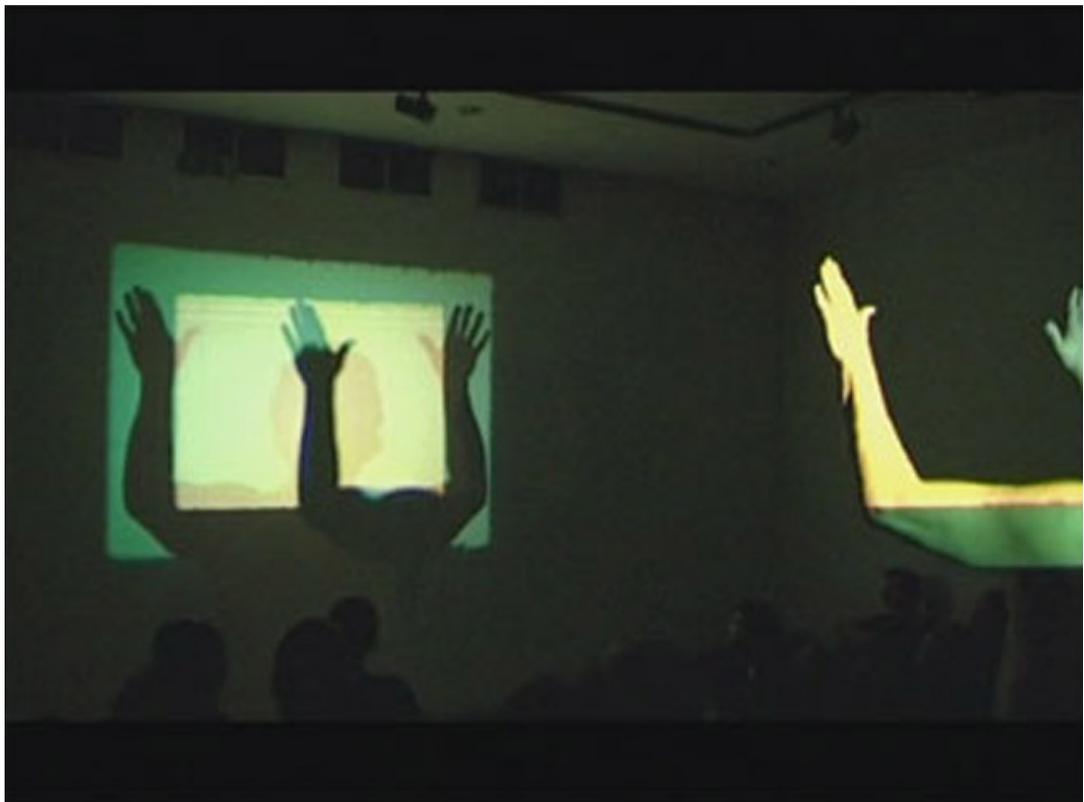


Figure 6. 9: presentation of *Horror Film I*.

The video recording of 4'22'' is particularly ambiguous not only because it simulates the gaze of a spectator in the audience but also because it repeats the procedure that generates the work in the first place. This is certainly not the case with the next documentation presented in *Denied Distances*: Malcolm Le Grice's performance *Horror Film I* (United Kingdom, 1971, 8'). This is an edited video that includes images from different presentations of the work, taken from different points of view, and resulting in a much more constructed (and, one could say, more comprehensive) representation of the piece's arrangement.

Horror Film I uses three 16mm projectors loaded with filmstrips of randomly-coloured frame sequences. The soundtrack is that of a storm, characteristic of the horror genre. The three machines all point towards the screen in a way that their projected lights coincide within the same frame. However, they are positioned at different angles in relation to that surface: one in central opposition and the others in slightly perpendicular orientations. The performance starts with Le Grice, entirely naked, close to the screen. In that position, his body is illuminated by the discontinuous lights as if he were an actor on stage. He executes slow movements with his arms and hands, which could be taken either as an exploration of the dimensions of the screen or as a description of the correspondence between that surface and the projected lights. Without interrupting this gesturing, the artist slowly moves away from the frame. As he takes a distance, the gap between the projectors becomes evident by the multiplication of his shadows and the growing difference between them. Thus the body drama is modulated into a complex shadowplay, exploring not only the height and width of the screen, but also the depth of projection under the stroboscopic rhythm of the coloured films.

As the title implies, the performance reduces horror film to its most basic elements: threatening silhouettes, ambient sounds and metamorphosis (which results from the shifting dimensions of an out-of-the-*plane* presence). Indeed, the most *horrific* part of the work is actually the de-humanization of the image, which occurs as Le Grice gets closer to the projectors. As his body exits the stage, the shadows it casts become increasingly different not only from one another, but also from the body they are a projection of. So, by dislocating his body from one point to the other, Malcolm's performance exposes the cinematographic image as being a result of the circulation of bodies; and visuals that can be radically different depending on where the artist (and the audience) is positioned. The situation is the contrary of the famous scene in *The Wizard of Oz* (Victor Fleming, 1939) in which the character Dorothy discovers the wizard behind the curtain (yet another kind of screen) controlling a spectacular mechanism within which he appears to be gigantic. From "behind the curtain," the image seems inevitably connected both to the body and to the projector. What produces the illusion of the autonomy of the image is the architectural arrangement

in which the image is presented: a spatial organization that hides the source of projection.

However, *Horror Film I* does not go as far as *Paper Landscape* in revealing the bare life that revolves around mediatic experiences. A work of (the horror) genre itself, it at most calls attention to the appearance of the image as a result of an architectural arrangement. Le Grice, with his actions ritualized as performance, is also congealed – part of the inhabitable surface. When the work begins, the body is already de-humanized: he is just a diagram, which researcher Duncan White has compared to Leonardo Da Vinci's *Vitruvian Man*.²⁴ The artist has even publicly declared, not without humour, that he is looking for someone to substitute for him in the performance, since he does not feel comfortable about doing it in his present physical shape. So the true metamorphosis of the body throughout the years is excluded from the arrangement. Both literally and metaphorically, the artist intends to exit the scene to subsist as pure image.

3.3. *You and I, Horizontal (III)* – The exploration of the space of projection

After the fractal compression of Raban's figure within the screen and the final escape of Le Grice's body through the space of projection, the logical sequence in the *Denied Distances* exhibition programme would be a work that took the public to opposite situations, presenting an arrangement either empty of human presence, or populated by the audience. An ideal piece to occupy this position would be Anthony McCall's inaugural "solid light film" *Line Describing a Cone* (USA, 1973):

The film is visible on the screen first as a white dot on a black ground. This dot grows into a line, which arcs around to form a circle. Over the duration of the film, all that is visible on the screen is the slow drawing of this circle. Meanwhile, between the screen and the projector, the beam of light is visible as a gradually growing cone, made visible as particles in the air are illuminated by the projector. For the viewer, therefore, there is no one point of focus: they can watch the growing circle on the screen, or the growing cone between screen and projector, or move their eyes between the two. More importantly, they can move their bodies: the

²⁴ Personal email exchange.

space is empty of any seating, and this means that the viewer can also decide to 'break' the cone by inserting themselves between the projector and the screen. This dimension of viewing becomes more intriguing when more than one viewer sees the work at the same time – as each person decides whether a particular kind of behaviour in the space will affect the other's experience (Godfrey & McCall, 2007).

McCall's minimalist animation reveals the abstraction that is at the basis of the cinematographic apparatus by inverting its logics. Physically, it is actually the cone (of projected light) that produces the line (on the screen). However, this arrangement is denied by the conventional cinematographic situation, in which the projector is isolated and kept out of sight, and all there is for the audience to see is the screen (and the image contained within it). Thus, the particular "materiality" of film projection stands for an already abstracted way of engaging with its physical structures. This abstraction only becomes apparent as the result of a mistake, when the audience unwillingly walks in front of the projection beam. McCall's piece throws the audience's attention back to the depth of projection by revealing the suppressed volume of projected light – whose formal qualities quickly become more interesting than the slow animated line on the screen. More than seeing projection, the public is allowed to explore and interact with its sculptural qualities, becoming engaged not only with the informed screen, but also with the very process that informs it.

The engagement proposed by *Line Describing a Cone* depends not only on its physical film, but also on a certain spatial configuration. If the piece were exhibited in a conventional theatre – with fixed seats and a clean atmosphere – it would certainly not produce the same surface effects. It is the absence of seats that frees the audience to drift amidst the screening space, making the placement of their bodies already something to be considered in terms of the particular experience of the work. Without fixed positions, the public is not driven to look away from the projector, neither to move out from the light beam. Thus, projection finds more obstacles than ever to reach its presumed goal, not only due to the insufficient architectural control, but also to the excess of particles in the air: the first screenings of *Line Describing a Cone* occurred in dusty loft spaces with a couple smokers in the audience, making these atmospheric residues natural; present day installations of the piece in aseptic gallery spaces must include a haze machine to rend the projection beam visible.

Given the visual focus on the light cone, one might wonder why the screen is still preserved in the piece's installation. I presume that the screen works as the reference that allows the characterization of projection both as a form in itself and as a process of information of another structure. If the screen did not exist, the projection would be reduced to a simple animated light sculpture, reducing its critical appeal. No tension would be produced by the shift of the audience's attention from the line to the cone (and back and forth again), because such trajectory would have no point of departure.



Figure 6. 10: installation of *You and I, Horizontal (III)*.

Hence, even if I had access to a 16mm projector, it would have made no sense to screen the original *Line Describing a Cone* during *Denied Distances*, because the particular architecture of the exhibition space did not allow the public to move or the projector beam to be perceived, invalidating the work's experience. The problem was that none of the available documentation of *Line Describing a Cone* seemed to illustrate properly the formal qualities and the mode of consumption of the work. The pieces I found were fixed camera recordings of the whole 30-minute projection, which ignored either the minimal animation on the screen or the projected light cone. One could say that they not even simulated the gaze of one spectator because, in

McCall's piece, such a gaze is not fixed in the same way as any of the documenting images were.

However, by a happy coincidence, McCall had just participated in another event at the same institution which was promoting *Denied Distances*. His installation *You and I, Horizontal (III)* (USA, 2007) was part of *Cinema Sim*, an exhibition taking place in the headquarters of Itaú Cultural in 2008. This work is a solid light film that operates under the same principle as *Line Describing a Cone*; it is part of a series that McCall has been undertaking since 2003, using digital video instead of celluloid film. A documentary was produced about *Cinema Sim* including a 3-minute long interview with McCall and images from the installation. This excerpt was the perfect documentation to be shown after that of *Horror Film I*, and not only because of its immediate availability. First of all, the interview was conducted *in* the installation, suggesting the high degree of freedom that exists for the occupation of the work's arrangement. In the movie, the artist talks about the concept behind the solid light films and the anxiety that led to the creation of *Line Describing a Cone* as a reaction to the pure recording of performance pieces. As McCall describes it *You and I* is shown through different angles, making the documentation the complete opposite of the ambiguous record of 4'22'': it is an obvious illustration of the work, fundamentally different from the "original" piece. The artist, whose presence is not even hinted at in the piece itself, appears as the authority to explain and give meaning to it. Just as it takes the public further from the experience of the original work, this kind of documentation gives them a better understanding of its total arrangement and even its original inspirations. This particular perspective over the work proved to be very adequate to the analytical scope of *Denied Distances*, presenting clearly to the audience what was absent from its immediate sight.

3.4. *Augmented Sculptures & Urban Installations* – The further crystallization of the space around projection

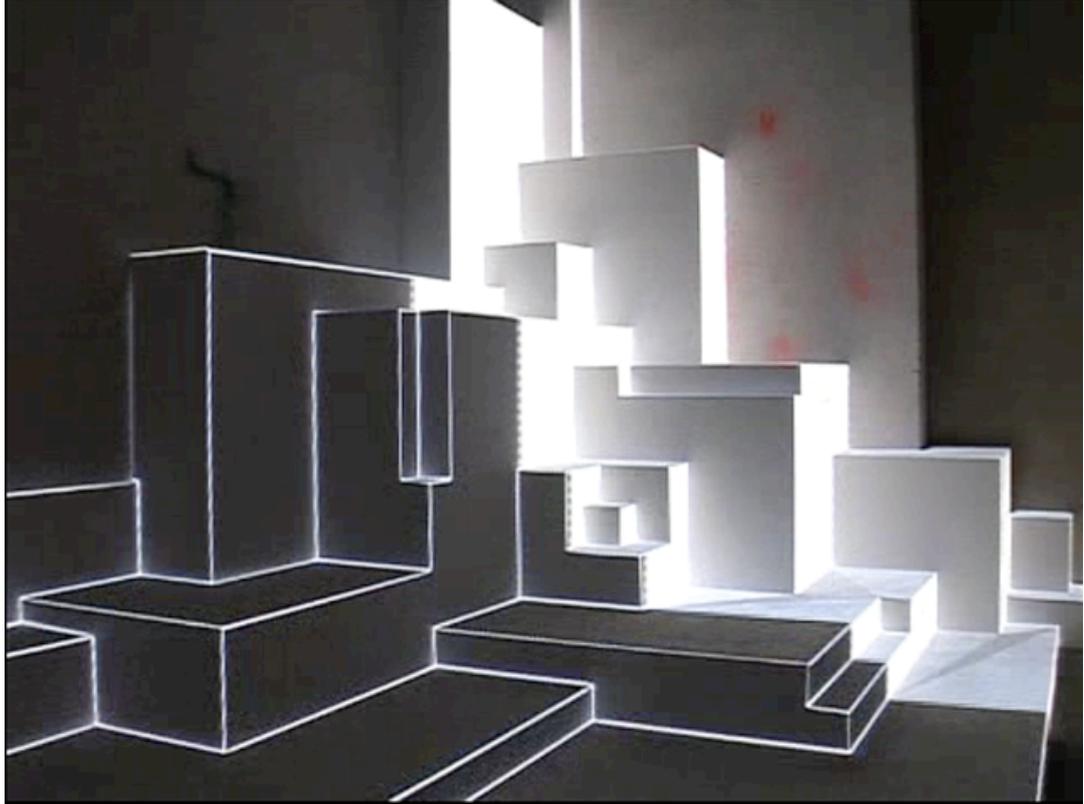


Figure 6. 11: still from the documentation of *Augmented Sculpture*.

A 30-year leap from one of McCall's work to another took the exhibition programme to the contemporary mediatic context. The next works to be presented were so-called new media pieces, which employ computer systems and digital information. Despite the technological changes that have occurred during these three decades, the architectural explorations of the pioneers of expanded cinema do not seem to have developed significantly. As the pieces demonstrate, new media artists continue the venture through the suppressed distances of the cinematographic circuit almost from where the pioneers had stopped. This fact suggests that the stability of the cinematographic space is preserved despite the complete reorganization of its material underpinnings and principles of operation.

Immediately after *You and I, Horizontal (III)*, the programme presented Pablo Valbuena's *Augmented Sculptures* (2007). This piece consists of a stack of

rectangular solids (which faintly evoke the model of a city skyline) that glow and change colour, as though they were illuminated from the inside. Although Valbuena's work is based on complex animations that depend not only on computer technology, but also of the mobility of video projectors, this installation seems to be a direct follow-up to McCall's work from the 70s. *Augmented Sculptures* continues the exploration of the depth of projection, but now extends it to the thicknesses of the screen. Contrary to what it seems to be, it employs just one fixed video source in a technique called *video mapping*. The projected light is adjusted to the three-dimensional surface of the sculpture so that the image is mapped onto its volume in such a way that it does not look distorted; on the contrary, from the angle it is projected, the image is perfectly adapted to the edges and faces of the solids.

Thus, although Valbuena's piece is called "sculpture" (i.e. an object), it is actually a video installation that depends on a very strict system of positions. To produce the appropriate illusion, the solids on which the light is projected must always be in the same arrangement, just as the projector must be positioned at the precise angle and distance that allows the image to coincide with their outlines. Additionally, the projected image has to be pre-deformed according to the aforementioned positions. This means that its process of production was heavily informed by the place in which the piece would later be exhibited. The dislocation of any of these elements would destroy the surface completely. In that sense, the occlusion of video projection is as important to the visual form of the piece as the shape of the solids that constitute it. Given the way *Augmented Sculptures* relates to the depth of projection, one could say that it is based on a further suppression of this distance. Its arrangement does not promote any deeper understanding of the circuit or of the technical processes involved in the mediation. The piece just occupies, in a very sophisticated way, the distance previously disclosed by works such as McCall's, establishing a conventional operation for the use of this space in favour of mediatic representation.

Not surprisingly, the generic title of Valbuena's piece implies the creation of a new genre of work. Just as its tight spatial organization is experienced as a mere shining object, the complex articulation of positions demanded by *Augmented Sculptures*

would be later reduced to a set of standard techniques.²⁵ In 2008, Valbuena would apply these same techniques in the series *Urban Installations*. These pieces expand the operations used in *Augmented Sculptures* to large-scale objects such as buildings and other urban structures, producing similar visual results. The documentation of two of these works was shown in *Denied Distances*. The first, *Entramado* (Spain, 2008), was set in Plaza de las Letras, a small square in Madrid. The square's floor and benches are subject to glowing effects similar to the augmented solids. The other installation, in the façade of the City Hall in The Hague (Netherlands, 2008), is even more impressive. The projection creates a series of moving *trompe l'oeil*, giving the impression that the whole building is being physically transformed: walls intrude and extrude; holes open and appendices burst from the building's smooth surfaces.



Figure 6. 12 (left): view of *Urban Installation* at Plaza de las Letras.
Figure 6. 13 (right): view of *Urban Installation* at The Hague.

The formal and informational strategies inaugurated by *Augmented Sculptures* are thus crowned in the *Urban Installations*. However, their final consolidation is done in a much more inconspicuous way through the role Valbuena assumed as one of the artists who led the workshop *Light, Space, and Perception*, organized by the

²⁵ In doing so, Valbuena's piece contributes to a crystallization of the circuit not dissimilar to the one perpetrated by McCall himself, when he transformed the solid light films into a series. As McCall became focused on the exploration of the particularities of its automatism, it further depurated and specified it, as well as its visual results.

Medialab Prado in 2009 (the same institution that produced the Plaza de las Letras installation). The aim of the workshop was specifically to address and produce works for media façades. Thus, more than an example, the renowned artist becomes a teacher: an authority who passes his techniques on, directly informing other people's forthcoming works.

From McCall's *Line Describing a Cone* to Valbuena's *Urban Installations*, the audience is taken from the first half of *Denied Distances* to the second. This sequence marks the transition between pieces that focus on the *depth of projection* to those that explore the *extensions of the city*. Before continuing with the analysis of individual works, I should make some remarks about this particular moment of the exhibition. As mentioned earlier, the Mostravideo programmes normally comprise four screenings, but *Denied Distances* had to be abbreviated to only three, and these topics became compressed into one session. The reduction was initially brought about by unexpected time constraints: one of the movie theatres in which the exhibition was to be held did not have sufficient available slots. This meant that one day of screenings had to be omitted, and the different topics had to be reorganized. The way this reorganization was done was strategic, having the intention to show how every dispositif arranges the medium both inwards (in projection spaces) and outwards (in the surrounding urban environment).

3.5. GRL: *The Complete First Season* – Dispositives as a negotiation of privacies

The work of Pablo Valbuena took the projection mechanism outside of cinema, installing it in different settings of the urban space. This dislocation revealed how the interstices between the theatre and the city are also full of socio-technical processes constitutive to the cinematographic circuit. The position of the screening venues within a wider territory is at least as important in determining the quality of the cinematographic experience as is their architecture. The borders between public and private spaces are essential for the existence of cinema as such: the public movie theatre (for consumption) stands in opposition to the private setting (of production), concealing invisible spaces such as the editing room and the projection booth. A *dispositif*, as this territorialisation of privacies, reflects not only the organizational

logic of the cinematographic industry, but that of society as well. One must not forget that the practice of moviegoing depends on how movie theatres are installed in the semi-private territory of the city, and its evolution is closely tied to the evolution of urban space and technologies. As Anne Friedberg argues, it is impossible to understand the emergence of the multiplex cinema and its viewing regime without considering the previous existence of the shopping mall and the automobile (1993: 111).

The transportation of cinematographic practices to “open” spaces challenges not only their conventional architectures, but also the logic of the urban space, allowing for the dismantling of apparatus and their rearrangement in more fluid forms. Although this critical operation is not promoted by Valbuena’s *Urban Installations*, which must hide its mechanisms of projection from the public, it is the basis of some politically engaged pieces such as those of the Graffiti Research Lab (GRL). Their work was represented in *Denied Distances* by the feature documentary *GRL: The Complete First Season* (USA, 2008, 51’), which tells the story of the group and compiles a series of videos of their first projects.

The Graffiti Research Lab is constituted by independent “cells” localized all over the world, but the core of the group was formed by the New York-based artists Evan Roth and James Powderly, who started their partnership during a residence at the Eyebeam media lab in 2006. The main interest of the GRL is in creating free and open source tools for urban communication – and, as the name implies, it is mostly inspired by the unauthorized practices and culture of graffiti writers and activists. One among their best-known tools is the *L.A.S.E.R. Tag* system, which I will now proceed to analyse.

The function of the *L.A.S.E.R. Tag* is pretty self-explanatory: it allows the users to scribble (or “tag,” in proper graffiti lingo) different urban structures by employing a cheap laser pointer. This amazing effect is the result of a reactive light projection, which covers the entire targeted surface. At the beginning, the projection is entirely blank; a camera, positioned on the top of the video projector, captures the laser pointer and, through computer processing, lights pixels at its exact position. Thus, it is as if the laser pointer was scribbling on the buildings. Of course, this apparently

simple effect is the result of a heavy underlying structure: not only the paired camera and video projector, but also the computer system that processes and generates visual data, not to mention the portable generators that power all of these equipments. This assemblage is packed in a vehicle that can move freely around town, allowing this “installation” to be mounted virtually anywhere – especially where it is not allowed, just as graffiti is meant to be.



Figure 6. 14: still from *GRL: The Complete First Season*.

The comparison of the *L.A.S.E.R. Tag* system with Valbuena’s *Urban Installations* – which are authorized pieces of public art – illustrates a correspondence between the degree of organization of a *dispositif* and the complexity of the effects it allows (understood in terms of a “semiotic refinement”). Different from an installation like the one in the City Hall of The Hague, the *L.A.S.E.R. Tag* system must be mobile in order to invade places where it is not permitted. Thus the particular surface upon which it will be projected cannot be anticipated, making it unreasonable (if not impossible) to expect from it a formal sophistication similar to those of the *trompe l’oeil* of Valbuena’s piece. Suiting any building façade, the uncertain shapes of

graffiti are really the most adequate (if not probable) visual results for such a loose arrangement of apparatus.

It is important to note that both Valbuena's and the GRL's pieces employ fundamentally the same equipments – which are also similar to the ones used in any digital video screening. By themselves, these “new” technologies do not disrupt any mediatic norm. They can be – and in fact largely are – used to emulate the conventional cinematographic apparatus. What is “digital cinema” to the industry, if not the localization of computer black-boxes within long-established modes of cinematographic consumption and production? In that sense, just as digital cinema supplements cinema, Valbuena's pieces depart from it, establishing new conventions in relation to the old ones. While these two dislocations suppress the distances they create and result from, *L.A.S.E.R. Tag* affirms such distances by inverting a fundamental operation of cinema: it allows the public to project.

Posing as a portable tool instead of an art piece (or a new mediatic standard), *L.A.S.E.R. Tag* is experienced less as the effect of an arrangement than as the starting point for new ones. Similar to *Line Describing a Cone*, it allows the public to explore the processes of information that result in a given image. Nonetheless, what this *dispositif* discloses is not the operational logic of the equipment it employs, but the infrastructure of the urban space and the protocols for its mediatic organization – the dynamics of authorization that regulate the audiovisual occupation of the city. Posing the naïve question of why an advertisement is allowed on the streets but graffiti is not, the GRL expresses deeper anxieties about what constitutes the public sphere and how it comes together. These concerns could be projected into more general political debates (concerning the laws that regulate the use of public electromagnetic spectrum) or in questioning the ways in which civil policies limit one's cinematographic activity (as the spectators entertain the possibility of using their own domestic equipment to put on screenings in the city space).

From a cynical perspective, one could argue that “analogue” graffiti plays this critical role much better than the work of the GRL. Moreover, the possibilities of dislocation explored by *L.A.S.E.R. Tag* seem already to be contained in their underlying technology, being in fact restricted by the particular programming of the

tool. What then is the purpose of organizing portable generators and video projectors in such an extravagant assembly? Possibly, the same purpose that drives the design of any apparatus: abstracting the dynamics of information in order to organize them as mediatic operations, narrowing the possibilities of technique in favour of better controlled effects. By specifying a conventional mode of engagement to the joint arrangement of mechanisms, this process also contributes to the technical concretization of the whole. Thus mediatic abstraction and the crystallization of apparatus seem to correspond to one another.

Given the topic of *Denied Distances*, it is relevant to comment about how every revolutionary tool can be co-opted by a conventional logic, and it was no different with the *L.A.S.E.R. Tag*. The history of GRL's work demonstrates that even the most disruptive *dispositifs* end up being somehow crystallized. While the group employed some strategies to resist the normalization of *L.A.S.E.R. Tag* (like promoting the piece as a tool and opening its source code), the circulation of the project through venues like new media art festivals (such as *FILE 2008*, where I first had direct contact with it) inevitably informed its public meaning and value, popularizing it as a trendy media gimmick. It did not take long before *L.A.S.E.R. Tag* and similar digital graffiti techniques started to be employed by advertisement agencies in promotional campaigns, notwithstanding the way in which the GRL actively fought against these practices.

In *The Complete First Season*, there is a particularly illustrative scene in which a mobile advertisement unit happens to be projecting some *Perrier* promotional videos onto a wall next to the GRL headquarters. Since this sort of activity is not covered by any law (unlike, for example, the placement of advertising hoardings), this kind of operation circumvents the expected norms for the visual occupation of urban space. Since it is not technically illegal, there is no conventional way to contain it by an appeal to the civil authorities. Annoyed by the advertisement, the GRL crew had no better option than to attack it in the most direct way: by using their own equipment to project *over* the *Perrier* videos, so visually destroying them. They began by defacing the professional-looking *Perrier*'s motion graphics using *L.A.S.E.R. Tag* scribbling. Since this was not sufficiently disruptive, they used the crudest visuals possible: a word processor screen, on which they wrote in huge black letters: "stay

off our wall” (along with some cursing). Against this (very physical) assault, which symbolically exposed the computer system normally hidden within digital graffiti, the advertisers were obliged to yield. Just as no authority restricted their use of the public space, there was no one who could defend their activity either.

Another way in which the GRL could have resisted this commercial subversion of their subversive ideals would have been to copyright or trademark their tools beforehand. However, this solution would not be very consistent with the group’s methods. The GRL seem to be aware about how specification within a legal apparatus contributes to the normalization of any dispositif, thus exhausting its critical potential. As they declare in the documentary: “Graffiti is illegal. We don’t wanna see it legalized. [...] Let’s make advertisement illegal also.” Thus, they suggest that the only way to overthrow the dynamics of authorization that regulate the circuit is to give up on one’s own authority in the first place, as it emanates from the same institutional source. For them, it is not a matter of what is legal or not: it is the very constitution of law and the way it constrains the uses of public space and media technology that is at issue. Taken to its furthest extent, one might wonder what this anti-legal approach could provoke when it comes to the organization of the established media and everyday life – or, in terms of the concerns in this thesis: if there were no laws to suppress the potential of emerging technologies, would the conventional organization of cinema be maintained?

3.6. Relational Architecture – Rearranging apparatus in urban space

Besides the authorization actually to occupy a place, works that make use of the city space must sometimes negotiate the use of physical infrastructure such as public or private sources of power, architectural support and Internet connection. Since the territory is not always prepared to accommodate the technologies employed, such facilities might not be readily available. This adaptation of the environment was not an issue for the (self-contained and essentially mobile) *L.A.S.E.R. Tag* system, but one can clearly see its importance in Valbuena’s installation at The Hague City Hall. The piece depends on a specific place to hold the projection mechanism for several days, both fixed and secure from weather conditions and random vandalism. It also

needs electricity to power this equipment. Luckily, these minimal requirements could be provided by any building with a privileged view of the city hall. Of course, if no building were available or accessible, a temporary construction would have to be made. This fact demonstrates how Valbuena's piece depends on a higher commitment to the immediate urban structures than the GRL's work.



Figure 6. 15: promotional picture of *Vectorial Elevation*.

Nevertheless, whether it existed or not, the structure necessary for The Hague installation would be nothing compared to the complex arrangements needed for Rafael Lozano-Hemmer's *Relational Architecture* series. Lozano-Hemmer's pieces demand so much infrastructure and logistics that they cannot be done without strong support from the civil authorities, resulting in institutional commitments that suit very well the declared purpose of the series: "large-scale interactive events that transform *emblematic* buildings through new technological interfaces" (Lozano-Hemmer, 2000) (italics mine). For instance, the first installation of *Vectorial Elevation* (Mexico, 2000) was commissioned by the Mexican National Council for Culture and the Arts for the official millennium celebrations. The most recent one (Canada, 2010) was part of the cultural programme of the Winter Olympics in Vancouver.

In the audiovisual documentation exhibited during *Denied Distances*, it was possible to see that, notwithstanding their monumental scale, Lozano-Hemmer's pieces combine simple computer interaction with some basic principles of light projection. *Vectorial Elevation*, for instance, is made by a set of 18 robotic searchlights located around a public square. The movement of these searchlights can be programmed by means of an open web interface, resulting in huge ephemeral light sculptures that can be seen from a long distance away. In that sense, it is another piece that engages the public in the information of an established arrangement, allowing it so see how this process results in different visual effects. However, this interaction was not limited to the physical structure of a single mechanism (as in *Line Describing a Cone*) or to the operation of a technical assembly (such as in *L.A.S.E.R. Tag*). The *dispositif* of *Vectorial Elevation* permeates large-scale infrastructures and protocols also occupied by other urban services, calling attention to the way that digital computer networks overlay the city. Even though there is no obvious "screen" to hold the projected lights, the piece depends on the establishment of rigid references for the processes of information it entails: within, the position of one beam in relation to the others; without, both the project's website and the public square – surfaces that inform and are informed by the movement of the searchlights. The experience of the audience varies based on where they are positioned within this complex arrangement.

These same socio-technical layers of the circuit are articulated by *Body Movies*, another work of the Relational Architecture series presented during *Denied Distances*. Similar to *Vectorial Elevation*, this piece has a strong institutional background: it was first installed in Rotterdam in 2001 as part of the city celebrations when it was the Cultural Capital of Europe. However, situating differing modes of experience on a more immediate scale, *Body Movies* makes evident the processes of feedback it involves, promoting a more organic occupation of the mediatic space. Its video documentation narrates this as follows:

The piece entails projection onto the façade of the Pathé Cinema, which is 9m long by 22m tall. Projectors with robotic scrollers are placed on two high towers facing the building, to show over one thousand portraits taken on the streets of Rotterdam, Madrid, Mexico and Montreal. However, the portraits are completely washed out by bright light coming from two 7,000 watts xenon lamp sources placed at ground level. As soon as people walk on the square, their shadows are projected, and the

portraits are revealed within them. People can match or embody a portrait by walking around the square and changing the scale of their shadow. A camera-based tracking system monitors the location of the shadows; when the shadows match all of the portraits in a given scene, the control computer changes the scene to a new set of portraits.

It is very symbolic that the first installation of *Body Movies* was *outside* a movie theatre. The opposition between the interior and exterior of this architecture supposedly marks the physical limits of cinematographic experience. Outside of this controlled environment, Lozano-Hemmer's piece is able to express the polarity between movie and cinema as stated by Hollis Frampton – cinema being the empty light projection, and movies being its controlled interruption (1983: 194). This work does so by separating the modes of projection by means of the use of two different sets of equipment, each one of which was situated in a specific position that restricted the kind of engagement the public was able to have with it. Thus it proposes a kind of game to the audience – that is, a specific mode of operation: stay in the correct positions, without interrupting the apparatus any more than is necessary, and you will be shown high-definition visual *clichés*. As soon as the precise configuration is attained, the system will reset and this exploration can start anew.

The piece's pattern of operation is pretty descriptive of how the normal cinematographic apparatus work. In that sense, if it favoured positive video projection, *Body Movies* would be no more than a self-contained exploration of its own interface – a black-box that exhausts its own programming. The movement of the public would thus be reduced to a simple performance of mediatic tension: a process of information pre-determined so as to inform another (the light projection) until both attain a final, stable arrangement.

However, both visually and conceptually, *Body Movies* takes the stand of the negative shadow projection. Lozano-Hemmer's civic agenda plays an important role in this fact. The piece was mainly inspired by the work of a 17th century artist born in Rotterdam, Samuel van Hoogstraten, who was famous for his peep show boxes and visual tricks with anamorphosis and *trompe l'oeil*. According to Lozano-Hemmer, the idea of *Body Movies* came specifically from one of Hoogstraten's

engravings called *The Shadow Dance* (1675), which portrays a number people in front of a single light source. Their differing distances from this point reflect the different sizes of their projected shadows, which go from normal to gigantic (Antimodular Research, 2010).



Figure 6. 16: promotional picture of *Body Movies*.

Even without this background information, the predisposition of *Body Movies* as a shadowplay arena could be guessed at by the way in which the public occupies it. The localization of xenon projectors at ground level creates an intersection between two flows: the normal circulation of passers-by in the square in front of the movie theatre and the projection of light beams onto its façade. Naturally one flow interrupts the other, producing a plethora of shadows. The piece is thus activated in a way similar to *Line Describing a Cone*, with the public taking account of its own position within the arrangement after seeing the transformation of its surface effects – the difference being that *Body Movies* does not have to disrupt any specific architecture in order to move the public out of its crystallized behaviour. *Body Movies* naturally interrupts the everyday drifting through the urban space by including this drifting within its arrangement. This allows mediatic experience to

occur in a much more organic rhythm: a simple stroll across the square generates the particular tension of the work, leading to its exploration.

As people's silhouettes interrupt one another, the public starts dramatizing their relations by means of shadowplay. It is as if, abstracted in the two-dimensional surface, there was no means for people to avoid the company of strangers. Bodies merge and invade one another, obliging their owners to redefine their outlines. Nevertheless, these mediatic subjects do not become de-humanized illusions, in the guise of *Horror Film I* (or traditional cinema, in general). By privileging negative projection, *Body Movies* seems to entail a collective and self-reflexive spectacle that mimics the very process of the constitution of a public sphere, to which the positive image projection becomes just a pale reference. In the words of one of the passers-bys who was interviewed for the work's documentation, "everybody is together but separate," allowing "a real special kind of communication." Is this "special communication" anything but the negotiation of the uses and experiences of a medial space?

Hence, just as the first session of *Denied Distances* went from a mechanical eye that overlooks human activity (*Wavelength*) to a living body that obliterates its own image (*Paper Landscape*), the second started with the recursive compression of an authority figure within the screen (4'22") and ended with the expansion of public space through projection (*Relational Architectures*). This summary should make explicit that the order in which the works were shown in *Denied Distances* also creates particular trajectories. Sitting through the whole video exhibition until this moment, one would find a dramatic sequence of examples that seems to privilege human activity over machine perception and public negotiations of meaning and value over fixed regimes of authority. Nevertheless, this libertarian "narrative" comes at a price: it can only be inferred from the fixed position of the cinematographic spectator – in other words, it is conveyed through the most authoritative and mechanical arrangement of cinematographic apparatus.

4. Third programme: The Density of the Circuit

The final session of *Denied Distances* dealt with the whole arrangement of the cinematographic circuit, addressing how possible it is to reorganize it by the means of any particular *dispositif*. In that sense, it portrayed the circuit as inherently resilient. The flexibility of this macrostructure would be limited by its *density*, a measure of how firmly the processes it comprises are coherent to one another – or, in other words, how concrete the medium is as a technical entity. The circuit must be dense enough to allow the flow of information, but not so much so that it obstructs its passage. Hence density can be considered as a way to interpret the medium's impedance according to the particular diagram of spatial scales of *Denied Distances*. The denser the circuit, the more consistent are the practices it fosters, and the more autonomous seem its elements.

The exhibition's final screening could have comprised works that operate or call attention to wider processes of circulation, showing how these processes surface in particular aspects of cinematographic experience. In that sense, one piece that could have been presented is Paik's *Zen for Film*, along with any other work dealing with live satellite transmission previously mentioned in this thesis. The visual results of such pieces were certainly different to each one of the million viewers who watched their broadcast, particularly due to unexpected variations of the electronic signal provoked by elements such as distance, natural topologies and antenna qualities – not to mention the differences between the viewers' TV sets and the ways in which they were installed. These factors would have caused uncontrolled degrees of interference to the final image.

Alternatively, the session could have presented works that illustrate or refer to the organization of the circuit's macrostructure, and another piece that had been considered was Richard Serra and Carlota Fay Schoolman's *Television Delivers People* (USA, 1973), which comments on the commercial logic of TV stations. This piece is made of a white text that scrolls slowly over a blue background, followed by a trite muzak soundtrack. From the outset, the text proposes an inversion of the conventional understanding of mass media, in which the public assumes the position

of consumers. It states: “The Product of Television, Commercial Television, is the Audience.” It then proceeds to describe the existence of another position within the circuit, occupied by the *real* consumer, and it reveals to the audience how their role is subject to this other one: “you are delivered to the advertiser who is the customer.” Therefore the work suggests that the organization of the medium is entirely relational: just as the programmer of an apparatus is necessarily the functionary of another, the consumer can be just a product, depending on how his or her engagement with the structure of the medium is framed.

4.1. *Pirated Copy* – A fictional ethnography of the pirate audience

Between the two thematic possibilities outlined above, I initially opted to focus on the second: an illustration of the contemporary dynamics of movie circulation. This option seemed more relevant to the pedagogic approach of *Denied Distances*, as well as to its objective of informing the public. In that sense, movie piracy seemed to be the most interesting subject to explore, as it is the most obvious symptom of the reorganization of the cinematographic circuit brought about by digital technologies, rearranging the economic, aesthetic and affective dimensions of movie consumption all at once.

The work originally chosen for the final screening was the feature *Pirated Copy* (*Man Yan*, China, 2004, 89’), by Chinese director He Jianjun. This movie depicts the story of different people involved in the pirate DVD market in China – from street sellers involved in organized crime to ordinary consumers, such as an unemployed man obsessed with violent movies and a university teacher looking for Pedro Almodóvar’s films to screen in her lectures. It is interesting to note that the movie’s visual aesthetic and its freedom in dealing with the topic of piracy both partially result from the technology adopted in its production. The film was recorded in DV format, which not only contributed to the documentary-like photography, but also allowed for a certain flexibility in its process of production, making it largely independent from the standard facilities used by filmmakers in China. According to film critic Jay Weissberg, this was one of the reasons why *Pirated Copy* was able to bypass the censorship of the Chinese government (2004).

The feature sets its tone in the very first scene, in which an illegal disc seller tries to attract a potential buyer. The dealer indiscriminately offers “an art flick,” *The Bourne Identity*, *Hero* and some other titles, presenting these movies – which would normally be considered completely different mediatic objects – as interchangeable commodities of equal value. Thus the film illustrates a primary effect of piracy: by taking movies out of their authorized means of circulation, piracy strips them down to their most banal materiality. At the same time, when they are moved outside from the cinematographic conventions, movies seem to become exempted from its aspects of specificity and are transformed into moving images largely unprotected from the most general understanding. This is shown in another scene of *Pirated Copy*, in which a police officer accuses a detained seller of dealing pornography because he was in possession of Nagisa Oshima’s *In the Realm of the Senses* (France/ Japan, 1976) – to which the seller reasonably argues: “It’s a film about human nature. It’s art.” This tension exists because the identity of the movie (either as a transgression or as piece of art) is not self-evident in the sexual images it depicts; it depends on conventions supported by the setting in which it is framed. In an art house theatre, the aesthetic value of *In the Realm of the Senses* would be promoted by the context. In the unauthorized seller’s possession, this value cannot be guaranteed; hence, the images become subject to a purely legal scrutiny.

However, this does not mean that the unauthorized engagement of the public with movies is necessarily uninformed, rudimentary or superficial. On the contrary, what *Pirate Copy* shows is that, even deprived of their conventional meaning and value (or maybe because of it), movies can be the object of intense mediatic experiences. Even outside of the theatre context, people use them to project deep affective anxieties and take action: the character of the unemployed man, fantasizing after viewing Quentin Tarantino’s *Pulp Fiction* (1994), is first inspired to commit a robbery, then to try and prevent a rape. Movies are also means for people to get in contact with each other and establish complex social relations: in order to get access to movies, the university teacher begins a sexual affair with her film dealer.

Portraying these socio-cultural aspects of movie distribution, *Pirated Copy* seemed an appropriate piece to wrap up the programme of *Denied Distances*. Referring to

the “distances” that the spectators occupy in their everyday life, the movie demonstrated that the effects of piracy go beyond sheer copyright definitions, and affect both the constitution and experience of cinema. In order to arrange the screening, I had to get in touch with the film producer’s Zhu Rikun. Due to the language barrier, the contact was made through Professor Chris Berry, researcher on Chinese cinema and teacher at Goldsmiths College. Berry had mentioned that it would be difficult for Zhu Rikun to ship a DVD of the movie from China because of the restrictive customs’ policies, and kindly offered to lend his own copy. In any case, it would not be difficult to get hold of the actual movie: ironically, it can be easily found in p2p networks, already subtitled in English.

However, more important than getting physical access to the work was to get Zhu’s authorization for the screening. A week before the programme had to be finalized, the Itaú Cultural Institute sent me an email stating that the Chinese producer had still not signed the contract. The language barrier meant they could not communicate with Zhu directly and, as trivial as it might seem, this fact prevented *Pirated Copy* from being included in *Denied Distances*. Thus I urgently needed to find an alternative to complete the exhibition programme.

4.2. *Steal This Film* – The experience of film distribution

The tight deadline would make it very difficult to find a substitute for *Pirated Copy* through the usual means, since it normally takes a considerable time to negotiate exhibition rights and make arrangement for the transportation of movie copies. I was therefore forced to look in rather *unconventional* channels – and I was able find the perfect solution in the two parts of *Steal this Film* (The League of Noble Peers, 2006-2007). This pair of Swedish documentaries also deals with the subject of movie piracy. Besides the thematic coincidence, the documentaries together were about the same length as *Pirated Copy*. Therefore, they could take the place of the Chinese feature in the exhibition both in terms of “content” and “form,” so as to speak. However, these were not the only reasons that made them the perfect last-minute substitutes for *Pirated Copy*. More important was their availability.

Produced by anti-copyright activists, *Steal this Film* can easily be found on the Internet, and its unauthorized distribution and exhibition is even promoted on the official website. As is stated on the project's Frequently Asked Questions (FAQ) page:

Q. I want to show [*Steal this Film*] (1 or 2) at my film festival: can you send me a DVD / Beta Tape / Laserdisc / VHS / 12" record...

A. We'd really, really, rather not. It's not that we don't respect your festival, and we WOULD love it if you show the film, and it's not that we think we're special, and we really appreciate your attention. It's just that we don't have an office, and we don't have a Beta deck, and you CAN just download the film from our site and it is IS HD quality and really, isn't it TIME you learned how to use Bittorrent anyway? (The League of Noble Peers, 2007).

This answer evokes the changes brought about in the conditions of movie circulation by p2p filesharing. With digital computer networks, filmmakers no longer need to possess expensive physical structures in order to copy and distribute their work, since they can count on the activity (and equipment) of the audience itself. Taking that into account, the FAQ reveals the mode of distribution of *Steal this Film* to be part of a larger pedagogical agenda, aimed at introducing the public to this new technical dynamic.

At the same time, by requesting the audience to “learn how to use BitTorrent,” the filmmakers propose an engagement with the work that goes beyond its passive viewing in any given situation. In that sense, *Steal this Film* seems to be framed not by specific conditions of viewing, but by those of *access*. One could say that the movie was not made for theatrical screenings nor to be simply watched on a computer: it is *a movie to be downloaded*. Its primary mode of consumption necessarily involves acquiring the movie file from the Internet – and not from a centralized server, but by the means of peer-to-peer transfer. This activity, as minimal as it seems, draws the public into the technical underpinnings of the medium, making the experience of the work inseparable from the practice of its distribution.

Given the way *Steal this Film* depends on different forms of appropriation by the audience, the only thing that might seem contradictory is that the movie has been

released under normal copyright. This form of licensing restricts public access to the work, making it illegal even to copy and distribute it on the Internet without the express authorization of the original authors. However, the filmmakers do not seem to have done this with the intention of constraining the circulation of the movie. In fact, this apparent legal conflict seems essential to the sort of critical engagement with media technology they seek to promote. The reason is also explained in the FAQ, in the very first question:

Q. Why is your film copyrighted?

A. So that you can steal it. Of course there's more to say about this, but we're sure you can figure it out (ibid).

In other words, copyright is the condition for the provocation in the title of the movie to be possible: *steal this film*. It is this challenge that foregrounds the seemingly passive process of *downloading the movie* as an active operation that contests the traditional organization of the cinematographic medium. Therefore, *Steal This Film* manages to pose its first questions even before the first scene. In order to watch the movie, the audience is obliged to break the law, engaging with piracy in a much more committed way than if they were just listening to some specialists talking about the subject. Falling for the trick of the filmmakers, the networked spectators are turned into something more than their collaborators; they become their accomplices. As the FAQ suggests, this legal dilemma should lead the public to some critical reflection.

Informing its circulation according to modes of distribution proper of Internet filesharing, *Steal This Film* could easily be included in *Denied Distances*. The filmmakers promptly answered my emails, posing no contractual problems to the Itaú Cultural Institute. Moreover, subtitles in Portuguese (done by the Internet audience) were already available, allowing the film to be exhibited without the organizers having to engage in this very time-consuming task. In fact, *Steal this Film* seemed so appropriate for *Denied Distances* that it might be wondered why it was not my first choice, instead of the hard-to-get *Pirated Copy*.

The reason for preferring *Pirated Copy* over *Steal This Film* became clear once the movie was actually screened. In a conventional theatrical situation, in which it is

deprived of the online apparatus that allows it to “provoke” the audience, *Steal this Film* loses a great deal of its critical potential. As a mere video documentary, it is a very conventional one, which only discusses movie piracy in terms of the present debate about copyright. Even though it deals with the economic, political and technical dimensions of the issue, it does so by means of interviews with supposed authorities on the subject. The actual effect of piracy on the life of ordinary moviegoers and on the experience of the medium, so well illustrated by *Pirated Copy*'s fictional ethnography, is nowhere to be seen. In other words, although it promotes critical forms of engagement with media technology, in a conventional cinematographic situation, *Steal This Film* becomes more conservative than a melodramatic feature like *Pirated Copy*.

Conclusion

The *Denied Distances* exhibition gathered pieces that individually challenge the conventional limits of cinema – either by revealing its materiality, expanding its apparatus or subverting its parameters. All of these artworks are germane to this thesis because they comply with one of its primary research objectives: foregrounding the socio-technical processes that constitute the medium's normal operations. By bringing these pieces together, the exhibition provided a broad outline of the many layers that are involved in the organization of the different cinematographic apparatus. From each of the programmes, it is possible to grasp certain aspects of the circuit that would otherwise go unnoticed.

In *The Thickness of the Screen*, the public was led to see the movie not simply as a self-evident, two-dimensional moving form. The movie appeared as a material trace, calling attention not to the image it presents, but to the different factors that have produced it. Among these factors, the most important seem to be those that are pre-programmed in the apparatus, simultaneously allowing and establishing the limits of visual inscription – such as the optical zoom of the camera (employed in *WVLNT*) and the pixel matrix of its electronic sensor (revealed by *A Man. A Road. A River.*). However, these programmes do not constitute definitive boundaries for movie

production. The captured image can be radically altered as it is transported from one apparatus to another – which can simply mean the movement from the camera to the editing station (as in *Flatland*), but it could also entail a complete change of channels of distribution (as in *I've Got a Guy Running*). In all of these shifts, there is a constant negotiation between the operations of the public and those of apparatus, which can occur in a variety of rhythms and scales. In *The Girl Chewing Gum*, this negotiation was extended for long distances and seems to have taken considerable time; in *Three Transitions*, it was entirely resolved in a momentary situation, which compressed filming and editing, production and postproduction, director and apparatus, embodiment and representation. Despite the technologies employed, all of these processes seem to culminate in the spatial circumstances of image consumption (also foregrounded by *WVLNT*) and in the very structure of the screen. However, not even this physical threshold seems to constitute an essential limit for the movie, as *Paper Landscape* demonstrates.

From the screen, the audience was taken to the situated operation of the projection mechanism. Observing *The Depth of Projection*, the first thing that becomes clear is that the many factors that result in a movie are not completely anterior to its exhibition. By creating a fractal accumulation of its own screenings, *4'22"* stresses that the image exists in its space of consumption and depends above all on the immediate arrangement of apparatus; if this arrangement is not preserved, the projection might be ruined. The performance of *Horror Film I*, on the other hand, shows that the interruption of the movie might represent the underpinnings of a different art form, exemplifying how one medium can be contained within another. By employing the same procedure in a gallery installation, where the audience is free to move while the image loops, *You and I, Horizontal (III)* shows that the experience of the cinematographic work is informed not only by the localization of devices, but also by the relative position of the public. This position responds to the possibilities of the exhibition space, and is bound to its norms. Nonetheless, inasmuch as they shape one another, there does not seem to be a deterministic connection between public behaviour, the configuration of architecture and technological infrastructure. For instance, although *Augmented Sculptures* uses the gallery space and employs computer-generated images, it requests the public to be as contemplative as it would

in a theatre – and for obvious reasons: the interruption of projection would completely destroy its formal consistency.

The situation of media architectures within a larger environment is thrown into relief as the same exhibition programme moves onto *The Extensions of the City*. Cinema is thus shown to be inseparable from the urban space, with its particular apparatus bounded to the surroundings that provide the necessary infrastructure for their operation – such as physical shelter, energy and a means of connection to other media and socio-technical fields. This interface between inside and outside seems to shape the possibilities of arrangement of apparatus, as well as, indirectly, the dimensions of a movie. The rupture of this layering entails a complete reorganization of conventional apparatus. On the one hand, this reorganization allows for abnormal modes of engagement with cinema technology, such as GRL's interactive mobile projections. However, in such situations, any cinematographic operation seems to require extra procedures and commitments to make up for the infrastructure that has been lost – as in the example of *Body Movies*, in which simple shadowplay becomes monumental and demands proper authorization and equipment in order to be set up.

Finally, what comes through in the programme about *The Density of the Circuit* is that there are no pre-existing rules about how the layers of the circuit should be organized. *Steal this Film* shows that neither law nor technology holds the absolute truth about cinema. These fields are in constant conflict, trying to cope with each other's definition of the medium. Moreover, the documentary demonstrates that the polarization between movie and apparatus is not under the total control of specific agents – such as the filmmakers, camera engineers or lawyers. On the contrary, this polarization is subordinated to the whole public of the medium, including the spectators. *Steal this Film*'s proposed mode of distribution, which requests the audience to engage with BitTorrent technology and break copyright law, foregrounds this distributed agency. Thus, the eminently heterogeneous and collective ontology of cinema is reaffirmed.

Altogether, *Denied Distances* revealed how medial ideology restricts the engagement with technology. By referring to the making of the exhibition, I hope to have demonstrated how the normalization of technologies is not done outside of the

cinematographic circuit, but is carried within the medium, through the most disparate elements, at the most diverse levels, from the screen and its surroundings, extending in one direction up to the global platforms of film distribution, and in another, down to the inner workings of every device employed in movie production and consumption.

In their original releases, pieces such as GRL's *L.A.S.E.R. Tag* and Guy Sherwin's *Paper Landscape* indeed embodied radical critiques to the medial illusions of technological neutrality and autonomous representation. Either by wholeheartedly appropriating the possibilities of new technologies or by employing them to reframe the meaning and value of old mediatic devices, these pieces allowed for unprecedented modes of engagement with all that is or could be called cinema. Thus, they disrupted the conventional separation between movies and cinematographic apparatus, putting forth the question of their boundaries.

Nonetheless, the participation of these works in *Denied Distances* may lead us to wonder how far their criticism actually goes. After all, being included in the exhibition, these pieces seem to comply with the most conventional cinematographic situation – the highest symbol of the mediatic norms that they have been originally against. In other words, it seems that these pieces have been turned into technologically neutral, autonomous representations themselves. From a critical mode of engagement with media technology, they become canonical mediatic objects, commodities that can be arranged in the structure of the exhibition simply by conforming to standard means of circulation.

In that sense, the actual situation of the works in the exhibition is also interesting for the argument of this thesis, as it shows that the changes provoked by technological development or creative appropriation do not necessarily constitute the definitive downfall of the medium. With time, new devices and processes are firmly localized within or without the cinematographic circuit, becoming either crystallized as part of its normal practices and apparatus, or isolated in supplementary media, or in expanded fields. Thus, the specificities of the medium are preserved.

It seems that practices that deviate from conventional cinematographic operations can only return to the medium by conforming to standard means of circulation – in other words, by becoming movies. It was probably in attention to this fact that William Raban recorded 4'22" also with a video camera, preparing his work for a wide circulation beyond the initial performance. Adopting the opposite attitude, Michael Snow refused to create a proper video edit of *Wavelength*, making instead the baroque *WVLNT*. By exaggeration, the new piece foregrounds the fact that no video version is a neutral container but a way of suppressing the differences between distinct situations of audiovisual consumption – an interesting corollary to the original film, which called attention to the inherent singularity of each cinematographic screening.

Inasmuch as the works were transformed as they were arranged within the exhibition, this does not imply that *Denied Distances* operated as an all-powerful apparatus of framing and organization. By paying attention to the actual making of event – not only *what it was*, but also *what it was not* and *what it should have been* – , one could see that there is no place for autonomy in the reality of the medium. Essentially, the exhibition was not constituted as a thing-in-itself, but as an arrangement of the participating works – a negotiated intersection of their particular trajectories of circulation. This negotiation depended upon external circumstances which defined *Denied Distances'* mode of operation and discursive possibilities. It was the sheer lack of space in one of the exhibition venues that caused the compression of two of the screenings sessions into one. Also, it was simply due to the lack of formal authorization from the filmmaker that *Pirated Copy* was prevented from being in the exhibition programme, despite the physical availability of the piece. On the other hand, just as the context of the event posed limitations, it also created opportunities. It was because the Itaú Cultural Institute had organized an earlier exhibition about expanded cinema that it was possible to include in *Denied Distances* a still unreleased documentation of Anthony McCall's work, with an exclusive interview with the artist. If the exhibition had been produced by any other organization, or even in an independent way, this would have not been possible.

In this light, it is clear how dependent *Denied Distances'* actual meaning and value were on its commitments to physical limitations and institutional realities. The

exhibition indeed entailed a high-impedance situation – one in which the structure of the apparatus, the position of the public and the identity of the works were clearly defined and controlled. However, at the same time, *Denied Distances* was as much a result of contingencies as the precarious Cine Falcatrua. In fact, perusing the making of the exhibition, another thing that can be perceived is how its organization relied on low-impedance structures, and could not be completely isolated from them. The foremost example of this interdependence is the last-minute inclusion of *Steal this Film*: the documentaries could easily be absorbed by the institutional framework precisely because they ignored cinema's traditional modes of authorization, which made their online distribution manageable by anyone. Moreover, it should not be forgotten that the reason I was invited to curate a Mostravideo exhibition was probably due to my previous involvement with the pirate Cine Falcatrua, which gave me a certain authority on the subject. This means that, in a certain sense, what ultimately made *Denied Distances* possible was the low-impedance practice of the film society. Thus, one can see how high and low-impedance situations do not simply oppose and follow one another in a dialectical cycle. They coexist in continuous temporal and spatial feedbacks, accounting for the medium's simultaneous specificity and heterogeneity.

Finally, it should be emphasized how such insights about the socio-technical definition of cinema are gained because I do not take either its apparatus or the movies for granted, as self-evident elements that exist a priori, in autonomous isolation. On the contrary, I have tried to perceive how these elements result from their positions within the circuit, in a given relational arrangement. This was accomplished by considering the circumstances of *Denied Distances* as a *dispositif* – in other words, a complex situation that is not the mere consequence of the medial illusions of technological neutrality and autonomous representation, but also part of their continuing negotiation.

Conclusion

A movie that is mistaken for a malfunction in the video projector; a student film society able to compete with the official distributing companies; an exhibition of works that expose the structural underpinnings of cinema as poetic operations; the making of a PhD thesis: all of these things are consequences of contemporary changes in cinema technology. Although not all of them may seem to be a direct effect of the digitisation of apparatus, they nevertheless result from the continuous development of the medium. Traditional film studies, marked by the conviction that the movie is autonomous and the apparatus is technologically neutral, make it hard to detect how the aforementioned situations relate and contribute to the inherent heterogeneity of cinema. In this thesis I have proposed a framework for understanding the complexities behind the reciprocal organization of media and technology.

The first part of the thesis put forth a series of concepts that allow for analysis of the overall arrangement of cinematographic apparatus based on the idea of *movie circulation*. Movie circulation corresponds to the sum of all of the processes of storage and transmission through which a particular movie exists and manifests itself. These processes I refer to as *projections*. The totality of projections of each and every movie accounts for the cinematographic circuit. It is by means of circulation that apparatus connect to one another and in so doing they establish the medium's conventional aspects of specificity. In that sense, the processes of circulation would also entail cinema's *continuing specification*, which defines the medium in relation to others. The idea of *impedance* was introduced to address the existing correspondence between the degree of specification of a mediatic situation and how much technical variation it allows.

Based on the premise of circulation, the dichotomy between the concepts of movie and apparatus was supplemented with the analytical pair *surface-dispositif*. Surface stands for the interplay of presences experienced during an engagement with media technology, separating the meaningful part of cinema from the structural one, and

also from what seems to be mere eventual contingencies. *Dispositif*, on the other hand, is an attempt to grasp all of the processes that come together in a given surface, particularly those that differ from the conventional organization of the circuit. These concepts help to shed light on the way different circumstances either depart from or reinforce the conventional arrangement of apparatus and the separation between media.

Furthermore, in this thesis it has been demonstrated that the conventional understanding of cinema is an aspect of its specificity, and its paradigm changes are attached to the technical transformation of the medium. According to this perspective, any effect of cinema technology also constitutes a dispute about the organization of the medium, about what would be its meaningful strategies and about where its development should lead. Such is the case when the projectionist conceals the visual artefacts that *a knife all blade* foregrounds; or when the law dismisses the expansion of cinematographic practices proposed by Cine Falcatrúa as copyright infringement; or even when *Denied Distances* contains movies that try to escape the conventional cinema situation on a theatre screen. Inconspicuously, all of these circumstances promote a certain rationale of the cinematographic organization of apparatus, and thus contribute to the definition of the medium's technology.

Assuming that academic research represents a no less active engagement with the cinematographic circuit, the second part of the thesis suggested employing self-reflexivity as a method to reveal the antagonisms involved in the transformation of the medium. Such a proposal motivated a study of projections that, by recognising the participation of theory in processes of circulation, aimed at mobilizing the concepts previously defined in the actual making of cinema. Thus I have committed my own practice to this thesis, organizing the *Denied Distances* exhibition as a means of analysis that manifests the inherent connection between the understanding and the crystallization of the medium. In doing so my intention was not to establish an alternative paradigm for the study of cinema, but to promote ways of escaping from paradigms. The exhibition employs the theoretical framework in such a way that it has no meaning or value without the situated engagement of the public. This "materialization" of theory is done to prevent the straightforward abstraction (and ensuing normalization) of concepts.

Performing research by the means of projections is a tentative strategy designed to break down the separation between cinema as a creative field and the academic disciplines that analyse it. In that sense, the conceptual framework that results from the present research should not be replicated as-is, since to do so would institute this separation anew. In fact, the main principle that emerges from the content of this thesis is that the attachment to firmly established epistemological paradigms makes it difficult to follow the ever-changing nature of the medium.

The cinematographic circuit seems to mutate faster than our ways of understanding of the medium. This is especially true when it comes to academic disciplines. Cinema studies have barely absorbed the obsolescence of film, and the DVDs that have partially contributed to it are already following a similar fate, since developments in movie circulation seem to point towards cloud computing. The cloud is a network model characterized by the massive storage and/or processing of users' data in remote servers, which become accessible by means of an all-pervasive wireless connection. In other words, cloud computing takes digital objects and computer-based media completely online, further promoting the illusion of their immateriality. What is behind this illusion is the progressive suppression of the awareness of circulation, whereas in fact the medium gets even more committed to its technical underpinnings.

Besides the evident questions the cloud model raises about the ownership of movies and cinematographic apparatus, it also represents a radical change in their mutual organization. In the cloud, the physical support, the means of circulation and the principles of operation of cinema seem to merge completely, further embedding the movie in its apparatus of distribution. More than ever, circulation seems to be the guiding principle for the analysis of media. Nevertheless, the complex architecture entailed by cloud computing, composed of growing meshes of wireless hotspots and highly controlled server farms, constitute an object even more obscure than hard drives or satellites. In such an environment, socio-technical processes are too many and too intricate to be scrutinized as mere projections. It becomes necessary to come up with new allegories and tactics in order to sensitize research to the dynamic constitution of the medium.

While the traditional discipline of cinema studies have not taken these emerging structures sufficiently into account, creative practices are already bringing them to the surface of mediatic experience. An example of a project that materializes speculations about this ever-connected “browser-defined reality” is Julian Oliver and Danja Vasiliev’s *Newstweek* (2011). This is a small device whose building instructions can be found online. Installed near public wireless hotspots, it affects the data that they transmit, changing the texts and images of news websites accessed in the area. Oliver has stated that “the most desirable outcome” of the project is to promote awareness of mediation, getting people to “[look] around them and [think] that what is happening in their browser may have been tweaked” (Bucher, 2011). A self-proclaimed “critical engineer,” Oliver describes his practice as “taking the language of engineering [...] as a language for rich, critical inquiry [...], taking it away from this kind of black box reality, of big companies making stuff for civilians” (ibid). Thus, he means to disclose the biased character of media by promoting another form of engagement with its supposedly neutral technology. Similar *détournements* of scientific invention could be a way to delve into the cloud and maintain a closer examination of the developments of the cinematographic circuit – devices that would awaken the public to the processes of circulation in which they are embedded, and especially to the antagonisms involved in these processes.

Nonetheless, despite Oliver’s description of his work, the place where *Newstweek* is normally promoted is not among the hard sciences, but in galleries. The project circulates as an artwork, and even received a prestigious Ars Electronica prize in 2011. The fact that this piece of “critical engineering” fits almost naturally in the art world partly echoes what happened to Cine Falcatrua. While Cine Falcatrua’s practice was being normalized thanks to support given by the Ministry of Culture to digital film societies, the group’s activity was expelled out of cinema and into museum exhibitions. In these two situations, elements that mean to expand conventional disciplines and operations come to exist unabridged within the art world, where their circulation does not cause any disturbance.

The art circuit seems to be constituted in such a way that allows for infinite reconfigurations. This particularity might be explained according to Joseph Kosuth's statement that, after Duchamp, art exists only conceptually, being free from any specific morphology (1969). In that sense, any work of art *is* a valid "*definition of art*" (ibid: 844), entailing a particular separation between artworks and their apparatus in which the work itself comes to exist. Due to its malleable arrangement, the art world seems to have been promoted to a sort of regulating gap between specific fields of creation and partial praxes of society – a common distance denied from every other circuit.

Does this mean that art gives practices the necessary space to flourish before they can be stabilized within a medium? Or that it isolates these practices, neutralizing them completely? Or both? Whatever the answer, it must be noted that, inasmuch as any work is able to redefine art anew, there is no work that seems able to cause the slightest disturbance to the art circuit. This indicates another direction in which this research could be taken, departing from the examination of a particular medium to a more general investigation about the nature of circuits. Together with the appropriation of hard science, the incalculable metamorphosis of art seems to offer a horizon broad enough to suit the ever-changing processes of media circulation. Taking into account the transformations of its field, the study of cinema should be in continuous transformation as well. Instead of confining itself to the enclosures of a specific discipline – as all-encompassing as its methods and subject matters may be – this study should keep oscillating between the extremes of scientific criticism and art practice, engaging with them as the circumstances demand. A new, living body of research might emerge from this essentially interdisciplinary modulation – one able to expose the arrangements not only of the apparatus that exist, but also of all those that can be and, just important, those that could have been.

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Appendix:

List of Websites and Online Works

Addictive TV Videos - <http://www.addictive.com/videos>
a knife all blade - <http://vimeo.com/638280>
And Then There Was Salsa (documentation) - <http://vimeo.com/14301686>
Apple Mac Music Video - <http://www.youtube.com/watch?v=6kxDxLAjkO8>
aPpRoPiRaTe! - <http://www.popmodernism.org/appropriate>
Body Movies (documentation) - <http://www.lozano-hemmer.com/video/bodymovies.html>
Cafuné - <http://www.overmundo.com.br/overblog/cafune-na-rede>
César Migliorin's Youtube Channel - <http://www.youtube.com/user/Migliorin>
Chairlift – “Evident Utensil” Music Video - <http://vimeo.com/3139412>
Cine Falcatrua's fotolog - <http://www.fotolog.com/cinefalcatrua>
Download Finished - <http://www.download-finished.com/>
FanEdit - <http://www.fanedit.org>
Fotolog - <http://www.fotolog.com>
iTunes Store - <http://www.apple.com/itunes>
Kanye West - Welcome to Heartbreak ft. Kid Cudi -
<http://www.youtube.com/watch?v=wMH0e8kIZtE>
Light, Space, and Perception - Workshop/working group - http://medialab-prado.es/article/luz_espacio_y_percepcion_
lonelygirl15 - <http://www.youtube.com/user/lonelygirl15>
Orkut - <http://www.orkut.com>
Pioneer One - <http://vodo.net/pioneerone>
Rain Networks - <http://www.rain.com.br/>
Steal This Film - <http://www.stealthisfilm.com/Part2/>
The Pirate Bay - <http://www.thepiratebay.org>
The Yes Men Fix the World - <http://vodo.net/yesmen>
Tunnel - <http://www.thetunnelmovie.net/>
Ubu Web - <http://www.ubu.com>

Vectorial Elevation Mexico - <http://www.alzado.net/eintro.html>

Vectorial Elevation Vancouver - <http://www.vectorialvancouver.net/>

Venetian Snares - Szamár Madár - <http://vimeo.com/1715318>

Vimeo - <http://www.vimeo.com>

wavelength (1967) - <http://www.youtube.com/watch?v=lzPwuP6AmCk>

William Hung- She Bangs - <http://www.youtube.com/watch?v=9RrLQUN8UJg>

YouTube - <http://www.vimeo.com>