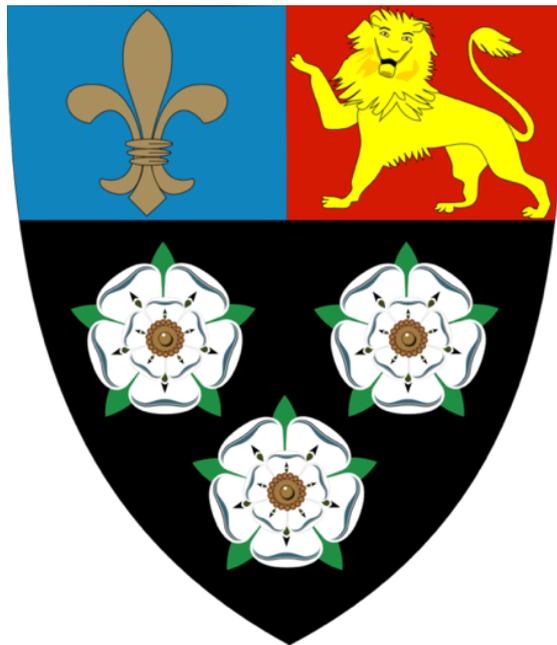


**Anticipatory Realism:
Constructions of Futures and Regimes of Prediction
in Contemporary Post-cinematic Art**

Rafael K. Dernbach



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Summary

This thesis examines strategies of anticipation in contemporary post-cinematic art. In the Introduction and the first chapter, I make the case for anticipation as a cultural technique for the construction of and adjustment to future scenarios. This framing allows analysis of constructions of futures as culturally and media-historically specific operations. Via anticipation, constructions of futures become addressable as embedded in specific performative and material economies: as regimes of prediction. The hypothesis is that cultural techniques of anticipation do not only serve to construct particular future scenarios, but also futurity, the very condition for the construction of futures. Drawing upon the philosophical works of, in particular, Vilem Flusser, Jacques Derrida and Elena Esposito, and the theory of cultural techniques, I conceptualize anticipation through the analysis of post-cinematic strategies. I argue that post-cinematic art is particularly apt for the conceptualization of anticipation. The self-reflexive multi-media interventions of post-cinematic art can expose the realisms that govern regimes of prediction.

Three cultural techniques of anticipation and their use as artistic strategies in post-cinematic art are theorized: enactment, soft montage and rendering. Each of these techniques is examined in its construction of futures through performative and material operations in art gallery spaces. The second chapter examines strategies of enactment in post-cinematic installations by Neil Beloufa. My readings of *Kempinski* (2007), *The Analyst, the Researcher, the Screenwriter, the CGI tech and the Lawyer* (2011), *World Domination* (2012) and *Data for Desire* (2014) propose that enactment allows for an engagement with futures beyond extrapolation. With Karen Barad's theory of agential realism, the construction of futures becomes graspable as a political process in opposition to a mere prolonging of the present into the future. The third chapter focuses on the strategy of soft montage in works by Harun Farocki. I interpret Farocki's application of soft montage in the exhibition *Serious Games I-IV* (2009-2010) as a critical engagement with anticipatory forms of organizing power and distributing precarity. His work series *Parallel I-IV* (2012-2014) is then analyzed as a speculation on the future of image production technologies and their role in constructing futures. The final chapter analyses the self-referential use of computer-generated renderings in works by Hito Steyerl. The installations *How Not To Be Seen* (2013), *Liquidity Inc.* (2014), *The Tower* (2015) and *ExtraSpaceCraft* (2016) are read as interventions in the performative economies of contemporary image production. I argue that these works allow us to grasp the reality-producing and futurity-producing effects of rendering as anticipatory cultural technique.

My thesis aims to contribute to the discussions on a 'turn towards the future' in contemporary philosophy and cultural criticism. My research thus focuses on the following set of questions. What can we learn about the operations of future construction through encounters with post-cinematic art? How are futures and future construction framed in such art? What realisms do future constructions rely on? And how can anticipation as a cultural technique be politicized and democratized?

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Introduction

Wäre nichts Neues,
so würde nichts Altes.¹

Meister Eckhart

If it weren't for the new, nothing would grow
old. / It is the new that renders the old.³

Sieht nicht alles so aus, als hätten wir selbst
die Gesetze kodifiziert, sie dann projiziert,
um sie mittels Offenbarung und Entdeckung
wieder zurückzuholen?²

Vilem Flusser

Doesn't it all look like it was we ourselves
who codified the laws [of nature], then
projected them, only to retrieve them again
via revelation and exploration?⁴

What does the future hold? This old question as to what is yet to come has moved people of all times. From the divinations of oracles to prophetic texts, from prognostic models to science fictions, the attempts to find answers have materialized in countless objects and techniques. Questioning the future can take the form of an escape, and yet, it always occurs from a present. Not for nothing were visitors of the famous Oracle of Delphi welcomed by the inscription: 'know thyself' (γνῶθι σεαυτόν, gnōthi seauton).⁵ Does it not point to the inextricable entanglement between the questioning of the future and those asking it? 'What does the future hold?' is a privileged question and a question of privilege; a question policed by many religious and political systems. It emerges from a desire to know or even to control what is yet to come. A question of power is implied in its very grammatical configuration: a future holding, or withholding what is yet to come, is a future with agency. Thus, 'What does the future hold?' asks questions of a not-yet that is held until its eventual release. The idea of an agential future, revealing or occulting, withholding or releasing events, reaches from ancient mythology to our contemporary day.

A slogan of the Alfred Herrhausen Gesellschaft, the academic forum of the investment bank Deutsche Bank, provides an example of this view: 'Looking for traces of the future in the present'.⁶

¹ Meister Eckhart, *Mystische Schriften*, 177.

² Flusser, *Vom Subjekt zum Objekt*, 10.

³ Translation by the author.

⁴ Translation by the author.

⁵ Pausanias, 10.24.

⁶ The full slogan is 'Spuren der Zukunft in der Gegenwart entdecken' See Alfred Herrhausen Gesellschaft, 'Leitbild'.

This ambivalent slogan was one of the points of departure for this dissertation. The slogan not only implies an agential future, it also – not least through its institutional context – hints at a particular form of organizing power: governing through affording a state of affairs with a future, or more precisely, through framing it as carrying traces of the future.

Certainly, the capacity to frame something as a 'trace of the future' is powerful. It allows the determination of paths of action and the allocation of resources. Pre-emptively or anticipatorily exercised power often works in covert ways. Its affording or depriving something or someone of a future need not necessarily be felt in the present. And yet, the construction and distribution of futures organizes yet-to-come precarity and yet-to-come privilege. In this dissertation, we will call this process of constructing futures: anticipation. Anticipation operates symbolically and institutionally, through expectations and prospects, through fears and hopes. What all of its appearances share is that they emerge from a future-orientation that affects and effects the present. The first epigraph, from Meister Eckhart, points to such a causality of anticipation that – against our intuition – reaches back from the future into the present. 'If it weren't for the new, nothing would grow old' or indeed 'the new renders the old'. Both translations point to an agency of 'what is yet to come' bearing upon 'what is' and 'what has been'. The second epigraph, from Vilem Flusser, points to such an anticipatory causality, too, and radicalizes the first: it is not just that 'the new renders the old', but our own new projects and projections trace a trajectory that is always already known to us.

The strategy of the investment bank's slogan likewise implies such an agency of anticipation acting upon the present. The future has already passed or been active in the present. Although not directly accessible, its 'traces' can be found and interpreted. The strategy of the slogan is to frame the present as bygone, as something upon which the future acts. Its assumptions recall what Fredric Jameson describes as the characteristic strategy of science fiction:

I would argue, however, that the most characteristic SF does not seriously attempt to imagine the "real" future of our social system. Rather, its multiple mock futures serve the quite different function of transforming our own present into the determinate past of something yet to come.⁷

As in science fiction, the slogan frames the present as past – as subject to an agential future. Not only does this point us to one of the core operations of 'affording something with future', we also see how this logic assumes that the present in its totality is uncontrollable. It has to be declared as 'past' to become governable. Another quite similar quotation – or slogan – was also present from

⁷ Jameson, *Archaeologies of the Future*, 288.

the start of writing this dissertation: ‘the future is already here, it is just not evenly distributed’.⁸ This phrase became a common saying on the Internet and is often attributed to the cyberpunk author William Gibson. Again, the future here is described as something that has passed (already here) and is acting upon the present (distributing itself). Certainly, Gibson’s statement is a provocation, raising questions on the ownership of technology and cultural practices: what are the conditions for producing and distributing future? Who has the right and the capacity to influence and negotiate them? And how does such distribution of a future occur? How can we think of it as a construction taking place? How is something framed as a future or having a future?

In response to these questions, this dissertation aims to address the agency of futures as one of media and infrastructures. If we assume that media format and construct what can be known, then they also construct what can be anticipated and thus constructed as futures. The terms media and infrastructures here refer not only to the mass media of the nineteenth and twentieth centuries, but to any chain of ontic operations that formats and enables anticipation: a classic science fiction narrative is embraced here as much as a weather forecasting system, a horoscope as much as a disaster prevention plan. The quest for knowing the future and knowing one’s place in it has also always been a question of technology. In more or less sophisticated ways, media technologies and cultural practices have constructed or interpreted traces of what is yet to come. Rather than just predicting a future event or scenario, it is argued here that media of anticipation produce futurity – the very condition of possibility to conceive of something as future.

In a world that is increasingly organized through media for the prediction of future states and scenarios, the question as to the agency of such anticipatory media not only gains importance but is increasingly also a question of power. In this thesis, I am interested in the contemporary constructions of futures: what are the ontic operations that determine our anticipations and expectations regarding what is yet to come? How can we imagine causalities departing from and entangled with such anticipatory media? And what is their particular agency in the present? If the principle of media philosophy is the insight that media format what we can think, then a media philosophy of anticipation takes as its ground the question of how media format what we can and cannot construct as futures. The re-interpretation of this question also entails asking about the politics of anticipation and its organization into what is called here regimes of prediction.

Approaching anticipation as formatted by media also allows us to conceptualize a particular realism that organizes the construction of futures. Anticipatory media operate under, and at the same time contribute to, such an anticipatory realism that differentiates between the realm of expectation (or the not-yet) and the realm of imagination (that which is thinkable). In order to

⁸ Gibson, ‘The Science in Science Fiction: Interview with William Gibson’.

conceptualize the particular agency of anticipation as a mediated process, it will be introduced as a cultural technique. This definition allows us to address the particular agency of media in constructing futures. The term ‘cultural technique’ stands for an approach that re-directs agency in a classical subject-oriented mode of thought from a transcendental subject to the media that produce and format subjectivity. To take up the earlier formulation, the question ‘what does the future hold?’ thus turns into the question: ‘what is the future held by?’

In order to answer that question this dissertation brings together a range of theoretical concepts concerned with operations and strategies of anticipation in a specific domain: post-cinematic art. In the past twenty years a number of artists have experimented with strategies of moving image production that at once critically engage the modernist legacies of cinema and attempt to move beyond them. The post-cinematic not only implies a transgression, an ‘after’ or ‘beyond’ cinema, but also a departure from cinema.⁹ Anticipation has played an important role in the narrative and aesthetic strategies of these artists. Their artistic projects make use of future scenarios and modes of anticipation in order to examine the contemporary present. Anticipation here means the creation of future scenarios as well as the critical addressing of and speculation about predictive systems and regimes of prediction. It is implied by many of the works in question that a ‘turn towards the future’ has become necessary for the critical exploration of a society that itself is more and more turned towards the future and increasingly relies on predictive frameworks and anticipatory workflows. The artist Hito Steyerl describes this poignantly:

Only from the perspective of the future can we recover a critical distance; from a future that releases the images from their entanglements with contemporary rule. Critical documentarism, in this sense, is obliged to not just show what already exists – the embeddedness of images in the contemporary reality. Only those images that show what does not exist yet and what may be yet to come are genuinely documentary.¹⁰

The perspective from the future, for Steyerl, is a strategy to overcome the complicity and embeddedness of images with contemporary regimes of power. By operationalizing future perspectives, a critical position becomes possible that, from the point of view of the present would not be addressable or even imaginable.

Because of this self-referential stance, several artworks act as points of departure for our conceptualization. The dissertation concentrates on works by three contemporary artists who have been associated with post-cinema in their critical practices, questioning the modernist cinematic

⁹ See for a discussion on the notion of a post-cinematic ‘beyond’ Shaviro, *Post-cinematic Affect*.

¹⁰ Steyerl, *Die Farbe der Wahrheit*, 16 (translation by the author).

apparatus and its manifest realisms. Neil Beloufa, Harun Farocki and Hito Steyerl all work or have worked at the intersections of the world of cinema and the world of contemporary art. Their artistic practices share a concern for the exploration of new moving image practices in art gallery spaces. Their post-cinematic artworks present interventions into the changing contemporary conditions of image production, circulation and consumption. They are anticipatory in that they model, ‘pre-enact’ and, thus, anticipate not only future scenarios, but also future media formations and their yet-to-come agencies. At the same time, their works are radically realist: rather than creating an enclosed fictional ‘somewhere’, they explicitly engage with the entanglements of any anticipation with a contemporary ‘here and now’ and its regimes of anticipatorily organized power. This allows their works to render visible the agencies of anticipatory media and the ways in which future scenarios are used as strategies. In a self-reflexive manner, anticipatory realism is here imitated and examined according to its reality-producing and futurity-producing qualities in our present. We as viewers are confronted not only with future scenarios, but also with the parameters and desires that drive them. Thus, our guiding questions will be: how do the artworks make use of futures scenarios? What are the markers of their production and distribution of futurity? And how do their anticipations enable us to examine our contemporary present?

Discursive Field

This dissertation is a reaction and hopefully a critical contribution to the debates that newly evolving capacities for prediction have raised. Indeed, our capacities to predict and calculate future scenarios have massively increased through the ongoing development and proliferation of computer technologies, as debates on predictive policing and the discrimination of algorithms have shown.¹¹ In the following, two broader discussions are introduced from which the arguments and readings of this dissertation take their departure: ‘a turn to the future’, and the discussions of post-cinematic art.

While the future and questions of futurity as subjects of research were historically limited largely to Marxist philosophy – such as Ernst Bloch’s *Das Prinzip Hoffnung* – today a broad variety of disciplines work on theories of the future.¹² One could even say that in recent years a concerted theoretical shift towards the future can be observed in contemporary philosophy and cultural criticism. Sociologists such as Elena Esposito and Ulrich Beck describe, for instance, a social

¹¹ See for a discussion of these transformations Dernbach, ‘Why I stopped calling things digital’.

¹² Bloch, *Das Prinzip Hoffnung*.

transformation of society extending from modernization that moves away from tradition and is increasingly reliant on risk calculation and prediction in its distribution of power and resources.¹³ Their studies sketch the tendencies of such a turn towards the future, while at the same time examining structures, such as financial markets that foster this transformation. Thus, Esposito describes a society that is ‘no longer defined by its past or its traditions but turned to the future’.¹⁴ These discussions go along with an interest in the ever-more autonomous presence of predictive systems, ranging from search algorithms to riot prediction.

A similar stance – although more philosophical in its analysis – is taken by Joseph Vogl in his book *Specter of Capital*. For Vogl, futures have a particular agency in the present. The structure of such agential futures is that of an insurance or indebtedment:

Insurance or “securitization” of future event sequences returns as an incursion of uncontrollable contingency, and the technologies deployed to control, colonize, or defuturize the future end up transforming it into an unforeseen event impinging on the here and now.¹⁵

Vogl’s argument here points already to the particular role of media and cultural techniques in what he calls, with reference to Alexander Kluge, ‘a raid by the future on the rest of time’.¹⁶ This drastic formulation shows not only the agency of future in the present but also the political implications of anticipatory media.

Another domain of critical writing on the ‘turn to the future’ comes from accelerationist philosophy. In particular, Armen Avanessian has described the operations of what he calls a new post-contemporary ‘time complex’. Vogl’s and Esposito’s analyses, focusing mainly on the financial sector, are extended to society at large here. In fact, Avanessian and Suhail Malik claim that ‘the future happens before the present, time arrives from the future’.¹⁷ Agency held by futures here is interpreted as a chronotopic condition that recalls Hans Ulrich Gumbrecht’s famous description of a ‘broad present’ in which the boundaries between past, present and future are blurred.¹⁸ This stance also surfaces in a range of more explicitly activist frameworks such as in the book *Inventing the Future* by Nick Srnicek and Alex Williams. There, the authors make the case for a progressive political intervention conceived from the future and directed against a nostalgic ‘folk politics’

¹³ See for instance Esposito, *The Future of Futures* and Beck, *Risikogesellschaft*.

¹⁴ Esposito, *The Future of Futures*, 3.

¹⁵ Vogl, *The Specter of Capital*, 125-126.

¹⁶ Vogl, *The Specter of Capital*, 3.

¹⁷ Avanessian and Malik, *The Time Complex*, 7.

¹⁸ Gumbrecht, *Our Broad Present*.

paralyzed by nostalgia. Similarly, Brian Massumi's book *Ontopower* proposes a critical framework for addressing a pre-emptive shift in the organization of power since the end of the Cold War. According to Massumi, power today is organized pre-emptively, rather than through prevention and deterrence. The book traces this paradigmatic shift to its first systematic development in military strategy and then examines its proliferation to other domains of society. This theoretical intervention into a pre-emptive organization of power also resonates with the critical writing of the philosopher and essayist Byung-Chul Han. Han describes a social transformation triggered by what he terms 'the digital', which renders power in subconscious ways:

Transparency and information have taken the place of truth. The new conception of power does not involve controlling the past but steering the future psycho-politically.¹⁹

Other examples for such a 'turn to the future' would be the world-wide establishing of institutions whose aim is to anticipate and critically address future scenarios, such as the Centre for Existential Risk at Cambridge, the Futurium museum for futures in Berlin or the Future of Humanity Institute in Oxford. The theoretical and often specialist discussions in academic contexts are flanked by and stand in resonance with a broad public discourse. This is exemplified by best-selling non-fiction books, such as Yuval Noah Harari's *Homo Deus: A Brief History of Tomorrow* or Roger Willemsen's *Wer wir waren*, that are indicative of an anticipatory approaching of the present.

Post-cinematic art has embraced these discussions. In fact, not only have post-cinematic artworks, in the attempt to move beyond modernist forms of cinema, experimented with anticipatory strategies, but one could also frame the project of post-cinema as an anticipation in itself. While Hagener, Hediger and Strohmeier highlight the concern and deliberate experimentation of post-cinematic art with reconfigurations of the modernist apparatus and realisms of cinema,²⁰ Shaviro observes and attests to a more general and not necessarily deliberate driven organization of affects through moving images. What Shaviro calls the 'post-continuity' of post-cinema, renders visible the material and performative economies of images: 'a preoccupation with immediate effects trumps any concern for broader continuity — whether on the immediate shot-by-shot level, or on that of the overall narrative'.²¹ Departing from these theories, it is proposed in this dissertation that post-cinema is particularly effective in approaching the constructions of future precisely because it exposes operations of images. Post-cinematic art can activate a broad range of self-reflexive techniques that examine and question our contemporary

¹⁹ Han, *Psychopolitics*, 38.

²⁰ Hagener, Hediger and Strohmaier, *The State of Post-cinema*.

²¹ Shaviro, *Post-Cinematic Affect*, 123.

realisms of moving images. The non-linear temporalities assumed by the ‘turn towards the future’ are reflected by orientations towards early cinematic and proto-cinematic traditions. Next to the screen, the materiality of the screening apparatuses becomes more prominent. Next to a narrative immersion, the spectacle of recording or simulating becomes more pronounced. Therefore, superimposing theories of the construction of futures with the projects of post-cinematic documentary, mapping the one against the other, can grant us insights into the ways in which futures are constructed today and their impact on what can be imagined. It is thus proposed that post-cinema, in its experiments with post-cinematic realisms, also examines anticipatory realism and vice versa. The contribution of this thesis to the critical literature on post-cinema is thus twofold. On the one hand, it sets out to conceptualize strategies of post-cinema such as enactment, soft montage and rendering, and stake out key parameters for their description. On the other hand, the thesis proposes that post-cinema as a phenomenon can itself be regarded as a project in and of anticipation.

Chapter Overview

In the first chapter, ‘Anticipation: a Cultural Technique’, the methodological bearings of a general theory of anticipation as a cultural technique are laid out. The chapter assembles a range of existing conceptualizations of anticipation in an effort of critical synthesis. Anticipation is approached in different theories as epistemic principle, cognitive process, systemic function or affective structure. I propose in response to all these conceptualizations to frame anticipation as a cultural technique that formats the described variety of anticipation in different fields and media. Drawing upon the media philosophical works of Bernhard Siegert, Cornelia Vismann and others, anticipation is described as simultaneously producing future scenarios and futurity – the conditional basis for the construction of futures. Anticipation accordingly manifests itself in various media and establishes differentiations between a not-yet and an always-already. Any anticipation accordingly marks not only something that has not been realized yet, but also a broad set of expectational constants. It marks at the same time the latency of what is not yet realized and the duration of what is always already present. This methodology allows us to undertake the analysis of a particular agency that anticipating media have in the present in rendering futures and distributing futurity. By analogy with Roland Barthes’ term ‘reality effect’, the term ‘futurity effect’ is introduced to describe the reality-producing and futurity-producing qualities of anticipation as a cultural technique. In the second section of the methodology chapter recent discussions on post-cinema both as an artistic

movement and a theoretical project are reviewed. It is argued through readings of theoretical and essayistic work by Steven Shaviro, Steyerl and others that post-cinematic art is particularly apt for an examination of the ontic operations of anticipation. The artistic inventions of post-cinema in many cases examine anticipatory media or occur themselves in the form of anticipations. Therefore, post-cinematic art – in a self-referential manner – enacts and at the same time exposes anticipation and its political implications in regimes of prediction. The methodology chapter concludes with brief introductions of enactment, soft montage and rendering, identified as key post-cinematic strategies for the constructions of futures and thereby lays the ground for the ideas to be developed further in the subsequent chapters.

The second chapter, ‘Enactment / Neil Beloufa: the Materiality and Performativity of Anticipation’, consists of three close readings of post-cinematic artworks by Neil Beloufa. It conceptualizes the entanglements between anticipation as a cultural technique and the production of a ‘desire to know’. Karen Barad’s theory of agential realism and Andrei Tarkovsky’s film *Solaris* allow us to approach this ‘desire to know’ as often enmeshed with problematic colonialist and expansionist formations. More precisely, a form of extrapolating anticipation that objectifies futures is subjected to critique here. In opposition to such extrapolating operations, Beloufa’s work *Kempinski* (2007) shows anticipation that avoids objectification and instead develops a sensitivity to otherness and to that which is not-yet (known). This form of anticipation addresses and embraces its material and performative co-dependencies and entanglements with futures. Accordingly, enactments are examined here as strategies for such a non-objectifying anticipation. Through juxtaposition with Jacques Derrida’s conception of spectrality, subsequently, the analysis explores the ontic operations of anticipation as producing both a not-yet and an always-already.

In a close reading of Beloufa’s video installation *The Analyst, the Researcher, the Screenwriter, the CGI tech and the Lawyer* (2011) the concepts of epiphany and apophenia are introduced to explore non-extrapolative anticipation further. Approaching Beloufa’s work as the rendering of epiphanic and apophenic economies, we come to understand how a vacillating knowledge is produced that comes into existence as deeply entangled and co-constitutive with an observer. Futures conceived of in this way cease to be objects of anticipation and rather turn into subjects that one is set in relation to. The reading also conceptualizes the surveillant impulse of extrapolation and its construction of suspicion. It becomes clear that extrapolation and conspiracy resemble one another in their anticipatory operations and preclusions. In conclusion, the reading of Beloufa’s double installation *Data for Desire* (2014) / *World Domination* (2012) shows how enactment as anticipatory strategy can lay bare reality-producing and futurity-producing protocols of such diverse events as political summits or reality-television. Drawing upon Hans-Jörg Rheinberger’s theory of epistemic objects, we conceptualize how the scripting of reality becomes exposed through enactments. Again,

enactment is conceptualized here as the production of epiphanic and apophenic entanglements between viewers and the artworks.

The third chapter, ‘Soft Montage / Harun Farocki: the Anticipations of Operational Images’ conceptualizes soft montage as post-cinematic strategy of anticipation. Departing from Farocki’s writings on operative images, we explore the reality-producing and futurity-producing agency of images. While Farocki understands operative images such as surveillance footage as ‘images that do not represent but are part of a process’,²² we extend this notion of operativity to a theory of the anticipatory operations of images. In a close reading of Farocki’s work series *Serious Games 1–4* (2009-2010) the anticipatory organization of power and distribution of precarity through military image technologies is examined. The reading of *Serious Games 1–4* allows us to analyze the role of soft montage as a strategy for exposing regimes of prediction. More precisely, the serial work is approached through Judith Butler’s conceptions of ‘frames of war’ and Roland Barthes’ theory of an operative language. Farocki’s use of soft montage thus becomes graspable as a critical intervention in the performative and material economies of military prospection and its computerized organization of contemporary warfare. Through this intervention the agency of anticipatory media involved in this organization of power and precarity becomes addressable.

In the second reading of the chapter Farocki’s work series *Parallel 1–4* (2012-2014) is examined according to its use and conceptualization of parallelism. Parallelism is analyzed here both as the structuring principle of soft montage and as a requirement for, and crucial ontic operation of, computer-generated images today. Accordingly, the chapter considers how this serial work self-reflexively constructs futures of moving image production through the accentuation of parallelism. Crucially, parallelism allows us to understand how anticipation is rendered visible here: rather than a hyper-realist blurring of boundaries between reality and fiction, Farocki’s work of parallels shows computer-generated images that emphasize the resistance of images to representation. Drawing upon Sigrig Weigel’s theory of a grammatology of images and Helmut Färber’s ideas on a pre-conscious of cinematic images this use of soft montage in *Parallel 1–4* is conceptualized as hypo-realist.

The fourth chapter of the dissertation, ‘Rendering / Hito Steyerl: Images as Infrastructures for Projection’, turns to the recent work of the artist and essayist Hito Steyerl. Through readings of works of Vilem Flusser and others, the anticipatory ‘trajectory’ of images and their role as enabling infrastructures is approached. Rather than conceiving of images as fixed objects, images as anticipating agents here become graspable as embedded in active relationships with their infrastructures of production, circulation and consumption. Accordingly, the trajectory of an image

²² Harun Farocki, ‘Auge / Maschine III’, translation by the author.

is an expression for a multitude of simultaneously active anticipatory operations. This trajectory is explored through the concept of rendering. Steyerl's work *How Not To Be Seen* (2013) is taken as a point of departure for examining the political dimension of rendering and the anticipatory and thus reality-producing and futurity-producing relationships of images and their infrastructures. The reading examines the use of projections in physical space, green screens and architectural designs as anticipatory strategies of rendering. Through Steyerl's installation *Liquidity Inc.* (2014) the agencies of anticipatory media as part of affective structures are explored. Steyerl's work allows us to grasp the entanglements between subjectivities formatted by anticipation and the predictive demands of financial markets. Accordingly, we conceptualize liquidity as a 'Vorbild' and instruction for the subjects governed by regimes of prediction. Finally, in a combined close-reading of the works *The Tower* (2015) and *ExtraSpaceCraft* (2016), a hybridization of perspective is approached that renders visible anticipatory subjectivities. We explore how anticipation in these works is enacted in the form of a multiple and polygonic gaze. It is also shown how the construction of such a gaze allows for the addressing of the nested forms of sovereignty that operate through regimes of prediction.

The dissertation seeks to bring together aesthetic and critical theories to point to the constitutive presence of the cinematic and post-cinematic in our contemporary mediated construction of futures. The aesthetic experiences provided by post-cinematic works here render visible and graspable the construction of futures and their self-referential entanglement with regimes of prediction. Rather than a passive or representational 'knowledge about' constructions of the future, viewers are enabled to come to know through experience their embeddedness in the infrastructures that construct futures and futurity today. This experience sensitizes us as viewers to the potentials, but also to the limits, of anticipatory realism. Far from a distant dystopian or utopian totality, the anticipations of post-cinema allow us to approach our present not as fixed, but as contingent and in constant motion. The experience of ourselves as embedded in infrastructures and anticipations – our contemporary realisms – is not simply framed as a burden to be overcome. Rather, the works allow us to grasp the complexities of the present through an open future or – to come back to the initial quotation – how 'the new renders the old', constantly. In our experience of the entanglements between constructions of futures and their infrastructures, a particular insight prevails: anticipation is the construction of futures as moving images. 'What does the future hold?' is, then, a question in motion, a question that – in its movement – holds the future open.

1 Anticipation: A Cultural Technique

On the Constructions of Always-Already and Not-Yet

This first chapter is an attempt to outline a general theory of anticipation as cultural technique. In a genealogical manner, we review how anticipation emerges as concept in selected theoretical discourses. In front of this background, anticipation is proposed as cultural technique. As any genealogy, our review of anticipation necessarily encompasses occurrences in conflict with each other and conceptions that rest on mutually exclusive presumptions. In our case, this is particularly true for conceptions of anticipation from transcendentalist and phenomenological theories that are incommensurable with the materialist presumptions of the theory of cultural techniques.

These incommensurabilities and conflicting positions, however, not only help us to grasp the historical and cultural plurality of anticipation. Eventually, introducing anticipation as a cultural technique against the background of transcendental and phenomenological positions, allows us also to extend the broader attempt of the theory of cultural techniques: to overcome subject-object distinctions and instead highlight the entanglements that precede the distinctions between subjects and objects. For our understanding of futures, it will hopefully become clear that we as subjects are neither sovereign masters of futures nor at their mercy as slaves, but rather deeply entangled with them in constant co-constitution through anticipation.

Etymologically, anticipation means to ‘take action in advance’, ‘to forestall’ or ‘to foresee’. In its Greek (*προλήψις* ‘prolepsis’) and Latin origins (‘anticipatio’) the term first merely referred to a stoicist idea: anticipations were considered predispositions held by human beings that precede and allow for the recognition of virtues.²³ Later this notion of preceding realization was extended to an act of human consciousness in the philosophy of Francis Bacon and eventually to cognitive principle in the phenomenology of Edmund Husserl and most prominently in Ernst Bloch’s Marxist project of a future-oriented philosophy.²⁴ Until today the term embraces a tension between an interventionist meaning as expressed in ‘forestalling’ or ‘acting in advance’ and a revelatory meaning pointing to terms such as ‘foreseeing’ or ‘expecting’. While the former semantic field describes an action directed towards or triggered by an expected future, the latter describes a particular form of inquiry into and knowledge about the future. Despite these nuances, both

²³ Sandkühler, ‘Antizipation’, 149.

²⁴ Exemplary are here Bacon, *Das neue Organon (Novum Organon)* and Husserl, *Zur Phänomenologie des inneren Zeitbewußtseins*.

semantic fields describe anticipation as future-oriented and simultaneously grounded in the present. As Neil Deroo notes, anticipation has:

a subject, it has an at least partially clarified object that cannot be present, and it is grounded in the present via our horizons of expectation.²⁵

In its future-orientation anticipation differs fundamentally from imagination. What is anticipated is expected to potentially ‘really’ take place. In contrast, imagination often deliberately goes beyond what is perceived as possible. Anticipation thus relies on a different realism than imagination. Because of this realism anticipation takes place within a much more confined horizon of possibilities than imagination. While imagination explores and at the same time constitutes the realm of the thinkable, anticipation explores and at the same time constitutes the realm of the expectable. Anticipatory realism thus can be understood as the particular parameters of a subject or system, confining not only what is regarded as possible, but expectable. And yet, the border between both forms of thinking is gradual rather than discreet: an imagination can become an anticipation if it comes to be perceived as realistic, and vice versa, an anticipation can turn out to be merely wishful thinking, thus belonging to the realm of imagination

If we review the concept of anticipatory realism, it becomes clear that anticipation is deeply entangled with the operations of memory. Memory can be described as an operative duality, too: as the totality of all rememberable events and the faculty by which the mind stores information for recall. By analogy, anticipation could be defined as the faculty by which the mind constructs expectations from perceived possibilities, and at the same time – modelled after the duality of memory – as the totality of all unconsciously and consciously held possibilities. Carl Friedrich von Weizsäcker writes accordingly about the function of anticipation in processes of knowledge acquisition:

Wissen ist Wissen von Fakten und Möglichkeiten. Es bedarf also des Gedächtnisses und der Antizipation.²⁶

While memory refers here to the faculty for learning and keeping in mind facts, anticipation would be the faculty for projecting and valorizing possibilities. This definition frames memory and anticipation in conjunction as the crucial system that allows for knowledge acquisition. Past

²⁵ Deroo, *Futurity in Phenomenology*, 6.

²⁶ Knowledge consists facts and possibilities. Therefore, memory and anticipation is required in order to know. (translation by the author) Weizsäcker, ‘Zeit und Wissen’, 29.

experiences that are internalized as memories by a subject render an anticipatory horizon of possibilities and expectations. Not only does this horizon frame what is seen as possible and what is expected in the future, it also valorises and selects what ought to be remembered. Here again the tension between a forestalling and foreseeing quality comes to the fore: anticipation both pre-figures and inquires simultaneously. As we can see, both processes, memory and anticipation, are not only entangled but co-constitutive. Memory is framed by anticipation and vice versa. This conceptualization frames anticipation as a cognitive and epistemic principle. It also introduces anticipation as bound to and often synonymous with an intuition for developments that we do not fully understand, as much as memory anticipation acts as an interface for conscious and unconscious processes. Friedrich Gaede points to this quality when he distinguishes between anticipation and prognosis:

Wenn diese [antizipierende] Vermögen im instinktiv-unbewußten und im unendlichen Wissen liegt, dann bleibt dem endlichen Verstand, der sich zwischen diesen Polen bewegt und sich selbst treu bleibt, nur die Prognose.²⁷

Gaede's distinction understands prognosis as a fully transparent cognitive process, while anticipation is seen to go beyond the conscious cognitive capacity of a subject or system. In brief, one can anticipate something that one does not fully understand. Although the majority of our anticipations are not conscious to us, anticipation as an epistemic principle is in constant operation. And yet, acts of anticipation can become conscious – analogous to conscious acts of remembrance. A conscious anticipation is, however, not simply a prognosis. According to Gaede, the distinction between prognosis and anticipation goes beyond the differences in their relation to unconscious processes according to Gaede:

Antizipation hingegen ist kein quantitativer, sondern ein qualitativer Vorgang. Er entsteht nicht durch menschliche Berechnung, sondern ist in der Naturordnung begründet. Das dieser Ordnung innewohnende Antizipatorische wird dann erkennbar, wenn Natur nicht als Objekt, sondern als Subjekt, nicht als fertige Tatsache, sondern als dynamischer Entwicklungskosmos verstanden wird.²⁸

²⁷ 'If this capacity for anticipation lies in the area of the instinctual, unconscious, and infinite knowledge, then for the finite mind that oscillates between these realms only prognosis remains an option. (translation by the author) Gaede, 'Zur Aktualität des Antizipationsbegriffs', 2.

²⁸ 'Anticipation in turn is not a quantitative, but a qualitative process. It does not emerge through human calculation, but is grounded in the natural order of things. The anticipatory structure of this order becomes perceivable if nature is understood not as object, but as subject, not as a matter of fact, but as dynamic and emergent cosmos.' (translation by the author), Gaede, 'Zur Aktualität des Antizipationsbegriffs', 3.

Although both anticipation and prognosis rely on realisms, they differ fundamentally as processes of knowledge acquisition. Prognosis is the extrapolation of past experiences or data to the future and thus constitutes a quantitative calculation resulting in (often probabilistic) predictions. As Gaede notes, anticipation – in contrast to this quantitative approach – is qualitative. Rather than an extrapolation aiming at a prediction about an outward event, anticipation is the recognition or discovery of a structure or development entangled with oneself and with the future. The result of anticipation is thus not a quantitative prediction, but a qualitative multi-temporal and often intuitive understanding of a phenomenon. Gaede rightly observes that a prognostic approach objectifies its subject of prognosis, while anticipation exposes a finality, trajectory or intention of its subject of anticipation. As such, anticipation sensitizes for a relation and thus avoids objectification. Rather than the calculation and prediction of prognosis, anticipation would be the revelation of and adaptation to a finality by an anticipating subject. In contrast to prognosis, the exact workings of the anticipated and its relation to the anticipating subject might remain opaque. This relationship of anticipation preceding ascertained knowledge is also expressed in the famous aphorism attributed to Alexander von Humboldt:

Überall geht ein frühes Ahnen einem späteren Wissen voraus.²⁹

This ‘sensing’ or ‘having a sense of something’ that precedes ascertained knowing, points to the limitations of prognosis by comparison with anticipation. While prognosis is limited to the always-already (known), anticipation also embraces or indeed constructs the areas of the not-yet (known). It becomes clear here that prognosis as a fully conscious process can only reproduce, in an extrapolatory manner, what is already known. In contrast, anticipation can address domains and structures that lie beyond existing knowledge. Instead of the calculating operations of a prognosis, anticipation constructs a not-yet. For Gaede this revelation of anticipation occurs in the form of conjoined simultaneous perception or indeed as an image. It is conceptualized by Leibniz as ‘intuitive thinking’:

²⁹ ‘Everywhere an early sensing anticipates a later knowing.’ (translation by the author), this aphorism is often attributed to Alexander von Humboldt and his *Kosmos* anthologies. This origin could not be verified, however, and remains unknown.

Leibniz bestimmt das intuitive Denken als die Fähigkeit, die vielen Merkmale einer “zusammengesetzten Vorstellung“, die man sonst nur sukzessive erkennen kann, gleichzeitig zu erfassen.³⁰

In contrast to the successive realization of a prognosis, anticipation allows for a conjoined multi-temporal revelation in which what is not yet known also appears or shines through. With Leibniz, Gaede conceptualizes anticipation as the revelation of an image, more precisely – the simultaneous perception of elements of a phenomenon that usually would only be accessible in succession. Gaede exemplifies this constructive operation of anticipation as the revelation through an image with a parallel to Goethe’s theory of the ‘poetic image’:

Mit dem Begriff Bild sind jedoch keine Ab- oder Nachbilder des bereits Geschehenen gemeint, sondern prospektive Bilder, die den zu Geschichte werdenden Ereignissen vorangehen. Wie das poetische Bild, das Goethe das Geheimnis der Natur lösen hilft, ist das Bild, das historische Schritte antizipiert, symbolischer Natur, d.h. es kündigt nicht auf unmittelbare Weise kommende Einzelereignisse an, sondern es signalisiert mittelbar Tendenzen oder Prinzipien, die die bevorstehenden Ereignisse prägen werden und sich in der Fülle des kommenden Geschehens verwirklichen.³¹

The anticipatory image operates prospectively, without however acting as a representation and without pointing to a concrete event in the future, but instead signaling a tendency or trajectory. At the same time, it embodies and constructs a not-yet. As an agent or subject the anticipatory image not only projects a concrete scenario but also the possibility of an open future. Alfred Schutz points to a similar characteristic of anticipation, as an at once projective and indefinite process in this reading of Edmund Husserl’s *Formale und Transzendente Logik*:

In every action we know the goal in advance in the form of an anticipation that is 'empty', in the sense of vague and [we] seek by our action to bring it step by step to concrete realization.³²

³⁰ Leibniz defines intuitive thinking as the ability to grasp at once the many aspects of a “conjoined idea” that are usually only recognizable in succession.’ (translation by the author), Gaede, ‘Zur Aktualität des Antizipationsbegriffs’, 6.

³¹ ‘The conceptualization of “image” does not refer here to representations of something that has happened, but to prospective images that precede events in their process of becoming history. Like the poetic image that helps Goethe to solve the mystery of nature, the image that anticipates steps of history is of symbolic nature. It does not immediately predict singular events as they are yet to come, but rather signals tendencies or principles that will frame what is yet to come and that realize themselves in the entirety of the coming events. Gaede, ‘Leibniz’ Begriff der Möglichkeit und literarische Antizipation’, 83.

³² Schütz, *Phenomenology of the Social World*, 58.

The vague and empty knowledge that we have in advance and in the form of an anticipation is not only the condition for any meaningful action, it is also the condition for a relationship to the future and thus the possibility for prospection. Drawing upon Husserl's definition of anticipation, Neal Deroo argues that anticipation is the operation that allows not only for the construction and projection of concrete future scenarios, but for futurity itself:

Phenomenology understands the future as a relation of and to the subject. I will describe this relation as futurity, that is, the subject's relation to (or mode of comportment toward) the future. Futurity is constitutive of our experience in the present: I am right now affected in myriad ways by the future and my orientation toward it. [...] Futurity is not only essential to the constitution of transcendental subjectivity, but it also introduces a certain openness or interruption into the very heart of this (self-)constituting subject.³³

In his book *Futurity*, Amir Eshel describes a similar function of anticipation and its constitutive relationship to futurity. For Eshel, contemporary literature in its addressing of the past establishes the rendering of a collective future. In fact, literature by providing 'new vocabularies' opens and keeps open the future beyond a prolonging of the past and beyond a concrete future scenario. If we assume, with Gaede, that the anticipatory image functions as subject and agent, its operations can be framed as an anticipation of second order. Not only, then, does the anticipatory image render visible a tendency in the future, it also anticipates the tendency of futurity more generally. Put simply, by anticipation we construct the present in such a way that futurity becomes possible.

This entangled temporal structure at the core of anticipation is reminiscent of Sigmund Freud's concept of 'Nachträglichkeit'.³⁴ Freud observes that the work of memory is not that of a simple retrieval of past impressions. Instead, remembering always entails a 're-writing' of what is remembered. Often the term is mistakenly translated as 'deferred action'.³⁵ While 'deferred action' only describes one temporal dimension of the process – the retrospective attribution of meaning to a memory – 'Nachträglichkeit' entails a secondary additional temporal dimension: it describes how memories are restructured by the remembering subject from the present. This entanglement occurs 'nachträglich', or in a deferred manner. It is from the present – that is, its future – that the past is constructed. Rather than a linear temporal model, 'Nachträglichkeit' entails here a circular temporality, stretching from the present into the past and back. By analogy with this temporal loop,

³³ Deroo, *Futurity in Phenomenology*, 1-5.

³⁴ See Laplanche and Pontalis, *Das Vokabular der Psychoanalyse*, 313-317.

³⁵ See for an exemplary discussion Dahl, 'The two time vectors of Nachträglichkeit in the development of ego organization' and Dahl, 'Ein zweiter Fall von Nachträglichkeit'.

one could speak in our case of a form of ‘Vorträglichkeit’ that follows a similar trajectory. Rather than a simple projection into an unresponsive and non-resonant future, ‘Vorträglichkeit’ allows us to think an entangled temporality in which anticipation constructs and reassembles expectations according to the terms of an anticipatory realism. And yet, from a psychoanalytic point of view, the notion of ‘forestalling’, of taking something in advance and thus from the future into the present, also carries an ambivalence. The act of temporal disruption reminds us that anticipation comes at a price. An anticipation, it seems, is always tied to unclaimed experiences. By anticipating and adapting to an event before its occurrence, certain aspects of that event remain unexperienced.

Drawing upon these observations regarding the limitations of extrapolation and prognosis, we will call anticipation a hypo-realist phenomenon. Hypo-realism stands in contrast to Baudrillard’s concept of hyperreality, which claims the absolute translatability and indistinguishability of different layers of (human and non-human) realities.³⁶ According to this model, not only is any meaningful distinction between fiction and reality impossible, the metaphor of blurring boundaries also implies an emergent totality. Hypo-realism, however, insists on a resistance of reality to translation and to representation more generally. ‘Hypo’, as the opposite prefix to ‘hyper’ (hyper = above, on top, hypo = under, underneath), refers here to a noise or material entanglement that runs beneath objecthood and that cannot be accessed by prognosis. Anticipation as a hypo-realist phenomenon refrains from the discreetness that is proper to prognosis. It acts productively to keep things vague. Rather than a transparent prediction, anticipation is characterized by a form of what German calls *Abnen* – a ‘sensing’ or intuition of what is to come – for which it is crucial that not all parameters can be known. Therefore, anticipation is not so much a projection of concrete expectations as it is the projection of the noise associated with the not-yet, a hypo-realist realm that has not yet revealed its form.

The theory of epistemic objects by the German philosopher of science Hans Jörg Rheinberger can help us to illustrate the role of this vagueness or imprecision of futurity further.³⁷ Rheinberger argues that certain types of imprecision are as necessary as conceptual clarity in processes of knowledge acquisition. His research examines how new ideas come into existence in science. In contrast to the idea of a divine inspiration or disruption of individual researchers or a technology, Rheinberger argues that science generates new knowledge by iteration. A single experiment without its context remains meaningless. But if experiments are repeated, adjusted and contextualized to a body of knowledge new ideas come into existence. Rheinberger calls this not-yet-formulated body of knowledge of a discipline its ‘epistemic object’. Epistemic objects are produced through an experimental system, the totality of all research technologies, experiments,

³⁶ Baudrillard, *Simulacra and Simulation*.

³⁷ See Rheinberger, *Toward a history of epistemic things* and Rheinberger, *Iterationen*.

instruments, and infrastructures of a discipline. They are by definition imprecise at first. That means that they are not entirely knowable as they are the imagined knowledge for which an experimental system strives. Accordingly, an epistemic object has to be precise enough to generate knowledge and imprecise enough to incorporate the unexpected results of experiments. Rheinberger's theory shows that we should be carefully imprecise with our terms, rendering a methodology of knowledge acquisition that carefully integrates anticipation and its productive vagueness.

In contrast to the discussions of anticipation as epistemic principle stand a range of theoretical approaches that conceptualize it as a systemic function. Anticipation here is neither limited to (human) consciousness nor is it clearly distinguished from prognosis. Rather it is described as the function and operation of a system. According to the Russian pioneer of biology and physiology, Pyotr Anokhin, anticipation is to be conceptualized as a systemic function of organisms.³⁸ The Russian School of Psychology is associated today with the Theory of Activity, which assumes that all psychic activity is based on the principle of anticipation. Perception as well as all higher cognitive processes are fundamentally anticipatory reflections of reality. Organisms anticipate events in their environments as:

a basic way of adjustment of all life forms to the spatio-temporal structure of the inorganic world, in which sequentiality and iteration of events constitute the basic parameters of time.³⁹

Rather than an epistemic principle, anticipation here is part of an organic set of operations for life forms to adapt to their surroundings. Knowledge or memory in a narrow anthropocentric sense are not required. In addition to other evolutionary theories that emphasize either competition or collaboration as crucial evolutionary meta-parameters, for the Russian Activists, evolution is a race between systems for the fastest and most sophisticated anticipatory capabilities. The development of nervous systems in organisms is for instance seen as an embodiment of anticipation and its evolutionary comparative advantage. Accordingly, acceleration and increasing accuracy play a crucial role for anticipating organisms. The faster and the more precisely a species can anticipate and adapt to future states the higher its evolutionary success. In accordance with this, the nervous system is imagined as a system that recognizes patterns, accelerates them and adjusts in evolutionary beneficial ways to both the recognized patterns and their accelerations.⁴⁰ Anokhin subsequently argues that:

³⁸ Anokhin, *Philosophical Aspects of the Functional System Theory*.

³⁹ Anokhin, *Philosophical Aspects of the Functional System Theory*, 18.

⁴⁰ See Chernov, *Inference and Anticipation in Simultaneous Language Interpreting*, 91.

if in the outside world several specific events develop in sequence (such as seasonal rhythms, temperature changes, or ocean streams), an organism must reflect each of them in specific chemical transformations of its protoplasm whenever the event reaches a certain threshold.⁴¹

While authors of the Russian School such as Anokhin mainly focus their research on anticipatory phenomena in life forms with cognition, their approach is later also extended to systems more generally. Rather than only assigning human and animals with sophisticated nervous systems the faculty to anticipate, system theorists such as Robert Rosen or Mihai Nadin observe anticipatory phenomena and their underlying structures of anticipation in a broad range of natural phenomena.⁴² For systems theory, anticipation is a communicative phenomenon, in which a system acts upon anticipated future states and thus engages in a pre-emptive adaptation. Two distinct formal definitions of anticipatory systems originate from Robert Rosen's work: firstly, an anticipatory system is a system whose current state depends not only upon a previous state, but also upon a future state; and secondly, an anticipatory system is one that contains a model of itself that unfolds in faster than in real time. These are, therefore, the two initial operations that create the condition of the possibility for anticipation: modelling (abstraction) and acceleration. Acceleration allows the system to act in response not only to a present environment or past experiences but also upon modelled future states and environments.

These approaches to anticipation as a systemic function are helpful for our inquiry in order to avoid an anthropocentric conceptualization. An example for an anticipatory system that is in its entirety lacking what we classically see as higher cognitive functions comes from forest ecology. The ecologist Suzanne Simard shows in her research that trees can communicate with each other through below-ground networks of fungi.⁴³ So-called 'mother trees' are able to selectively infect seedlings in need of nutrients with beneficial fungi.⁴⁴ Not only were these trees able to select seedlings in need, but as a communicative system this multi-species assemblage was able to model future states and adjust to them accordingly. As long as the communicative chain for the need-based distribution of resources exists, one can speak here of an anticipatory system. This broad functional definition allows us to encompass a great number of phenomena under the concept of anticipation. It also sensitizes us for analysing anticipation as a process that occurs between species

⁴¹ Anokhin, *Philosophical Aspects of the Functional System Theory*, 14.

⁴² See for comparative discussions of anticipation Nadin, *Anticipation: Learning from the Past*; Nadin et.al, *Anticipation Across Disciplines*; and Rosen, *Anticipatory Systems*.

⁴³ Simard et al., 'Net transfer of carbon between ectomycorrhizal tree species in the field'.

⁴⁴ Simard & Durall, 'Mycorrhizal networks'.

and between human and non-human actors, rather than limiting it to human cognition. However, the approach by systems theory lacks an understanding of the particular techno-historical context of anticipation and of the processes that make anticipation addressable. Anticipation here is merely understood as a timeless and neutral analytical tool to describe certain predictive behaviours in nature. This is why our aim here is to expand this functional perspective on anticipation, approaching it as rather as a medially, historically, and culturally specific cultural technique that is embedded in a history of its own. The problem of the epistemic and systemic approaches to anticipation outlined here is that they tend to overlook the particular historical and medial conditions under which anticipation not only occurs, but also becomes detectable as such.

More recently, and in contrast to the previously discussed theories, anticipation has also been described as an affective structure. Departing from future-oriented affects such as stage-fright or performance anxiety, theorists have developed a range of sociological conceptualizations of anticipation as embedded in affective structures. Affective structures here refer both to the triggering and experience of individual affects and the socially constructed situations, institutions and protocols that enable and format such experiences of affects. Adams, Murphy and Clarke tie anticipation in such a sociological account of an affective structure to our contemporary financial markets:

As much as speculative finance has become both a dominant mode of capital accumulation, spawning its own material and discursive effects of disaster prediction, anticipation has become a common, lived affect-state of daily life, shaping regimes of self, health and spirituality. [...] Anticipation pervades the ways we think about, feel and address our contemporary problems. Anticipatory regimes can be known as historically contingent, as multi-sited and as multilocal, while still holding persuasive force in the present.⁴⁵

Commonly these sociological conceptualizations speak of regimes of anticipation or regimes of prediction that use the affect of anticipation for the organization of power and the distribution of precarity in societies. The theories allow us to approach the particular performative and material economies in which anticipation is embedded and by which it is constructed. Rendering visible such regimes of prediction, we can trace the often-exploitative function that anticipation takes on today. Adams, Murphy and Clarke emphasize in their research the role of anticipation in organizing forms of life pre-emptively:

⁴⁵ Adams, Murphy & Clarke, 'Anticipation: Technoscience, life, affect, temporality', 247-248.

Crucially, predictable uncertainty leads to anticipation as an affective state, an excited forward-looking subjective condition characterized as much by nervous anxiety as a continual refreshing of yearning, of ‘needing to know.’ [...] As an affective state, anticipation is not just a reaction, but a way of actively orienting oneself temporally. Anticipation is a regime of being in time, in which one inhabits time out of place as the future.⁴⁶

Examples for such organization of forms of life through anticipation and anticipatory principles reach from disaster prevention protocols to the scenario planning of insurances, and from the military to the health sector. Lucy van de Wiel has described for instance the anticipatory organization and affective politics of reproductive egg freezing,⁴⁷ while Sara Ahmed critically theorizes imperatives to happiness and their anticipatory affective regimes.⁴⁸ These critical observations lead to a call for a new form of critique that does not only consider the organization of power through means in the present, but also through anticipations as embedded in affective structures. Many of these projects share what is conceptualized as a psycho-political dimension that becomes graspable through addressing and criticizing affective structures. Accordingly, the climate researchers Granjou, Walker and Salazar ask in an essay on the politics of anticipation:

How do we resist an immobilising ‘regime of anticipation’ that preserves immunity for organized irresponsibility on an industrial, indeed planetary scale?⁴⁹

The focus on the production and distribution of uncertainty also relates to the theoretical projects of Joseph Vogl, Elena Esposito and Judith Butler, as will be shown in association with the close readings of video works in the following chapters of this thesis.

Conceptualizing anticipation as a cultural technique is an attempt to combine the different previously discussed approaches through a media-theoretical analysis. If we assume that anticipation in its various appearances and conceptualizations is enabled and formatted by media, we can approach it as an assembly of medially, culturally, technologically and historically specific phenomena. Anticipation as a cultural technique would then describe a faculty for the constructing and adapting to future scenarios that takes different forms in different historical moments and among different cultures. While the particular emergence of anticipation is specific – subject,

⁴⁶ Adams, Murphy & Clarke, ‘Anticipation: Technoscience, life, affect, temporality’, 247.

⁴⁷ Van de Wiel, ‘Frozen in Anticipation: Eggs for Later’, 119.

⁴⁸ Exemplary for this discussion is Ahmed, *The Promise of Happiness*.

⁴⁹ Granjou, Walker and Salazar, ‘The politics of anticipation: On knowing and governing environmental futures’, 10.

object and media of anticipation can vary largely – the faculty to construct and adapt to future scenarios remains constant. Crucially, our exploration shows that anticipation as a cultural technique not only enables the construction of particular future scenarios, but also the construction of futurity itself – the very condition for prospection. Accordingly, anticipation, in its different mediations can be exposed as the underlying ontic operations establishing the conditions to make futures thinkable. In particular, framing anticipation as a cultural technique not only allows us to combine epistemic, systemic and affective conceptualizations, but also to expose its reality-producing qualities. The term ‘reality-producing’ here embraces both the epistemic (or revelatory) as well as the ontic (or interventional) qualities of anticipation. It also points to a particular agency that anticipatory media obtain in the presented framework. Anticipation is then a set of ontic operations that through the mediation of material and performative, human and non-human economies allows the prospection of futures.

As Bernhard Siegert and Winthrop-Young note, the term ‘Kulturtechniken’ (cultural techniques) has appeared in discourses at three different points in time and at each moment carried different implications.⁵⁰ Firstly, the term has emerged in rural engineering describing large-scale agricultural structures for irrigation or the straightening of river beds. Here a notion of culture close to the term ‘cultivation’ prevails: a cultural technique refers here to a technological infrastructure for cultivating, valorising and civilizing a landscape. In the 1970s the term takes on a different meaning in discussions in German media theory in response to a new ‘awareness of modern – that is, analogue and increasingly digital – media as the dubious shapers of society.’⁵¹ In particular, the term is used in this iteration to point to the increasingly sophisticated know-how that is required for the interaction with media such as television or computers. Cultural techniques are understood here as the type of know-how required for using a medium. According to Winthrop-Young the term at this point is close to what we understand as ‘media competency’. The third conceptualization of the term occurred in the early 2000s and radicalized and conjoined the former two, emphasizing what one could call the reality-producing faculty or agency of media and infrastructures. Thus, Cornelia Vismann defines cultural techniques in the following way:

Cultural techniques describe what media do, what they produce, and what kinds of actions they prompt. Cultural techniques define the agency of media and things. If media theory were, or had, a grammar, that agency would find its expression in objects claiming the grammatical subject position and cultural techniques standing in for verbs. Grammatical persons (and human beings alike) would then assume the place assigned for objects in a

⁵⁰ See Siegert, *Cultural Techniques* and Winthrop-Young, ‘Cultural Techniques: Preliminary Remarks’.

⁵¹ Winthrop-Young, ‘Cultural Techniques: Preliminary Remarks’, 5.

given sentence. From the perspective of media, such a reversal of positions may well be the most prominent feature of a theory of cultural techniques.⁵²

We can see here that the crucial re-interpretation of the concept lies in a reversal and re-direction of agency. While the previous two conceptualizations of cultural techniques describe situations in which nature or technology is turned into culture and subjects format objects via media, Vismann's re-interpretation frames media as the agents in such assemblages. Indeed, media are seen here to bring forth 'grammatical persons' and are assigned an almost animist agency.⁵³ As 'verbs' they are considered the movers that precede subject positions and generate forms of subjectivity rather than just being means to an acting subject. By that they enable and preclude particular forms of knowing, being, and relating to the world. Vismann specifies this subjectivity-producing and reality-producing agency of media in the following:

To inquire about cultural techniques is not to ask about the feasibility, success, chances and risks of certain innovations and inventions in the domain of the subject. Instead, it is to ask about the self-management or auto-praxis [Eigenpraxis] of media and things, which determine the scope of the subject's field of action.⁵⁴

What Vismann terms 'auto-praxis' is the point of departure of our reading of anticipation as a cultural technique. On the one hand, Vismann's approach allows us to ask for the particular agencies of media and infrastructures of anticipation: how do these media and infrastructures act upon the realm of the possible, the realm of the expectable and the fields of action of different subjects? What are their underlying operations? What are their projects and realisms? On the other hand, if media of anticipation hold an auto-praxis or agency, they are not just tools for the construction of concrete future scenarios. Rather, from this perspective, they establish the conditions for prospection to occur. We, therefore, can address the production of futurity by cultural techniques of anticipation. While Husserl – as previously discussed – insists on the centrality of anticipation as an epistemic principle for the transcendental subject, the theory of cultural techniques in its de-centring of the human subject and reversal of agency, allows us to address the ontic operations of anticipating media and their reality-producing and futurity-producing qualities. Siegert explicitly points to these productive or ontic qualities of cultural techniques:

⁵² Vismann, 'Cultural Techniques and Sovereignty', 83.

⁵³ For a detailed discussion of animism as agency of things see Albers and Franke, *Animismus*.

⁵⁴ Vismann, 'Cultural Techniques and Sovereignty', 84.

Humans as such do not exist independently of cultural techniques of hominization, time as such does not exist independently of cultural techniques of time measurement, and space as such does not exist independently of cultural techniques of spatial control. This does not mean that the theory of cultural techniques is anti-ontological; rather, it moves ontology into the domain of ontic operations.⁵⁵

Anticipation as a cultural technique constitutes ontic operations, too. Intuitively, one would think of anticipation at first as a cultural technique for the production and maintenance of predictability. Some of the oldest media for anticipation are architectures based on astronomical phenomena that served to predict reoccurring events such as the seasons or the appearance of comets on the sky. And yet, the concept of cultural techniques allows us to grasp the agency of media in their enactment of distinctions and non-distinctions. Just as the cultural technique of cutting – of separating a material into different parts – manifests itself in teeth, knives, scalpels or indeed the filmic editing table and allows us to ‘think’ a cut as much as its opposite, a montage, so anticipation can be seen to manifest itself in media ranging from oracles to weather forecasts and allows us to ‘think’ a not-yet and its opposite – an always-already. Siegert notes that:

In other words, the analysis of cultural techniques observes and describes techniques involved in operationalizing distinctions in the real. They generate the forms in the shape of perceptible unities of distinctions. Operating a door by closing and opening it allows us to perform, observe, encode, address and ultimately wire the difference between inside and outside. Concrete actions serve to distinguish them from the preceding non-differentiatedness. In more general terms, all cultural techniques are based on the transition from non-distinction to distinction and back.⁵⁶

Similarly, cultural techniques of anticipation operationalize the distinction between always-already and not-yet in the real. Their ontic operations establish a temporal non-differentiatedness and its differentiation into always-already and not-yet. The not-yet operates as a contingent background in front of which concrete future scenarios or states that are the subject of anticipation can emerge and become visible. From this angle, anticipation as the cultural technique producing and maintaining futurity is as much a productive process as one of deletion, productive as it models future scenarios and adjusts to them, and deletional in its production of contingency and lack. While the not-yet is described as latency, the always-already can be approached as a ‘reality effect’.

⁵⁵ Siegert, *Cultural Techniques*, 9.

⁵⁶ Siegert, *Cultural Techniques*, 14.

Anticipation as cultural technique produces both certainty in the form of expectation and uncertainty in the form of latency. The agency of cultural techniques of anticipation derives exactly from this latency, from the insight that something could occur, but has not occurred yet. The stress is here on the word *could*. It acts both as a formation of potential and the latent questioning of the same.

While the production of certainty can be named in reference to Roland Barthes' term 'reality effect', I propose to call the production of latency or a not-yet a 'futura effect'. The term 'reality effect' was first described in Roland Barthes' essay of the same name on the realism of modern literature. In particular, what Barthes calls 'description' data and descriptive details in narratives that seem 'superfluous as far as structure is concerned' contribute to this reality effect. Non-functional descriptions in literary texts produce noise that is perceived as reality. Rather than developing the narrative of literary text, description points to the process of mediation, and thus creates a reality effect. We could call it an applied non-differentiatedness. In comparison to narration, which is reduced to the premise 'if you act this way, this will happen', Barthes argues that:

description has no predictive mark: analogical its structure is purely summatory and does not contain that trajectory of choices and alternatives which gives narration the appearance of a huge traffic control center, furnished with a referential (and not merely discursive) temporality.⁵⁷

In response to Barthes, I propose to introduce the concept of futurity effects that frame particular narrations or objects as anticipatory. While for Barthes those parts of a narration that are not attributable to a signifier create a reality effect, and thus are realist textual devices, a futurity effect is created by devices that denote and render a latency. While reality effects evoke a sense of realism, a sense of 'what is', or an always-already, futurity effects establish a latency and a sense of a not-yet.

How can we now approach the ontic operations of anticipation and their agency in constructing futures and futurity effects? Vismann describes how such an examination of cultural techniques can operate in the following passage, stressing that cultural techniques are always embedded in specific material and performative economies at a given point in time:

⁵⁷ Barthes, 'Reality Effect', 143.

To start with an elementary and archaic cultural technique, a plough drawing a line in the ground: the agricultural tool determines the political act; and the operation itself produces the subject, who will then claim mastery over both the tool and the action associated with it. Thus, the Imperium Romanum is the result of drawing a line – a gesture which, not accidentally, was held sacred in Roman law. Someone advances to the position of legal owner in a similar fashion, by drawing a line, marking one's territory – ownership does not exist prior to that act.⁵⁸

Vismann's analysis shows how the logic of cultural techniques is one of multi-temporal, multi-medial and poly-local entanglement. Departing from a concrete tool, 'the plough drawing a line', she assembles a range of political, economic and historical subjectivities that are rendered possible through a cultural technique. These subjectivities in turn are presented as entries to a shared trajectory of ontic operations: the cultural technique of drawing a line. Not only does her analysis of this cultural technique recall the 'prescriptive image', or *Vor-bild*, conceptualized by Gaede as discussed above, Vismann's example also shows that the reality-producing capacity of cultural techniques lies in ontic operations, 'the operation itself produces the subject'. We see here the surfacing of a curious self-reflexivity or indeed an anticipatory quality of cultural techniques more generally, just as 'verbs' or 'Vor-bilder' cultural techniques pre-figure, construct and anticipate the later operations of a medium. Siegert speaks of 'operative chains that precede the media concepts they generate'.⁵⁹ Through a range of examples Thomas Macho explicitly conceptualizes this anticipatory quality of cultural techniques:

Cultural techniques – such as writing, reading, painting, counting, making music – are always older than the concepts that are generated from them. People wrote long before they conceptualized writing or alphabets; millennia passed before pictures and statues gave rise to the concept of the image; and until today, people sing or make music without knowing anything about tones or musical notation systems. Counting, too, is older than the notion of numbers. To be sure, most cultures counted or performed certain mathematical operations; but they did not necessarily derive from this a concept of number.⁶⁰

What Macho states for cultural techniques such as writing or reading certainly also applies for anticipation. Long before its conceptualization, anticipation existed in practice and has preceded

⁵⁸ Vismann, 'Cultural Techniques and Sovereignty', 84.

⁵⁹ Siegert, *Cultural Techniques*, 11.

⁶⁰ Macho, 'Zeit und Zahl', 179.

countless concepts and subjectivities. In a self-referential manner, Thomas Macho's definition shows that this concept of cultural techniques also rests on an anticipatory structure. Crucially, the theory of cultural techniques thus is particularly apt for our conceptualization of forms of agency held and enacted by anticipating media for the construction of futures. It affords our analysis with a critical sensitivity to the material and performative infrastructures that construct futures, but also futurity at large.

Whether or not media determine the future is open to debate; but they certainly determine our ability to think of the future in Vismann's theory. From this perspective, futurity is ultimately the effect produced by cultural techniques of anticipation. Cultural-technical operations thus enable and confine what we perceive as possible but also what we perceive as expectable. When Frederik Jameson famously states that 'it is easier to imagine the end of the world than the end of capitalism'⁶¹, and when Mark Fisher criticizes the all-encompassing 'capitalist realism' of our time,⁶² from our methodological perspective these critiques expose problems that can be addressed by examining cultural techniques of anticipation. We can now investigate what kind of future realities are capable of being thought and expected. The aim of this thesis is, then, to ask what kind of cultural technical operations prevent us from perceiving different futures and which kinds of cultural techniques could extend the trajectory of our contemporary anticipations. The ongoing proliferation of predictive technologies and the increasing reach of anticipatory media allows us to anticipate more scenarios, and more complex scenarios, in more precise ways. And yet, the consequences of the increased latency produced by these anticipatory systems remain unaddressed. Hopefully, our conceptualization will contribute to the understanding of the ways in which futures and futurity are produced and negotiated. And hopefully, our theoretical journey will also raise questions about how these productions and negotiations of futures can be politicized and democratized, for, it will become clear that the cultural technique anticipation was and is also a technique for the organization of power and the distribution of precarity. The question as to who is afforded a future and who is not, and who is enabled to articulate a not-yet, is one of political importance for the world of today.

Post-Cinematic Strategies: Enactment / Soft Montage / Rendering

⁶¹ Jameson, 'Future City'.

⁶² Fisher, *Capitalist Realism*, 1.

If cultural techniques of anticipation produce and maintain a not-yet and an always-already, how can their operativity be rendered addressable? Departing from this question, this thesis examines the experiments, appearances and critical engagements with anticipation in contemporary post-cinematic art. As in Vismann's exemplary reading, the ontic operations of anticipatory media are examined to conceptualize their agency in producing futures and futurity. Post-cinema is the umbrella term for a range of artistic and theoretical projects with the aim to develop a contemporary position towards moving images. While the term – as Lisa Åkervall notes – was first used in the early 2000s with a certain melancholia in critical circles mourning the 'loss of cinema' as an art form and a material medium, the term has recently experienced a more progressive appropriation.⁶³ Rather than the mourning for a lost medium, it now embraces a range of moving image practices and theories that attempt to move beyond the modernist grand narrative of cinema and its institutional manifestations. Shane Denson and Julia Leyda accordingly define post-cinema as both succeeding and questioning cinematic form:

Post-cinema is not just after cinema, and it is not in every respect “new,” at least not in the sense that new media is sometimes equated with digital media; instead, it is the collection of media, and the mediation of life forms, that “follows” the broadly cinematic regime of the twentieth century—where “following” can mean either to succeed something as an alternative or to “follow suit” as a development or a response in kind. Accordingly, post-cinema would mark not a caesura but a transformation that alternately abjures, emulates, prolongs, mourns, or pays homage to cinema.⁶⁴

Denson and Leyda's definition of post-cinema points to the non-linear notion of the prefix 'post-'. Rather than a simple 'after-cinema', post-cinema is defined here as an entanglement of emerging and abandoned forms of moving images with the modernist medium cinema. The questions posed by post-cinematic art are thus not just how cinema or the cinematic survives or can be re-interpreted today, but rather which historical pathways in the history of cinema were abandoned and why. These questions are posed in the form of projections in a dual sense: post-cinematic art attempts to project how a different moving image practice can be imagined today and at the same time how cinema has always already been different from the modernist narratives in the past. In a similar motion, Hagener, Hediger and Strohmaier observe a twofold trajectory in the recent discussions of post-cinema:

⁶³ Åkervall, 'Review: Post-cinema', 132.

⁶⁴ Denson and Leyda, 'Perspectives on Post-cinema', 2.

The concept of post-cinema evolves around issues of medium specificity and ontology. It focuses on the two classical markers of cinema's specificity, namely the photographic index and the dispositive of cinema, and designates a condition in which both the index and the dispositive are in crisis.⁶⁵

Post-cinema both as a theoretical and artistic project questions the specificities of cinema: its 'index' and its 'dispositive'. The shared project of post-cinema is therefore a range of attempts to deconstruct and hybridize the apparatus and the realisms of cinema. This constitutes a move beyond cinema that nevertheless derives from and is always entangled with cinema. On the one hand we can see hybridizations of the cinematic apparatus through technological interventions that question, for instance, the standardized and immobilized projection of cinematic images. On the other hand, we see the critical examination of the representational qualities of moving images and strategies to render the historical and political blind spots of cinema visible. In brief, post-cinema highlights in particular the performative and material economies of moving images today and their historical trajectory and political fault-lines. This critical examination often occurs in experiments with post-representational form, as the following quotation from a programmatic essay by Steyerl shows:

Today, cinematic politics are post-representational. They do not educate the crowd but produce it. They articulate the crowd in space and in time. They submerge it in partial invisibility and then orchestrate their dispersion, movement, and reconfiguration. They organize the crowd without preaching to it. They replace the gaze of the bourgeois sovereign spectator of the white cube with the incomplete, obscured, fractured, and overwhelmed vision of the spectator-as-laborer.⁶⁶

We will come back to Steyerl's model of the post-cinematic political condition later in more detail. For now, Steyerl's excerpt reminds us of the arrogation of agency from subjects to media and infrastructures that we have encountered in the conceptualization of anticipation as a cultural technique previously. We can see the parallels between a post-media or rather hypo-media approach developed in the theory of cultural techniques and the project of post-cinematic art as described by Steyerl. Here, the 'crowd' is regarded in Steyerl's theory as 'produced' and 'organized' by post-cinematic media who become 'spectator-as-laborers'. In this way the post-representational approach criticizes the modernist narrative of cinema in an anticipatory manner. As Steyerl's

⁶⁵ Hagener, Hediger and Strohmaier, *The State of Post-cinema*, 3.

⁶⁶ Steyerl, 'Is a museum a factory?.'

quotation shows, the ‘gaze of the bourgeois sovereign spectator’ is replaced with a speculative non-representational system of co-articulation of spectator and artwork. This projective approach finds its equivalent in post-cinematic theories that in a self-referential manner often take the form of anticipations, too, as the following excerpts show:

It [post-cinema] proposes to extend and project this history in the future. In addressing the shared past – the canon, the established methods, the known facts and figures, but also the dead ends and forgotten objects that new methods such as media archaeology unearth – in new ways, we have to start transforming and adapting our approaches to the future. [...] In this process, we have to grasp the present as the moment when the past's certainties are opened up to the future's possibilities. [...] In other words, this book insists on re-framing our understanding of what film was in light of what it is now becoming.⁶⁷

We can observe here that the declared project of a post-cinematic theory is anticipatory, too. This self-reflexive declaration by the theorists of post-cinema shares with the artistic practices a critical questioning and short-circuiting of the indexicality and the dispositive of cinema. Further, and by analogy to the theoretical interventions, many of these artistic projects self-reflexively examine anticipatory infrastructures. Another statement by Steyerl that was reviewed in the introduction illustrates this:

Only from the perspective of the future can we recover a critical distance; from a future that releases the imagines from their entanglements with contemporary rule. Critical documentarism, in this sense, is obliged to not just show what already exists – the embeddedness of images in the contemporary reality. Only those images are genuinely documentary that show what does not exist yet and what may be yet to come.⁶⁸

Not only has post-cinematic art embraced the theoretical discussions, it is also particularly effective in approaching the constructions of future, because it can combine and question a broad range of media. The future-shown-as-present of post-cinematic anticipation allows the viewer to experience the affective dimension of socially and technologically constructed futures. Thereby, post-cinematic art at once refers to, but also breaks with cinematic heritage. The ‘turn towards the future’ and its non-linear temporal implications are examined for instance with techniques from early cinema and even proto-cinematic traditions. Rather than focusing solely on screened material, the

⁶⁷ Hagener, Hediger and Strohmaier, *The State of Post-cinema*, 4.

⁶⁸ Steyerl, *Die Farbe der Wahrheit*, 15-16.

materiality of the screening apparatuses gains importance. Rather than relying on narrative immersion, the spectacle of recording or simulating becomes integral to artistic projects. Accordingly, Denson and Leyda define post-cinema as a transitional project that:

asks us to think about new media not only in terms of novelty but in terms of an ongoing, uneven, and indeterminate historical transition. The post-cinematic perspective challenges us to think about the affordances (and limitations) of the emerging media regime not simply in terms of radical and unprecedented change, but in terms of the ways that post-cinematic media are in conversation with and are engaged in actively re-shaping our inherited cultural forms, our established forms of subjectivity, and our embodied sensibilities.⁶⁹

Therefore, assembling theories on the construction of futures and the search of post-cinematic art can grant us insights into the ways in which futures are constructed today and their impact on what can be imagined. Anticipatory realism is then also a theoretical contribution to the assessment of the contemporary possibilities and impossibilities of anticipation. Rather than a representational reading that emphasizes the historical embeddedness, we will approach post-cinematic artworks as anticipations and as forms of critical engagement with anticipatory cultural techniques. In the following, enactment, soft montage and rendering are introduced as post-cinematic strategies of anticipation. At the same time, they will serve us here to render visible the operations of cultural techniques of anticipation. These strategies are used in post-cinematic art to construct concrete future scenarios and to examine regimes of prediction. Therefore, all three are at the same time analytical strategies for the understanding of anticipation as well as strategies of anticipation. Each of these strategies provides a particular angle on what we have established previously as the simultaneous construction of a not-yet and an always-already. We will see now how their application in post-cinematic art brings forth both reality effects and futurity effects. Enactment, for instance, entails not only a concretization of future scenarios, but also in a self-reflexive manner points to the operations of production of a futurity effect. Similarly, soft montage and rendering are used in post-cinematic art in post-representational ways: rather than just referring to particular future scenarios, they sensitize us to the agential entanglement with the very anticipatory infrastructures that they are part of. What all three – enactment, soft montage and rendering – share as post-cinematic strategies is that they address and make graspable the ontic operations of anticipation.

⁶⁹ Denson and Leyda, 'Perspectives on Post-cinema', 2.

Enactment, soft montage and rendering are called post-cinematic strategies here, because they question the modernist cinematic apparatus and its realisms in the examined corpus. As post-cinematic strategies they operate not simply through historical exegesis or media-archaeology, but also as anticipation of future moving image practices. As will be shown in the close readings in the following chapters, enactment can be a strategy of anticipation that makes visible the material and performative economies of speculation. Similarly, soft montage allows, through a juxtaposition of two images, access to the operability of images and their function as *Vor-bilder*, while rendering can yield awareness of the infrastructural embedding and anticipatory faculty of moving image processes. We will briefly look here at all three techniques and their establishing and iteration of anticipatory operations. While each of the following chapters focuses on one of the techniques in particular, we will see that they often appear in conjunction. Thus, the motion of our conceptualization will also occur iteratively and conjunctively.

Enactment

Enactments usually occur in two different forms, either as the performing of a pre-determined, usually written script, or as re-enactments of prior events. In contrast to acting, which would aim for maximal immersion or an authentic representation of a fictional world, in an enactment, the artificiality, the mediality and the nature of the enacted protocol are accentuated too. Bill Nichols defines re-enactments in documentary film as ‘the more or less authentic re-creation of prior events.’⁷⁰ Nichols further assigns them a fascinating characteristic: re-enactments are ‘a representation of a prior event while also signalling that they are not a representation of a contemporaneous event.’⁷¹ Re-enactments thus produce a state of inbetweenness, which provides a space for ghosts (concepts or subjects) to return. This return of ghosts or the spectralization of discourse destabilizes the structure of a present hegemonic discourse: a hegemonic concept becomes contingent through the operation of rendering it visible as a repetition of the past and as a potential repetition in the future.

In an enactment the dialectical tension between the enacted protocol and the materiality of the action comes to the fore. This self-reflexivity is comparable to that developed in Brecht’s theory

⁷⁰ Nichols, 'Documentary reenactment and the fantasmatic subject', 72.

⁷¹ Nichols, 'Documentary reenactment and the fantasmatic subject', 72.

of the epic theatre as ‘alienation effect’. Enactments accordingly highlight the performative dimension of protocols and the materiality of action, too, rather than aiming for immersion or authentic representation. As accentuated acts and the executions of protocols they self-reflexively point beyond their presentation, thereby, enactments are specific kinds of performances that refer to particular structures, scenes, times or even worlds absent from the moment of presentation. Because of their referential quality enactments can be described as hauntological interventions. As such they are strategies to destabilize discursive structures while at the same time exposing the ways in which prevailing modes of organisation and representation are haunted by the violence they perform. The term hauntology refers here to Derrida’s *Spectres of Marx* in which Derrida proposes the term in opposition to ontology:

To haunt does not mean to be present, and it is necessary to introduce haunting into the very construction of a concept. Of every concept, beginning with the concepts of being and time. That is what we would be calling here a hauntology. Ontology opposes it only in a movement of exorcism.⁷²

Ontology and hauntology it seems are dialectically opposed to each other. While the former aims to create discrete demarcations and thus exorcise the ghosts of discourse, hauntology dissolves solid categories and creates spaces of inbetweenness. Enactments thus create a form of vacillating knowledge. Hauntological interventions that produce this form of unstable knowledge seem to depend on a particular kind of anticipation, an anticipation that gives time and space for ghosts to return. Or as Derrida puts it himself: ‘in memory of the hope [...] is the very place of spectrality’⁷³. Enactments as particular forms of hauntological intervention can intensify the inbetweenness of moving images. At the core of every enactment lies the understanding that the event that is enacted differs fundamentally from the enactment. The displacement of certain traits of the event into a present moment is the creation of difference through repetition. The enactment is therefore at the same time part of the present, as it is part of the past or a projected future. Georges Didi-Huberman formulates from this an imperative for art and philosophy:

Today [...] it is up to us to recompose “New Ghost Stories,” a task incumbent on artists, philosophers and historians alike. One that needs to be constantly redone in order to enable us to understand that we only experience our present through the combined movements, the montages of our memories (gestures we make toward the past) and those of our desires

⁷² Derrida, *Specters of Marx*, 202.

⁷³ Derrida, *Specters of Marx*, 82.

(gestures we make toward the future). The images should then be considered as potential crossroads of all these combined gestures.⁷⁴

As cultural techniques of anticipation enactments allow us to experience our present through – as Didi-Huberman notes – gestures to the future. An enactment refers to the scenic presentation and enactment of a scenario, model or structure in which actors create a transactional economy based on rules and patterns. Enactment emphasizes both the self-referential act of enacting and the reality-producing effects thereof. In contrast to a representational enacting in which knowledge is mediated via actors and a scene to an audience, in an enactment the differences between audience and actors blur. In an enactment the formation of such a performative economy is documented. Thus, an active addressing and projecting of different layers of fictional reality-production is set in motion. The performative and material qualities of an other become perceivable. The epistemic surplus value thus does not lie in an authentic representation or an authentic experience, but in an encounter and visualization of different structural and reality-producing systems and their manifestations in a scene. An enactment can be both a pre- or a re-enactment, referring to different temporal moments, but more importantly to different relational and perceptual economies.

Soft Montage

Initially, soft montage referred merely to the juxtaposition of two moving images on a single screen. Today, the term encapsulates a broad range of post-cinematic techniques for the installation of multiple moving images in a space. Soft montage encompasses simultaneous screenings or projections of two or more separate moving image sequences within a unified visual field. The term stands in contrast to a ‘hard’ or classical montage in film that operates in linear fashion: one image follows another after a cut. Rather than such a classical sequential montage, a soft montage assembles and juxtaposes at least two moving images *simultaneously*. However, not every assembling of two screens with moving images can be considered a soft montage. Firstly, two streams of moving images need to be discernible as separate entities, and secondly, they need to be held by an intention that accentuates their relatedness. A soft montage thus establishes a relationship between two or more simultaneous moving images. Farocki first coined the term and developed it as a filmic technique, but also as a concept, in his film *Schnittstelle* and accompanying interviews.⁷⁵ In a conversation with the film historian Kaja Silverman, Farocki derives the concept from his engagement with the works of Jean-Luc Godard:

⁷⁴ Didi-Huberman, *The Surviving Image*, 186.

⁷⁵ *Schnittstelle*, directed by Harun Farocki (1995).

When Godard shows two monitors, he makes one comment upon the other in a soft montage. I say “soft montage” since what is at issue is a general relatedness, rather than a strict opposition or equation. *Number Two* does not predetermine how the two images are to be connected, we must build up the associations ourselves in an ongoing way as the film unfolds.⁷⁶

Farocki conceptualizes soft montage as the production of a general relatedness in contrast to a pre-determining (discreet) opposition of two moving images. This relatedness takes the shape of a multi-variant entanglement: two moving images can comment upon, work through, relate to, identify, multiply, compare, dissect, examine, reduce, anticipate, interpret, complete, copy, re-interpret, deceive, expose, contrast, balance, fight, format each other. Within a soft montage the entanglement in its constantly shifting variations of parameters renders visible a mutuality and similarity of the two moving images. The terms mutuality (*Gegenseitigkeit*, opposite-sided-ness) and similarity (*Gemeinsamkeit*, common-ness) here point to a shared intention without prescribing a particular meaning. The multiplicity of possible relationships between the images in soft montage rather creates a symbolic space in which the operativity of the images becomes graspable. Farocki describes this particular capacity of soft montage to produce associations as a simultaneity:

This idea of not saying “A or B,” but “A and B” is somehow important to my own conception of soft montage. When Deleuze read Godard, he had this idea that images in his films are not excluding each other, but just building up a relationship between them during a specific film.⁷⁷

This conceptualization points us back to Barthes’ concept of ‘description’ and the ‘reality effect’. For Barthes, ‘description’ – the stating of narratively superfluous material in a literary text – subverts the pre-determination of narration and creates a reality effect. According to Barthes’ analysis this is achieved by narratively superfluous material in a text that induces a ‘noise of reality’. By analogy, with this a soft montage renders visible the superfluous materiality of images and in turn exposes the operational trajectory of each of the assembled images. Between the two images a non-functional betweenness comes into existence that prompts associations in the viewer ‘in an ongoing way’. This thickness of images is inherent to all moving images due to their medial condition and could be called their ‘reality effect’ or operativity. An excerpt from the voice-over of

⁷⁶ Silverman and Farocki, *Speaking about Godard*, 142.

⁷⁷ Farocki, de Genaro and Callou. ‘Keep the horizon open’.

Schnittstelle shows how soft montage for Farocki operates as a principle and how he derived it from the operations of an editing station:

This editing station has two screens,
 to see whether two images fit well together
 which are to appear in sequence in a film.
 Does this image go with that one?
 Does this image offer itself to that one?
 Does this close itself off from that one?
 We can grasp this duality by suggesting that one image comments on the other.
 To date only words, or sometimes music, comment on images.
 Here images comment on images.⁷⁸

Firstly, we can see here how the operation of a parallel projection is also embedded in the cinematic apparatus and its extended infrastructure. One can also speak of a particular enactment of montage in the context of a soft montage. The question that is self-referentially reflected by its medial configuration is that of the *Schnittstelle*: what is the place of the cut, but also what is the place of the interface? We come to realize here that the absent cut is the act of putting together materials, but more importantly, the act of establishing and holding them in relation. Secondly, in a soft montage images comment upon images. We could say this is when they become media for each other. One image, then, structures the other and exposes its layers of operativity. The agency that two images enable with each other in a soft montage also allows for speculation about new functions of images and about the ideological frameworks and operations in which the particular sequence of images is embedded in other contexts. We could also say these images think each other. Volker Pantenburg describes Godard's and Farocki's films as 'films as theory'.⁷⁹ In accordance with Pantenburg, soft montage is not only a filmic technique but a particular theory, or more precisely a particular epistemological mode of critique.

How can we now describe the entangled agency of moving images in soft montage? What are its ontic operations as a cultural technique of anticipation? While classical hard montage edits time, soft montage can diffract time. Moving images primarily capture time, and in soft montage two times are entangled. With the breaking of linear temporality comes the diffraction of a single perspective. Soft montage is not bound to perspective as symbolic form. Soft montage can blur the boundary of a unified field of vision. Both images can subject each other and describe each

⁷⁸ *Schnittstelle*, directed by Harun Farocki (1995).

⁷⁹ See Pantenburg, *Farocki/Godard*.

other and thus create hybrid perspectives. Farocki asks us to imagine this simultaneity like a benzene ring:

There is succession as well as simultaneity in a double projection, the relationship of an image to the one that follows as well as the one beside it; a relationship to the preceding as well as to the concurrent one. Imagine three double bonds jumping back and forth between the six carbon atoms of a benzene ring; I envisage the same ambiguity in the relationship of an element in an image track to the one succeeding or accompanying it.⁸⁰

Through this hybrid state of ‘and’ rather than ‘or’ soft montage highlights the materiality and performativity of images. The materiality and performativity of an image is pronounced and amplified in the encounter of relation with another image. Because it is ambiguous and indeterminate, soft montage introduces a not-yet into the material. Soft montage allows for the performative economies of images to become visible; not only does an image as an object become graspable, but also an image as impulse or instruction and an image as perceptual infrastructure. For Steyerl, soft montage as a means of recombination holds the potential of a political not-yet that remains unexplored. In her essay *Postproduction*, Steyerl also reflects on the potentials of soft montage. Soft montage is averred as a political tool. Together with the new possibilities for image creation through digital postproduction, soft montage allows the creation of images that would not have been possible before and, thereby, ‘alternative political bodies’:

And we have a new important tool in order to do so, namely parallel screens. If a part of the body is cut, we can add a substitute for it on the next screen. We can reedit the cut-off parts of the body to create a body that doesn’t exist in reality, only in editing, a body composed of limbs cut from other bodies, limbs deemed superfluous and inconvenient or excessive. We can recompose a new body with these cut-off pieces, a body that combines the bones of the dead and the folly of the natural bodies of the living. A form of life that exists in editing and by editing. [...] We can reedit the parts that were cut— whole countries, populations, even whole parts of the world, of films and videos that have been cut and censored because they do not conform to ideas of economic viability and efficiency. We can edit them into incoherent, artificial, and alternative political bodies.⁸¹

⁸⁰ Farocki, ‘Cross Influence / Soft Montage’, 70.

⁸¹ Steyerl, *The Wretched of the Screen*, 187.

Soft montage thus also reminds us that a single image does not exist. Just as one can never express something in words one can call one's own, or words one can own, images, too, have lineages and trajectories. Soft montage is fundamentally ambiguous and can render visible ambiguous states in and between images. For Godard, Farocki and Steyerl, soft montage is a particular mode of critique. They have applied it to disentangling images from their complicity with rule. Soft montage accordingly allows for new domains of critique that descriptive critique (through text) or instructive critique (through classic montage) cannot access. In fact, one can say that soft montage can deal better with the articulation of soft power and soft politics.

Rendering

The term 'rendering' refers to a variety of activities in the English language. Etymologically, it derives from the Latin verb *dare* (to give) and the prefix *re-* (back). To render, thus, means 'to give' or 'to give back', as in the biblical injunction – 'Render unto Caesar the things that are Caesar's, and unto God the things that are God's.'⁸² Services or judgments can be rendered to somebody; 'sur-rendering' means to give up or give in to something, and during a rendition, persons or objects are handed from one jurisdiction to another. The term has also taken on the meaning to 'perform' or 'to translate'. A passage in one language can be rendered into another language, a musical piece can be rendered before an audience. What all these apparently unrelated activities share is the transaction or translation from one system into another. Rendering, however, can also describe a conditional transformation as in the example: 'the rains rendered an escape impossible'. Contrary to the first meaning here we are concerned not with a translation or transaction but a new configuration of reality. In the context of computer graphics, the term refers to the creation of images and visual models from data by means of computing. While 'processing' can refer to all kinds of computational operations, rendering in this context always refers to a process that creates a scene or scenario.

Usually, a rendering process translates a scene file, in which objects, viewpoints, geometries, light and other parameters are described in code into a scenic image. Thus, the image or render is the result of a request to a model. The rendered image, then, is both the translation of a code into image, and simultaneously a request. It is a transaction and at the same time a concretization. In contrast to a representation that captures and abstracts a scene, rendering generates experience

⁸² The Holy Bible (Matthew 22:15-22).

from code and therefore concretizes abstract concepts. In contrast to a medium, an infrastructure not only translates, but always already entails a project or anticipation. In this sense, the circularity of ‘Render unto Caesar ...’, whereby the earthly or the divine sovereign is already in possession of what you should surrender to him, is also built into the logic of rendering. The renderings of an image are always projections of what is anticipated in prevailing conditions of possibility. But they can also exhibit those conditions in particularly enabling ways, ways which might give subjects the capacity to project things away from the control of sovereign powers, be they Caesar, God or bourgeois capitalism.

Rendering as anticipatory and post-cinematic technique here therefore refers to the process of making visible reality-producing operations, but also to the translation and transaction between two systems. Renders are outlines, layers of plaster put over a building, stand-ins, or interfaces, both literally as in the case of architectural renderings and metaphorically as enabling infrastructures. For rendering both encompasses and makes addressable reality-producing effects of anticipation. As a post-cinematic strategy, it enables the critical questioning of the performativity and materiality of images. To render an image is both to anticipate a visual reality and ‘to give back’ in accordance with a pre-existing protocol or model. Thus, rendering sensitizes us for the reality-producing and futurity-producing qualities of anticipation. It is not only the dominant technological operation of visual media today, but – in its anticipatory structure – it can also enable us to address regimes of prediction.

In its operativity rendering is close to a framing of realities. And yet, while a frame always implies a closure and a fixing of perspective, rendering expresses the performative character and generativity of computer-generated images in a more profound way. Rendering is thus understood here in the context of what Vilem Flusser has called an ‘anticipating discipline’ and ‘anthropology of possible human being’:

Eine derartige Anthropologie, die vom möglichen Menschen handelt, ist eine vorgeifende Disziplin, und sie versucht, am vorderhand Gegebenen (an der Säugetierspezies “Homo sapiens sapiens“) eine zu erreichende Möglichkeit (den Menschen im eigentlichen Sinn) zu erhaschen. Man kann von einer solchen Disziplin nicht eigentlich sagen, daß sie “vom“ Menschen, sondern eher daß sie “zum“ Menschen handelt, und man kann von ihr nicht erwarten, daß sie den Menschen begreift, sondern eher, daß sie versucht, nach ihm zu greifen.⁸³

⁸³ Flusser, *Vom Subjekt zum Project*, 200.

Rather than producing knowledge *about* something, rendering in this conceptualization stands for a knowledge *toward* something. Flusser, in this statement, distinguishes such an operation through an ambivalence in the term to grasp (*greifen*): instead of grasping something, rendering as an anticipatory strategy allows for a grasping for something which is not-yet existent.

The conceptualization of anticipation as a cultural technique developed here serves us as framework for the subsequent chapters. In the following sequence of critical encounters between conceptual modelling and close readings several medially, historically and culturally specific manifestations of anticipation are analysed. Each of these manifestations will grant us insights into the particular ontic operations of future construction in the specific context. The aim of this framework is therefore to enable the key aim of the thesis: to make the political dimension of anticipation addressable and, more precisely, to show how anticipation produces and distributes futurity. In the critical encounters with post-cinematic art particular attention is paid to the agency of media in the construction of futures, distinguishing the temporal dimensions of the not-yet and the always-already, and the precluding and enabling operations of expectation. Through this theoretically informed work of distinction and exposure, the argument unfolded here aims to contribute to a politicization and democratization of processes of future construction.

2 Enactment / Neil Beloufa

– Performance and Materiality of Anticipation

Selbst wenn alle Teile eines Problems sich einzuordnen scheinen wie die Stücke eines Zusammenlegspiels, müßte man daran denken, daß das Wahrscheinliche nicht notwendig das Wahre sei und die Wahrheit nicht immer wahrscheinlich.⁸⁴ *Sigmund Freud*

‘We don’t really want to explore other worlds. On the contrary, we simply want to extend the boundaries of Earth.’ This is a sentence from one of the protagonists in Andrei Tarkovsky’s science fiction classic, *Solaris*.⁸⁵ In the film, a group of scientists conduct research on a newly discovered planet from a space station in its orbit. Initially, they are not able to detect any life forms on the planet, yet they are haunted by strange hallucinations. The life forms of the planet appear to the scientists as manifestations of their own memories. As the researchers approach the planet with purely scientific means, their endeavour to study the mysterious planet and its life forms is bound to fail. The planet remains an object of research to the scientists and, thus, cannot become a subject for communication. ‘We don’t really want to explore other worlds. On the contrary, we simply want to extend the boundaries of Earth.’ The line not only points to a colonialist framework of territorial and ideological expansion, it also more generally indicates a central problem of knowledge acquisition: the desire to know is often not so much a desire to address with the unknown, but rather to conquer and subdue the unknown under the rules of the already known.

Scholars from fields as diverse as science and technology studies, post-colonial studies or feminist studies have criticized this impulse to subdue the unknown under the already known through extrapolation. Karen Barad in her book *Meeting the Universe Halfway* makes a case for a non-representational realism that opposes the implied objectification and one-sided agency in processes of knowledge acquisition.⁸⁶ In a radical appropriation of concepts from Nils Bohr’s quantum theory, she proposes an ‘agential realism’. This agential realism describes relationships between observer and observed matter as co-constitutive. Rather than a subjugation, she makes the case for an acquisition of knowledge that considers deep mutual entanglements between observing subject

⁸⁴ Freud, *Der Mann Moses und die monotheistische Religion*, 114-115.

⁸⁵ *Solaris*, directed by Andrei Tarkovsky (1972).

⁸⁶ Barad, *Meeting the Universe Halfway*.

and observed matter. As in Bohr's theory, the observer and the observed co-constitute each other in a mutual addressing. The mysterious appearances of life forms as personal memories in *Solaris* point to such entanglements of observation, too, including the complex temporalities in which observers and observed co-constitute each other. The hallucinations that the scientists experience in the film are embodiments of personal memories from their past. Matter does talk back, and not in ways that align with the present tense. Rather, in *Solaris* those forces unaddressed by discursive objectification return as ghosts. Both in Tarkovsky's *Solaris* and for Barad, the spectral entanglement of observer and observed is a fundamentally ethical issue:

Othering, the constitution of an 'Other', entails an indebtedness to the 'Other', who is irreducibly and materially bound to, threaded through, the 'self' – a diffraction/dispersion of identity. 'Otherness' is an entangled relation of difference (*différance*). Ethicality entails non-coincidence with oneself.⁸⁷

The question that both *Solaris* and Barad's philosophical intervention raise is how an ethical observation and, thus, an ethical acquisition of knowledge can take place. Both criticize a particular structure of knowledge acquisition that is simply an extension of previous experience and that denies and veils the fundamental entanglements between observer and observed. And both show how the recognition and addressing of these entanglements can set in motion a more ethical and more complex understanding between observer and observed. Ethicality as entailing non-coincidence means here that an other should be addressed as an other and yet as deeply entangled and in a relationship with a oneself as addressing subject.

When thinking about modes of relating to the future, Barad's agential realism and the sensitivity of *Solaris* to the spectrality and temporal entanglements of knowing can be of help, too. Both allow us to reframe the future from an 'object of study' to a relational other. Instead of aiming for a more predictable and controllable future, the aim of a non-objectifying inquiry would be to understand and be attentive to the entanglements and agencies of different temporalities in the present. This would involve a set of critical questions. How are futures as mediated constructions active in the present? How are we as observers entangled with them? Can we imagine relationships with these futures that are not objectifying? And thus, can we explore other worlds without submitting to the impulse to extend the boundaries of Earth? *Solaris* and Barad's philosophy open these questions for the agency of futures in the present. They invite us to engage in a form of anticipation that address futures in their materiality and performativity neither as completely open

⁸⁷ Barad, *Meeting the Universe Halfway*, 265.

nor entirely closed, neither as always-already nor as not-yet, but as mediated processes taking place between different human and non-human actors.

This chapter contributes to and hopefully extends the critical trajectory of both Barad's theory of agential realism and *Solaris's* lucid artistic propositions. As much as both can be read as interventions against particular forms of knowledge acquisition, this chapter more specifically aims to project constructions of futures that are non-objectifying. The post-cinematic installations by the French-Algerian artist Neïl Beloufa serve as material to observe and relate to such practices of anticipation beyond extrapolation. One key aspect of Beloufa's post-cinematic works is a critical performance and enactment of anticipation. Enactment here is broadly understood as a performative accentuation of ontic operations by human and non-human actors. In exploring these implications, I focus in particular on a select set of Beloufa's works: the science-fiction ethnographic documentary *Kempinski* (2007), the installation *The Analyst, the Researcher, the Screenwriter, the CGI tech and the Lawyer* (2011) (in the following abbreviated as *The Analyst*), and the double installation *Data for Desire* (2014) / *World Domination* (2012).

Reading Beloufa's works through the questions raised by *Solaris* and agential realism enables us to conceptualize a form of anticipation that self-reflexively enacts and addresses its material and performative operations in the present. By incorporating and setting these theories in motion, the problematic character of the desire to know as desire to objectify can be specified for our purposes. I propose that through enactments of anticipation, Beloufa's works examine the problematic objectification of extrapolation. To extrapolate here means to conclude from past experiences about future events via estimations. An extrapolation, thus, prolongs what was to what is not yet. Instead of bearing the uncertainty of an unknown other and addressing it as such, extrapolation subdues and secures a future in line with previous experience. One could thus call it a representationalist and a presentist form of anticipation. Firstly, extrapolation is representationalist because it rests on the problematic assumption that future events can be represented by past data. Through Barad, it becomes clear that this distinction is particularly problematic because it assumes a clear distinction between observer and observed, where only the observer is granted agency.⁸⁸ And extrapolation is presentist in that it addresses the future in the light of the present moment. Temporally, it reproduces and amplifies what is and what is known over what is not (yet) and what is not (yet) known. Media theorist Marshall McLuhan has referred to this presentist stance as rear-view mirror bias:

⁸⁸ And, thus, also on the problematic assumption that epistemological and ontological questions can be addressed independently.

The new is always made up of the old or what people see in the new is always the old thing. The rear view mirror. The future of the future is the present. And this is something that people are terrified of.⁸⁹

Beloufa's works address these presentist and representationalist biases by enactments that lay bare the materiality and performativity of different modes of anticipation. These enactments occur both with cinematic and sculptural means. Through the model of Barad's agential realism the post-representational and post-cinematic trajectory of Beloufa's works become graspable. Further, in juxtaposition with *Solaris*, it becomes clear that extrapolation is not without consequences: the subdued, unheard other returns. By treating futures as objects (of observation) their materiality – that is neither fully representable nor fully present – remains unaddressed.⁹⁰ Beloufa's works stage situations in which this unaddressed materiality and performativity comes back and, thus, can be read as mounting a critical intervention against the paradigmatic form of anticipation that is extrapolation.

Why are screen media and in particular the post-cinematic installation an apt site to reflect upon and engage with these processes of objectification and extrapolation? Film scholars like Laura Marks have pointed to the particularly ambiguous state of cinematic images in regard to their materiality. In reference to the psychoanalyst Donald Winnicott she calls filmic images a transitional object, 'an external object that a person partially incorporates in the process of reorganizing its subjectivity'⁹¹. For Marks, in the ambiguous materiality of cinematic images a particular contact can be established between observer and observed object that is both manifest and virtual, graspable and ungraspable, present and absent:

Transitional objects are not only discursive productions; their meaning cannot be separated from their materiality. Fetishes resist abstraction. They insist on the materiality of the original presence to which they refer.⁹²

The transitional object is, thus, a representation, but more importantly an agent insisting on its irreducible materiality. The post-cinematic artworks by Beloufa embrace this ambiguous material quality of cinematic images and accentuate it by incorporation in sculptural environments. Rather

⁸⁹ McLuhan, *This is Marshall McLuhan*.

⁹⁰ The verb 'to address' entails both to speak to a person and to name someone or something in a specific way when talking to them – to address them with their proper name, so to say. That which remains unaddressed has not been given a proper name, yet.

⁹¹ Marks, *The Skin of Film*, 78.

⁹² Marks, *The Skin of Film*, 92.

than an immersion as in cinema, images here are embedded in particular spatial viewing situations. The works quite literally go beyond the frames of the image and often both the materiality of the viewing space and the materiality of the cinematic image highlight each other. These particular configurations and their enactments of spatial relationships allow for an addressing of the performances and materialities of anticipation. Enactments here render visible the reality-producing and futurity-producing qualities of acts of the artworks. Rather than representing or predicting future scenarios, the enactments in Beloufa's works allow for an attention to the agency of objects that structures anticipation.

These theoretical considerations occur in a context in which the problem of extrapolation constantly is gaining in importance. We live in a time in which the proliferation of predictive technologies with extrapolation as their structuring principle increases every day. The impact of these predictive technologies on elections, financial markets and our social worlds is already unlike anything that has gone before. And yet, despite unprecedented data of the past and unprecedented means for prediction, a loss of control is haunting economic, political and social systems. It seems as if the promises of extrapolation – of predicting future events through data from past behaviour – in many cases produce the very opposite: namely the phantom of uncertainty. In his book *The Specter of Capital*, Joseph Vogl analyses the crash of the financial markets in 2008 as one recent example of such a loss of control. Vogl writes about the particular role that predictive technologies played in the crash:

The insurance or 'securitization' of future event sequences returns as an incursion of uncontrollable contingency, and the technologies deployed to control, colonize, or defuturize the future end up transforming it into an unforeseen event impinging on the here and now. A revenant of a most peculiar kind, the specter of capital always comes back from its own future.⁹³

Just as in the case of *Solaris*, the attempt to control and to colonize an unknown other produces uncertainty in the form of a spectre. For Vogl, the extrapolations of predictive instruments for insuring (against) and securing future events are the cause for this loss of control. In *The Future of Futures* the sociologist Elena Esposito comes to a similar conclusion. Instead of reducing uncertainty, predictive financial instruments such as options and futures create new uncertainties on the market. In fact, Esposito argues that financial markets, which 'deal primarily with the

⁹³ Vogl, *The Specter of Capital*, 125-126.

management of time in the form of risk',⁹⁴ depend on the creation of these spectres that come into existence when uncertainty is framed as risk. The uncertainty produced by these extrapolating anticipations is not an exception, but a systemic component.

Jacques Derrida has pointed to this quality of extrapolating anticipation, too, by stating that 'speculation is always fascinated, bewitched by the specter.'⁹⁵ I understand fascination and being bewitched here as a return of a repressed otherness. It is the return of an absent presence, of that which is excluded from and by extrapolation. As described by Esposito, the production of uncertainty, too, is not just an accidental side effect of extrapolation, but one of its constitutive features. The production of uncertainty through prediction and the spectralizing quality of anticipation go hand in hand.

In this way, an extrapolating anticipation inscribes itself in a triangular form into the realm of the expectable: firstly, as a statement of what is possible; secondly as its inversion, as false proposition; and thirdly, through that what remains unaddressed by it. By stating the possibility 'it will rain tomorrow', the possibility 'it will not rain tomorrow' is already entailed. And yet, also the uncertainty of what is not captured by the extrapolation is inscribed. As in *Solaris*, where extrapolation precludes exploration, the futures and options on the market necessarily conjure up what they are unable to address. An extrapolating anticipation in this way produces both a predictive potential and its inversion, and as the accompanying third, a spectre in the form of an unaddressable uncertainty. More generally, it seems this triangular production is the key characteristic of a risk society, 'a society no longer defined by its past or its traditions, but turned to the future', as Esposito describes it in reference to Ulrich Beck's book *Risikogesellschaft*.⁹⁶ Uncertainty, as long as it can be quantified as risk, is both the product and the basic resource of a risk society. And yet, it is also its greatest destabilizing force. Extrapolation, with its presentist and representationalist biases, constitutes the theoretical base operation of this system. Esposito's analysis also points to the ethical dimension involved when dealing with spectrality and its suppressions, as pointed out by Barad.

It is no wonder then that anticipation, extrapolation and practices of prediction have become important themes in the contemporary art world. The works by Beloufa discussed here are just one example for a broad range of artistic practices engaged in questions of future construction. At the core of many endeavours stands the development of strategies to confront, appropriate or resist the new constellations of power and knowledge acquisition structured by what Vogl calls a 'raid by the future on the rest of the time'.⁹⁷ The post-cinematic installations by Beloufa serve here to

⁹⁴ Esposito, 'The Construction of Unpredictability', 133.

⁹⁵ Derrida, *Specters of Marx*, 57.

⁹⁶ Esposito, *The Future of Futures*, 3.

⁹⁷ Vogl, *The Specter of Capital*, 3.

analyse spectrality as a key aspect of, but also as an element in friction with anticipation. A spectralization takes place when future events are secured and insured (in German both translate as ‘versichert’, literally ‘securitized’). Instead of focusing on predictions or their inversions, Beloufa’s post-cinematic works reflect on this spectralization. Emphasizing spectrality here becomes a means for politicizing and criticizing different mediated practices of anticipation. The works under analysis here achieve this by critical enactments of anticipatory processes, in particular, through examinations of unscripted free associations by the work’s protagonists. The enactments thus make an anticipatory realism graspable that is structuring particular forms of anticipation. Anticipation is on the one hand framed as canny, as able to produce possible futures as knowable and possessable, and at the same time as uncanny, as haunted by veiled or repressed spectrality. Beloufa’s works embrace this conflict and in doing so critically accentuate the problems of extrapolation in the relationships to unknown others. They do this by pointing to the representationalist and presentist biases of anticipation under the rule of extrapolation.

This chapter also aims to contribute to recent discussions in the art world: on the one hand, it addresses the question as to how documents take on particular epistemic qualities in an art context that differs from their qualities in other contexts.⁹⁸ On the other hand, it asks how post-cinematic documentary could be imagined as an art form and how it could position itself in reaction to the transformations of ‘societies turned towards the future’.⁹⁹ Arguably, it seems difficult for an art form based on audio-visual recording to critically address the processes and principles of risk societies. Anticipatory processes such as risk prediction do not necessarily have human actors or ‘take place’ in a classical sense but mostly occur in forms invisible to human eyes. Therefore, many of the established strategies of documentary to represent reality are bound to remain pointless in this case. And yet, documentary has the particular quality of self-reflexively uncovering what images specifically, and representation more generally, are capable of. Drawing on a long history in questioning realisms and their operations, it has an advantage in making visible the materiality and performativity of operations of reality production. Through focusing on the spectrality of anticipation Beloufa’s works also reflect the genre of documentary as concerned with otherness and its particular capacity to provide non-representationalist and non-presentist acquisitions of knowledge. It is argued that rather than representing reality or producing the illusion of an immediate experience, post-cinematic documentary can take on the status of a refuge of the other and, thus, insist upon an entanglement between observer and observed. This form of documentary, it becomes clear, operates under parameters that can disturb extrapolating forms of anticipation.

⁹⁸ An example for these discussions would be the group exhibition *Evidentiary Realism* bringing together artists who work with forensic techniques. *Evidentiary Realism* [exhibition] (NOME Gallery, Berlin, 2 December 2017 – 17 February 2018).

⁹⁹ Exemplary for this discussion is Hito Steyerl’s book *Die Farbe der Wahrheit*.

While the trajectory of extrapolation prolongs the past into the future, documentary as a refuge of the other keeps hold of the future as open horizon.

In order to conceptualize the ways in which Beloufa's works enact anticipation in non-representationalist and non-presentist ways, I propose two concepts: epiphany and apophenia. Both describe phenomena where – in contrast to extrapolation – objects are experienced as addressing subjects.¹⁰⁰ While an epiphany is the sudden realization of a deeper interconnectedness or greater whole, and has strong religious connotations, apophenia, as its twin term, describes the projection of a pattern onto meaningless data. An apophenia occurs for instance when one sees faces in clouds. In contrast, during an epiphany one experiences a deeper truth that is often described as a selfless experience of the world of things or an experience of special relation to materiality. Both phenomena have anticipatory qualities that differ from the previously mentioned forms of extrapolating anticipation. Instead of drawing conclusions from the past about something yet-to-come, they allow for the presence and realization of an other, an uncertainty that is not reducible to risk or fully representable. Both epiphany and apophenia thus allow for a different relationship towards the future, where futures as constructions gain the capacity to speak for themselves. Through the close readings of Beloufa's works, I argue for a form of anticipation that goes beyond extrapolation and that is mediated by both epiphanic and apophenic encounters with agential objects. In both cases, things speak to (human) beings, rather than beings extrapolating and, thus, objectivizing things. Apophenia and epiphany allow for what I would call the experience of agency on the part of things and in particular on the part of futures. The works thus create a particular kind of predictive knowledge that stands in opposition to the problematic objectifications of extrapolation.

How can we imagine these forms of anticipation that do not merely prolong the present? In contrast to extrapolation, the epiphanic and apophenic operations of Beloufa's works can be called hypo-realist. As already set out, I propose this term in opposition to both the art movement of hyper-realism and Jean Baudrillard's famous concept of hyper-reality developed in *Simulacra and Simulation*. Hyper-realism as an artistic movement is characterized by the production of excessive realist details to a degree where an artwork 'perpetually deflects the question of where the real in its overproduction of too many or too much is, so that one is unable to make a decision.'¹⁰¹ Each detail is so sharp, determined, and realistic, that the broader picture seems artificial and even uncanny in its artificiality. Similarly, for Baudrillard, hyper-reality describes a world in which the distinction between human reality and virtual realities cannot be made anymore. Every experience

¹⁰⁰ In contrast, to a process of extrapolation where an object is objectified by a subject, an object is experienced as being proto-subjective in apophenia and epiphanies.

¹⁰¹ Bredekamp and Stafford, 'One Step Beyond', 3.

is simply an effect of simulacra, to the degree that reality has ceased to exist. All is effect, nothing is cause. As its conceptual opposite, hypo-realism insists on the idea that realities are marked by their resistance to simulation (and anticipation). *Hypo* as the opposite prefix to *hyper* (*hyper* = above, on top, *hypo* = under, underneath) describes the experience of noise or material entanglement that runs beneath objecthood. While the hyper-realism of extrapolation claims absolute translatability and indistinguishability of human and virtual realities, hypo-realism insists on a necessary blind spot, the necessary other that every simulation produces, and which haunts it as a phantom of that otherness.

I propose that hyper-realism and the problem of extrapolation are intimately linked in their suppression of noise and materiality. What seems hyper-real to us is too real to be true, an excess of details that disturb the perception of reality. What is experienced as hypo-real is, conversely, too true to be real, a subsistent noise or interference that remains ambiguous, spectral, and incomplete.¹⁰² Apophenia, as the projection of a pattern into random data and epiphany as the experience of revelation from outside a framework of knowledge are two experiences of hypo-real spectrality. These experiences are hypo-phenomenal, which means that an object of perception displays its phenomenal objectivity and at the same time the hypo-phenomenal noise of its entanglements with the world.

Extending the trajectory of the interventions of *Solaris* and Karen Barad's agential realism, this chapter reads Beloufa's works as hypo-realist and aims to conceptualize the particular knowledge that non-representational and non-presentist anticipation aims for when constructing futures. What are the modes of spectatorship of hypo-realism? And how do Beloufa's post-cinematic works enact an anticipation without complicity in the 'raid of the future against the rest of time'? Pursuing these questions in the discussed works will show us the need for a politicization of anticipation. Such a politicization should address the manifold forms of prediction that govern the present and develop critical positions towards these forms. While the particular techno-political configurations of predictive practices need further study, the chapter aims to conceptualize the affects and modes of relating that are present in anticipation. Through their hypo-realist use of spectrality, I argue that Beloufa's works offer a meta-critical enactment of the capacities of anticipation, while resisting complicity in the raid by the future on the rest of time.

¹⁰² At this point, the epigraph from Freud comes back. What Freud calls 'das Wahre' that lies deeper than probability, is only accessible as noise or openness of reality.

The Spectres of Anticipation – *Kempinski*

When approaching *Kempinski* at the Centre Pompidou in Paris,¹⁰³ at first, we notice its sound projection. From a distance, we hear strange, digitally processed, futuristic sounds, nocturnal animal screams, and a voice of narration. This electrified wilderness swells from one of the pitch-black chambers where the museum shows video installations. In contrast to the general galleries of the museum, we enter a black box rather than a white cube. Inside, around a corner we find a simple bench in front of a projection. The space is covered in blue and green light emanated from the projector as the only light source in the room. The reflections of the screened images, thus, turn not only the entire room into accentuated darkness but also render the other visitors into silhouettes and obscure figures. Some contemplate the screen, some move. They are not unlike the figures on the screen. Also, only partially lit, in blue and green neon light, the protagonists of *Kempinski* look directly into the camera and, thus, face the visitors of the installation (Figure 1).



Figure 1. Protagonist and cows facing the viewer, still from *Kempinski*.

¹⁰³ Observations are based on a visit to Centre Pompidou Paris in 2013. Permanent Collection (Centre Georges Pompidou, Paris: November 2012–ongoing).

In calm contemplative voices they describe future scenarios. They do this from their own subjective perspective and in the present tense. In this way, they describe at the same time something that is present and absent in the images. Between these portrait-like storytelling sequences we see static long takes of deserted and only barely lit landscapes. Strange objects populate these landscapes like a shining floodlight tower or sand knolls with green twigs inserted. As a looped installation, *Kempinski* does not have a clear beginning or ending. However, the work has been shown both as a looped installation in museums and gallery spaces and as a linear video at film festivals.¹⁰⁴ For Beloufa, ‘the possibility for a work to mutate depending on the context’ is an inherent part of its composition.¹⁰⁵

In interviews, Beloufa has called *Kempinski* a science-fiction ethnographic documentary and insists that it follows the rules of the broader documentary genre. In particular, he claims that ‘nothing was scripted’.¹⁰⁶ An ethnographic documentary seems to be an improbable fusion with science fiction, given that it follows different narrative parameters and a different, realist tradition. The work, however, develops its particular position and system of knowledge by a hybridization of these genres. Although its images refuse to convey social facts, the declared aim of ethnographic practice, *Kempinski*’s hybridization of these genres lays bare the shared impulses that constitute their respective histories. What science fiction, documentary and ethnography share is a concern with the other in its many-faced constructions: the temporal or technological other, the cultural or historical other. From this hybrid perspective, documentary itself is framed as interested in an other that is not yet known and in those others whose stories have remained untold. *Kempinski* conjures all these ‘others’ through its enactments of anticipation and, in this way, tests its construction in the framework of a post-cinematic documentary realism.

Many of Beloufa’s artworks share a conceptual core: a simple instruction or language game unfolds into an enactment of sophisticated performative economies. For *Kempinski* the ‘future, in present tense’ is not only the premise of the installation, but also the basic instruction that guides the storytelling by the protagonists. Beloufa shot the material in different villages outside Bamako, the capital of Mali, asking residents to relate how they would imagine the future in the present tense. This grammatical tipping from a future to a present tense is characteristic not only of the stories of the protagonists, but also of the cinematography and mise-en-scène of the work. *Kempinski*’s mise-en-scène hovers between high-tech associations and low-tech environment, between electronic sounds and recordings of nature like the sounds of crickets. Staging this

¹⁰⁴ For instance, at Galerie Kai Middelndorff in Frankfurt in 2009. *Future in Present Tense* [exhibition] (Galerie Kai Middelndorff, Frankfurt, 5 November 2009 – 18 February 2010). In 2008 it won the ARTE short film award at the Oberhausener Kurzfilmtage, in 2009 the short film award at IndieLisboa film festival.

¹⁰⁵ Beradini, ‘Interview with Neil Beloufa’.

¹⁰⁶ Beradini, ‘Interview with Neil Beloufa’.

grammatical operation of a future in the present tense allows for the experience of what Vogl describes as ‘beforehand effect’ or as the grammatical figure of the ‘hýsteron próteron’:¹⁰⁷

Current expectations thus do not simply anticipate future events; rather, future events are co-constituted by expectations of future events and consequently acquire virulence in the present. The present is produced by ‘beforehand’ effects, as hýsteron próteron of its own future.¹⁰⁸

Both in the case of the financial predictions described by Vogl and in the case of the ‘hýsteron próteron’ as rhetorical figure an effect precedes a cause. What Vogl describes as ‘beforehand effect’ goes, however, beyond the idea of a self-fulfilling prophecy. While a self-fulfilling prophecy would simply anticipate by becoming a cause for its own conclusion, the predictions Vogl analyses here ‘co-constitute’ and ‘acquire virulence’ in the present. Their anticipation is entangled temporally and causally. Predictions here are, thus, not just hypotheses about the future, but more importantly they are acts transforming the present. What Vogl calls the ‘specter’ that always comes back from its own future as contingency in financial systems is rooted in this double function of prediction being a thesis and a hypothesis, a discursive speech act as well as a projection. As the grammatical structure would imply, this speech act acts simultaneously in two different time frames, the present and the future. For Vogl, ‘the circular temporal structure of the finance industry is thus precisely what provokes unexpected futures to return to haunt the present.’¹⁰⁹

Kempinski reflects this twofold quality of anticipation through the enactment of an ambiguous foreshadowing. To foreshadow here means that the images conjure up a latency of something yet to come without revealing what this thing to come could be. For minutes the viewer is left with barely lit nocturnal landscapes in which the sounds of crickets are mixed with eerie electronic sounds. The protagonists’ anticipations hover through these images without clear manifestation. In one scene, we see an ox-farmer in the middle of his cattle at night. In his right hand, he holds a neon-pipe-light that is the only light source in the image, thus leaving him only partially lit (Figure 1). He recounts the following story:

Since the planet on which men lived has saturated, I am the only man who lives with hundreds of oxen. They are my friends; we chat together, and I play with them. There is a

¹⁰⁷ The *hýsteron próteron* is a rhetorical device in which the first part of a phrase refers to something that happens later than the second part of a phrase. An example would be Virgil’s ‘Moriámur, et in media armas ruámus’ (Let us die, and charge in the thick of the fight).

¹⁰⁸ Vogl, *The Specter of Capital*, 114.

¹⁰⁹ Vogl, *The Specter of Capital*, 124.

very good agreement between us. Yesterday, my wife the cow has given birth to two small calves and the baptism is for tomorrow. The orchestra will come. Five oxen organized it. There are guitarists, a bass player, a pianist. So, the party will be beautiful. I am the only man on this planet with the animals.¹¹⁰

The present tense of the storytelling in *Kempinski* is a tense with a double conjuration. What the protagonists describe transforms the images we as viewers see in a performative sense. The present tense of their enacted anticipations charges the documentary images with a ghostly presence, the presence of unrealized futures. Interestingly, the protagonist slips into other tenses of the recent present in the quote above. And yet, his storytelling is captivating, because of the immediacy and performativity of his enactment. The enactment of the story thus transforms what is visible on the screen as well. A tale-within-a-tale spectralizes the cinematic space, following the logic of the mise-en-abyme and causing the documentary realism of *Kempinski's* documentary images to vacillate. We picture the protagonist now in the middle of the proceedings of the baptism that the barely lit image conceals more than it shows. The ox-farmer is simultaneously the storyteller and the protagonist of his own story. This is also true for the other protagonists whose framing subverts stereotypical depictions of Africa and Africans and shows them as scientists or time travellers. While many of them recount animist scenarios, some of them are not so far from the techno-utopias of today's Silicon Valley.

The images of *Kempinski* paradoxically seem simultaneously unrehearsed and stylized. Through this ambivalence the spectrality of the enactments and storytelling of the protagonists is emphasized further. The protagonists are thus framed as media for the manifestation of spectral futures, for futures as ghosts. And yet, at all times they are both those anticipating and those subjected to anticipation. Thus, from the start *Kempinski* establishes a multitude of entangled temporal and performative layers on the screen. And from the start the work suspends a unified temporality for a series of ambiguities and estrangements. The simultaneous enactment and storytelling under- and overdetermine the visual space and its futuristic sound-scape. Anticipation here becomes perceivable as a spectralizing operation. Frederick Jameson describes spectrality and the process of spectralization as rooted in a particular affect, that of doubt:

Spectrality does not involve the conviction that ghosts exist or that the past (and maybe even the future they offer to prophesy) is still very much alive and at work, within the living present: all it says, if it can be thought to speak, is that the living present is scarcely as self-

¹¹⁰ *Kempinski*, directed by Neil Beloufa (2007).

sufficient as it claims to be; that we would do well not to count on its density and solidity, which might under exceptional circumstances betray us.¹¹¹

For Jameson, spectrality reminds us of the dependence of the present on other times and encourages us to resist the self-sufficiency of the present. We could add: a resistance to the self-sufficiency of the present as already containing both past and the future. The self-sufficient present is problematic, because it veils and represses the activities of other times at a particular moment. As Vogl's and Esposito's analyses of financial speculation show, the self-sufficient present needs to repress and veil the temporal double performativity of anticipation and the uncertainties that it creates. This repressive function of extrapolation is brilliantly observed in *Eros and Civilisation* by Herbert Marcuse when he argues that 'civilization has to defend itself against the spectre of a world which could be free'¹¹².

Extrapolation, as the praxis of repressive anticipation, would be such a spectralizing exorcism. It frames the spectre either as nostalgic (a past haunting the present) or apocalyptic (a pre-historic past haunting the present as a future). In the extrapolating anticipation of financial speculation, this spectre is exorcised and simultaneously conjured by debt. What extrapolating anticipation is unable to do, is to address its own spectrality and provide it with its proper manifestation. Anticipation, accordingly, has both the capacity to address or to repress a spectre. It can address and open uncertainties, but also has the capacity to operationalize, manage and repress and, thus, defer uncertainty. The spectrality of anticipation thus enables us to distinguish different forms of constructing futures. While extrapolating anticipation veils and represses its own spectrality, other forms of anticipation address and express their phantom character. Jacques Derrida has imagined such an emancipatory addressing of spectrality in *Specters of Marx*. Colin Davis writes in his book *Haunted Subjects* about Derrida's figure of the spectre:

For Derrida, the ghost's secret is not a puzzle to be solved; it is the structural openness or address directed towards the living by the voices of the past or the not-yet formulated possibilities of the future. The secret is not unspeakable because it is taboo, but because it cannot (yet) be articulated in the languages available to us. The ghost pushes at the boundaries of language and thought. The interest here, then, is not in secrets, understood as puzzles to be resolved, but in secrecy.¹¹³

¹¹¹ Jameson, 'Marx's Purloined Letter', 39.

¹¹² Marcuse, *Eros and Civilization*, 93.

¹¹³ Davis, *Haunted Subjects*, 13.

We can observe such a structural openness and ambiguity in *Kempinski's* images, too. We as viewers are addressed by ghosts as much as the protagonists seem to be addressed in this way by the stories they tell. The figure (also in the sense of trope) of the ghost stands for a disturbance, an intrusion from another time. Davis traces the figure back to Greek tragedy, where the dead return to the present, because they were not buried correctly according to ritual:

The dead man returns because he has not been 'duly laid to rest'. The duty of the living to bury the dead has not been performed according to established practice, and the rite of passage remains incomplete. So, the dead return in part because their affairs on earth are not yet complete.¹¹⁴

Thus, the spectre is a symptom of something unfinished, of a not yet. The spectre is then both the foreboding of a discursive opening and the result of debt: an underdetermined entity in an overdetermined environment. In the context of frameworks of knowledge acquisition, the spectre is, thus, the motion which escapes the internal parameters of a system. Only if spectrality is addressed and given the space to articulate itself, can knowledge become ethical knowledge. For Derrida, accordingly, the appearance of the spectre requires a particular kind of ethical attention and mode of address:

So, what seems almost impossible is always to speak of the spectre, to speak to the spectre, to speak with it, therefore most of all to make or to let a spirit speak.¹¹⁵

The oral tales and their enactments of *Kempinski's* protagonists seem to establish such a tending towards the voicing of spectrality. And the fact that the installation focuses on oral storytelling and, thus, deploys a distance to the image, to vision, adds to the critique of a paradigm, in which the construction of futures is often thought of as bound to the imaginary, to speculation or prospection, and so to a set of terms deriving from the visual sense. In contrast, the protagonists are framed as both narrators but also as media through which something else speaks or becomes embodied. This simultaneity of being subject and being subjected implies another set of fundamental questions, which turn on the idea of possession and dispossession in their relationship to spectrality. The protagonists are equally possessed and dispossessed in that sense. They are possessed by a different time than the one we see on the screen and they are dispossessed in that

¹¹⁴ Davis, *Haunted Subjects*, 2.

¹¹⁵ Derrida, *Specters of Marx*, 11.

another time speaks through them. This is why the protagonists also take on a ghostly position: a position as both anticipating subjects and subjects of anticipation.

This position is also iterated in the cinematographic framing of the protagonists. All of the video's protagonists face the camera and speak towards it, as if it was an embodied gaze. On the one hand this gesture of an addressing points to the actual presence of the camera during the recording and is not unusual in documentary films. However, in *Kempinski*, this authenticating documentary effect also refers to a different visual convention. The frontal perspective is reminiscent of that of portraits. The museum and gallery settings in which the film was exhibited highlight this connection. The careful composition of the light, of particular objects and animals, alludes to properties of a portrait, too. And yet, frontality also takes place in a more metaphorical way. Rather than providing an immersion that absorbs the viewer, the images address the viewer in an encounter. Somebody looks at us who is simultaneously subject of our anticipations and anticipating subject. Suspended in the self-reflexive dimension of this encounter, *Kempinski* is able to show anticipation without the repressing of spectrality.

This enacted simultaneity of anticipating subject and subject of anticipation is also highlighted in the spatial configuration of *Kempinski*. The place of the other in *Kempinski* is Africa. Through the estrangement of stereotypical African places, like the jungle at night, with futurist lighting elements and soundscapes, at every moment it is clear that an image of Africa is being constructed. The 'Dark Continent', as subject of anticipation in *Kempinski*, becomes the site of future construction. The images are in opposition to and subversion of more recent journalistic or older colonial depictions of Africa. Certainly, an image of Africa as the 'dark continent' is presented to us. Lucy Jarosz writes about the history and function of this metaphor:

The metaphoric identification of Africa as the Dark Continent, the Lost Continent, or the White Man's Grave constructs knowledges of the continent through metaphors which simultaneously expropriate and incorporate an 'Other' as an oppositional category.¹¹⁶

The simultaneity of expropriating and incorporating the other that Jarosz observes is highlighted in *Kempinski's* enactments self-reflexively. Incorporating a body as an other, means expropriating their capacity to describe and imagine themselves. *Kempinski* inverts this process in its enactments and thus spatializes this conflict. Africa is turned from a subject of anticipation into an anticipating subject, too, into a place where futures are constructed. This enactment occurs in opposition to a long history of Africa as a subject of anticipation, whose futures are colonially repressed and

¹¹⁶ Jarosz, 'Constructing the Dark Continent'.

constructed elsewhere. Africa, as such a colonial subject of anticipation, is lost, uncanny, and deprived of future. In turn, Beloufa's work frames Africa as a space from which futures are constructed, a framing often neglected by modern thought. In this inversion, it becomes clear that the colonial image is an image that suppresses the agency of its depicted subjects. Only through addressing the spectrality of this objectification does a different modality of relating become possible. The problematic distancing that a colonial imaginary enacts is poignantly described by Edward Said's conceptualization of the relationship between the Orient and the Orientalist:

The Orient and Islam have a kind of extrareal, phenomenologically reduced status that puts them out of reach of everyone except the Western expert. From the beginning of Western speculation about the Orient, the one thing the Orient could not do was to represent itself. Evidence of the Orient was credible only after it had passed through and been made firm by the refining fire of the Orientalist's work.¹¹⁷

Considering the 'extrareal' status of the colonial object and the limited access to 'reality' and reality-constituting acts by the colonized, the radicality of framing Africa as a place that anticipates rather than a place relying on colonial imagination becomes clear. By disturbing not only the categories of the subject of anticipation, but also the concept of anticipation itself, a different form of mutual addressing becomes possible in *Kempinski's* enactment of the spectrality of anticipation.

What kinds of futures does *Kempinski* enact then? Certainly, futures in *Kempinski* are not the globalised anticipations of technological utopias that the name Kempinski would imply. The installation charges the low-tech scenery of Mali with the imaginary of luminous technological utopias of late modernity. Kempinski is the oldest luxury hotel group in Europe since its foundation in 1897. Today the name stands for a globalized brand with 75 luxury hotels all over the world. The self-fashioned modernised form of old-fashioned comforts one would associate with this name is entirely absent from Beloufa's video. Only in the very last scene does the emblem of a Kempinski hotel appear briefly. In fact, the name stands as a monolithic opposite to the animist and egalitarian tales of interconnectedness related by the video's protagonists. Accordingly, Vera Tollmann writes about *Kempinski* that:

[...] none of its protagonists believes in the post-modern credo of everything is possible anymore. And yet, the influence of that credo on their future phantasies is still very palpable.¹¹⁸

¹¹⁷ Said, *Orientalism*, 283.

¹¹⁸ Vera Tollmann, 'Review on Kempinski'.

In fact, the self-referential stylization that at first seems a post-modern blurring of boundaries points elsewhere. We as viewers witness the documentation of auto-science-fictions. Despite their constructedness and apparent stylization, both images and stories have a documentary quality. In *Kempinski*, on the contrary, a myriad of realities as fixations shines through. One of these fixations seems to be the colonial imagery itself that is present as spectral remains in *Kempinski*. The work exposes here a shared history and trajectory of science fictional forms and the colonial imagery. We come to see a haunting presence of what Paul Coates describes as the historical emergence of time-travelling narratives – the literary precursor of science fiction – as part of a colonial project:

The emergence of time travel as a widespread literary theme in the fin-de-siècle period was part of a search for new areas for colonization once colonization had completed its dominion of all the world's blank spaces.¹¹⁹

It becomes clear that *Kempinski* in its critical enactment of both science fictional and ethnographic imagery addresses this entanglement with a colonial past. Rather than heralding that ‘everything is possible’, the spectral quality of the enactments allows for an addressing of the inherently colonial projection that still permeates science fictional and ethnographic forms today. By spectralizing these imageries another mode of relating becomes possible, beyond the Hobbesian projection of the uncivilized other and the Rousseauian fetishization of the other as the noble savage. The work instead stages Africa as entangled in anticipations, both as a subject of anticipation and an anticipating subject.

More generally, the spectralizations of *Kempinski* also sensitize for a resistance of matter against its representation and anticipation. The resistance of matter against representation is enacted in the work through an animation of objects. Material objects quite literally play a crucial role in *Kempinski* as protagonists: both within the stories and in the cinematography where physical objects take on the role of actors with proto-subjective features. One protagonist tells the following story:

People started to communicate with the stars, with animals. We do not make the difference anymore between normal materials, animals and men. The motorbike speaks, the cars speak. If there is somebody about a hundred meters far from the car, it tries to avoid him. The car says to itself ‘This place is an elevator, this is not good, it can create a fire’. Objects

¹¹⁹ Coates, ‘Chris Marker and the Cinema as Time Machine’, 307.

we use, make our actions for us. For example: you speak, you meet a car that speaks. You walk, and you meet a car that can move all alone. It is a vehicle, but it is also a human. You see? Because it plays a human role.¹²⁰

What does it entail for an object to become an actor and play a human role? From the quoted tale we can gather that it has to develop a certain autonomy: it has to be driven by itself, by an ‘anima’ or soul. This soul allows that the performing object to act for itself or speak for itself. In the story a series of encounters is described, in which an object anticipates behaviours and accidents in order to avoid them. The same inversion that framed *Kempinski’s* protagonists as both subjects of anticipation and anticipating subjects applies to these physical objects, too. Through their agency, they enact an addressing that remains repressed in extrapolating anticipation.



Figure 1. Floodlight Tower, still from *Kempinski*.

¹²⁰ *Kempinski*, directed by Neïl Beloufa (2007).

However, not only in the stories do objects have agency. Some physical objects in the work become actors, too. The most prominent examples of such agential objects are the shining floodlight towers that feature in several long shots of up to thirty seconds (Figure 2). These mysterious objects stand without reference in blank darkness. Their stark cold bluish light accentuates the metallic structures on which they rest. The light is so bright that it irritates and partially blinds the camera. The image seems to show a foreign eye watching over the viewer; an other is watching from the screen. We see how this object, completely detached from any environment, loses its proportions relative to surrounding space. As the only light source, we also perceive how its radiance structures the entire image. The floodlight tower shares with the human protagonists the frontal position towards the camera. Just as the protagonists of *Kempinski* look into the audience, so do the floodlights. In this context, it is not hard to read a certain animist charge, if not a certain subjectivity into them. But how does the work set in motion the particular agency of these objects? And what kind of agency is conjured here?

The dialectic of shine and blind spot from Freud's essay on fetishism comes to mind as a way of approaching this spectralizing operation. Freud describes in this essay the case of a young man, who develops a fetish for shiny noses that clarifies the dialectic between shining and blind spot:

The 'shine on the nose' [in German 'Glanz auf der Nase']—was in reality a 'glance at the nose'. The nose was thus the fetish, which, incidentally, he endowed at will with the luminous shine which was not perceptible to others.¹²¹

The fetishist in Freud's case reverses agency: the glance at the nose, where the agency lies with the subject, becomes the shine of the nose, where the agency lies with the object. Only in his glance can the shine be perceived, only in his glance does the shine come into existence. Fetishism is thus conceptualized by Freud as a form of deferred agency. By being charged with a fetishist gaze, the object gains agency and power over the fetishist. In this way, the shine of the fetish co-constitutes the blind spot of the fetishist once agency is deferred to it. The floodlight tower gains its agency through such a deferral of agency, too. In *Kempinski* the cinematography enacts a gaze that spectralizes and, thus, animates the floodlight tower. The physical object here becomes possessed by a spectre. Derrida points to such a deferral involved in anticipation, too, when he states that: 'the anticipation is at once impatient, anxious, and fascinated: this, the thing (this thing) will end up coming.'¹²² Anticipation here means the not yet executed transformation from 'the thing' to

¹²¹ Sigmund Freud, 'Fetishism', 152.

¹²² Derrida, *Specters of Marx*, 2.

‘this thing’. This is how the anticipatory economy of *Kempinski* operates: its spectralizing enactments defer agency to objects and thus allow for anticipation beyond extrapolation. This stands in contrast to the extrapolating anticipation that represses its own spectrality, thus always already foreclosing its own trajectory. Colin Davis’s reading of Derrida alludes to this strategy by distinguishing between the phantom and the spectre:

Phantoms lie about the past whilst spectres gesture towards a still unformulated future. The difference between them poses in a new form the tension between the desire to understand and openness to what exceeds knowledge; and the resulting critical practices vary between the endeavour to attend patiently to particular texts and exhilarating speculation.¹²³

The desire to understand is suspended for an ‘openness to what exceeds knowledge’ in the encounter with and addressing of a spectre. While the phantoms (of extrapolation) stabilize discourse, the spectres of anticipation open discourse and set it in motion. Davis calls in this quotation for critical practices that balance between the stabilizing attention of phantoms and the anticipatory character of the spectre. Certainly, Beloufa’s works critically enact this difference and its manifestation in different frameworks of knowledge acquisition.

The grainy quality of *Kempinski’s* images contributes to the spectral atmosphere in the video. The images enact the spectralizations described above also on the material level of the medium. More specifically, *Kempinski’s* images constantly display glitches and visual noise because of the insufficient lighting situation. A digital camera pushed to its limits has to speculate, too, as its chip fills undefined areas with estimated pixels. Vision is thus framed as vacillating in *Kempinski* also in a material sense. The lighting situation is obviously and transparently constructed and stylized through artificial light sources. Despite this careful stylization, the resolution of Beloufa’s camera is rather low. In contrast to a shiny high-resolution hyper-realism, the images transmit their own mediation and their own staging.¹²⁴

This self-referentiality is not used in a post-modern manner to destabilize existing categories or to dissolve the world into discursive structures. To the contrary, it is not simply a blurring of fiction and fact that is staged, but we experience matter resisting its representation. In a self-

¹²³ Davis, *Haunted Subjects*, 14.

¹²⁴ Wolfgang Ulrich writes in *Die Geschichte der Unschärfe* that in the Romantic tradition visual sharpness was considered as merely concerned with the superficial and, thus, undesirable. Excessively detailed images were rejected as pedantic and even bureaucratic. In contrast, the blurry glance into distance was celebrated as synonymous to metaphysical seeing. While the analytic gaze concerned with details only embraces the present, the blurry gaze into distance connects the poles of past and future one could add for our case.

referential manner both the sceneries and the images of the video resist the recording and visually retreat into the visual noise and the accentuated darkness created by the lighting situation. *Kempinski*, thus, insists on realities that are not just projections by filmmaker and audience. While enacting entanglements of anticipating subjects and subjects of anticipation, the work also insists on an independence of the elements whose entanglement it enacts. We can conclude that while extrapolating anticipation derives from a hyper-realistic stance, the emancipatory potential of anticipation in the work can be ascribed to a hypo-realist spectralization. The emancipatory potential of anticipation thus lies in rendering visible and audible a noise of reality or indeed of unbound futurity that is absent from and cannot be grasped in hyper-real terms of representation.

At this point, it is necessary to conceptualize the distinction between hyper-real and hypo-real forms of anticipation further. In opposition to extrapolation that abstracts and ‘hyper-realizes’ through fictional and simulative practices, hypo-realism approaches the domain of nebulous difference. It addresses the domain of a noise of reality.¹²⁵ And while, hyper-realism is the insight that the future is already here, is already contained by the present, hypo-realism enacts a resistance of matter that insists on an absence of the future in the present, on a future yet to come. If hyper-realism insists on a relativity of all things, on a connectedness of all there is or an always-already, hypo-realism insists on a not-yet.

This not-yet cannot be found outside of language but in the always unrealized aspects that lie in the entanglements of language and matter. *Kempinski’s* spectral enactments make this tension between a hyper-real always-already and a hypo-real not-yet palpable. And further, objectifying the not-yet, extrapolation conceals the very opposite: that it rests on the assumption that the future is always already contained in the present. This is how the raid of the future on the rest of time operates: as a raid of the always-already on the not-yet.

Kempinski renders this visible by making the spectres of anticipation palpable in the form of epiphanies. An epiphany is the sudden insight into a previously unknown or unprocessed reality. It is, so to say, a discharge of the not-yet into the always already. As we saw, this discharge occurs through particular spectralizations and gestures of addressing in *Kempinski*. Patrick Roth points to a mutual recognition and addressing, too, when he compares the epiphany with the filmic technique of a dissolve:

Das ist das Wesen der Epiphanie: daß das andere zu mir kommt, mit mir lebt, den Sehenden verwandelt. Und wie wird verwandelt? Indem ich erkenne, gleichwie ich erkannt bin. Hier

¹²⁵ Conspiracy theories with their often-suggestive rhetorical questions and pseudo-performance of investigation and doubt are exemplary for hyper-real fiction. Any trace of otherness and friction has either been cleansed or befogged. It is nothing more than a caricature of hypo-realism that is fundamentally repressive.

kommt der paradiesische Kern jedes Dissolves zur Wirkung: Das eine ist anwesend im anderen, auch der Betrachter wesentlich in seinem Betrachteten.¹²⁶

An epiphany occurs when one is present in the other and the other is present within oneself, according to Roth. It is clear here that epiphany and extrapolation can be constructed as diametrical opposites. While the latter occurs in a colonial paradigm that aims to subdue the unknown under the terms of the already known, the former is an operation sustaining openness, an operation of waiting and listening and of being addressed by the unknown, rather than conquering it. According to Roth, in an epiphany an other reveals itself to a subject. Both other and self are co-present and flow through each other. Permeability and co-presence are, thus, the core experiences of *Kempinski's* spectral enactments: permeability and co-presence of stories and images, of different temporalities and most importantly of objecthood and subjecthood. However, as Anne Eusterschulte has noted, epiphany also has the quality of an assault.¹²⁷ It is an assault that requires a mutual readiness, even a mutual consent from perceived thing and perceiving being. This is why the animistic stories of *Kempinski's* protagonists are so captivating, for animism is exactly the acceptance of and care for objects with identities on equal terms (be it a stone, an animal, or a car). In this epiphanic openness towards the world of things, including the world of potential things, lies the hypo-realism of Beloufa's work.

Certainly, the anticipations and the resulting contingencies established by Beloufa's work constitute a proposition. The animism in the stories and the cinematography points to a particular kind of openness of the future that is repressed by extrapolation. The animist hypo-realism of the work establishes an alternative mode of anticipation. In contrast to extrapolation, the spectralizations in *Kempinski* in this way open our perception of the present to a more animistically conceived future. *Kempinski* unsettles our discursive conceptions of the future, and the option of a different, emancipated construction of futures shines through. It becomes clear through *Kempinski*, therefore, that it is of importance to ask how a predictive dispositive relates to uncertainty. Not only what is framed as certain and uncertain, but also what remains unaddressed is of importance here. Not only what the parameters of a prediction are, but also which other they repress needs to be addressed. Just like memories, anticipations are materials for working through. Beloufa's works pursue the question of how moving images can resist the 'raid by the future against the rest of time' in particular ways. In their insistence on anticipation that goes beyond the formula of 'prediction = extrapolation', moving images and particularly documentary can act as a refuge for otherness

¹²⁶ Roth, *Zur Stadt am Meer*, 53.

¹²⁷ 'An epiphany has the quality of an assault'. Quote from a presentation by Anne Eusterschulte on Cy Twombly at a colloquium on epiphanic realities at Friedrich Schlegel Graduate School at Freie Universität in Berlin on February 17th, 2017.

and site for addressing entanglement.¹²⁸ This is what Kempinski makes palpable in its spectralizations of discursive images and categories: the fundamental relatedness that we have with the future. And this also points to the ethical demand the work makes: namely that only when we accept the otherness of the future, can we accept how much we are entangled with it. This knowledge goes beyond extrapolation or prediction. In fact, it allows for a very different relationship to the future, not as an object of research, but as a phenomenon that foreshadows as much as it opens the possibility for the new.

Apophenia – The Analyst, the Researcher, the Screenwriter, the CGI tech and the Lawyer

If the guiding principle for *Kempinski* was to ‘tell about the future in the present tense’, the principle for *The Analyst* (2011) is no less reduced: describe what is happening next. As the title of the work suggests, five experts – an analyst, a researcher, a screenwriter, a CGI technician and a lawyer – describe what they see and believe to be happening in a sequence of 17 minutes duration. Their audio commentary accompanies footage recorded from an elevated mobile position, apparently from a helicopter or a drone. In one single aerial long shot the camera hovers over a residential area. It trails a red truck with a white canopy. We see how the truck drives along a street, passes a woman running on the pavement and stops at a police checkpoint, only to eventually pass it. The camera loses sight of the truck at several moments when a building blocks the view, when following a passer-by or when panning searchingly over the area. The material appears to be recorded in slow motion and moves smoothly in constant enigmatic motions of zoom ins and zoom outs. Both slow motion and zoom intensify the evocation of surveillance footage. On the audio track, the voices of the different experts describe details, associations or incongruences that appear in the footage. The commentaries are edited in such a way that their anticipations remain fragmentary, implying simultaneity of observation. The commentator’s anticipations of what is happening and what is going to happen next diverge greatly and include a love story, a kidnapping and the transportation of radioactive material.

The work was exhibited as a small installation consisting of a projection onto a horizontally mounted semi-transparent plastic screen (Figure 3).¹²⁹ The viewer thus looks down onto a

¹²⁸ The image, in contrast to the number, always has the potential to remain unaccountable.

¹²⁹ *The Analyst* was screened and exhibited in different installation formats. Produced in 2011, the images and descriptions here refer to an installation at Neil Beloufa’s solo exhibition *Counting on People* at ICA London. *Counting on People* [exhibition] (ICA, London, 23 September 2014 – 16 November 2014).

horizontal screen not bigger than an A3 sheet of paper onto which, through a mirror, a video sequence is projected. Sound is only accessible via one set of headphones, framing the 17-minute loop in a way that very much individualizes engagement. The usually rather mobile gallery viewer is immobilized and forced to focus their individual attention. Thus, *The Analyst* invites us as viewers to take on the roles of analysts themselves.



Figure 2. Exhibition view of *The Analyst* installed at ICA London, 2016.

The setup of the projection and its installation in the gallery space invoke the materiality and gestures of an apparatus for analysis. The projection apparatus frames the images screened as evidentiary, and in turn, the apparatus is framed by the generic markers of the images as an analytical instrument. We as viewers are, thus, in a meta-analytic position. Both the anticipations from the voice-over and the materiality of the installed images are accentuated as documents in our spatialized viewing experience. In this way, the image as an object is also linguistically pronounced. The installation thus establishes a doubled mode of ekphrasis: not only is a series of events described by the voice-over, but objects refer to objects, too. Spectralization in *The Analyst* occurs through this accentuation of images as assemblages of material and non-material practices. More specifically, the installation renders visible images as products of anticipatory interpretative frameworks.

Within the projected footage, spectralization – the addressing of a not-yet known – is achieved through the self-reflexive enactment of underdetermination. The bleak, interchangeable suburban landscapes in the video render the viewer bereft of markers for spatial identification. ‘This could be anywhere’ is the comment of one of the experts on the voice-over. Although English-speaking mostly accent-free voices analyse what most likely is a Western suburban environment, any specific local markers are absent. As much as *Kempinski* the work can also be read as a reflection on globalization and its standardizing manifestations around the world.

From this background, the title of Beloufa’s work is remarkable, too, as it points to the performative dimension of the enactment of knowledge acquisition. All five professions are concerned with the production of facts through interpreting material. This is apparent for the researcher and the lawyer whose professions revolve around distinguishing truthful from false statements. It is also true for the analyst, although it remains ambiguous whether we are listening to a psychoanalyst, a financial analyst or an entirely different type of analyst. The screenwriter and the CGI tech stand out.¹³⁰ They, too, are concerned with the production of facts, albeit fictional ones. In the juxtaposition with the three former experts this common feature is highlighted: all of them engage in the production of facts through interpretative frameworks. In the work, the protagonists enact these interpretative frameworks when anticipating what we will see next. Accordingly, I argue that *The Analyst* can be read as a critical examination of structures of knowledge acquisition as entangled with their object of inquiry. By enacting these entanglements, *The Analyst* allows us to engage with the materiality and performativity of anticipation. Thus, rather than posing and resolving particular puzzles, the work examines the structure of the anticipatory frameworks and how they produce realities.

As in *Kempinski* through documenting the spectrality of the protagonists’ enacted anticipations particular discursive frameworks are laid bare by the work. Just as in the case of *Solaris*, the hovering desire to know, the desire to subdue the unknown under the rubric of the already known becomes graspable. And just as in *Solaris*, in the spectralizations some unaddressed other returns. However, while *Kempinski* critically enacts and spectralizes the anticipatory trajectory of a colonial gaze, *The Analyst* examines the anticipating operations of a surveillant gaze. While the former is concerned with the materiality of productions of otherness, the latter is more concerned with the materiality of the production of evidence. Eventually, both of Beloufa’s works allow us to experience how anticipatory frameworks follow historical, material, and medial path dependencies. And in both works the indexical quality of documentary images is the point of departure for such a post-cinematic examination.

¹³⁰ CGI tech stands here for computer-generated image technician, a professional who creates computer-based animations and visualizations for audio-visual media.

One prominent editing technique of the video highlights the enactments of anticipation described here: the use of anticipatory editing. The protagonists refer to details that are not yet visible in the image, but about to appear. Beloufa's montage thus imitates a documentary gaze, a delayed camera that is looking for something. Both, the camera and the different experts are thus anticipating a revelation. Farocki notes in his essay *On Documentary* that in documentaries:

lightly swaying images are meant to indicate that the event being documented has occurred spontaneously and singularly, rather than staged for the camera.¹³¹

This observation very much applies to *The Analyst's* enigmatic camera movements, too. The helicopter camera is in constant motion and evokes spontaneity and non-performance signifying the open-endedness of a situation. However, these evocations are deceptive in *The Analyst* case. The material we see was shot by Beloufa from a helicopter over Vancouver with no other intention than to show it to the selected experts. The experts and we as viewers thus see a highly pre-determined set of events. Beloufa's images come from a knowing camera that pretends to be unknowing.

The surveillant impulse in *The Analyst* is not only expressed by the framing of its footage, but also by the multi-layered analytical setup. The voices of the protagonists are framed as anticipating subjects and as subjects of anticipation examined by us as viewers. As a result, suspicions expressed by the protagonists are contagious for the viewers as well. The suspicions are fuelled by the ambiguities of the ambivalent and uncertain positions the work assigns to its protagonists and to its viewers. The seemingly most reliable agent in this nested assemblage of analytic /suspicious prefiguration is the work of the camera. While we soon realize that the anticipations and interpretations of the protagonists are unreliable, the enigmatic zoom operations frame the camera as a knowing and yet opaque agent. We as viewers notice the hierarchical constellation of gazes constituting the footage: an elevated camera observes lowered and foreshortened subjects. And yet, the purpose of the recording, the intelligence it gathers and the parameters it follows, remain ambivalent at all times.

In response to the generic surveillance video material, the famous Rorschach test comes to mind, a test of perception designed to allow a maximum of free associations for test subjects. It is clear that the footage of *The Analyst* is formally so generic that it triggers similar processes of projection. The enacted anticipations of the protagonists from this angle appear as a form of reality testing, in which the capacity of images to pre-configure and, thus, anticipate reality is examined.

¹³¹ Farocki, 'On Documentary'.

The footage works in similar ways to the abstract shapes of the Rorschach test in the installation. Just as in a Rorschach test the underdetermined visual space allows for maximal association. This is how the work explores a presumed evidential quality of the images that however remains a suspicion throughout the video. The installation rather than providing evidence acts as a set of tests to reflect and analyse operations of vision and of reality construction for both the protagonists and us as viewers.

The Analyst is thus able to foreground a spectral quality and anticipatory processuality through constantly disappointing the anticipations existing schemes of knowledge acquisition. This is particularly accentuated by the relationship of the work to details in the video. The framing of details as suspicious and potential evidence and the subsequent disappointment of anticipation is a crucial aspect of *The Analyst's* enactment of anticipation. Often, objects and their objectivity are accentuated by a zoom only to disappear or to blur with the environment moments later. And vice versa, an object will first appear only as an outline and barely distinguishable from the environment, only to become suddenly the focal point of the camera. While hyper-realism insists on the detail and the translatability of all scales, the hypo-realist enactments here insist on a noise of reality that is inherent to any form, whether real or simulated, abstract or manifest. *The Analyst* through its enigmatic visual and discursive anticipation makes this noise of reality at the margins of objecthood apprehensible.

Karen Barad's concept of 'intra-action' can help here to conceptualize this particular type of enactment of spectrality. In contrast to the term 'interaction' that describes a process between two or more fully distinguishable entities, the notion of intra-action recognizes that distinct entities can emerge from and through their mutual entanglement. For Barad, distinct entities are only distinct in a relational, and not in an absolute sense. That is, their relations to their mutual entanglements mark them as distinct. This is why Barad refers to phenomena generally as 'differentiated inseparabilities'. Through intra-action, a cut or separation is enacted. What becomes phenomenally perceivable is, thus, at the same time differentiated and ontologically inseparable.

Concepts do not refer to the object of investigation. Rather, concepts in their material intra-activity enact the differentiated inseparability that is a phenomenon. In the absence of the intra-action there is no determinate fact of the matter or any determinate way to describe it. Being is not simply present, there to be found, already given. There is no fixed essence or substance simply there for the measuring.¹³²

¹³² Barad, 'Quantum Entanglements and Hauntological Relations of Inheritance', 253.

The camera movements in *The Analyst* as much as the anticipations of the protagonists could be described as such an intra-action. They momentarily generate a ‘differentiated inseparability’ that in the next moment returns to a state of non-differentiated noise or materiality. For Barad the notion of agential separability is crucial in the absence of exteriority between observer and observed. This agential separability allows for the possibility of a knowledge that does not objectify or essentialize. Concepts, thus, generate a ‘local causal structure’ of a phenomenon, some of which are framed as causes and others as effects. *The Analyst* renders such ‘local causal structures’ perceivable through the deliberate blurring between instruments of observation and observed objects. This meta-analytical enactment of distinguishing signal from noise is the condition under which the enacted spectralities of the installation become perceivable.

As mentioned, the enactment of anticipation occurs on several layers in the installation. While the physical installation renders our position and anticipation as viewers, the juxtaposition of footage and voice-over frames the professional structures of knowledge acquisition of the commentator-protagonists as an object of investigation. Their analytical and anticipatory position in turn is presented by the video material. The installation – by self-reflexively documenting the meanderings of free association and, thus, of discourse in its unfolding – opens the images to us the viewer and exposes anticipatory frames of knowledge acquisition as entangled with their objects of inquiry. Rather than evidence, the images become screens for projections (of both the protagonists and the viewers), not unlike a Rorschach test.

Beyond the enacted spectralization and exposing of systems of anticipation, *The Analyst*’s speculative meandering thus forms a counter-conspiracy conspiracy game. This game lays bare the paranoid logic established by surveillance footage. It also examines the impulses embedded in surveillant images by strategically disappointing them. Neither we as viewers, nor the experts get a grasp of the parameters of observation of the camera. And yet, throughout the video the parameters of a multi-layered surveillance-analysis system become increasingly transparent to us. Depriving us as viewers from the main characteristic of a conspiracy theory: a conspiracy meta-narrative that is able to explain the material and identify a responsible agent, makes the materiality of a surveillant paranoid structure addressable.¹³³ It is also exactly this absence of a potentially unifying logic, together with the apparent observational nature of a surveying camera that makes several commentators suspect a crime has been committed. They accordingly interpret the footage as a gathering of evidence or documentation of a conspiracy:

¹³³ The conspiracy impulse here appears as a perversion of the impulse of the imperative for transparency.

There is obviously some kind of a conspiracy there, because, she is not alone in this, she obviously has people there, to come together and to cart away this bright object. They are being watched, but they don't know that they are being watched.¹³⁴

The surveillant impulses within the footage are, thus, highlighted through the audio commentary as well. Again, it seems that the audio-visual material here displays its very own prefiguration, namely that of paranoia. Somebody is being watched without them knowing and we are watching without knowing what to look for. The aesthetics of surveillance footage establish here a paranoid and thoroughly anticipatory economy of suspicion in *The Analyst*. Although we as viewers do not know the particular purpose of the camera operations, we do recognize them as surveillance. Suspicion, it becomes clear, is here framed by the apparatus of surveillance. Because the protocols of the camera recording are not made transparent, its surveillance quality become graspable. And because it is not made transparent which expert voice belongs to which profession, their extrapolating quality comes to the fore.

What can this framing of surveillance operations now tell us about an ethical knowledge acquisition? And how do these spectralizations, the enigmatic camera movements and the competing hypotheses by the protagonists operate? When witnessing the seemingly paranoid anticipations in the voice-over we come to realize that we are confronted with feed-forward loops. These feed-forward loops of surveillance operations and extrapolation more generally come to the fore as reality-producing effects. As described by Vogl, these feed-forward loops have a particular – in our case visual – grammar. The surveillance footage frames a crime before the crime has occurred. And we as viewers grasp through the implementation of multiple layers of anticipation the particular temporal operations and reality-producing effects of the images.

In order to conceptualize this spectral quality of the vacillating images of *The Analyst*, we turn to Roland Barthes' famous description of 'the reality effect' in modernist literature in his essay of the same name. Barthes observes that a characteristic of modernist literature is an excess of descriptive details. Curiously, these details do not contribute to the narrative economy of the text, as they are not functionally necessary for the conveying of the narrative.¹³⁵ And yet, for Barthes they are not 'narrative luxury'. Rather than that, the enumeration of insignificant details narrates nothing else than reality itself. The description of seemingly insignificant details produces a reality effect. The same can be said about *The Analyst*. The work relies on the depiction of insignificant details. In fact, the fault-lines of signification are constantly shifting in the work. While a passer-by

¹³⁴ *The Analyst, the researcher, the screenwriter, the CGI tech and the lawyer*, directed by Neil Beloufa (2011).

¹³⁵ Barthes points to Flaubert's famous description of the room occupied by Mme Aubain through the enumeration of the room's items in *Un Coeur Simple*. See Barthes, 'The Reality Effect', 142.

is framed by the camera and the voice-over as potential suspect, within the next camera move they become an insignificant detail again.

In fact, *The Analyst* self-reflexively enacts the co-constitution of both narration and description. The experts in the audio commentary certainly narrate what they are seeing rather than describing it. In fact, we see how their hypotheses peel off and fail to grasp the images in meaningful ways. Rather than description, the experts are engaged in making sense of what they see through narration. And yet their unsuccessful and unreliable anticipations are also descriptive as they are themselves under examination by the viewer. The simultaneously adaptive and opaque zoom operations in the camerawork share this double structure, too. The camera movements are too directed to be without intention and, yet, too unpredictable to give away their intention. Indeed, the images are almost like the free association of a news video footage dispositive. Both visual space and audio track are simultaneously under- and overdetermined. As such the tension between the potential significance and apparent insignificance of the camera movements contributes to the vacillation of the images.

With Barthes' concept we can conclude that this enactment of insignificant details produces a reality effect: through noise reality is produced here. Barthes distinguishes between two fundamental forms of representation involved in the creating of a reality effect: narration and description. While the former is driven by the production of meaningful relations, the latter is mainly summatory:

The general structure of narrative, [...] appears essentially predictive: schematizing to the extreme, and without taking into account numerous detours, delays, reversals and disappointments which narrative institutionally imposes upon this schema, we can say that, at each articulation of the narrative syntagm, someone says to the hero [...] if you act in this way, you choose this alternative, this is what will happen [...]. Description is entirely different: it has no predictive mark: 'analogical' its structure is purely summatory and does not contain that trajectory of choices and alternatives which gives narration the appearance of a huge traffic control centre, furnished with a referential (and not merely discursive) temporality.¹³⁶

Description and narration, thus, stand for two fundamentally different and yet complementary practices of representation in the field of literature. While the former frames reality as series of actions and choices, the latter frames reality as the presence of insignificance. Barthes' distinction

¹³⁶ Barthes, 'The Reality Effect', 142-143.

revolves around what he calls a ‘predictive mark’. While narration is marked by prediction and, thus, always already implying future states, description is pointing to something that has not yet acquired meaning. We can conclude that narration is caught in structures of extrapolation, while description is not. To the contrary, description produces the effect of a ‘not yet’ that eventually causes a reality effect. Thus, as in our discussion on hypo-realism the experience of reality can be framed as resistance to meaning and its predictive marks. In the enumerations of description an other can appear that is not already extrapolated by narration. While futures produced by narration are passive, they are implied and acted upon from the present, in description futures are active. These active futures are not simply a product of the present, but – in enumeration – are left to reveal themselves.

The product of description is, thus, realist in a double sense: it is the experience of significant insignificance, and the experience of not-yet significant significance. Hypo-realism would thus be concerned with the residue of insignificance in communication.¹³⁷ In the enactments in *The Analyst*, we experience the spectralizing interplay between narrative extrapolations and reality-effects caused by significant insignificance. This conjoined and mutually co-constitutive structure of the enactments is particularly palpable when the protagonists hesitate in their anticipation as in the following example of a protagonist attempting to interpret the camera movements:

If you are thinking of the helicopter following the car you assume that the helicopter is following it for a purpose, but there is nothing to focus on.¹³⁸

Rather than offering intelligence or explanations, these hesitations show how the anticipations aim to construct narratives and fail in the face of the enigmatic insignificant material. The reality effect for Barthes, is always tied to a resistance to or negation of meaning negation. We can, however, also read it as dynamic negation, not as a ‘not-significant, but as a ‘not yet-significant’ noise. For Barthes writes that:

the pure and simple “representation” of the “real” the naked relation of “what is” (or has been) thus appears as a resistance to meaning.¹³⁹

¹³⁷ E. M. Forster’s science fiction short story *The Machine Stops* points to a similar requirement for the experience of reality. In the story, humankind is imagined having subjected itself to a machine that is mediating all interaction between individuals and the physical world, thereby reducing all potential noise of reality and suppressing all forms of otherness.

¹³⁸ *The Analyst, the Researcher, the Screenwriter, the CGI tech and the Lawyer*, directed by Neil Beloufa (2011).

¹³⁹ Barthes, ‘The Reality Effect’, 146.

While narration bearing its predictive mark is necessarily presentist – it expands what is already existing to the future – description as the enactment of a reality effect brings forth insignificance as resistance to meaning and invites the appearance of a ‘not-yet’. Therefore, only the construction of significant insignificance allows for the experience of reality.¹⁴⁰ It also acquires a particular temporality through the reality effect. As the insignificant detail in description has no predictive mark, it does not impose a prediction on the future. To the opposite, it takes on the form of a place-holder for the ‘not yet’ articulated, ‘not yet’ meaningful or ‘not yet’ useful materiality of reality. It becomes, thus, the refuge and reservoir of the other.¹⁴¹ In fact, Barthes sees in the lack of finality of description one of its most important characteristics:

Description appears as a kind of characteristic of the so-called higher languages, to the apparently paradoxical degree that it is justified by no finality of action or of communication.¹⁴²

Description is thus able to overcome the predictive mark of narration and construct a not-yet that is not objectifying projected futures. What we see in Beloufa’s work is the critical and spectral enactment of reality effects. Showing reality effects as entangled with media and interpretative operations we can grasp the ‘intra-active’ quality of the anticipatory frameworks. The simultaneously under- and overdetermined viewing situation produced by *The Analyst* constitutes a critical intervention into extrapolation more generally and surveillance as a regime of prediction more specifically.

In order to conceptualize this critical intervention of *The Analyst* further we turn to the twin term of epiphany: apophenia. The concept apophenia was coined by the psychiatrist Klaus Conrad in his studies on the onset of schizophrenia in the 1950s.¹⁴³ Conrad’s neologism embraces the phenomenon that schizophrenics often experience delusional thinking as a fundamental revelation. The schizophrenic experiences a false epiphany, so to say. Later the term came to describe the human tendency to recognize patterns in noise. Conrad points to a human compulsion to associate, a condition of being bound to meaning that is amplified in the schizophrenic. Apophenia thus points to the observation that our senses, although they can be described as signals are never

¹⁴⁰ This is why paranoia could be described as reality-dissolving. As, for the paranoid, everything is connected, reality as noise cannot be experienced anymore.

¹⁴¹ The stock markets would be considered producers of narrations of futures rather than their descriptions. In the price of the stock all information and, thus, pure meaning is captured.

¹⁴² Barthes, ‘The Reality Effect’, 143.

¹⁴³ See Conrad, *Die Beginnende Schizophrenie*.

without interpretation and, thus, fundamentally intersensorial,¹⁴⁴ as they are bound to constant association.

Indeed, milder forms of apophenia are known to most of us from our everyday lives. When the shape of a cloud reminds us of an animal or the sound of the heating for a moment resembles a voice, we have extracted a non-existing signal from existing noise. These slight slippages of cognition are potentially epiphanic, but most of the time rather banal. Although in both cases, noise suddenly becomes a signal, epiphany and apophenia differ in their relationship to the other: the material remainder that resists representation. While epiphany allows for an understanding of a previously unknown other, apophenia is nothing more than a projection. While the former transgresses existing categories of knowledge through an encounter with an other, apophenia is an incomplete epiphany where an other might or might not have appeared and, thus, has never fully revealed itself.

Certainly, apophenia is a delusion of a particular kind, in that it is in its milder forms highly predictable. This predictability allows for the investigation and gathering of a particular kind of knowledge. The most common form of apophenia, pareidolia, the seeing of faces, for instance, points to the evolutionary importance of an apophenic perception. The basic archetype consisting of two dots contained in a circle was almost universally useful marker for heightened attention for our ancestors, even as a delusion. Seeing ‘things’ by misrecognizing patterns might be delusional, but it might still give us insights into entanglements of our perception with what we perceive. In both cases, noise suddenly becomes a signal in such a way that previous categories of knowledge and temporal perception are disturbed. The experience of simultaneity is characteristic of both phenomena. Accordingly, several experts self-reflexively comment in *The Analyst* on the characteristic experience of simultaneity while interpreting the images:

So, I am guessing these things are related. What are the odds of two very mysterious things happening around the corner from each other at the same time.¹⁴⁵

While an epiphany is transformational, apophenia leaves its subject without transformation and, in fact, rather suspicious. An apophenia could therefore be described as an incomplete epiphany, an epiphany without resolution. Apophenia and epiphany both describe relationships of a subject with apparently knowing or agential objects. While in an epiphany the knowing object reveals itself to a subject, in apophenia an anticipating subject constitutes and projects an object as knowing or agent.

¹⁴⁴ In fact, the neurologists go so far as to claim that an emphatic perception of randomness is impossible for human observers. See: Brugger, ‘From Haunted Brain to Haunted Science’.

¹⁴⁵ *The Analyst, the Researcher, the Screenwriter, the CGI tech and the Lawyer*, directed by Neil Beloufa (2011).

Steyerl, in her essay *A Sea of Data*, has proposed apophenia as a tactical operation for contemporary documentary practice.¹⁴⁶ Steyerl argues for projections as exposing the governing principles that direct the undercurrents of what she calls 'the sea of data' and thus our contemporary imaginary. Only through an apophenic approaching can the principles which are governing 'deep structures' and 'deep states' be determined.¹⁴⁷ At this point it becomes clear that apophenia is less one-sided than it may initially seem. In fact, a phenomenon causing apophenia and the condition for its manifestation could be attributed to what Graham Harman calls 'allure'. The allure of an object is

a special and intermittent experience in which the intimate bond between a thing's unity and its plurality of notes somehow partly disintegrates.¹⁴⁸

Harman argues in his essay *Guerrilla Metaphysics* that the basic ontological condition of objects is one of withdrawal, such that it is only ever possible to grasp an object partially. As objects occult their being, for Harman they are always more than their particular aspects or 'plurality of notes'. Both epiphany and apophenia, it seems, spring from this ontological withdrawal. While in an epiphany this withdrawal is reversed, in apophenia, the withdrawal is only seemingly reversed. In accordance with this Steven Shaviro describes allure as the display of a separation:

I experience allure whenever I am intimate with someone, or when I am obsessed with someone or something. But allure is not just my own projection. For any object that I encounter *really* is deeper than, and other than, what I am able to grasp of it. And the object becomes alluring, precisely to the extent that it forces me to acknowledge this hidden depth, instead of ignoring it. [...] The alluring object insistently displays the fact that it is separate from, and more than, its qualities.¹⁴⁹

This agency of objects during apophenia points to a particular performativity that Karen Barad has described as intra-activity. As discussed previously, while in an interaction an action between two already defined entities occurs, in intra-action the acting entities are inseparably bound together. Action thus takes place within rather than between them. As such during an apophenia a phenomenon becomes graspable not as an object of observation, but as a logic in which one is deeply entangled as viewer with the regarded object. Ethical knowledge would therefore consider

¹⁴⁶ Steyerl, 'A Sea of Data'.

¹⁴⁷ The analogy of an interpretation of the dreams of structures comes to mind.

¹⁴⁸ Harman, *Guerrilla Metaphysics*, 143.

¹⁴⁹ Shaviro, *Post-Cinematic Affect*, 9.

its own intra-activity and entanglement with a phenomenon it approaches. It can be understood as fundamentally spectral, in as far as it points to its own emergence and relationality. The hypo-realism of *Kempinski* and *The Analyst* embrace this spectrality and show its entanglements. The mode of entanglement and, thus, the mode of intra-action in both works could be described as a vacillation between epiphanic and apophenic realizations. At many instances the state of screen matter, both physical and discursive, is just at the verge of becoming a thing and thus developing agency. As such, *The Analyst*, as much as *Kempinski*, enacts the emancipatory potential afforded by experiences of apophenia.

The Politics of Extrapolation – *Data for Desire* / *World Domination*

Beloufa's solo exhibition '*Democracy*' (2016) at Ghebaly Gallery in Los Angeles is installed in the two separate rooms.¹⁵⁰ In each room a video work embedded in a sculptural environment is shown as a looped projection. The first room features *Data for Desire* (2014), a video of 45-minute duration that is screened on a monitor surrounded by sculptural objects made of black wire and plastic. The adjacent second room shows the video *World Domination* (2012) of 27-minute duration. This latter video is projected onto a massive plastic sculpture resembling a fossil from a natural history museum. As in Beloufa's previously-discussed works, the physical installation prefigures particular viewing situations that go beyond a mere commentary to the videos. On the contrary, it seems that the audio-visual material is just one element among others deployed in order to enact and establish a particular kind of self-reflexive viewing experience.

As such, the videos are perceived as focal points of the vectors structuring the sculptural environment. As in the case of *The Analyst*, the sculptural environments discussed here share principles, narrative and formal operations with the audio-visual material embedded in them. It will be shown in what follows how specific formal operations of the sculptures are iterated in the videos and vice versa. This post-cinematic extension and hybridization of the cinematic apparatus by the means of sculpture here in turn also questions the operations of the images projected. More specifically, the installations of *Data for Desire* and *World Domination* entangle sculptural objects, gallery space and images in hybrid networks of encounter. This hybridization of perspective allows the exhibition to point to the recursive processes of writing and deleting that transgress the apparent boundaries between audio-visual image and sculptural space, between looped and linear temporalities and between virtual and physical spaces. The spatial configuration is extended into

¹⁵⁰ *Democracy* [exhibition] (Ghebaly Gallery, Los Angeles, 11 June 2016 – 30 July 2016).

the operations of the images and, vice versa, the operations of the images extend into the physical space and its framing as sculptural environment.



Figure 3. Exhibition view of *Data for Desire* installed at Ghebaly Gallery, Los Angeles, 2016.

The installation of *Data for Desire* is paradigmatic for this artistic strategy (Figure 3). The video is embedded in a structure resembling the outlines of a grid wall home. Black wires form grids in the shape of a small suburban household, including the outlines of items of domestic life: a broom, a television, a computer or a bike. These outlines of domestic commodities are both part of the grid as overarching infrastructure and still discernible in their appearance as individual objects. Their state as abstracted representations deprive these items of their use value. The appearance of a modern consumer home is thus subjected here to a strange gaze that renders it uncannily abstract or indeed ‘unhomely’ (or *unheimlich*). Framing the objects as mere representations within the grid, the installation enacts an abstracting transformation. As the title *Data for Desire* already gives away, a gaze or ‘desire for data’ is enacted here. This ‘desire for data’ is yet another iteration of, and can be related to our previous discussion on, the problematic notions of a desire to know. The renderings of the objects in the gallery space are not determined by a human gaze and its scale, but by the extrapolating abstractions of what we can only assume to be an algorithmic grid function.

The work seems to point here to the reality-producing qualities of an algorithmic gaze. It is not difficult to read the installation around *Data for Desire* as a commentary on the buzzword

'Internet of Things', that imagines a world where all objects of everyday life are connected to the same smart network and thus take on more and more autonomous roles. The enacted algorithmic gaze of an 'Internet of Things' that the installation provides withdraws from human agency. Its proceedings are framed as abstract and unknowable to the viewer. By rendering not only the objects, but the living environment at the core of consumer societies into signifiers without any use-value, the installation comments on a new form of value creation that exceeds the classic distinctions between exchange value and use value. Rather than these economic categories of a modernist industrial society, the consumer home in Beloufa's installation becomes a factory for data extraction. Accordingly, the sculptural environment enacts a new configuration of organizational power: not only ownership and licensing but even the materiality of objects is here subjected to the parameters of data extraction. The data produced by users and about the users within the 'Internet of Things' is useless to them as individuals and yet valuable as part of an anticipatory infrastructure that allows the prediction and influencing of future behaviours.

The installation therefore stimulates critical attention to the anticipatory politics of data extraction, as will be iterated in the video. The sculptural environment of the work accordingly acts as yet another expression of what Vogl has described as the grammar of a feed forward loop or *hýsteron próteron*. Firstly, the installation points to the necessary deletional operation of extrapolation that turns its objects into grid appearances. In the sculptural objects, emptied of their use value, the violence of the assault of the future on the rest of time finds a manifestation in physical space. The reality of an anticipatory algorithmic gaze is uninhabitable here in a literal sense. It is unhomey and, thus, uncanny. In keeping with one of the fundamental definitions of the uncanny invoked by Freud, something has emerged here that was supposed to have remained hidden. And secondly, by translating the abstracting and extrapolating gaze of data extraction into the physical space of the exhibition a spectralization is enacted. The spectralization here lies in the retreating objects, possessed by anticipation and dispossessed of their ontological status of things in the world. We could say a hyper-realist gaze that actively deletes by abstraction and through technologies of abstraction is here exposed through a hypo-real enactment.

The enactment of an extrapolating gaze finds its iteration in video embedded in the installation. The narrative structure of the video *Data for Desire* falls into two interlaced storylines: on the one hand we see a group of teenagers at a party that is recorded in the style of a scripted reality television show. Several teenagers who are present at the party are episodically interviewed individually, telling a camera their personal stories and what they find important in life (Figure 5). This scripted reality 'broadcast' is interspersed with a second storyline. Here an observational camera records the meetings of a group of mathematics students in a highly stylized old-fashioned seminar room at a French university. The French-speaking students seem to be of the same age as

the American youths. Throughout the video it becomes clear that the students are working on the development of an algorithm to predict the outcomes of the reality television broadcast. More precisely, their algorithm is designed to forecast which of the party guests will end up becoming intimate with each other. After discussing parameters for their algorithm, the French students decide to rank the party guests according to categories such as ‘body’, ‘taste for partying’ or ‘soft drugs’ and then calculate likely matches. The video ends with the French students watching what seems to be the final episode of the party, just to see their algorithm fail. In the last scene of the video the French students are shown having a small party among themselves.



Figure 5. Interview with a protagonist of the scripted reality format, still from *Data for Desire*.

The video juxtaposes these two settings by switching between observational footage from conversations at the party, interview sequences, in which party guests introduce themselves, and the group discussions among the mathematics students. The storylines of the party guests are introduced through stereotypical narrative arches: friendships, rivalries and intrigues between the different party guests are first alluded to and then either shown or resolved as false projections. The spectral quality that was already characteristic for the enactments in *Kempinski* and *The Analyst* is present in *Data for Desire*, too. The performances of the protagonists of both storylines seem to be improvised, while the mise-en-scène and editing appear highly stylized.

Clearly, the enactments in the video comment on scripted realities in a double sense: as narration with ‘predictive marks’ in the case of reality television, but also as algorithmic predictions in the case of the stereotype-driven algorithm that the mathematics students develop. These two

different forms of scripting reality are juxtaposed with a subtle humour. Their particular reality-producing and futurity-producing operations are here both based on stereotypes and shown to construct them iteratively. Juxtaposing the aesthetics of scripted reality television and the methods for algorithmic prediction, it becomes graspable how both rely on anticipatory operations. The algorithm developed by the French students is prolonging existing categories as much as the anticipated storylines of the reality television format. The work thus sensitizes us as viewers to how modes of observation are always-already modes of production and how the structures of knowledge acquisition are embedded and write themselves into our social worlds.

This self-referential enactment of a stereotyping construction also occurs in the *mise-en-scène* in the video *Data for Desire*. While the footage from the old French university seminar rooms is interlaced with contemplative shots of Classical Greek statues of ideal bodies, the footage from the American reality TV segment shows suburban streets and gardens. Indeed, agential objects play a crucial role in *Data for Desire*, too. Demarcating two contrasting milieus, the objects momentarily disrupt the flow of the visual narration, creating reality effects that frame the material as documentary. The objects, too, render anticipation visible here as the core process that connects the different systems of scripting reality. Just as the reality television format constructs ‘ideal’ relationships and the algorithm generates ‘ideal’ predictions, the Greek statues are models of ‘ideal’ bodies.

In conjunction with the narratives, the *mise-en-scène* at first seems to construct a situation of asymmetric observation. Apparently, the modelling and predicting of outcomes of the encounters of the North American party guests by the mathematics students is a one-directional observation. In what seems to be a top-down manner the students observe the party without being observed. And yet, the final scene reverses this seemingly asymmetric observational relationship. Here we see the mathematics students themselves having a small party. The observational camera of this last scene shows some of them to be more intimate with each other than others, not unlike the protagonist at the previously recorded party. It thus becomes clear that they, too, are subject to social scripts. As viewers we realize how – in an inversion – the students act upon the social scripts that we previously saw in the reality television storyline. The direction of modelling and scripting reality here becomes reversed. Although different scripts are developed and acted out in both storylines, the entangled enactments thus show us the anticipatory realism of both anticipatory systems for knowledge acquisition.

As discussed, the critical enactments in the video can be read as a reiteration of the operations by the sculptural objects in the space of the gallery. Here the anticipatory realism of an algorithmic gaze is also both enacted and exposed through its enactment. The enactments in the video, together with the sculptural environment, not only self-reflexively point to the problematic aspects of

extrapolation, they also challenge the rigidity that we commonly attribute to representations. In fact, they extend what Barad has described as a ‘performative understanding of discursive practices’:

A performative understanding of discursive practices challenges the representationalist belief in the power of words to represent pre-existing things. Unlike representationalism, which positions us above or outside the world we allegedly merely reflect on, a performative account insists on understanding thinking, observing, and theorizing as practices of engagement with, and as part of, the world in which we have our being.¹⁵¹

Rather than representing ‘pre-existing things’, the enactments in Beloufa’s work disturb the representational links of matter and representation. This spectralization sensitizes us as viewers to the performativity and materiality of discursive practices and renders the anticipatory reality-producing and futurity-producing qualities of such practices visible.

What kind of knowledge do these enactments create then? Just as with the previously discussed works, *Data for Desire* enacts a spectralization or defamiliarization in order to make the anticipatory operations graspable in vacillating moving images. Rather than constructing concrete future scenarios the work anticipates in a non-representational way and thus constructs a defamiliarizing not-yet in the present. Fredric Jameson has described a similar form of spectralization in the context of science fiction:

For the apparent realism, or representationality, of SF [science fiction] has concealed another, far more complex temporal structure: not to give us "images" of the future - whatever such images might mean for a reader who will necessarily predecease their "materialization" – but rather to defamiliarize and restructure our experience of our own present, and to do so in specific ways distinct from all other forms of defamiliarization.¹⁵²

This vague vacillating knowledge about the anticipatory operations could be described as what the philosopher of science Hans-Jörg Rheinberger calls an ‘epistemic object’.¹⁵³ Rheinberger distinguishes between two kinds of objects that form experimental systems in science: technical objects and epistemic objects. While technical objects such as instruments, apparatuses but also

¹⁵¹ Barad, *Meeting the Universe Halfway*, 133.

¹⁵² Jameson, *Archaeologies of the Future*, 286.

¹⁵³ Rheinberger first defines the term ‘epistemic object’ as ‘epistemic things’ in *Toward a history of epistemic things*.

concepts are determined and precise, epistemic objects are ‘things under investigation’ and thus still vague. Despite their vagueness Rheinberger describes them as objects in order to emphasize that certain types of imprecision are necessary for the acquiring of new knowledge. The epistemic object in its vagueness is thus a stand-in for a not-yet, and more especially for a not-yet formalized knowledge. The rigidity of technical objects serves to limit the vagueness of the epistemic objects and, vice versa, the vagueness of the epistemic object serves to hold open the future for unexpected experimental results. Both categories are – just as in Barad’s theory – performative, for an epistemic object can become a technical object once it is rendered precise and, conversely, a technical object can become the object of investigation and, thus, turn into epistemic object.

Data for Desire in its spectralizing enactments politicizes both the operations of anticipatory systems of knowledge acquisition and their rendering of a vague not-yet. Through these disturbances of a hypo-real representationalism, we see in *Data for Desire* yet another variation of the spectrality of anticipation and its accentuation of entanglements between anticipating subjects and subjects of anticipation. Beloufa’s work marks these entanglements as sites that resist an algorithmic gaze and, thus, the gaze of extrapolation.

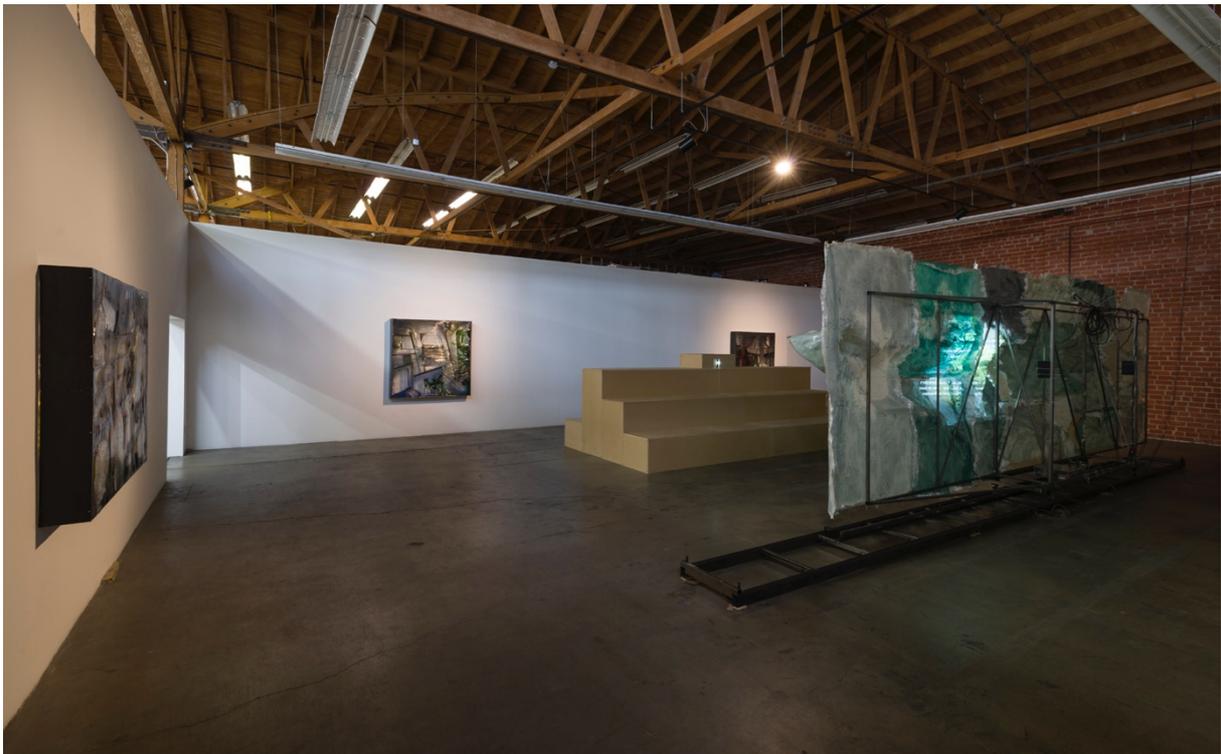


Figure 6. Exhibition view of *World Domination* installed at Ghebaly Gallery, Los Angeles, 2016.

While *Data of Desire* takes the grid and the enactment of an algorithmic gaze as its thematic operation, *World Domination*’s installation accentuates plasticity both in its objects and images. In contrast to *Data of Desire*, which is shown on a monitor, the video *World Domination* is quite literally

projected. The sculpture upon which its images are projected resembles a large fossil made of molten plastic (Figure 6), thus simultaneously pointing to liquidity and rigidification as key qualities of its material. Both the fossil sculpture here and the grid sculpture of *Data for Desire* complement each other: each stand for processes of extraction, alluding to another buzz phrase in discussions on the Internet of Things, claiming that ‘data is the new oil’. Moving from one installation space to the other immediately gives one the impression of a spatial diptych. In their scenographic configuration the works highlight two material aspects of one overarching form of organization of power: the conditions of liquidity and rigidity in the anticipatory scripting of reality.

While the scripts of *Data for Desire* are based on those of reality television and algorithmic prediction, *World Domination* examines scripts of political discourse. The spatial juxtaposition of both works not only allows for an examination of these different scripts but also their shared modes of anticipation. In contrast to the critical enactment of scripted reality television in *Data for Desire*, the video work at the centre of *World Domination* shows enacted discussions between what seem at first to be politicians. These meetings take place in half-lit opaque spaces that would usually be removed from the public eye: the backrooms of government summits. These opaque loci of power mostly remain without visual representation despite their prominent role in news reporting.



Figure 7. Half-lit conference room, still from *World Domination*.

In *World Domination*, we as viewers gain access to a set of improbable and strangely framed meetings (Figure 7). Around a central table sit what seem to be international political leaders in business attire. In total, five different rooms are shown, with five different teams meeting. In the background of each room emblems of power and interior design specific to a particular continent mark the

space both as an environment of power and as one charged with stereotypical albeit artificial identities. Instead of nation states, each of the rooms seems to represent a continent, with stereotypical objects denoting its identity. We see portraits of fictional leaders, palm trees or landscape photographs in the rooms and yet these references remain spectral and elusive rather than referring to concrete political institutions.

In each room the video shows several politicians discussing economic policies, women's rights or political solutions for obesity (Figure 7). However, something is out-of-true in the way that that these discussions occur. The wording that these apparent politicians use only seems professional at first sight. The longer we see the discussions, the more their professionalism tilts. The apparently professional vocabulary seems off-kilter and statements are made that no politician would dare to make, not even in a backroom. Throughout the video the proposed solutions become more and more radical with each of the different delegates eventually proposing to attack and lead a war against another continent. At this point at the latest, we as viewers realize that the protagonists are merely enacting a political decision-making process. In fact, the protagonists of *World Domination* are lay-actors that were given the task of solving the world's problems by enacting the role of global leaders, as Beloufa explains in an interview:

It was an experiment, it was normal people that I found in bars or in Paris. Basically, nothing was written. What was interesting to me was to bring G8 conversations or geopolitical conversations that are highly mythologized. We only have pictures of the rooms and then a sum-up [in the media].¹⁵⁴

Again, Beloufa's work here takes a common theme of conspiracy theories and turns it into an anti-conspiracy conspiracy: as well-known and yet unavailable space resisting observation, the backroom is as much a site for conspiracy as the enigmatic surveillance footage of *The Analyst*. Although political summits are world-wide media spectacles with days of news coverage, the actual conversations between leaders occur in spaces well hidden from the public. The meeting of the leaders is thus the blind spot in the media spectacle of the summit, the place where, potentially, behind closed doors the public political double-speak ends. Footage from the backroom meeting is thus the ultimate object of desire of an evidential desire to know. The promise of *World Domination*'s images is accordingly to see how political decisions are 'really' made.

The mise-en-scène of the video contributes to this promise by depicting the conference rooms as hermetically sealed vessels. The lighting is dimmed. Either the action takes place in rooms

¹⁵⁴ Casapietra, 'A (Skype) coffee break with Neil Beloufa'.

without windows or the windows are covered in such a way that one is not able to see an exterior. This backroom atmosphere accentuates the promise that the viewer is about to experience a privileged, exclusive gaze into a space that is usually sealed off from the public. As in the case of the *Solaris* spaceship, the primary border between an internal space of subjectivities and an external space with objects of observation is established here. Insiders are looking at, discussing and eventually setting out to govern outsiders here. Engaging with otherness is completely derailed. The mise-en-scène shows this as a self-reflexive enactment of constructions of otherness. The political symbols in the backrooms point to this accentuation, too.

Beloufa's work thus renders visible both a problematic and paranoid desire to know and an enacted aggressive solutionism and preclusion of otherness within its images and discussions. In fact, the instructions framing the discussions of *World Domination* have escalation embedded in them. Beloufa continues to explain the instruction that was given to them as the following: you are to solve a serious local problem but solve it by declaring war on someone else; then explain to me how that war can solve your problem.¹⁵⁵ The only partially accurate imitations of political discourse lay bare abhorrent stereotypes, not necessarily held by the protagonists, but that the protagonists believe to be held by politicians. In fact, the failure to reproduce political discourse authentically excavates the brutality behind the often neoliberal and at times racist terminologies. Unemployment figures or the restricted access of marginalized groups to the job market are brought forward to legitimize pre-emptive strikes on a continent.

At the same time, the grammar of the feed-forward loop is gradually revealed in the film. As viewers we eventually realize, through the iterative structure and montage of the enactments, how certain gestures and conflicts are inevitably prescribed and anticipated by the structure and rules of the game and by the language and arguments it permits and forecloses. The escalation is already embedded in the instruction and just finds its expression through the enactments of the protagonists. On the one hand, the violence that eventually will consume the debates is already inscribed in the rules of the game. On the other hand, and more subtly the installation prefigures forms of othering. The protagonists are from the start separated into different groups that stand in opposition to absent enemies. Being assigned the roles of representatives of continents such as 'Europe' or 'Asia', other positions are constructed that within the emotional debates are easily rendered to enemies. Through the absence of the constructed enemies the scale and consequences of the proposed measures lose any palpable proportion.

Here the shared project of *Data for Desire* and *World Domination* comes to the fore. The lay-actors as world leaders, just like the teenage protagonists, enact social scripts and thus expose an

¹⁵⁵ Casapietra, 'A (Skype) coffee break with Neil Beloufa'.

anticipatory realism. The enactments of the protagonists, as in all of Beloufa's works discussed here, derive their spectrality from a simultaneous high stylization and a documentary quality. It is thus clear from the start that we as viewers are confronted with images that are unreliable but also have a documentary quality. The enactments here have that quality in that they expose parameters of the enacted social scripts. At the same time, we as viewers are aware at any moment that a game or performative structure is unfolding in front of us. Enacting free associations and anticipations within a confined set of rules, the protagonists, just as in an apophenia, project onto an underdetermined background. The improvisational quality and documented 'un-scriptedness' of the enactments in turn lays bare the structures and functionalities of social scripts. In these more or less accurate enactments – such as the conventional stereotyping of reality-television archetypes or the professionalized language of politicians – the installations also point to a more general anticipatory quality of social scripts. In fact, the juxtaposition of different enactments renders visible the characteristic formations of each system of knowledge acquisition but also the more general entanglements of the social scripts with anticipation and anticipatory media.

The juxtaposed exhibition of the two works shows two different manifestation of the same anticipatory mode of organizing power. Through their strategies of enactment, *Data for Desire* and *World Domination* allow us to grasp the anticipatory operations and reality-producing qualities of social scripts that we as viewers are embedded in today. The critical enactments of anticipation and anticipatory modelling in both works thereby examine how regimes of prediction operate. They work to expose the material and performative conditions of anticipation and its political dimension as prescribed by the regimes of prediction.

'We don't really want to explore other worlds. On the contrary, we simply want to extend the boundaries of Earth.' Departing from this observation on the problematic aspects of a desire to know this chapter has examined the materiality and performativity of processes of future construction. In close readings of selected works by the artist Beloufa, enactment was conceptualized as a critical post-cinematic strategy for the examination of anticipation. Through Tarkovsky's *Solaris* and Karen Barad's agential realism extrapolation was conceptualized as a problematic form of anticipation that rests on an objectifying and ultimately colonial desire to subdue an other.

It was shown how the works by Beloufa under discussion expose and examine extrapolation by critical enactments of anticipation. Extrapolation became graspable in the works as a form of anticipation that comes at the cost of suppressing the otherness of an open future. The future as constructed through extrapolation is necessarily presentist and representationalist. The exclusions that extrapolation places upon futures return as spectres. Drawing upon the works of Vogl and

Esposito, spectrality was proposed as a key concept in works of Beloufa and as a crucial category for conceptualizing non-objectifying forms of anticipation. In fact, it could be shown that a spectral engagement with futures can act as a refuge for an open future in the present.

It was proposed that Beloufa's installations enact the problematic aspects of extrapolation in order to imagine different forms of anticipation. Through enactments the works render visible the ontic operations, the materiality and performativity of anticipatory processes and, thus, develop their particular analytical positions. It was argued that enactments in the video installations conjure spectrality and accordingly allow for spectres to be addressed. In this way, the contingencies, programmed effects and material limitations of anticipation become palpable in the artworks. The enactments in Beloufa's works achieve this by retaining ambiguity and indistinction. Rather than just referring to an external reality, the enactments are able to self-reflexively point up their own conditions of production. Instead of being instrumental to, or expressions of, a particular subjectivity or objectivity, these enactments address the coagulated or looped materialities of anticipation. That is to say, they are able to sensitize us as viewers to realities in emergence, and accordingly to the temporal and material path dependencies of particular practices and modes of anticipation in a hypo-realist manner.

While *Kempinski* and *The Analyst* served primarily to conceptualize spectrality, *Data for Desire* and *World Domination* were read to better understand the political dimension of the anticipatory organization of power. However, the strategy of conjuring spectrality suppressed by extrapolating anticipation is something that all of the works share. Instead of insisting on a causal chain from past to near future, and by that veiling and suppressing the otherness of the future, the works address and accentuate the spectrality and alterity present in the construction of futures. Two different modes of non-objectifying anticipation were introduced: epiphany and apophenia. While epiphany is the experience of an assault by and revelation of an other through the transgression of categories of previous knowledge, apophenia can be described as an incomplete epiphany: an other appears without fully revealing itself. In *Kempinski* we could observe how an epiphanic economy allowed for the experience of the agency of objects, while the reading of *The Analyst* conceptualized how the work excavates the affective and anticipatory structures of a surveillant dispositif. Both works thus develop, through epiphany and apophenia, alternative modes of relating to the future that frame futures as agents in the present. This framing of an agency of object was iterated in the double installation *Data for Desire / World Domination* through addressing the agency of social scripts within regimes of prediction. Across the four works, a form of anticipation is enacted that allows for the spectres of anticipation to return and become addressable. Rather than complying with an extrapolative 'raid by the future on the rest of time', each work points to the possibility of non-objectifying anticipation.

3 Soft Montage / Harun Farocki

– The Anticipation of Operative Images

Man muß sich kein Bild mehr machen können. Bilder erzeugen und verbrauchen, das wird wie die Handarbeit zu einer Nebensache, zu einer Sache am Rande. [...] Die Bilder werden an den Rand gedrängt, aber wie groß wird der Rand und wie klein wird das Zentrum?¹⁵⁶

This excerpt is from a review written by Farocki in 1983 on Michael Klier's film *Der Riese* (*The Giant*).¹⁵⁷ In a prophetic tone, Farocki concludes his analysis of the film with a prediction: just as manual labour has lost its importance during the industrial revolution, so 'the capacity to make oneself an image' will become marginal. Farocki's observation bears a certain ambivalence, pointing to two entangled predictions: firstly, producing and consuming images will be increasingly delegated to machines, thus devaluing the capacity to make images, and secondly, images will only be of marginal use for the acquisition of knowledge: for the gaining of an 'overview' ('Überblick').

Both predictions are a reaction to the remarkable cinematography of *Der Riese*. It was one of the first films to entirely consist of surveillance footage and was made at a time when the first surveillance video cameras were just beginning to appear in public spaces. The film assembles footage from cameras that had been mounted by corporate or civic authorities to monitor Berlin streets, shopping malls, parking lots or Tegel Airport. Through a set of specific techniques, the film sensitizes its viewers for the surveillance protocols of its images. The collected surveillance footage is accompanied in *Der Riese* by a score with music by Mahler and Wagner. This montage of the music and surveillance footage evokes a mysterious omnipresent eye, an eye that itself remains invisible to both the viewer and the persons recorded by it. It also accentuates the low video quality, robotic camera movements and elevated position of the cameras (Figure 8). These in turn render the footage visible as surveillance images following particular protocols. In this way, it becomes clear how the infrastructures of their production are inscribed in the images.

¹⁵⁶ Harun Farocki, 'Kamera in Aufsicht', 418-419.

¹⁵⁷ *Der Riese*, directed by Michael Klier (1983).



Figure 8. Surveillance footage from an elevated position, still from *Der Riese*.

The careful appropriation of these surveillance images in *Der Riese* in fact not only highlights the detached functional technicity of the images but also marks the footage from different surveillance systems as a single conjoined phenomenon. The outlines of a new logic for the surveillance and organization of space and time become visible. The film also shows how the human gaze on such images matters less and less, and that, conversely, what such images do themselves – how they operate as embedded in systems and infrastructures – matters all the more. Farocki's review points to the political dimension of the margins of these images through its title 'Kamera in Aufsicht'. The title plays with the notion of 'Aufsicht', which translates as both 'supervision' and the 'sight from an elevated position' that the surveillance cameras take, in this case looking down on a surveyed area, the former meaning of 'Kamera in Aufsicht' also emphasizing the agency of a camera as surveyor. Farocki's review reads *Der Riese* as a reflection on a shift in the organization of power from optical to digital technologies, but also on the diffraction of power from a few state actors to many private actors. Most of the footage is from cameras placed by private businesses. Farocki's initial question for the relationship between centre and margins of image production – between the human gaze and the gazes of systems – is an inherently political one, bearing upon the distribution of agency in processes of knowledge acquisition among both institutions and people, but also the objects that constitute the technical apparatus of 'Aufsicht'.

His review of *Der Riese* marks Farocki's first encounter with what he will conceptualize later in many of his works as a new type of image: operational images. In Farocki's installation series *Auge/Maschine I-III* (2000-2003), he defines these as: 'images without a social goal, not for edification, not for reflection'.¹⁵⁸ Rather than representing reality for the purposes of thought or social amelioration, operational images act as instruments for systemic knowledge acquisition. While film and photography classically require a human viewer, surveillance images only do so in exceptional circumstance, if at all. While the standard function of film and photography is to capture and represent a reality of some kind to a viewer, operational images such as surveillance images are primarily concerned with analysing or establishing control over a visual field. In the description accompanying *Auge/Maschine III*, Farocki writes as follows about operational images: 'das sind Bilder, die einen Prozess nicht wiedergeben, die vielmehr Teil eines Prozesses sind'.¹⁵⁹

We can see here how the concept of 'operational images' constitutes a shift of perspective in their analysis. Rather than focusing on their representational qualities as media, conceptualizing images as 'operational' allows a new focus on their operations as objects engaged in processes of knowledge acquisition. The question is, then, not what an image shows, but what it constructs as part of a larger process. It is a question as to its project or trajectory. Departing from operational images whose operations are apparent, this conceptual shift of perspective can also be applied to images that do not seem operational at first. In *Auge/Maschine I-III*, we see juxtapositions of filmic images recorded for human eyes with operational images made for the machine vision, illustrating but also exposing each other's operational parameters (Figure 9). The work series shows how the early application of machine vision algorithms also affords images with a certain procedural autonomy. Rather than representing reality to the eyes of human viewers, operational images – to a certain degree, at least – see for themselves. The agency of the 'Kamera in Aufsicht' in Klier's images has already moved further to the margins and lies with the algorithms that construct an image. An example of this is the visualization of algorithms identifying persons and objects recorded on surveillance footage in *Auge/Maschine I-III*. The operations of the algorithms are visualized by colourful animations in order to become accessible to human perception. To us as viewers it becomes clear that the work of these images - their operations - do not occur under a paradigm of representation, but under one of construction or indeed of anticipation. Here, operative images anticipate on the basis of a model, and are adjusted accordingly in their visual protocols. In this sense we see post-representational images at work, more instruments in action

¹⁵⁸ *Auge / Maschine I-III*, directed by Harun Farocki (2000-2003).

¹⁵⁹ Harun Farocki, 'Auge / Maschine III'.

than representations of reality. And as such, the agency of these images is only comprehensible in a broader operational context.

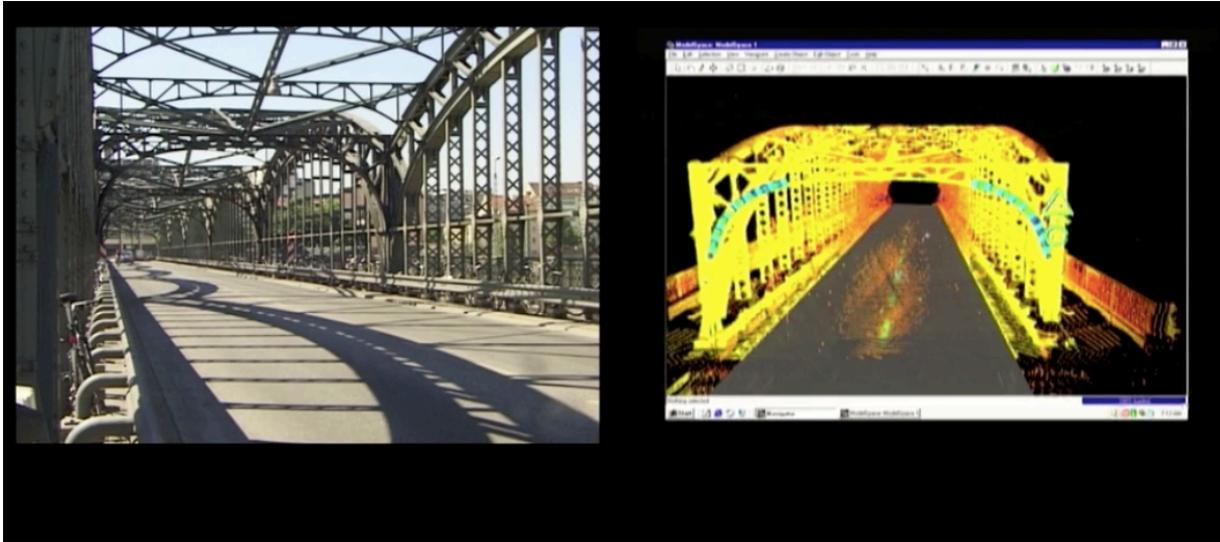


Figure 9. Soft montage of operational images representing a bridge, still from *Auge / Maschine III*.

Farocki's negative definition of operational images points up their aforementioned marginality. As operational images they are embedded in underlying or overarching protocols, with their status as images becoming marginal in relation to that function. At the margins, operational images are agents that represent reality, but more importantly that act upon viewability through filters, formats and renderings that often remain invisible to the human eye. The artist Trevor Paglen writes about the focus on this agency of operational images in Farocki's works:

Harun Farocki was one of the first to notice that image-making machines and algorithms were poised to inaugurate a new visual regime. Instead of simply representing things in the world, the machines and their images were starting to “do” things in the world.¹⁶⁰

In accordance with Paglen we should add that here, ‘to do things’ also means ‘to anticipate’. Volker Pantenburg points to this anticipatory quality, too, when stating that Farocki's works ‘consist of a continuous examination of the operational potential of images in different fields of practice’.¹⁶¹ The concept of the *operational potential* of images here refers to an anticipatory quality of operational images. Consequently, this potential for operation – what images could do – is framed by their operations in the present or: what images *can* do. This is the field in which different anticipatory

¹⁶⁰ Paglen, ‘Operational Images’.

¹⁶¹ Pantenburg, ‘Working Images’, 49.

agencies and regimes of prediction manifest themselves, can become graspable, and even point to future path dependencies of such systems.

Operational images can thereby make addressable the structures in which they are embedded. This becomes clear when Pantenburg relates Farocki's understanding of operability to Roland Barthes' essay collection *Mythologies*.¹⁶² In these essays, Barthes imagines an operational language that is able to shake off its complicities and entanglements with ideology and its appropriations as myth. While mythical language is imbricated with ideology (we could add with the formation of an always already) according to Barthes, an operational language can subvert these entanglements; as a language that is reduced to its bare functionality (and thus opens the possibility of a not-yet). According to Pantenburg, Farocki extends this concept of operability to theorise operational images. In the same way as Barthes conceptualises an operational language, operational images for Farocki seem to hold potential for subversion and the exposing of hidden ideological formations. The images are seen to have to the capacity to 'speak' autonomously of their operations, not only as part of surveillance and intelligence systems, but also in the cinema or the art gallery. As documents they are – at least momentarily – able to subvert and expose ideological formations. And yet, despite this potential, operational images, too, have the capacity to occult as much as to expose, as Pantenburg observes:

Andererseits jedoch löscht sich das Bild als Bild in dieser Operativität zugleich aus; es ist nicht mehr als Bild, sondern nur noch als mathematisch-technische Operation gefragt.¹⁶³

If operational images – such as surveillance camera footage, but also images used in image recognition systems – delete or occult their condition as images, if they matter merely as mathematical-technical operations, work is required to recover their status as images again. This work of making productive and political use of the operability of images and their anticipatory qualities is at the heart of many of Farocki's later works. We find evidence for this in a review that Farocki wrote on Barthes' *Mythologies* in 1969:

Barthes leidet unter der ständigen Verwechslung von Natur und Geschichte. Er will das Manipulierte, Vermittelte aufdecken, wo es versteckt und unerkant ist. [...] Die bürgerliche, faschistische und kapitalistische Ideologie ist heute nicht mehr am Etikett

¹⁶² Pantenburg, 'Working Images', 50.

¹⁶³ Eschkötter and Pantenburg, 'Was Farocki Lehrt', 207.

erkennlich. Man muß sie aufspüren im Detail, in Redensarten und Gebärden. Es bleibt zu hoffen, daß Barthes mit seiner Sammlung ein Vorbild stiftet für Ideologiekritik.¹⁶⁴

In order to expose ideology, it has to be traced through details, in quotidian phrases and gestures. Similarly, only through exposing the operability of operational images, through exposing the ways in which they work, can their condition as images become addressable and the subject of critique. Farocki in this review uses the words ‘das Manipulierte’ (the manipulated) and ‘das Vermittelte’ (the mediated) synonymously to describe the ideological management that Barthes’ essays address. Already here it becomes clear that ideology, for Farocki, is a question of mediation. The observation that mediation always comes with manipulations implies here another question central to Farocki: what precedes critique? Or more precisely, what work has to be done in order for something to become the subject of critique? Barthes’ essays here act as a ‘Vorbild’ in a double sense: they are exemplary in their unmasking and making addressable of the manipulations of ideology. And at the same time – as Eschkötter and Pantenburg have observed – already in this early review the post-representational trajectory of Farocki’s later works comes to light, or – we might say – is ‘vor-gebildet’.¹⁶⁵ Self-reflexively, Farocki points to the anticipatory and post-representational quality of images as models in his film *Schnittstelle* (Interface) from 1995. In a scene where we see Farocki editing a film at an editing station, he describes the mode of reference of the images of the film:

Again, and again, I depicted the author's workplace. Here the author as he uses montage to invert images and recombine them. These images also say: a work station doesn't look like this. This isn't a depiction of an editing station - it's a model.¹⁶⁶

Rather than depicting or documenting the authentic appearance of a work station, Farocki stresses that the images of his film act as models. Through these models the viewer can understand the idea of a workstation. What is at stake here is not the particular workstation depicted but the operational principles and infrastructure that constitute the workstation per se. The images act as models, or indeed, as ‘Vorbilder’. We as viewers see an interface that explicates a particular function of an image, but also shows the trajectory, the potentiality that lies in it. Thomas Elsaesser points to this formation, explicitly calling Farocki’s model images ‘Vorbilder’:

¹⁶⁴ Farocki, ‘Der tägliche Mythos’, 22.

¹⁶⁵ Eschkötter and Pantenburg, ‘Was Farocki Lehrt’.

¹⁶⁶ *Schnittstelle*, directed by Harun Farocki (1995).

His intention has never been to reproduce images (Abbilder) but rather, to produce models (Vorbilder). But a model or proto-type needs to be presented, and every presentation relies on a mental space, and on representability.¹⁶⁷

The distinction between ‘Abbilder’ and ‘Vorbilder’ points to the function of operational images as reality- and futurity-producing agents. Through their operability we can perceive them as embedded in temporal economies of human and non-human actors, enacting protocols and rendering their findings visible. Elsaesser’s observations point to their ambivalent state of being post-representational – they are part of the process rather than just representing it – and yet remaining reliant on representability. In Farocki’s works we can see the development of a set of techniques to navigate this ambivalent state of operational images. His approach to presenting the operability of operational images is characterized by assembling material into new contexts through principles of montage. Rather than formulating and describing an operation, the idea is to set elements and fragments of perception – which means for Farocki fragments of moving images – into changing relationships. In a text accompanying the installation series *Serious Games 1–4* (2009–2010) Farocki writes:

Vieles ist neu, das meiste in Bewegung. Sicheres Wissen kann es nicht geben. Besser also, Vorhandenes montieren, als eine Deutung zu versuchen. Es gilt, Elemente oder Fragmente der Wahrnehmung in wechselnde Beziehung zu setzen.¹⁶⁸

Only through such a hybridization of perspectives, through the assembling of material into ever-changing relations, can the operability of operational images become addressable and their anticipations and trajectories be exposed. We again see in this quotation the similarity in method to Roland Barthes. Rather than applying interpretation, the works attempt to let images speak for themselves. One could also see in this method of constant variation a manifestation of Derrida’s injunction to look for the previously discussed ‘trace *before/preceding* being’; for the trace as pure difference stands for the departure that Farocki mentions from ‘sicheres Wissen’ towards a critique in motion.

In the following, I take Farocki’s conceptual and filmic interventions in the field of operational images as a point of departure for the analysis of anticipation as cultural technique. I argue that Farocki’s sensibility to the operability of images can help us to conceptualize anticipation as a cultural technique embedded in regimes of prediction. This operational potential,

¹⁶⁷ Elsaesser, *Harun Farocki: Working on the Sight-Lines*, 45.

¹⁶⁸ Ehmann and Farocki, ‘Ernstes Spiel. Eine Einführung’, 24.

which Pantenburg has pointed to, frames the operational image as an anticipating image. Embedded in processes of knowledge acquisition it acts as a reality- and futurity-producing agent. As such, operational images enact models and format their environments and more or less actively adjust to these. An example is again provided by surveillance footage, for a surveillance camera is always mounted with an intention. Accordingly, its images themselves embody the prediction that something worthy of surveillance might happen in the prescribed field of vision. Through making the operability of operational images visible, the ideological formations of a system become graspable. I argue that in this way its anticipations can also become addressable. Operational images, then, also display their state as 'Vorbilder', as images preceding and pre-constructing realities.

The hybridization of perspectives is paramount to the process of exposing the operability of operational images. It occurs in many of Farocki's works through the application of soft montage. As we saw in the first chapter, soft montage is the simultaneous presentation of two moving images on a single screen or in a single visual environment. In contrast to classical 'hard' montage, where two images are separated by a cut and follow one after another, soft montage produces a non-linear simultaneity of two moving images. The term soft montage was coined by Farocki in interviews on the production of *Schnittstelle*.¹⁶⁹ As discussed previously, soft montage can be considered a cultural technique of anticipation, because of its production of latency. In its juxtaposition and indeed hybridization of two or more moving images, the assembled images are opened towards a hypo-realist not-yet. Soft montage enables a mutual exposing of the materialities, performativities and operationalities of the images assembled. This mutual exposure enables an opening of discursive structures beyond an always-already of ideology. Rather than a direct authorial intervention, two images are enabled to operate on each other, to reveal, to comment on and to relate to each other. Regarding this anticipatory task of documentary, Farocki writes in a programmatic essay called 'Was getan werden soll' (what ought to be done):

Was man Dokumentation nennt, das zeigt die Welt so, als wäre sie bekannt, was dann dazu führt, dass man nach ein paar Jahren schon nicht mehr erfahren kann, wie sie ausgesehen hat. Es müssen aber Bilder gemacht werden, mit denen schon jetzt die fremde Welt entdeckt wird und die Gegenwart Geschichte wird. Wir müssen Bausteine produzieren. Zuerst müssen wir entwickeln, wie man diese Bausteine gewinnt und dann müssen wir zusammensetzen und auseinandernehmen.¹⁷⁰

¹⁶⁹ See Silverman and Farocki, *Speaking about Godard*.

¹⁷⁰ Farocki, 'Was getan werden soll', 5.

As Farocki writes, rather than assuming the world as known, the task of documentary is to transform the contemporary moment into history.¹⁷¹ Already now, images have to be made that allow us to approach the world as foreign rather than known. To experience the world as foreign (as a place of the not-yet, rather than of the always-already) becomes possible through the production, assembling and disassembling of images as building blocks. Again, Farocki's use of the term 'Bausteine', which translates as 'building blocks' but might be more precisely glossed as 'elementary units of construction', points to the operability of images and their exposure through ever changing operations of assembling and disassembling such as in the case of soft montage.

Departing from these questions, two of Farocki's post-cinematic work series will now be examined: *Serious Games 1-4* (2009-2010) and *Parallel 1-4* (2012-2014). In a sequence of close readings, I explore the application of soft montage as a cultural technique of anticipation. Rather than simply imagining future scenarios, soft montage in Farocki's works implies in its hybridization of perspective the construction of a not-yet through which the operability of operational images is exposed. Both series of works reflect on the latest contemporary variation of operational images: computer generated images. These images are already marginal to a degree that they are both materially and functionally embedded in computerised protocols: as visualisations in simulations and as renderings for computer games environments. In both *Serious Games 1-4* and *Parallel 1-4* soft montage enables us to see the operations of predictive regimes. In particular, the political role of soft montage in the exposing of reality- and futurity-producing effects is analysed. We see how the soft montage in *Serious Games 1-4* and *Parallel 1-4* makes the anticipatory organization of precarity and sovereignty palpable, thus allowing anticipatory realisms to become the subject of critique.

How big will the margins be and how small the centre? The question concluding the quotation that opened this chapter constitutes an anticipation regarding operational images. With this question Farocki also reflects on the ambivalent promises of a new visual paradigm. Subsequently, the interventions of his works can be read as demystifications of the promises driving this paradigm. By showing the failures and limitations of operational images, by showing how technologies never entirely match up to the expectations projected onto them, the political projects behind them come to the fore. Through this demystification – also in Barthes' sense – a different kind of use of operational images shines through, a not-yet that is critical of the operational systems and yet remains open to the speculations of a progressive appropriation. Rather than a technical determinism, Farocki's approach intervenes to delineate the ideological trajectories of operational

¹⁷¹ This notion also resonates with the initial quotation from Meister Eckhart. 'If it were not for the new nothing would grow old' is formulated as an imperative by Farocki.

images. Such interventions enable us as viewers to imagine a potential of images to reveal their own workings within anticipatory regimes, thus becoming the point of departure for critique of these structures.

Regimes of Prediction – *Serious Games 1–4*

The 2014 exhibition of *Harun Farocki: Ernste Spiele / Serious Games* at Hamburger Bahnhof Berlin opens with two older works by Farocki displayed in an anteroom: *Nicht löschesbares Feuer* (1969) and *Schnittstelle* (1992).¹⁷² *Nicht löschesbares Feuer* is one of the first films Farocki made and dates back to the time when he was a student at the then recently founded Deutsche Film und Fernsehakademie. The film features Farocki as a news presenter reading out a condemnation of the use of napalm in the Vietnam war. In a now-iconic scene, Farocki – after reading out the temperature under which napalm burns human skin – extinguishes a cigarette on his forearm. This enactment points to some of the most prominent thematic and formal concerns of the filmmaker: in particular, the ambivalent relationship between technology and war, but also questions of the medial constructions of war and the performative aspects of critique. In the context of the exhibition, the enactment also becomes graspable as a ‘serious game’: a critically performative exploration of the political realities at the time.

These formal concerns of *Nicht löschesbares Feuer* are concretised in juxtaposition with *Schnittstelle*, a video that marks Farocki’s departure from conventional filmmaking, funded by television and film funds, into the art world. The video also shows Farocki as a protagonist, explaining in his editing room the processes and technologies of video editing. Through a hard look at the human and non-human actors at the editing table, *Schnittstelle* makes the trajectories and projects of image production addressable. With this a subversive potential also shines through when Farocki in the film examines the role of TV images during the revolution against the Ceausescu regime in Romania in 1989. Both works frame Farocki as a self-reflexive auteur and constitute together a genealogy of his critical practice. In conjunction, they pose questions regarding the materiality and performative economies of image production. They also work here as an overture or methodological preamble to the material yet to be presented in the main exhibition, introducing and contextualizing the formal strategies central to Farocki’s artistic

¹⁷² The pictures and description here refer to the exhibition *Harun Farocki. Serious Games* at Hamburger Bahnhof Museum in Berlin in 2014. *Harun Farocki: Ernste Spiele / Serious Games* [exhibition] (Hamburger Bahnhof, Berlin, 6 February 2014 – 18 January 2015).

practice. Soft montage is introduced through *Schnittstelle*, while the strategy of enactment is introduced through *Nicht löschesbares Feuer*.



Figure 10. Exhibition view of *Serious Games 1–4* installed at Hamburger Bahnhof, Berlin, 2014.

Already through the anteroom, the exhibition of the *Serious Games 1–4* is visible at a distance (Figure 10). In a carefully dimmed out gallery space several semi-transparent screens are hanging freely from the ceiling. In fact, the gallery is almost exclusively lit by the projectors that throw their images onto the screens. The different videos of *Serious Games 1–4* are projected in such a way that visitors can view them from both sides of the screen. The two-sided projection not only allows a range of different viewing positions that a classical projection would not, but the image on the wall of most of the screen projections is thereby turned into an exhibition object. This spatial arrangement highlights the materiality and performativity of the images projected on the screen. They are exhibited here as objects that can be examined from different angles and distances either individually or in conjunction and comparison with each other. Rather than a simple projection onto a wall, this post-cinematic configuration presents images as sculptural objects in physical space.



Figure 11. Spatial soft montage, exhibition view of *Serious Games 1–4* installed at Hamburger Bahnhof, Berlin, 2014.

The set-up critically accentuates Farocki's concept of the hybridization of various materials. By embedding the videos in this exhibition context, their operability comes to the fore. Certain operations of the moving images become graspable, such as their angles and framing. As image objects, their immersive potential is reduced. The spatial arrangement contributes to exposing the performative and material economies that the images are embedded in. At the same time, the arrangement also allows for a range of spatial soft montages in the gallery space, as can be seen in Figure 11. In the exhibition, while we are observing the image in front of us, we often see from the corner of our eyes a different screen and its images. The result of these juxtapositions is a diffraction of the different projections. Not only do we often see part of projections that we have not yet focused on, leading us to anticipate from these entanglements and intersections, but the arrangements also frame the different projections as unified forms of a visible structure or dispositive that is examined by the presentation and projections in its totality. As the exhibition plan in Figure 12 shows, these juxtapositions are arranged intentionally, creating different pathways and positions that viewers can take towards the images and thereby enabling a variety of different juxtapositions of the screen materials.



Figure 12. Flyer with exhibition plan, *Harun Farocki: Ernste Spiele / Serious Games*, Hamburger Bahnhof, Berlin, 2014

The series *Serious Games 1-4* is comprised of four videos with durations of 7 to 20 minutes, each projected onto one of the semi-transparent screens in the gallery. It was first exhibited at the Biennale in Sao Paolo in 2010 and then travelled through museums around the world. What the title of these videos refers to as ‘serious games’ are various training and therapy programmes in the US military that make use of computer game technologies. The videos document the application of these games in the style of an observational documentary with minimal authorial presence. Rather than following the conventional generic paradigm, authorship retreats to the margins of the images here; namely the space of its assembly, and its montages and installation. In *Serious Games 1*, we see how soldiers practice manoeuvres in virtual environments that resemble first-person-shooter computer games. The other videos show how virtual reality devices are used in the therapeutic treatment of returning veterans, and how the training of soldiers in physical space makes use of elements from computer simulations. The environments of all these ‘serious games’ are modelled after Middle Eastern towns and landscapes. On virtual desert roads, soldiers practice the scenario of an ambush or the detection of explosives. The renderings of the games follow a particular, often absurd realism: not only are the buildings and roads modelled after Iraqi or Afghan towns or the enemy soldiers rendered as terrorists with Palestinian keffiyeh scarfs; also visible in some of the games are billboard advertisements of Coca Cola and other corporate brands, pre-empting an American victory.

This focus on training and therapy allows the videos of the installation to refrain from showing actual battlefields. At the same time, reflections on the medial constructions of war and its physical and medial infrastructures become possible. Rather than battlefields, the videos present protocols in operation before and after the actual military operations. One could call this a making-of, with the computer games as its main protagonists. Together with the spatial installation, the focus on these infrastructures pushes to the fore the operational character of the images of the computer games. Rather than a spectacular immersion, the images engage in education without being prescriptive. Instead of a gesture of exposure, *Serious Games 1-4* is characterized by one of assembling and comparison. This authorship at the margins, laying bare the operability of the images, can help us to understand the anticipatory organization in which the images are embedded. As we will see in our analysis, this arrangement will enable us to trace processes of allocating sovereignty and precarity in these 'serious games'. In a more general sense, through the works we can gain knowledge about a particular rationality that structures the training and the subsequent projections of the soldiers' operations. It becomes clear that both the representation of war and its organization through media are subject to fundamental transformations through the proliferation and development of computer technology. As much as the installation of *Serious Games 1-4*, this rationality replaces the 'event' of war with a set of predictive practices and parameters, a development that the series of works makes addressable.

Alexander Galloway's concept of computer games as action-based media can help us here to understand this shift of focus from event to protocol.¹⁷³ Galloway introduces this term 'action-based' in opposition to the concept of interaction. While an interactive game would imply an albeit questionable mutuality between player and medium, games as action-based media describe 'action' as the central semantic unit around which a game is developed: a set of particular actions frames the game. Its images merely provide the immersive environment and render the objects visible that are required to frame the decisive action. Here indeed, images have quite literally been pushed to the margins. At the centre we find action-based protocols. It is possible to imagine computer games without any visual interface, while it is impossible to imagine a game that does not require an action. It becomes clear here that the 'serious games' in the installation point to the organization of reality according to rules, and the operation of rules as predictive structures.

While the organization of warfare through computerized models is nothing new and can be traced back to the 1950s, the scale of its impact has changed. In the games we see that the logic of anticipation has reached the level of the individual soldier, who is trained to anticipate and predict the vicissitudes of an uncertain territory rather than a visible enemy. Here, power lies not in the

¹⁷³ Galloway, *Gaming*, 3.

actual annihilation of an enemy, but in the capacity to detect and potentially eliminate the enemy. The exhibition documents training processes, human–machine interaction as manifestations of this new paradigmatic rationality. The videos show how computer technologies and an action-based paradigm change not only warfare itself, but also the experiences of the soldiers. Computer games in *Serious Games 1–4* do not simply prepare soldiers for eventualities (or contingencies) during their operations in the field, but focus especially in turning them into anticipating agents, executing prognostic protocols.

A set of concepts by the philosopher Brian Massumi can help us to conceptualize this anticipatory organization of power that is rendered visible in *Serious Games*. In his book *Ontopower*, Brian Massumi observes a shift in the ways that discourses about security occur after the attacks on the World Trade Center on September 9th, 2001. While during the Cold War security measures were discussed and organized according to preventive or deterrent parameters, today, security is discussed and organized pre-emptively. Massumi distinguishes between these three different modes of dealing with future threats and assigns each one a particular theoretical foundation. Prevention, deterrence and pre-emption each rest on a different epistemological framework and each of these theoretical frameworks are associated with specific media practices and underlying theoretical assumptions.

The paradigm of prevention frames the world as knowable and possibly transparent. Events run a linear course and can be explained from cause to effect. Uncertainty is understood merely as a lack of knowledge and can be overcome by acquiring knowledge of causal relationships. For example, a disease – under a logic of prevention – has a known cause that can be isolated, described and eliminated through preventive means. Deterrence, too, assumes that a threat can be known. However, as in the Cold War case of the mutual deterrence of the United States' and Soviet Union's nuclear weapon programmes, this threat is not stable over time. Uncertainty here is not only a matter of complete information, but also subject to a predictable opponent. However, the capacities of this opponent can never be fully known and as a result have to be constantly surveyed. A race for maximal predictability and maximal destructive capacity by both opponents maintains an equilibrium of deterrence as long as no opponent becomes unpredictable or massively exceeds the destructive capacity of the other. Therefore, deterrence already operates both epistemologically and ontologically. It is as much dependent on knowledge as it is on building specific capacities. As a result, two rational actors assure and insure each other as to their capacity to mutually destroy each other, thus establishing a 'cold' equilibrium.

This is not the case for pre-emption. While both prevention and deterrence aim to cope with knowable threats, pre-emption deals with potential threats that have not materialized yet and are not known in the present. Pre-emptive action thus follows hints rather than evidence and aims to

counteract a threat before it has fully formed. Rather than on the knowledge of a concrete threat, its actions are based on the knowledge of a potential threat scenario. Pre-emption operates accordingly in a territory in which epistemology and ontology cannot be distinguished anymore. Massumi calls this capacity of epistemological forms under the paradigm of pre-emption ‘ontopower’. While prevention and deterrence assume independent epistemology and ontology (what can be known is independent from what exists), in pre-emption both categories are entangled. Not only is it unknown whether a threat exists in reality, it is also not certain that the threat can be known at all. This epistemological assumption renders the potential of indeterminable. The only certainty of a pre-emptive logic is that threats will emerge at the points where they are least expected.

The paranoid character of pre-emptive systems becomes clear here. A pre-emptive agent is in constant anticipation, projecting the emergence of potential threats onto his or her environment. At the same time, such a pre-emptive agent attempts to remain maximally unpredictable to potential present and future enemies. While deterrence leads to an equilibrium between opponents – so called mutually assured destruction, as in the case of the Cold War superpowers – pre-emption leads to an arms race for unpredictability among opponents and potential opponents. Massumi writes:

Pre-emption is an operational logic of power defining a political epoch in as infinitely space-filling and insidiously infiltrating a way as the logic of “deterrence” defined the Cold War era. By an “operative” logic I mean one that combines an *ontology* with an *epistemology* in such a way as to trace itself out as a self-propelling tendency that is not in the sway of any particular existing formation but sweeps across them all and where possible sweeps them up in its own dynamic.¹⁷⁴

Defining pre-emption as operational logic points to Farocki’s approach in *Serious Games 1–4*. The series also frames pre-emption as an operational logic and makes it graspable through its examination of operational images. We come to see the epistemological semantics of contemporary war, but also the operations and projects in which they are embedded. Pre-emption for Massumi is, however, not only a new structure determining the procedures of wars, but a new operational logic and a new paradigm under which power is organized. The imperative to act before a threat has fully materialized goes beyond the battlefield and the military sector. Rather – and Farocki’s installation shows this – it is the symptom of a new way of organizing power in more general terms

¹⁷⁴ Massumi, *Ontopower*, 5.

between individuals and collectives. Reading Farocki's installation, as perceived through the lens of Massumi, shows that 'what is' and 'what we can know' cannot be disentangled anymore. The operations of truth production are operations of reality production, and vice versa, under the paradigm of pre-emption. The subjects of such a predictive regime operate through techniques of anticipation, as we see in the case of the soldiers who are portrayed training in *Serious Games 1–4*. In the series we see soldiers anticipating invisible threats posed by invisible enemies. The reality-producing character of these images becomes graspable particularly through the application of soft montage, as the following reading shows.

Serious Games 1 presents a group of US soldiers rehearsing a military operation in a cooperative computer game environment. In a soft montage, we see one side of the split screen showing the soldiers in front of their computers in a room. The second screen presents the point-of-view of the computer animation that one soldier sees. The double perspective of this soft montage allows us as viewers to witness both the immersion of the soldiers in the simulation and the operational proceedings of the simulation itself. Both moving image sequences contextualize and concretize each other, allowing the images to be observational with minimal authorial intervention. Through this hybrid perspective we can examine the operability of the images: the anticipatory protocols of the soldiers and the rehearsed psycho-geographies come to the fore, while at the same time the affective reactions of the soldiers to the immersion are captured. Rather than showing a continuous operation, the looped video breaks down the recorded training into several sub-sequences. The sub-sequences are divided by footage of an instructor placing virtual enemies and hidden explosives into the landscape of the game. Rather than scenes of combat, for several minutes we see soldiers dully driving a vehicle, accompanied by their bored expression on the second channel. The event of combat makes way here for the mundane and boring protocols of war that remain invisible to documentations such as conventional war photography. Rather than an event, we see the soldiers rehearsing and enacting perceptual protocols in a virtual environment that is potentially dangerous at all times but characterized by a danger without narrative arcs or heroic subjectivities.

Judith Butler's concept of 'frames of war' can be of help to understand the political implications of the reality-producing character of the images shown in *Serious Games 1–4*. In her book *Frames of War* (2010) Butler examines the portrayal of recent armed conflicts in the media and the use of images for their justification. In particular, she analyses how the war photography of embedded journalists has been complicit in the wars in Iraq and Afghanistan in the 2000s. Their photos, these "frames of war" have made particular lives in the conflict zone conceivable and thus protectable, while others are either depicted as precarious and thus not worthy of protection or not depicted at all. Departing from the insight that frames bodies as either worthy or unworthy of

protection, Butler sees war as a particular form of producing and allocating precarity. This allocation of precarity is the pre-condition of violence: only when a life is rendered either entirely unrecognizable or precarious does it become possible to take this life. That Butler's theory is a critique of anticipatory regimes emerges in her use of the term 'apprehension', cast ambiguously between understanding, capture and anticipation:

the frames through which we apprehend or, indeed, fail to apprehend the lives of others as lost or injured (lose-able or injurable) are politically saturated. They are themselves operations of power. They do not unilaterally decide the conditions of appearance, but their aim is nevertheless to delimit the sphere of appearance itself.¹⁷⁵

Butler's analysis invites us to look at the apprehensive or indeed anticipatory operations of war photography. Her approach goes beyond the representation of the battlefield, and prefers to ask about the finality of the images: which forms of life are they enabling and which forms of life are they precluding by their presentations and elisions? What Butler observes in regard to war photography as 'frames of war' extends to Farocki's series, too. Butler's theoretical move from questions of representation to questions of anticipation can be said to be enacted in *Serious Games 1–4*. Rather than looking at representations of war, *Serious Games* comprises materials that allow us to see the perceptual and anticipatory infrastructures of contemporary war: the training of soldiers and their 'retraining' as traumatized returning veterans. Like Butler's analysis, *Serious Games* examines the 'conditions of appearance' and concomitant distributions of precarity in the preparations of soldiers for war. We can observe the depiction of lives deemed worthy of protection and unworthy of protection in the perceptual training protocols. Butler describes the operations of these 'frames of war' as follows:

Lives are 'losable' and can be forfeited because of the frames that deem them already lost or forfeited.¹⁷⁶

The same is true for the virtual environments in which the soldiers are embedded. On the one hand, we realize that these are serious games, earnest preparations for combat situations, and not just entertainment. On the other hand, we see how the precarity of life is organized in the game's protocols. For the soldiers, the enemies in the simulations are mostly invisible. Even when there is enemy contact, they barely see – or apprehend – their opponents. In the game they remain

¹⁷⁵ Butler, *Frames of War*, 1.

¹⁷⁶ Butler, *Frames of War*, 31.

anonymous disembodied figures, mere functions, that follow more or less predictable protocols: precarity here is a matter of invisibility. It is the precarity of invisible enemies whose lives are framed as precarious. This precarity is deeply inscribed into the images of the simulations in *Serious Games* and the logic of their soft montage and renders them deeply uncanny.

This uncanniness is strongest in a sequence where one of the soldiers is killed in an ambush by invisible enemies. The scene gives the first installation its name: 'Watson is down'. After Watson has been killed, the virtual screen is blocked, and the soldier sinks back in his chair in the training room with a bored expression. The scene is remarkable because as viewers we suddenly realize that we are not watching somebody playing a computer game for entertainment, but rather the seriousness of the games and their character as a training infrastructure is what is highlighted. For this reason, the bored and indifferent attitude of the virtually killed soldier clashes with the images; the whole evil banality of the training suddenly becomes graspable. The framing of precarity as we see is not only a technique of justification, but also a technologically embedded and well-rehearsed practice. The other or the enemy is rendered invisible, in addition to the simulations producing a zone of precarity for the soldiers in training. The ideological gaps that the simulation leaves open and the worlds it re-constructs and pre-constructs are highly political. These protocols consist of two basic operations: recognition and communication. The soldiers have to orient themselves, recognize and distinguish enemies from the environment, and communicate this intelligence to other units in order to adapt their movements. Recognition and communication are also the basic operations of the feedback loops of cybernetic systems. The soldiers are not only rehearsing military operations, but also the structural principles of the machines they are using. In contrast to modern wars of the past, these are not physical operations, but information control circuits that are taught and internalized.

More precisely, the identification and communication of potential enemy positions and potential obstacles in an environment are rehearsed; dislocation and communicative failure are the core obstacles of the simulation. The simulation simultaneously constitutes and impairs the soldiers' vision. The computer is the constituting expert and the obstacle that subjects the soldier to its logic. Further to this, the frame of the computer image does not confine the virtual environment. While a single photo is delimited by a stable frame, the computer simulation produces multi-directional images. Precarity is not simply framed but rendered here. The video makes us witnesses of a military imaginary where landscape becomes territory and where soldiers are subjects to cybernetic protocols. Through the soft montage, however, this imaginary is subject to a hybridization of perspectives. Through the juxtaposition of the promises and projects of these images with their application in reality, critique becomes possible. The videos depict how the

production and allocation of precarity is practised and embedded in material infrastructures, and this allows for a critical exposure of their structuring principles.

While *Serious Games 1* presents the training of soldiers in a virtual environment, in *Serious Games 2* we see military exercises in physical space (Figure 13). These exercises resemble both computer games and so-called Live Action Role Plays (LARPs). LARPs are entertainment or educational games in physical spaces that share certain characteristics with computer games. Usually, LARPs are either re-enactments of historical battles or enactments of fantasy worlds where each player takes on a role and interacts with other players according to a set of pre-determined rules. As in computer games, players take on roles and navigate their avatars – often their own bodies in the case of LARPs - through a world in order to fulfil specific missions, without violating the rules of the game world.



Figure 13. Enacted military operation, still from *Serious Games 2*.

Serious Games 2 presents us with a group of American soldiers practising the encounters and interactions with civilians in a mock-up Afghan village that was built especially for these training programmes. The physical environment resembles the virtual game environments in *Serious Games 1* in an uncanny way. Hundreds of Middle Eastern extras dressed in traditional clothing simulate

Afghan or Iraqi villagers, refrain from speaking English and seem to be going about their daily business when the soldiers arrive. The simulation follows a detailed schedule, however. We first witness the arrival of the soldiers in the village, then an ambush takes place and eventually the soldiers have to pursue suspects that are hiding in a mosque. We as viewers realize that the soldiers, too, have to follow a detailed protocol without violating any local customs or laws. The communication with villagers is only possible through translators and a limited amount of English. Although the rehearsal is strictly scheduled, for the soldiers a chaotic situation arises.

Serious Game 2 is the only single-channel video of the series and so does not make use of soft-montage. And yet, through the other videos and the spatial installation of *Serious Games 1-4* one cannot help but see the images of the enactment in conjunction with computer games. This goes beyond the superficial resemblance of space. Not only do the ‘games’ in physical space follow the same logic as computer games, they constitute a manifestation of their particular realisms. Accordingly, *Serious Games 2* explores the realism and the reality-producing effects of the previously seen operational images further. Indeed, in conjunction with the computer game renderings of the other videos, the scenery of the enactment seems more like a model of a game than of an actual town. We as viewers see that the modelling in physical space imitates the computer game graphics and logics as much as and maybe even more than the forms of an Afghan or Iraqi village. The frames of war previously addressed translate into physical space and manifest themselves on yet another layer of reality. This again highlights the operational and anticipatory character of the computer-generated images seen in *Serious Games 1*. The juxtaposition of these two types of image allows us to observe the operations and parameters of their shared realism. The apparently militarist realism becomes graspable here as an anticipatory realism implemented and sustained through protocols, their enactment and adjustment to environmental factors.

The soldiers here are framed not only as systemic units that carry out these protocols, but – enabled by these protocols – they also function as anticipating agents. The asymmetry is clear in the video: while the extras are familiar with the scheduling of the game, the soldiers experience well-planned moments of unpredictability and are trained in anticipatory protocols. *Serious Games 2* shows the primacy of anticipation and communication for an entire military operation, but also for the individual soldier. The spectacle of combat and activities related to it are pushed to the margins. Rather than heroic warriors, we see in the video the training of ‘smart’ soldiers predicting and pre-empting potential threats and the movements of potential enemies. Any of the villagers could be a potential terrorist and only the reliance on anticipatory and reconnaissance protocols allows the ‘player’ to identify and act upon a potential threat. And yet, as in *Serious Games 1*, the protocols of the game are undermined from time to time by their players. In one scene, an actor who plays a civilian falls out of his role. During a staged ambush, when everybody is supposed to

be looking for cover, he calmly rescues the food he had been eating before eventually hiding himself, too. The sequence not only highlights the artificiality of the rehearsal situation, but also, with a certain humour, points to the limits of the protocols of the training. We see how the human body is the weak factor in a game that fails to comply with - or even subverts - the protocols.

In *Serious Games 3*, operability is highlighted in yet another variation. In the video, we see the application of a virtual reality device in the therapeutic treatment of a returning veteran with Post-Traumatic Stress Disease (PTSD). Virtual Reality Exposure Therapies (VRETs) were first developed for and tested on American soldiers returning from the wars in Afghanistan and Iraq and suffering from PTSD. Since then, VRETs have been applied to treat a broad range of psychological disorders including anxiety disorders and anorexia, and for pain reduction in burn victims. The immersion into virtual environments, usually through virtual reality goggles, can help patients to work through psychological traumas or alter their body image. While the PTSD patients revisit a particular traumatizing event in a secure environment, anorexic patients can alter their body image through immersion in modified versions of these (Figure 14). The video shows us images of a VRET simulation used in the therapy. We realise how these images uncannily resemble those used for the preparation of the soldiers. The seriality of Farocki's installation accentuates these similarities between the training simulations before the military operations and the simulations for returning soldiers. Not only do we see the similarity of the graphics, it also seems as if both kinds of games form a part in a greater infrastructure for the construction, reconstruction and pre-construction of traumatic events.



Figure 14. Soft montage of virtual reality simulation and simulation device, still from *Serious Games 3*.

The multi-temporal framing of the perceptual infrastructures of war is only possible through the discussed hybridization of perspectives. In the most striking sequence of the video we see a veteran who recounts the combat operation that has left him traumatized. While we see his face with VR

goggles on one channel, the other channel shows the computer images he is immersed in. These images are generated in such a way that they correspond both with the movements of his eyes and head and his descriptions of the scene of the traumatic event. Guided by his therapist, the veteran goes back to the scene of his traumatization, an operation where his colleague was killed. Re-telling his experience of the day in detail to the therapist, the veteran re-enacts his trauma aided by the visual images of the device.

While we see on the left channel the point-of-view images from the virtual reality device, on the right we see the soldier's reactions ranging from anxiety to nausea. Moments before the soldier recounts the death of his colleague, the channel with the computer images turns black. We are only left with the face of the soldier and his struggle with his emotions, creating a strong emotional immersion for the viewer – until, surprisingly, at the end of the sequence applause can be heard from the off. The applause is disturbing as nothing in the video has indicated the presence of an audience before. While the therapist starts to explain her treatment to an audience and explains that not all features worked during the demonstration, the soldier comments with some relief that 'some of the nausea was real'.¹⁷⁷ Only now do we realize that we have witnessed a pitch at a marketing event at which the device and its software are being promoted and not an actual therapy session. The seemingly authentic despair of the soldier that leaves us as viewers questioning how such sensitive material was obtained turns out to be merely in the service of marketing.

The switch that occurs at the revelation that the images are part of a marketing event is remarkable and characteristic of *Serious Games 1–4*. On the one hand, the material is demystified as advertisement. On the other, we as viewers are able to grasp the manipulative affective qualities of the images and their reality-producing capacities. This is true for the filmic use of the material in *Serious Games 1–4* as much as for the computer images. We are reminded to distrust the apparent intentions and projections of both. The revelation here acts not only as a contextualization of the material, but also as a technique to show the operability of these operational images. They become graspable as hybrids here, as images for the use of therapy and for the marketing of a military technology, and more importantly still, as images framing war. And the display of their hybrid state and their embedding in different protocols and infrastructures allows for a particularly anticipatory mode of critique.

We also realize here that *Serious Games 3* shows another variation on the distribution of precarity within frames of war. The video demonstrates how a system enacts asymmetric and multi-temporal allocations of precarity. The therapist asks the veteran to describe his level of anxiety, how much time has passed between different key events and for particular details he can remember.

¹⁷⁷ *Serious Games III*, directed by Harun Farocki (2009).

While the victims of war and the fog of war are not present within the animated images, in this sequence we are suddenly confronted with a precarious body: the remembering body of the traumatised soldier that resists the re-enactment. This scene with its re-enactment makes the psycho-political dimension of anticipation perceivable. Byung-Chul Han defines psycho-politics as the particular combination of neoliberal politics with digital technologies:

Neoliberal psychopolitics seduces the soul; it pre-empts it in lieu of opposing it. It carefully protocols desires, needs and wishes instead of ‘depatterning’ them. By means of calculated prognoses, it anticipates actions – and acts ahead of them instead of cancelling them out. Neoliberal psychopolitics is Smart Politics: it seeks to please and fulfil, not to repress.¹⁷⁸

In contrast to pre-modern modes of sovereignty and modern modes of disciplines, psychopolitics organizes power through anticipation. In this diagnosis, the concept overlaps with Brian Massumi’s ideas on onto-power. However, while Massumi analyses the temporal trajectories of such anticipatory organization, Han’s analysis focuses on the ways in which this form of organization leads to particular forms of subjectivity:

For human beings to be able to act freely, the future must be open. However, Big Data is making it possible to predict human behaviour. This means that the future is becoming calculable and controllable. Digital psychopolitics transforms the negativity of freely made decisions into the positivity of factual states. Indeed, persons are being positivized into things, which can be quantified, measured and steered. Needless to say, no thing can be free. But at the same time, things are more transparent than persons. Big Data has announced the end of the person who possesses free will.¹⁷⁹

The scene in *Serious Games 3* is emblematic for such a careful protocolling of desires, needs and wishes. While the confrontation with triggering and troubling images seems at first to stand against this definition of psychopolitics and the transformation of negativity into the positivity of factual states, its psychopolitical dimension becomes clear in the explanation of the therapist. While the soldier is confronted with trigger images, with each session the software records the bodily reactions of the veteran to provide an optimal environment for the next session. Gradually, the intensity of the exposure is raised according to the reactions of the veteran, however, only to such a degree that the veteran is still unlikely to abort the session. Thereby the deferred and repressed

¹⁷⁸ Han, *Psychopolitics*, 36.

¹⁷⁹ Han, *Psychopolitics*, 12.

traumatic memories of the veteran are given a manifestation by the positivity of the images. The psycho-political dimension of the anticipation here, however, also touches the marketing layer of the images that we have seen. Here, too, the aim of the images as advertisements is to seduce an audience.

The questionable role of advertisement within the 'serious game' and indeed the embedding of 'serious games' in corporate structures re-appears several times in the installation series. Next to the VRET marketing pitch, we see product placement and branded posters of American signature commodities in many of the games (Figure 15). Despite the low-resolution of the games we are still able to see advertisements in prominent places. This product placement to the viewer of the exhibition seems so out of place that it captures the attention. Here the operability of the computer simulations allows the addressing of the mythologies of ideological formation, to speak with Barthes. As in Barthes' mythologies, the detail allows us to recognize the ideological project of a phrase or in this case of an image. The bland appearance of American products in the battlegrounds that are designed after the model of Middle Eastern towns and villages show the imperial project behind the games. The product placement seems so out of place because it is not directed at an individual consumer who is to be lured into buying a product. Rather, the product placements and advertisements are part of an imperial imagination that links the rehearsal of the war operations with the imperial fantasy of a corporate order. Through the soft montages in *Serious Games 1-4*, the computer games act as interfaces in which the conjunction between corporate capitalism and the military industrial complex in its most advanced form becomes graspable.

The Coca-Cola advertisements and cans are, however, not the only prominent appearance of the logic of marketing, and thus, of the entanglements between war and the colonial expansion of global capitalism in *Serious Games*. In the marginal detail of the advertisement posters the game also reveals itself as anticipation, beyond its function as a virtual training environment. We see here how the operative training images are embedded in a project of reality and futurity production. In the case of *Serious Games 1-4*, we not only see virtual training processes and facilities, we also come to experience the political projections that it enables. The war that the soldiers are being prepared for, is a war to fight for the colonial expansion of corporate-capitalist structures. The soft drink corporations Coca-Cola and Pepsi are not just a simple signifier of freedom here but stand for the project of a particular social order. In the context of the exhibition these advertisements ask us as viewers which ideological gaps the gaze constructing these images leaves and what kind of world they construct. We get insights into how the American military imagines its combat world and also which parts are missing from its projections.



Figure 15. Branded content in a military training simulation, still from *Serious Games 2*.

In the installation, *Serious Games 4* is placed at the very end of the gallery, as seen from the entrance. It features sequences from the previous three videos and assembles materials from them in a two-channel soft montage with commentaries on intertitle cards. Not only is *Serious Games 4* the video with the most visible authorial presence – through the intertitles – it also seems to act as a concluding commentary. However, rather than just contextualizing or explaining the previously screened material, the intertitles constitute a form of soft montage. Frequently, a particular detail is named by an intertitle or indeed subjected to speculation. The interplay between text and images on the screen gives the installation a reflective tone, when for example the mood of ‘the light of traumatic experiences’ is described:

These images are intended to follow up the war
 They are used for therapeutic purposes
 The mood of the light can be freely selected
 The light of the traumatic experience
 Images intended to awake memories
 Memories of the horrors of war

Of ambushes and snipers
 The follow-up images –
 Resemble those that prepare for war
 But the follow-up images have no shadows
 The system for remembering is a little cheaper than the one for training
 But both systems use asymmetrical images¹⁸⁰

The video culminates in a soft montage juxtaposing the material from the preparatory simulations with the material of the therapeutic simulations for returning veterans. We see that the therapeutic simulation is less detailed and seems a little cheaper than the training simulation. In one of the title cards this observation is concretized: 'But the follow-up images have no shadows'. Does trauma require less resolution? Farocki's commentary here speculates about the use of shadows in the different training and therapy games that we as viewers have just seen. While the training games feature shadows, the therapy games – due to their lower budget – lack any shadows. The installation frames the rendering of shadows as decisive detail. Not only are shadows markers for reality, for the ontological consistency of bodies and other objects, they can also be anticipatory structures in that they foreshadow or apprehend an appearance.

The question of the shadow is, thus, again a question as to the allocation of precarity and its organization in reality effects. The soldiers' bodies-without-shadows are the precarious bodies of the survivors, while those of the training soldiers are those that are afforded power. Which is the more real experience? Which is to say, which one is framed as the more real experience? The question of the missing shadows also points to the fact of digital image production that each layer has to fulfil certain functions. The functionality and operability of the images are here highlighted again. The question of the shadow also again points to the installation of the works at Hamburger Bahnhof. In fact, the gallery is framed as a shadow cabinet with a dimmed interior and only illuminated by the projectors. The projectors are placed in such a way that no shadows of viewers fall onto the screen. The dialectical precarity of visibility and invisibility here becomes graspable. A shadow within relates to a shadow without.

¹⁸⁰ *Serious Games IV*, directed by Harun Farocki (2010).

Entanglements in Reality Testing – *Parallel 1–4*

In 2006, researchers of the US Air Force Research Laboratory in Rome, New York, built a large supercomputer with the name 'Condor Cluster'. Not unlike other super computers, it was used by the military for pattern recognition and, in this case more precisely for the rendering of ultra-high-resolution pictures. Remarkably, the hardware of this super computer consists mainly of PlayStation 3 gaming consoles (Figure 16). The researchers had built the computer by connecting together 1760 of these gaming consoles that are usually used to play video games on TV screens. While at the time more powerful processors were on the market, the gaming consoles could outperform these through their low price, but more importantly through their capacity to execute a great amount of computations in parallel.¹⁸¹ While conventional processors are optimized for executing one computation after another as quickly as possible, processors for graphics applications are specialized in computing many processes at the same time, even if this takes longer.



Figure 16. Condor Cluster at US Air Force Research Laboratory, press photo.

In this case, the Condor Cluster's massive capacities of slower parallel processing outperformed even the fastest conventional processors in the designated tasks. The advanced graphics capabilities

¹⁸¹ Zyga, 'US Air Force connects 1,760 PlayStation 3's to build supercomputer'.

of the PS3 consoles translated seamlessly to military applications such as the identification of flying objects on blurry images. The setup of this supercomputer does not only exemplify the entanglements between the military and the entertainment industry, it also embodies the principle of parallelism and its importance in the production of operational computer-generated images. In conjunction with the discussion of *Serious Games 1–4*, this example shows how both sectors influence each other not only through shared hardware, but also conceptually.

The title of the series *Parallel 1–4* also refers to parallelism as organizational principle.¹⁸² *Parallel 1–4* (2012–2014) is a series of four videos with durations ranging from seven to fifteen minutes. It was first exhibited during the Berlin Documentary Forum 2013 at the Haus der Kulturen der Welt. Each video is an assemblage of moving images recorded from computer games. We can see a variety of material from 8-bit games of the 1980s – the very first games with graphic interfaces – to recordings of contemporary games with sophisticated three-dimensional renderings. Through a contemplative voice-over the installation examines the parameters that have driven the development of these computer images. Visually, this examination occurs through soft montages of computer images with filmic images (Figure 17), observational documentary footage, or indeed by juxtaposing computer images from different periods.



Figure 17. Juxtaposition of filmed and computer-generated grass, still from *Parallel 1*.

The title of the series *Parallel 1–4* here accordingly points to the material and performative conditions of computer images. In contrast to analogue filmic images that result from a temporally linear production process – a scene is recorded, processed and then projected – computer images are generated in countless temporally parallel and looped operations. Materially, computer-

¹⁸² Descriptions and images are based on an exhibition of *Parallel 1–4* at Greene Naftali Gallery, New York in 2014. *Parallel I-IV* (Greene Naftali Gallery, New York, 9 September 2014 – 18 October 2014).

generated moving images are parallel calculations that visualize data through the expression of a computer programme. At their most basic level these calculations determine the appearance and characteristics of pixels over a certain amount of time. Parallelism here refers to the necessary simultaneity of processes but also to the structure of the data of computer images. By parallel we understand not only a close but an exact resemblance of the disposition of two things: in geometry two lines are only parallel when, in the case of infinite extension, they would never intersect. A parallel relationship of two entities is, thus, a relationship of marked likeness in which all the parameters of two entities are known: two entities are identical in one aspect (the form and slope of two lines) and yet differ in another (their location). This aspect of parallelism points also to another quality of many computer images: they can be reproduced without loss. Two image files can be identical copies, which is impossible for analogue filmic images, as any reproductive process leaves traces in its product.

It becomes clear from these comparisons that parallelism, temporally as well as at the level of coded representations, is central as an operational principle for computer images. Farocki's work series not only reflects upon the materiality of computer images but adapts parallelism as a post-cinematic strategy. Parallel, then, refers also to a particular mode of analysis applied in *Parallel 1–4* which examines images in their operations of paralleling or re-constructing reality. This adaptation is most clearly embodied by the prominent use of soft montage and its parallel arrangement of different moving images next to each other. As in the previously discussed series, in *Parallel 1–4* soft montage acts as both an analytic and an anticipatory strategy, appropriating a key operational characteristic of operational computer images in order to self-reflexively expose them. Accordingly, our reading of Farocki's video series also orients itself along these different notions of parallelism. The questions of the materiality of computer images, of their realisms and their anticipatory qualities, serve here as angles to contribute to the conceptualization of anticipation as a cultural technique.

For, anticipation, too, relies on the production of parallelism. In order to anticipate, a system has to enact a virtual model of itself or its surroundings, paralleling it. At the same time, or indeed, in parallel, the system has to run simulative explorations of this model and adapt its actions to the simulated outcomes. As we can see, anticipatory systems consist of at least two entangled feedback loops. While one feedback loop detects and formalizes changes in an environment (the modelling), a second feedback loop projects possible future states through the model (anticipation). Both loops are coupled, allowing the system to respond to both external present states and internal simulated future states. The production and maintenance of parallelism is, thus, – semantically as well as temporally – a characteristic quality of anticipation as well. Operational parallelism and the

entanglement of parallel observations, as in the case of the ‘Condor Cluster’ supercomputer, is not only paramount, but a precondition for anticipation.

Parallel 1–4 is in many ways a continuation of, or operating in parallel with, *Serious Games 1–4*. The titles, exhibition arrangements and montage techniques of both series of works share many features. While *Serious Games 1–4* focuses exclusively on the application of computer images in military contexts, *Parallel 1–4* examines a broader range of materials, mostly images from computer games that were developed within the entertainment sector. The method of exposing the operability of operational images, however, is shared in both series. In *Parallel 1–4*, two of the installation’s videos only have a single channel and follow the actions of avatars in a third-person-perspective. The interactions between avatar and virtual environment are commented upon by a voice-over, thus resembling the popular genre of ‘Let’s Play Videos’.¹⁸³ The other two videos are two-channel installations that make extensive use of soft montage. These videos examine details and objects from a variety of computer games. Abandoning the focus on the action-based element of games, the two latter videos analyse the representation of particular objects in computer games such as fire, clouds, water or trees. Their assemblages have a loose genealogical order. We see, for instance, a series of representations of trees in computer games where each pixel is individually recognizable. In a soft montage this sequence is juxtaposed with sophisticated, almost photo-realistic renderings of trees that are barely distinguishable from recordings in physical space.

While *Serious Games 1–4* predominantly takes the position of an observational documentary, in *Parallel 1–4* a strong authorial presence is felt at all times through the voice-over. It consists of observations that draw attention to particular parameters of comparison. Often the voice-over, however, goes beyond the visible, resembling in this descriptive mode an ekphrasis, evoking and at the same time speculating about constructing an absent object. *Parallel 1*, for instance, juxtaposes a range of representations of water in computer games (Figure 18). A genealogy unfolds here in front of us, not only one of computer images, but of images more generally: the transformation from symbolic forms to photo-realism, or the transformation from a static perspective to a freely moving one in a three-dimensional space (Figure 19). The same genealogical montage is executed for different elements and objects such as water, fire, clouds or trees. We see the paradigmatic transformations that computer images have gone through over the last thirty years from the first computer graphics in the 1980s to contemporary graphics in which the water reacts to the different artificial light sources and movements of the avatar of a player. The soft montages here are not just the illustration of a genealogy, however. Rather, *Parallel 1* exposes through its soft montages the operations of the images and by doing so refers to the entangled histories of other visual media.

¹⁸³ Let’s Play videos are a genre of web videos in which players of computer games record their screens while playing games commenting on their in-game actions through a voice-over.

As in our analysis of *Serious Games 1–4*, we can observe the exposing of the operativity of operational images, enabling a critique not only *of* images, but *through* images: a critique that addresses that which precedes the images (the infrastructures) and which images anticipate (their trajectory). Parallelism as a central operational principle of computer images becomes graspable here.

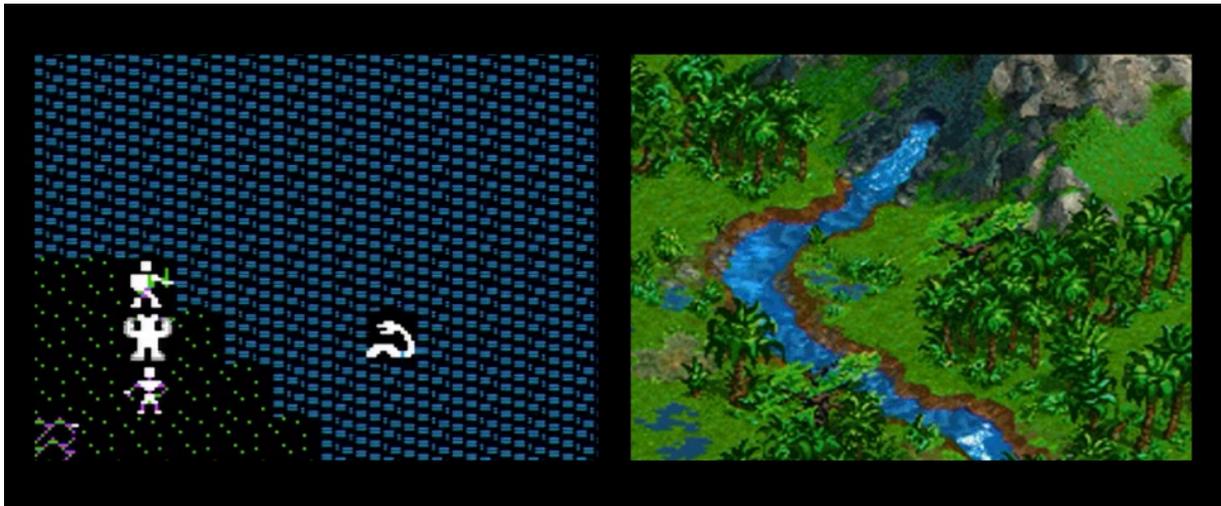


Figure 18. Soft montage of representations of water in computer games, still from *Parallel 1*.

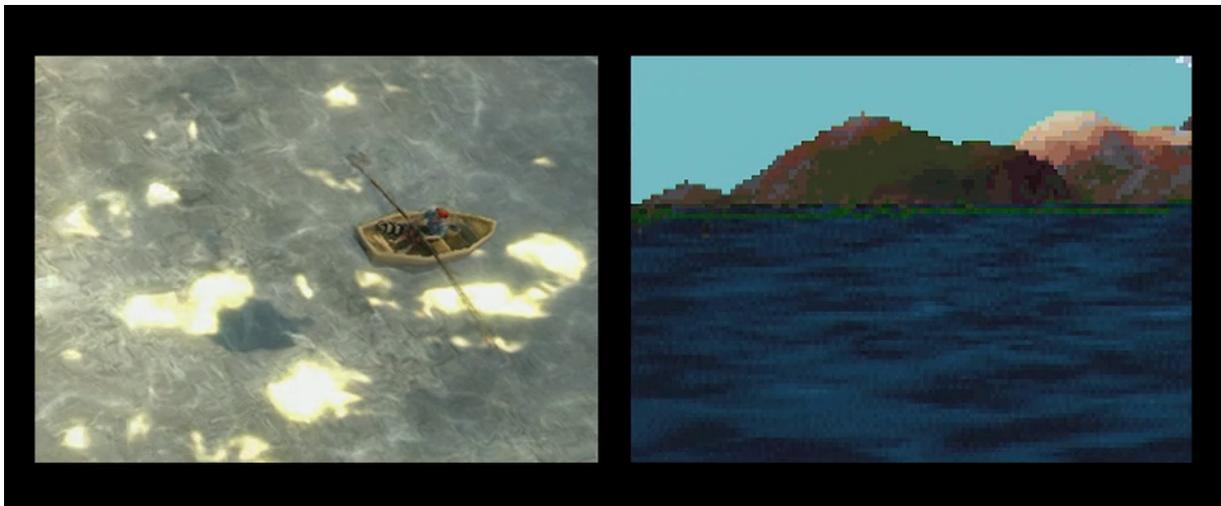


Figure 19. Soft montage of representations of water in computer games, still from *Parallel 1*.

The spatial arrangement of *Parallel 1–4* resembles that of *Serious Games 1–4*, too. Four separate videos are screened onto semi-transparent screens that are hanging freely from the ceiling. As in *Serious Games 1–4*, the light of the space is dimmed to such a degree that the projectors are the main light sources. In contrast to the previous series, however, the videos are assembled in a circle in *Parallel 1–4*. Viewers can either stand inside the circle or sit down on one of the benches outside that are each set to face one particular video installation. The circle allows for a maximal number

of possible spatial soft montages. Depending on our position in the gallery space, we can either focus on a single installation or move to a position where several screens can be seen simultaneously (Figure 20). The installation is thus a manifestation of Farocki's aforementioned approach to the creation of hybrid perspectives. The hybridization here occurs both spatially through the exhibition arrangement and temporally through the exposure of varying materials to each other simultaneously and in parallel. Although each of the videos can be approached individually, the installation in its totality renders visible the shared operationalities of the images. Through this soft montage we can see how parallelism as organizational principle exposes the working of these operational images, such that their shared operability comes to the fore.



Figure 20. Exhibition view of *Parallel 1–4* installed at Greene Naftali Gallery, New York, 2013

While the hybridization of perspective in *Serious Games 1–4*, allowed for a critical addressing of the perceptual infrastructures and distributions of precarity in military training operations, in *Parallel 1–4* the effect of the hybridization is a critical addressing of the realisms of computer images. As viewers we realize that, while potentially any imaginable form or object could be rendered in the games, the kinds of forms and objects that are indeed rendered follow a rather narrow set of rules. Realism here – as in the previous chapter – refers to a set of practices that produces reality effects with the aim of immersion. While in literature – as Barthes noted – reality is produced through a noise (the excessive description of material objects), in the computer images, too, reality effects are created through a realistic unpredictability of image details. The voice-over describes the challenges

of producing reality effects in computer images by the example of trees, whose branches are being moved by wind:

The leaves and branches have barely learnt to move and already the question is whether they move too steadily. Perhaps a thin branch should bend more than a thick one. In cinema, there is the wind that blows and the wind blown by a wind machine. With computer images there is only one kind of wind: a new constructivism.¹⁸⁴

The voice-over here points to the long tradition of creating reality effects in films through sophisticated means such as wind machines. This tradition is, however, transformed by the ‘new constructivism’ of computer images. The wind moving branches of trees here becomes a metaphor for an invisible force that gives motion to all visible objects in an image. However, just as Barthes’ literary reality effects and their mechanically and chemically produced equivalents in cinema, the new constructivism has to learn to become realistically unpredictable. In the juxtapositions of computer images, we as viewers start to reflect on this new constructivism and the realisms on which it relies. What kinds of realisms render these images and games visible? What kinds of realities are being constructed by them? The reflective experience of these hybrid perspectives in the installation series can best be captured by an observation of Niklas Luhmann’s:

Für den Beobachter entsteht erst dann Realität, wenn es in der Welt etwas gibt, wovon sie unterschieden werden kann.¹⁸⁵

By juxtaposing the computer images in ever new, contrastive constellations, their realisms as reality-producing agents become graspable.

A set of observations by Elena Esposito can help us to conceptualize this exposure of reality-construction by the installation. Departing from the Luhmann quotation above, Elena Esposito, in her book *Fiktion der wahrscheinlichen Realität*, pursues the question of how reality is constructed in the intersection of different historically specific systems of knowledge acquisition. In exemplary fashion, Esposito describes how the invention of probability theory and that of modern literary fiction do not only coincide historically, but jointly extend the domain of the real. Drawing upon systems theory, she argues that both seemingly unrelated phenomena are the reaction to a new epistemological paradigm in the nineteenth century. Both systems of knowledge acquisition become thinkable through second order observation. Second order observation occurs where an

¹⁸⁴ *Parallel*, directed by Harun Farocki (2012).

¹⁸⁵ Luhmann, *Die Religion der Gesellschaft*, 59.

observer observes an act of observation. The subject that engages in second order observation gains self-reflexivity that allows for a duplication of reality to take place. Similarly, probability theory and modern literary fiction as systems of knowledge acquisition produce duplications or indeed parallelizations of reality. For the case of probability theory, something can be statistically true, and yet does not correspond with reality. Similarly, fiction can be truthful without being mistaken for reality. Esposito observes the reality-producing character of such systems and concludes that reality itself can only be constructed and experienced in contrast to one of its duplications. Approached through second order observation, it becomes clear that reality is not a singular continuous domain but a hybrid, diffracted set of parallels in motion.

Extending Esposito's ideas, one could say that realities are preceded by realisms, whereby a realism would be a system constructing both predictable aspects of the constructed reality and unpredictable aspects of it (noise) that result, together, in reality effects. With the invention of probability theory, on the one hand, and modern literary fiction, on the other, two new realisms evolve and with them new parallels to reality. More generally, with the continuous emergence of new systems of knowledge acquisition, the field of what can be distinguished from reality expands, and with it, reality itself. It becomes clear here that the programmatic observation from *Solaris* introducing the previous chapter – 'we don't really want to explore other worlds, on the contrary we simply want to extend the boundaries of Earth' – unfolds a new meaning here. The observed reluctance to explore (or indeed construct) other worlds, is tied to an understanding of reality as a fixed, discreet and essential unity, rather than a self-diffracting and constructed expansion.

Parallel 1–4 traces in its soft montages the histories and historical projections of such expansions and diffractions. A set of quotations from the voice-over of the work explicitly refers to this work of unfolding parallels:

Here is a flame made of squares. They say back then they could only make objects from squares, the same way one says the Egyptians could only draw people in profile.

[...] You can re-enact a naval battle in a water-drome and likewise the history of one form of images can be used as a model for the development of a different type of image: painting, photography, film, computer imagery.

[...] The creators of computer imagery didn't have to wait for a thousand years for the Renaissance. Right from the start their imagery was closely associated with the work of technicians and scientists.¹⁸⁶

¹⁸⁶ *Parallel*, directed by Harun Farocki (2012).

Each of these quotations from *Parallel 1* points to a particular historical expansion and diffraction and indeed parallelization of reality. By coupling these historical references with the rather recent media history of computer images, the circular and non-linear motions of these expansions become graspable. Explicitly, this is stated in the second quotation claiming that ‘the history of one form of images can be used as a model for the development of a different type’.¹⁸⁷ Clearly, the voice-over refers not only to a historical understanding of the development of images here, but to the ways in which computer images re-enact the expansions and diffractions of reality undertaken by previous types of media. The quotations do this by pointing to the limited and limiting parameters that even the most advanced computer simulations as media necessarily impose upon reality. While the early representations of flames in computer games resemble Egyptian symbols rather than being subjected to the realism of photography, later photo-realist renderings of trees move too steadily for human vision and thus resemble more a dance than the movements of trees. The videos are thus rendering visible the simultaneity and co-extensiveness of different forms of representation.

In their soft montages – both visually as well as in the form of what Walter Benjamin and others have called ‘Denkbilder’ (thought or thinking images) – the videos induce a particular atmosphere of speculation by laying bare the parallel expansions of reality. If the Egyptians could not imagine or produce three-dimensional images, what dimensions are in turn absent from our contemporary images? If it took until the Renaissance to associate imagery with scientific endeavours, which kinds of functions of images remain undiscovered in our present moment? We can see here how the voice-over defamiliarizes the images and frames them hypo-realistically: an underlying, not-yet is exposed and makes itself felt here. By pointing out the entanglements of the computer images with present and past realisms, the videos speculate not only about these shifts in reality construction but also about the new roles that images can play and thus about the construction of futurity that are projected in them. That is to say that relating to the images here takes on an apophenic quality.

How then is this hypo-realist, apophenic quality articulated in the series? Each of the videos in itself embodies a speculation on the future relationships between filmic and computer images. This anticipatory operation becomes particularly clear in the following quotation from the voice-over of *Parallel 1*. In the voice-over, the ancient Greek legend of Zeuxis is recounted to images of clouds in a soft montage: a computer image of clouds on the left channel is juxtaposed with a flickering early film recording of a cloudy sky (Figure 21).

¹⁸⁷ *Parallel*, directed by Harun Farocki (2012).

According to legend, the Greek Zeuxis could make drawings of fruit so realistic that birds flocked by to peck at them. Clouds created by a computer and clouds photographed by a camera. The flickering image on the right reveals that it is from a camera. Maybe the computer images will assume functions that were previously held by film. Maybe that will liberate film for other things. The computer images try to achieve the effects of film images. They want to surpass them, leave them far behind. The creators of computer imagery do not want to attract flocks of Greek birds, their heavens should be populated by creatures of their own design.¹⁸⁸

The voice-over points out the characteristic flickering of the analogue film material, revealing its state as being camera-recorded. In contrast to the computer images, we can see how the materiality of the recording process is marked in the filmic image in a way that at once undermines and reasserts a reality claim. Departing from this observation of the flickering as reality effect, the voice-over speculates about a liberation of filmic images through computer images. Certainly, the video here alludes to the controversial discussions on the 'liberation' of painting from naturalist realism by the arrival of photography – one cultural technique taking over the function from another and by that marginalizes but also liberates it from its functional constraints. The reference to Zeuxis, however, also points to the changing historical projects, the media archaeology, in which the images are embedded.



Figure 21. Soft montage of computer-generated (left) and film-recorded (right) clouds, still from *Parallel 1*.

¹⁸⁸ *Parallel*, directed by Harun Farocki (2012).

In fact, we encounter in the re-telling of the legend a soft montage of two contrasting projects of images. The Greek legend describes a world in which images aspire to perfect illusion. This culminates in an act of deception: the birds cannot distinguish between reality and image anymore. In a hyper-realist blurring of boundaries, the animals and indeed an animalistic viewer is deceived through a complete representation. The victory of the artist is the deception of the animal. The video juxtaposes the myth with a speculation on a liberation of filmic images from their representational project. Rather than a perfect representation, computer images aim for a construction. Images are not a means to trick nature anymore, but to re-create it post-naturally. The human gaze as a supposedly superior derivate of an animal's gaze makes space here for an animating, constructing gaze. Not for nothing are computer images often called animated – afforded with movement or indeed a soul (*anima*). This new project – as embodied by computer images – does not look for naturalist representation, but for a different mode of likeness, a parallelism that precedes reality effects. The interjection of the Zeuxis legend thus reveals both the problematic assumptions of a representational paradigm and the ambivalent search for totalities hidden in the constructivist promise of computer images. We are left with the question: whom is this new type of image seeking to address and whom to deceive?

These speculative motions are accentuated visually in the sequence as well. The clouds act here as apophenic screens. Rather than showing a graspable object they allow us to reflect on that which escapes the images and thus our scrutiny. The images just like the clouds resist a stable grasp and self-reflexively point us back to our own projections. They, too, operate here as screens onto which the speculations, as articulated in the voice-over, are projected by the viewers. Their motions are hypo-realist in that they render visible the resistances to representation of and in an image, in a similar way to our theoretical exploration in the previous chapter. As hypo-realist images they foreground both a resistance to representation and the construction of a not-yet. Again, the images become marginal here, sites for the speculations of the viewers rather than authentic or evidential representations.

In her book *Grammatologie der Bilder*, Sigrid Weigel has laid out a theoretical-analytical project that resembles the speculative operations of the images here. Based on Jacques Derrida's *Of Grammatology*, Weigel calls for the analysis of the trace that precedes an image and escapes manifestation. Rather than approaching images as representations or products of authorial work, examining them as the appearances of a trace that goes before them allows for a different kind of critique:

Es gilt, die Spuren vor den existierenden Bildern zu denken – genauer: die Spuren, die denjenigen Bildern, die wir sehen, vorausgehen. Mit einer Grammatologie der Bilder soll die

Aufmerksamkeit auf die Spuren desjenigen gelenkt werden, was vor dem Bild liegt, auf das, was sich (noch) nicht in ikonischer oder piktorialer Gestalt – oder auch als Denkbild – darstellt oder in Erscheinung tritt: das Andere oder auch Unähnliche des Bildes.¹⁸⁹

Extending Derrida's ideas on the trace before being, Weigel's attention is drawn to those processes and perceptions that have not-yet obtained an iconic or pictorial form. Rather than asking what an image represents, Weigel's method allows an interrogation of the 'other' that precedes an image. This 'other' for Weigel is what an image addresses or responds to, but also necessarily occults. Weigel's approach couples this sensitivity for the preceding trace or 'other' of images with close attention to the material processes that produce images:

Das Buch verfolgt also nicht die Frage was ein Bild ist, sondern die Frage, mit welchen Verfahren etwas, das kein Bild ist, zum Bild wird. Es geht also um Bilder, die keine Abbilder sind, keine Nachahmungen sichtbarer Dinge, Körper oder Szenen.¹⁹⁰

Therefore, addressing the trace or 'otherness' preceding an image means to ask questions about the processes by which something non-pictorial is transformed into an image. Weigel is interested in images that render something visible not as representation but as anticipation, something that does not yet exist as such. The anticipatory quality of images lies in their rendering of a latency (or indeed a not-yet):

Was dem Visuellen vorausgeht, ist nicht unsichtbar, sondern diesseits der ikonischen Welt; es ist anti-ikonisch, virtuell oder latent.¹⁹¹

Images as anticipations and constructions of a not-yet are conceptualized in the ambivalent dialectic of the term 'vorausgehen' in Weigel's work. The term translates as 'precede' but also as 'move ahead' or 'move in front'. In the light of the latter translation, the question of what precedes an image ('Was geht einem Bild voraus?') also entails asking what an image anticipates. Not only do anticipating images point to that what escapes them, but they also construct and hold open a not-yet or trajectory.¹⁹²

¹⁸⁹ Weigel, *Grammatologie der Bilder*, 9.

¹⁹⁰ Weigel, *Grammatologie der Bilder*, 10.

¹⁹¹ Weigel, *Grammatologie der Bilder*, 11.

¹⁹² The term trajectory here also points to the German translation of trace as 'Spur'. Spur not only refers to a mark, but also to the delineation of direction – as the term trajectory does.



Figure 22. Soft montage with black screen, still from *Parallel 3*.

Parallel 1–4 enacts the ambivalent logic of Weigel’s concept of ‘vorausgehen’. By means of apophenic images, not only a ‘grammatology of images’ but a ‘grammatology through images’ is presented to the viewers. For, the images of the *Parallel 1–4* act as much as ‘Vorbilder’ as they do as items of genealogical evidence, anticipating as much as documenting the processes preceding computer images. Accordingly, we as viewers speculate, too, about the absences in the images and about how images could look in the future if they were embedded in infrastructures and protocols different from those of our contemporary present. In *Parallel 1–4*, this anticipatory quality of images is often accentuated quite literally through absences. At various points, only one of the channels of the two-channel-installations is used to show images. The result is an indexical absence and a resulting focus on the channel in use, but also a virtual projection of a parallel image-frame. In Figure 22 we can see how such an indexical absence acts upon the visible image, in a particular modality of the principle of soft montage. Not only is an anticipation created here for what will appear next on the blank channel, but the juxtaposition with a not-yet on the level of operational logic is enacted.

This strategy for the creation of indexical absences is also applied in the use of sound in the installations. Throughout all four videos at selected moments the soundtracks of the games accompany the images. The music and soundscapes of the games, or indeed the lack thereof, fulfils a similar function to that of the empty screen in soft montage. On the one hand, the shifts between silence and in-game soundscapes operate as markers of montage, indicating shifts of attention and either emphasizing the operability of the images or their immersive qualities. On the other hand, in moments of silence, an indexical absence is created that lets us as viewers speculate about what the image occults or anticipates. In fact, the alteration between soft montages as exposures of operability on the one hand and their accentuation of highly associative indexical absences on

the other, emphasizes the anticipatory qualities of the images further. In this, *Parallel 1–4* explicitly refrains from depicting the computer games it remediates as hyperreal extensions of reality. Rather than focusing on the aspiration of a hyperrealist representation, the series focuses on the hyperrealist resistances to representation that are presented in the games and their images. Rather than a blurring of boundaries between, and conflation of, reality and virtuality, an entanglement is enacted. In this sense, the programmatic trajectory of the *Solaris* explorers is corrected here, the projection of parallel realities is always also a back-projection onto the conditions of anticipation that constitute the place of departure.

We can explore a parallel to this tension between the antagonistic realist demands enacted in Farocki's work through the poem *Solaris korrigeret* by the Norwegian poet Øyvind Rimbereid, setting the two works in different media into a form of critical soft montage. The poem consists of 800 verses and is written in a speculative language that combines contemporary Norwegian Stavanger dialects with Old Norse, Danish, English and Lowland Scottish and German. This imagined language makes the poem difficult to decipher and yet it seems that this resistance that the text presents to the reader is very much intended by the poet. The protagonist of the poem lives in the future city of Stavgersand in the year 2480. As a cyborg, a hybrid between machine and worker, he or she co-ordinates the maintenance of underwater infrastructure at the bottom of the sea. The protagonist describes a point in time where humans have to be evacuated by a process of cloning. The universe of the poem is marked by ecological catastrophes on the one hand and classism and mysterious technologies on the other.

For the contemporary reader, the reading situation is precarious. The poem frames our contemporary language as historical and constantly forces us to speculate as readers about the conditions and environments that have brought forth this language. The poem operates as a defamiliarization of the present and exactly this unfamiliarity of the language activates a critical view on the present and its predictive regimes. Although we as readers do not understand most of the words, we look for parallels and similarities to words that we might know and, thus, co-construct the poem as a speculative document. In a similar way, *Parallel 1–4* shows the anticipatory potential not of language, but of images and their resulting path dependencies. Both the video series and the poem, by virtue of their form, sensitize the reader to the changing textures of anticipation. For the poem, one can read this strategy as a self-referential 'correction' of *Solaris* – as the title of the poem suggests. The correction here refers not only to Stanislav Lem's book *Solaris* and its adaptation by Tarkovsky, but also to a more general problematic tendency of science fiction as representational genre. Fredric Jameson describes this paradoxical character in the following terms:

The common-sense position on the anticipatory nature of SF (science fiction) as a genre is what we would call a representational one. These narratives are evidently for the most part not modernizing, not reflexive and self-undermining and deconstructing affairs. They go about their business with the full baggage and paraphernalia of a conventional realism, with this one difference: that the full "presence" - the settings and actions to be "rendered" - are the merely possible and conceivable ones of a near or far future.¹⁹³

Although Lem's and Tarkovsky's *Solaris* works already display self-referential and deconstructive features, Rimberid's 'correction' through a deconstructive language renders the reality-producing and anticipatory character of the (science) fiction even more apparent. The 'correction' of *Solaris korrigert* also points self-referentially to the anthropomorphism that in both Lem's and Tarkovsky's *Solaris* is addressed but remains unresolvable. The non-human beings in both works can only be in human form and take shape as human memories. A sensible understanding or apprehension fails and remains impossible. In *Solaris korrigert* this impossibility of coming to terms with non-human language is questioned. In *Solaris korrigert*, both the materiality of the language and the position of the speaker somewhere between machine and human, between hymn and protocol remains ambivalent. Through this cultural technique of defamiliarization, *Solaris korrigert* deconstructs the main themes of *Solaris* in a comparable way to the deconstructions of operational images in *Parallel 1-4*.

Discussions of the anticipatory quality of moving images – their quality as *Vorbilder* – go back to the beginning of cinema and its theoretical explorations. Siegfried Kracauer is one of the first to provide a theoretical description of the unconscious and preconscious dimensions of film. He delineates in his essays and books on cinema a capacity of films to shed light on the collective unconscious formations of a society and the path dependencies they come with.¹⁹⁴ The project of his *From Caligari to Hitler* is the critical analysis of films preceding and preparing for the rise and rule of the National Socialists in Germany. Kracauer accordingly reads films primarily as symptoms of underlying developments and not so much as anticipating and enabling agents in themselves. Drawing upon Kracauer's ideas, Helmut Färber in his essay 'Das unentdeckte Kino' (Undiscovered Cinema) extends this theoretical focus. While retaining Kracauer's approach to films as expressions of unconscious structures, he criticizes the reduction of cinematic works to a mere catalogue of symptoms. In contrast, Färber assigns a pre-conscious, anticipatory quality to films themselves:

¹⁹³ Jameson, *Archaeologies of the Future*, 286.

¹⁹⁴ See Kracauer, *From Caligari to Hitler* and the essays in Kracauer, *The Mass Ornament*.

Und wenn die Filme zu tun haben mit Träumen, lang Vergangenes erinnernd, können sie da, statt entlarvt nicht auch gedeutet werden? Und wenn sie Tagträumen verwandt sein können, warum vielleicht dann nicht auch jenen, mit denen Bloch sein “Prinzip Hoffnung“ beginnt? Das heißt in einem: sollen Kinofilme nicht auch ein reiches Gedächtnis, ein produktiv vorauserfindend Unbewusstes sein?¹⁹⁵

Should films not be understandable as productively anticipating the unconscious? Rather than limiting films to symptoms of collective psychic structures, Färber’s question here explicitly frames them as constitutive parts of these structures and also assigns to them a certain agency as daydreams. As daydreams they can access and articulate domains of our individual and collective selves that are not otherwise accessible or addressable. Just like phantasies for the individual, cinema according to Färber can articulate a driving towards a not-yet for a collective. The ‘undiscovered cinema’ is the site for working through the unarticulated, not-yet materialized aspirations of a collective. Working through in this context means addressing and expressing hardened and unresolved psychic complexes. Just as a suspicion hardens or can be resolved, new forms of reality can be formed or dissolved by such projections.

Rather than conceptualizing an unconscious of films, however, Färber’s descriptions point to what Sigmund Freud termed the preconscious. Freud’s distinction between unconscious and preconscious structures can be of help in understanding Kracauer’s and Färber’s different approaches but also what their projects share. In Freud’s topological model of the psyche the preconscious (*das Vorbewusste*) occupies the place of a border area between what is conscious and what is unconscious to our minds.¹⁹⁶ The preconscious encompasses all those processes that are potentially accessible to consciousness and yet are not conscious at a given moment. Preconscious processes differ from unconscious processes, in that the latter ‘take place’ in fundamentally inaccessible ‘depths’, ‘areas’ of mental functioning that are protected from the intrusion of consciousness. Only as coded and estranged, as in dreams, can such unconscious processes surface, while preconscious processes do not require such a codification. While Kracauer approaches films as articulations of unconscious processes that require exposure and unmasking, Färber sees in films the expressions of preconscious processes. Simply put, Kracauer sees films as codified dreams, while Färber sees them as associative daydreams. While the former analyses them as symptoms of repressed structures, the latter approaches them as enabling acts of anticipation. Certainly, both approaches are not mutually exclusive. Films can be approached at the same time as articulations and symptoms of unconscious formations and as associative preconscious anticipations.

¹⁹⁵ Färber, ‘Das unentdeckte Kino’, 21-22.

¹⁹⁶ See for the development of this model Freud, ‘Das Unbewußte’.

In accordance with these two approaches we can also observe different forms of anticipation at work in *Parallel 1–4*. In contrast to articulations of the unconscious which are masked and coded, the preconscious does not require such encoding. One can experience the movements of the preconscious: in apophenia, free association or, indeed, through immersion in games. When the conscious mind rests it is less the unconscious than the preconscious that surfaces and takes place. The apophenic quality of many sequences in *Parallel 1–4* points to such a preconscious anticipation. At the same time, the videos also induce a different kind of anticipation that corresponds more with critical exposure than with apophenia and that in the following is called reality testing. In order to conceptualize this latter form of anticipation – reality testing – we have to review another aspect of Freud’s topological model. A central dynamic governs the relationships between preconscious and unconscious processes in the Freudian model of the psyche: the dynamic between pleasure principle and reality principle. As the name suggests, the pleasure principle refers to all thought-processes that are driven and directed by an instinctive seeking of, and attraction to, pleasure or the avoidance of displeasure, while the reality principle consists of the totality of corrective movements to the pleasure principle and adapts according to the demands of an external world. The reality principle acts as a censoring system that only allows those thoughts to become preconscious that are in accordance with the internalized rules of reality. As interface, the preconscious is the topological space where the two principles are in constant work and struggle with each other.

While apophenia would be anticipation in terms of the pleasure principle, reality testing – the exploration of a systems of rules constituting a world – would be anticipation in terms of the reality principle. This form of anticipation is most visibly enacted and iterated in *Parallel 2* and *Parallel 4*. While *Parallel 1* and *Parallel 3* explore the historical development and trajectory of computer images, the other two videos observe the limitations of the in-game worlds and protocols that the players are bound to in particular games. We see here that images – as already mentioned in the discussion of *Serious Games 1–4* – are embedded in and the result of generative protocols. In several scenes, we see players navigating their avatars to the in-game borders of different computer games. One could say that a reality principle is tested and explored here. Mostly, the borders of the games remain invisible and can only be rendered visible in special game-play modes or indeed through the deliberate triggering of glitches. *Parallel 2*, in particular, makes use of such glitches to render visible the borders and characteristics of the virtual landscapes in the games. We see how the avatars struggle with the invisible borders, how certain programmes prevent avatars from falling off the rendered maps or how worlds suddenly end at unexpected points and display their status as surface renderings. The voice-over comments the experiments and the imperfect scripts that with little effort can be tricked into glitching and displaying infrastructures that ought to remain

hidden to the player. In one case we even can see one avatar entering an infinite free fall into a dark, empty, unrendered void after he has surpassed and fallen off the edge of an in-game world (Figure 23).



Figure 23. Fall into unrendered void, still from *Parallel 2*.

In exploring the invisible borders of the games, *Parallel 2* also points to the parallels between dreams and simulations. In fact, one can read *Parallel 1–4* as an interpretation of (day-)dreams in which the different formative forces and renderings of the reviewed computer games are traced and – at least partially – exposed. They thereby raise the question as to who is constructing this constructed world. The voice-over comments upon the constructivism and the protocols that become graspable through the reality testing:

A child's viewpoint when taking long rides by train or car, everything that passes by has been put there only for me, appearing out of the emptiness and then disappearing again into emptiness.¹⁹⁷

Who is dreaming here then? For Freud, the question turns into ‘What is dreaming?’ His answer would be simple and parsimonious: ‘a latency’. A latency means the configuration of a not-yet. Experiencing latency means waiting for or expecting something without knowing if it will come or

¹⁹⁷ *Parallel II*, directed by Harun Farocki (2014).

even what it will be. A latency is, thus, a diffuse not-yet. Rather than a personalized dream subject, behind the distortions of a dream a nameless structure is dreaming. And rather than an enclosed and nameable structure an emergent not-yet is dreaming.

The science fiction author Philip K. Dick wonders in the title of his novel: ‘do androids dream of electric sheep?’¹⁹⁸ And the film critic Georg Seeßlen wonders in turn in his book of the same name: ‘do androids dream of electric orgasms?’¹⁹⁹ These iterated questions about latency show that dreams are a confrontation with our humanness and its limitations. For ‘do machines dream?’ is the hidden question behind these iterations. And hidden behind this hidden question is the uncanny realization that there seems to be something machinic and non-human behind the seemingly unpredictable forms of our human dreams and their distortions. Dreaming – as exposed in these questions – presumes a strange intentionality, a motive source of wishes and desires. A latent infrastructure is latently longing for a manifestation of something. As mentioned in the methodology chapter, Schütz describes with Husserl latent longing as a quality of consciousness that is ever present in the form of anticipation:

in every action we know the goal in advance in the form of an anticipation that is empty, in the sense of vague [...] and we seek by our action to bring it step by step to concrete realization.²⁰⁰

By framing the games as (day-)dreams, the installations sensitize us as viewers for the fact that it is not subjects but infrastructures that desire and dream and vaguely sense what they seek. Do dreams, then, mean anything? In any case they are markers of a not-yet, reminders of an open future and invitations for projections, for sensing what one vaguely seeks.

While *Parallel 2* explores the enactments of a reality principle mainly through the examination of the physical environment of the game, *Parallel 4* presents this form of reality testing in the interaction of a player’s avatar with other in-game characters that are controlled by computer programmes. The interactions between these characters and the avatar of the human player follow strict protocols. They are as confined as the interactive protocols within the physical environment. And like these they at first also remain opaque to the player, as stated in the voice-over:

The hero has no parents and no teachers, has to learn by himself which rules are valid. He approaches other people.²⁰¹

¹⁹⁸ Dick, *Do Androids Dream of Electric Sheep?*.

¹⁹⁹ Seeßlen, *Träumen Androiden von elektronischen Orgasmen?*.

²⁰⁰ Schütz, *Phenomenology of the Social World*, 58.

²⁰¹ *Parallel IV*, directed by Harun Farocki (2014).

In the sequences after this initial statement we can see the avatar controlled by a player testing the interactive limits of different characters in the game world. Where in *Parallel 2*, physical conditions limit the focus, now the social limits and the protocols of play are explored. The parallel between dreams and the games is concretized in the voice-over: ‘Does the world exist when I am not watching it?’²⁰² In *Parallel 2* we hear this question while the in-game camera pans over renderings of a blue ocean. We see that with the advancing of the viewing position ever new layers are rendered visible at the horizon. Indeed, it seems that without the presence of the player and their avatar the world in which they are immersed would cease to exist. The video here reflects the role of ‘the first person’ in many computer games. The body of the avatar in such games acts as a stand-in for the player. Rather than a point-of-view, the body is seen from behind in a third-person perspective. The avatar’s outlines act as an embodiment and interface for the player. An exemplary instance is one scene in *Parallel 4* where we see the avatar of the player attempting to rob a shop. When he points a gun at the cashier, the woman reacts to a protocol and flees from the shop in fright. We hear a protocol-dialogue between the avatar and the fleeing woman. However, a few seconds after the cashier character has fled the shop, another protocol apparently overwrites the first and makes her come back to the shop. The voice-over comments upon this odd encounter and functionalizes it in its description:

If she is threatened, she must leave the store. When she is outside, she must return to the store again. This tragic constellation reveals to the hero the limitations of human freedom of action.²⁰³

Even in the failure of the protocol there lies a potential realization for the player. We can see here again how through failures of protocols the realisms of the games are exposed by *Parallel 1–4*. As in our previous discussion of *Serious Games 1–4*, this approach first demystifies the projects of the computer images and then allows us to speculate upon and anticipate functions beyond those of the present.

Serious Games 1–4 and *Parallel 1–4* have in common that they constitute anticipations and examinations of the futures of images production. While *Serious Games 1–4* sensitizes us to the political entanglements of the production of computer images and militarization, *Parallel 1–4* speculates about a new constructivism that comes to the fore with digital image production. To

²⁰² *Parallel II*, directed by Harun Farocki (2014).

²⁰³ *Parallel IV*, directed by Harun Farocki (2014).

the initial question addressed in this chapter: what will happen to images once they have been pushed to the margins, one is tempted to answer that they become *Vor-bilder*. As such, they are not only marginal to other infrastructures, but also take on infrastructural qualities in themselves, so that the margin also operates as a frame of mediation. While retaining their operational character as instruments of surveillance or intelligence systems, Farocki's two series show that images – not only those pushed to the margins – are constitutionally entangled with projects. It is, indeed, their marginalised character that allows for a critique of the reality-producing qualities of images.

The work of exposing the operability of operational images occurs in *Serious Games 1–4* and *Parallel 1–4* predominantly through the soft montage of visual and textual materials. Soft montage, as an operation in parallelism, not only allows us to grasp the realism that lies beneath different computer image systems and their historical development. We can also come to recognize the anticipatory character of these realisms that pre-empt more than they represent a state of affairs. In fact, the parallelization of computer images in soft montage in the works discussed here has shed light on a particular aspect of cultural techniques of anticipation, too. By entangling two parallel moving images in the complex relations of a soft montage their anticipatory trajectory can be laid bare. Moving images in such a constellation are, then, not just anticipations, but in their construction of a not-yet they serve as a point of access to understanding the production of futurity.

Through Farocki's installations we realize that computer images are structured by regimes of prediction, fundamentally framed by the pre-conscious territory of anticipatory processes, and at the same time that they operate in the creation of a not-yet that needs to be critically explored. In these terms, the science-fictional dichotomy that organises the expansionist programme of the explorers in *Solaris* is exposed as a false one. Testing the reality of parallel worlds (be these other planets, dream scenarios, game environments, or theatres of war) can always also project the possibility of extending what we know of the serious games – and not least the serious games with images – that frame and bound the operational logics of our global realities.

4 Rendering / Hito Steyerl

– Images as Infrastructures for Projection

What are images capable of? This question unites the artistic projects that are discussed in this thesis. To ask about the capacity of images is to ask what images can do, that is to say, how they operate. To ask about their capacity, however, is also to ask about what images *could* do, to interrogate their so far unrealized abilities, potentials and projections. The latter version of the question points to what Georges Didi-Huberman calls ‘trajectories’ (‘Bahnen’) of images:

Diese Bewegungen durchdringen das Bild vollständig, und jedes besitzt eine – historische, anthropologische, psychologische – Bahn, die ihren Ausgangspunkt außerhalb des Bildes hat und über es hinausführt.²⁰⁴

Didi-Huberman’s conception of trajectories insists on approaching an image as a multitude of movements in progress rather than as a fixed object. Images seen in their trajectories, then, do not simply represent a pre-existing object but rather prolong or disrupt movements in the world. Accordingly, images are not just passive objects of authorship, convention or material infrastructures, but also causes and actors in their relationships to these. As actors, images can follow or abandon their trajectories. They can both act and be acted upon within image economies and lineages, and as parts of projects.

Focusing upon agency, the initial question as to what images are capable of falls into two parts. Firstly, the question allows us to point to the different constituting movements that make an image act (its operativity), and secondly, it allows us to examine the projects and movements an image pursues through its actions (its trajectories). Certainly, the operativity and trajectories of images are entangled in manifold ways. However, while inquiring into the former can bring forth knowledge *about* an image, the latter brings forth a projective knowledge *through* an image. While the former question approaches images as agents in the present, the latter approaches them as agents entangled with other times. We can ask of images what kinds of relationships to the world they make possible: what do they enable and what do they foreclose? Addressed as agents entangled with other times – as part of trajectories – we can instead ask what they *could* enable and what they

²⁰⁴ Didi-Huberman, *Das Nachleben der Bilder*, 43.

could foreclose. This question as to the trajectory of images – their so far unrealized potentials – is approached in this chapter through the concept of rendering. Taking a self-reflexive turn, we conceptualize images here as infrastructures for projection rather than representations of pasts or futures.

As introduced in the methodology chapter, the term ‘rendering’ etymologically derives from the Latin verb *dare* (to give) and the prefix *re-* (back). Although describing a broad range of practices and actions today, it most commonly refers to a ‘performance’ or a ‘translation’ from one system into another. The etymology alludes to two aspects of ‘rendering’ that are of particular interest for us here: on the one hand rendering describes a reality-producing activity as captured in the contemporary meaning and expressed in phrases like ‘the passenger was rendered unconscious in the accident’. On the other hand – the etymologically older meaning refers to this – rendering also describes a transaction or translation. An example would be a sentence like ‘the text is rendered from French into English’. Rendering can thereby describe both a reality-producing agency and a translation from one system into another. In its translational meaning lies the aspect that a rendering – for instance as a graphic outline – always acts as a stand-in. Here a rendering generates a direct visual experience and yet it also always refers to the transaction or translation that has produced it. In this chapter, this double structure of rendering operations allows us to address the capacities of images as infrastructures for projection. This entails reading images as enabling infrastructures, but also as composed of trajectories that point beyond their present operativity. The image as a rendering or infrastructure for projection enables us to interrogate its operativity, or what it can do – but also its trajectories, or what it could do.

In particular, the application of rendering in computer graphics illustrates the analytical potential of this approach. Not only is rendering the operation of digital interfaces, it also refers here to the creation of scenes or images from data. Again, both operative qualities of rendering are present: the translational quality of rendering from data to visual, and its reality-producing quality as producing a scene that, in its presentation of data, goes beyond its input. In this instance rendering refers to the process of making visible and invisible certain experiences, but also to the translation and transaction between two systems.

The perspective that rendering opens could be described as infra-structuralist. To treat images as renderings means to highlight both their embedding in infrastructures and their own infrastructural qualities. Images become graspable as rendered by trajectories, but also as rendering trajectories. The term infrastructure is characterized by transactions as much as the term ‘rendering’. An infrastructure is, literally, that which lies below (‘infra’) a structure. Through infrastructures other structures come into existence: infrastructures precede, format, and mediate these structures. In contrast to facilities, infrastructures operate best when unnoticed. These

preceding, formatting and covering operations are what infrastructures share with media. Both allow for something other than themselves to operate. Both format and standardize that which they conduce, while operating in the background, however an infrastructure always remains somewhat ungraspable in its scale and reach. Rather than establishing a mediation, an infrastructure assembles a multitude of actors and materials in order to enable and precede a 'structure'. Images as infrastructures for projection display this multitudinous character as well. One could say that while a medium is characterized by a mediation of some kind, an infrastructure maintains an economy and is characterized by transactional and translational behaviour. Rendering as an artistic and analytic strategy allows us to address these infrastructural and projective qualities of images.

An image is defined here as any two or three-dimensional visual object that can be distinguished from other visual experiences. This definition also explicitly embraces mental images such as those of dreams or fantasies. Although trajectories of images point to the fact that no image ever operates in isolation, images – even approached as renderings – nonetheless usually display a certain discreetness. When we see an image, we usually determine its borders and distance it from other visual experiences. This distance is created through a set of movements that paradoxically make an image come to 'stand' against a reality, as the German term 'Vorstellung' (translated as 'image' but also literally as 'fore-standing') denotes. Although always in a relationship with other images, an image usually comes to 'stand' on its own, even if this 'standing' is in the form of a stream of images or as a fleeting appearance. Rendering allows us to see through this singular stance of an image and grasp its projective trajectories.

The works discussed in this dissertation not only share the initial question, they also all critically enact this exposure of 'stances' of images as embedded in infrastructures and as agents composed of trajectories. The works analyse images by examining their entanglements with power, but also by approaching them in a projective manner that points beyond ideological configurations and releases them from their entanglements with power. What images *could* do shines through their semantic operations – or what they *can* do – in the works by Beloufa and Farocki that we have discussed so far. Each of their works exposes particular anticipatory operations of images and in doing so sheds light on their trajectories. Examining the trajectories of the images – we might say the totality of all anticipatory operations of an image – enables us to grasp their reality- and futurity-producing operations in the present as complex entanglements.

The artist and essayist Hito Steyerl has long been concerned in her works with the question of what images are capable of. Her practice critically examines different forms of reality and futurity construction through images. It includes video installations, alongside written essays, performative lectures and interviews. Steyerl has described her practice as 'artistic research', and as a trained

filmmaker and philosopher her works have contributed to the art world and academic discourses alike.²⁰⁵ Her works continue and extend the critical projects of artist-theoreticians such as Farocki or Jean-Luc Godard, who engage in forms of meta-cinema or indeed post-cinema that examine conditions of production, circulation and reception of images. For Steyerl, the use of multiple media and artistic, activist and academic platforms takes the particular shape of what could be called a post-cinematic documentarism. Documentarism for Steyerl is a particular attitude that investigates and exposes entanglements with power. As a post-cinematic practice, it is concerned with the self-reflexive examination of images departing from modernist forms of cinema.

In *Die Farbe der Wahrheit*, Steyerl lays out the parameters for her work as a documentarist. Steyerl observes in this book that images – and documentary images in particular – have recently become less and less referential. Rather than constituting an authentic ‘window onto the world’, images today often work post-representationally. Instead of representing a reality, they control, affect, arouse, delete, organize or cover up, imagine or project relationships to the world. Less and less governed by referential value, images increasingly act as agents in complex image economies. According to Steyerl, the erosion and loss of referential value under a post-representational paradigm goes along with a fundamental epistemological uncertainty. For the documentary image, Steyerl calls this uncertainty the ‘dokumentarische Unschärferelation’, literally translatable as the ‘documentary blur relation’, but – in reference to Heisenberg – also as ‘documentary uncertainty principle’. Steyerl examines how documentary images as evidences enact this uncertainty principle. It manifests itself as a tendency of images to low resolution and blurriness that paradoxically increases their assumed authenticity. Rather than showing or representing something, they merely depict the conditions of their production. Herein lies their epistemological paradox, as their realism is generated through degrees of illegibility and uncertainty. Their authenticating quality is bound up with the uncertainty of their conditions of production, or as Steyerl writes: ‘Die Form ihrer Konstruktion stellt das wahre Abbild ihrer Bedingungen dar.’²⁰⁶

If images merely depict the conditions of their production, if they lose their referential value entirely, a documentarism becomes necessary that exposes the entanglements of images with power and shows them as infrastructures for projection. Approaching images as projections or renderings of power means treating them as reality-producing agents that follow particular trajectories. They are then not a representation of a particular reality, but on the contrary, an instruction to approach, address or act upon reality. A document is then not only a trace of writing, a trace of attention, but also a tool for directing attention. The Latin predecessor ‘*documentum*’ still has this meaning inscribed in it. It derives from *docere* ‘to teach’ and the infix ‘-ment’, denoting a tool or a means.

²⁰⁵ Steyerl, ‘Aesthetics of Resistance? Artistic Research as Discipline and Conflict’.

²⁰⁶ Steyerl, *Die Farbe der Wahrheit*, 15.

Along with describing an official note, '*documentum*' also means a lesson in the way things are, or might be, a cautionary tale and, thus, literally, a tool for instruction. All these connotations make the term 'documentary' appear much more prescriptive and performative than just the recording and representation of reality. A document is thus not neutral, nor is its main objective to capture a past or reality. Rather than that, a document instructs, teaches, enables or disables certain options or scenarios. This instructive quality has become more pronounced with the proliferation of digital communication, according to Steyerl:

Within contemporary technologies of dispersion and dissemination, a document is defined less by its content or its relation to reality than by its affective punch and velocity. When a picture of an atrocity spreads on Facebook, there are no fact-checks, no evidentiary procedures whatsoever. But once launched, any kind of document, whether it actually even documents anything, can go on to create a new reality by means of the constituency that shared, spread, sustained, and built it.²⁰⁷

The instructive quality of documents – and of documentary images more specifically – is thus focused less on the relationship they have to reality than their capacity to have an impact on viewers and their worlds. Images as media for a representation make way for images as media to form or disrupt relationships. It is not what images show, not even what they do, but what they instruct and enable us to do that matters in Steyerl's documentarism. This enabling and instructive quality of images cannot be grasped under a representational paradigm, as Maurizio Lazzarato argues in his essay 'Struggle, Event, Media':

Representation [...] is founded on the subject-work paradigm. In this paradigm the images, the signs and the statements have the function of representing the object, the world, whereas in the paradigm of the event, they contribute to allowing the world to happen. Images, signs and statements do not represent something, but rather create possible worlds.²⁰⁸

In contrast to a representational function of images, Lazzarato points to their 'world-creating' or indeed reality-producing quality as infrastructures for projection. Accordingly, for Steyerl, addressing not only the conditions of images but their projects and trajectories is an emancipatory

²⁰⁷ Steyerl and Keenan, 'What Is a Document?', 61.

²⁰⁸ Lazzarato, 'Struggle, Event, Media', 1.

operation. It allows us to address the entanglements with an anticipatory organization of power. Departing from this, Steyerl calls for a new form of critique: a critique angled from the future that releases images from their entanglement with contemporary regimes of power. Instead of representing realities, Steyerl calls for documentaries to show what does not yet exist:

Nur aus der Perspektive der Zukunft können wir eine kritische Distanz zurückerlangen, einer Zukunft, die Bilder aus der Verwicklung in Herrschaft entlässt. In diesem Sinne darf kritischer Dokumentarismus nicht das zeigen, was vorhanden ist – die Einbettung in jene Verhältnisse, die wir Realität nennen. Denn aus dieser Perspektive ist nur jenes Bild wirklich dokumentarisch, das zeigt, was noch gar nicht existiert und vielleicht einmal kommen kann.²⁰⁹

Only from the perspective of potential futures can images of the present be unhinged from their entanglements with contemporary power. Only through exposing their trajectories can they be turned into documentary forms. The aim of documentary is to develop a critical position towards its own processes of production, but most importantly towards the projects and trajectories of its images. Steyerl's programmatic call brings to mind Vilem Flusser's distinction between 'Vorbilder' (models, literally fore-images) and 'Abbilder' (re-presentational images), one that has been influential for Farocki as well as Steyerl. Flusser writes:

Soweit sie überhaupt den Namen „Bild“ verdienen, deuten die neuen synthetischen Bilder auf die Gegenseite der hergebrachten: die alten Bilder be-deuten die Dingwelt und / oder das Subjekt dieser Dingwelt, die neuen be-deuten Gleichung, Kalkulationen. Die alten Bilder sind Ab-bilder von etwas, die neuen sind Projektionen, Vor-bilder für etwas, das es nicht gibt, aber geben könnte. Die alten Bilder sind „Fiktionen“, „Simulationen von“, die neuen sind Konkretisationen von Möglichkeiten. Die alten Bilder sind einer abstrahierenden, zurücktretenden „Imagination“, die neuen einer konkretisierenden, projizierenden „Einbildungskraft“ zu verdanken. Wir denken also nicht etwa imaginativ magisch, sondern im Gegenteil einbildend entwerfend.²¹⁰

Flusser's distinction between old (representative) and new (synthetic) images, between 'Abbilder' and 'Vorbilder' complements Steyerl's position. Not only do both observe a shift in the crucial operation of images, but they also call for a new critical engagement with this shift. While 'Abbilder'

²⁰⁹ Steyerl, *Farbe der Wahrheit*, 16.

²¹⁰ Flusser, *Vom Subjekt zum Objekt*, 25.

are products of an abstracting distancing imagination, 'Vorbilder' develop from a concretization, an outlining and composing. While 'Abbilder' are mimetic, 'Vorbilder' are constructing, projecting or anticipating. This distinction for both Flusser and Steyerl goes beyond the material disposition of images (it goes beyond the transformation from mechanical-chemical image-making processes to computerized image-making) but pertains also to the question of the potential of images more generally.²¹¹ In fact, one could argue that through the new technical disposition of images the question of their capacity and potentiality is raised in new ways. Rendering as the process underlying 'synthetic images' is the form in which this question can be raised.

Flusser's 'projective approach' complements our conceptualization of rendering as a post-cinematic strategy for the exposure of anticipatory operations. It also resonates with the previously discussed practice of Farocki. In a similar way to Flusser, Farocki insists that the images of his films do not depict but rather constitute models. As models they explicate and concretize particular relationships, however, as proposed in our reading of Farocki's works, an irreducible not-yet shines through that points to an open future. Thomas Elsaesser implicitly points to the connection between Flusser and Farocki, too, calling Farocki's images as models 'Vorbilder', as we recall:

His intention has never been to reproduce images (Abbilder) but rather, to produce models (Vorbilder). But a model or proto-type needs to be presented, and every presentation relies on a mental space, and on representability.²¹²

Despite this similarity between the two practitioners, however, Steyerl's approach gives additional stress to the prefix '*vor*' in 'Vorbilder', the particular temporal structure of the potentiality of images. More explicitly than Farocki, Steyerl insists that only the construction of futures allows for a critical engagement with the images that are complicit in contemporary rule. In this way, images do not just hold open a future against a 'raid by the future against the rest of time' but are instruments for creating a critical distance to the present. In the light of this, Steyerl's practice can be best described as a confrontation of the present with a not-yet. Through the accentuation of the agency of images and their embeddedness within economies of production and circulation, they allow us to see the operations that 'render' our social and medial worlds today. The works, therefore, do not simply ask what images are capable of, what they *can* do, but also what images potentially *could* do.

²¹¹ Flusser insists that photography as a simulation is a 'vorgreifende Praxis' (anticipating practice), Flusser, *Vom Subjekt zum Projekt*, 21.

²¹² Elsaesser, *Harun Farocki: Working on the Sight-Lines*, 45.

A concept by the architectural theorist Keller Easterling, a regular collaborator of Steyerl's,²¹³ will help us to conceptualize the infra-structuralist quality of Steyerl's approach further: disposition. In her essay *Extrastatecraft* Easterling develops a critique of neoliberal infrastructure space and lays out a particular anticipatory method to approach infrastructures. Her example for describing the disposition of an infrastructure is from *Huckleberry Finn*. Rather than contemplating the beauty of the Mississippi river, Huckleberry Finn studies the ever-changing movements of the stream in order to anticipate shallows and dangerous velocities. Thus he focuses on the disposition of the river in order to anticipate its ever-fluctuating form. In a similar way, Easterling calls for attention to be paid to what architectures and more specifically infrastructures can do and could do, rather than what they claim to do or are doing at the moment of observation. As Easterling's example shows, an infrastructure constitutes of 'active forms' that organize it and yet are in constant change. The disposition of an infrastructure is thus both the totality of all its transactions and at the same time its reality-producing effects. Only if approached in conjunction can the disposition of an infrastructure become graspable:

And while we also do not typically think of static objects and volumes in urban space as having agency, infrastructure space is doing something. Like an operating system, the medium of infrastructure space makes certain things possible and other things impossible. It is not the declared content but rather the content manager dictating the rules of the game in the urban milieu. [...] Contemporary infrastructure space is the secret weapon of the most powerful people in the world precisely because it orchestrates activities that can remain unstated but are nevertheless consequential.²¹⁴

Not only does Easterling's focus on the operationality of infrastructures resonate with Steyerl's documentarism, but her example also describes an anticipatory practice and its accordant realism. Only through focusing on what infrastructures *could* do, on their trajectory and enabling and confining effects, can they be understood and navigated. Easterling's idea of a disposition also resonates with a classical and foundational assumption of media studies, first described as such by Marshall McLuhan. Namely, that media not only enable communication, but in order to do so, have to cover up their modus operandi, the (infra-)structure of their communication. McLuhan

²¹³ One example is Hito Steyerl's video installation *ExtraSpaceCraft* whose title refers to Keller Easterling's book *Extrastatecraft*.

²¹⁴ Easterling, *Extrastatecraft*, 14-15.

describes this in visceral terms: ‘For the ‘content’ of a medium is like the juicy piece of meat carried by the burglar to distract the watchdog of the mind.’²¹⁵

What Easterling calls the ‘disposition’ of infrastructures is often covered by what it claims to be enabling. In order to understand the operations of an infrastructure one has to expose its disposition. In Steyerl’s post-representational approach, now, images are framed as infrastructures with dispositions. In order to understand their trajectory and their complicity in contemporary projects, her works aim to make the disposition of images as infrastructures palpable. However, representing the disposition of an infrastructure is problematic, as Easterling observes in the following:

Disposition is immanent, not in the moving parts, but in the relationships between the components. [...] Active forms are markers of disposition, and disposition is the character of an organization that results from the circulation of these active forms within it. Since these forms are always changing, as is the complexion of disposition, they cannot be catalogued as elemental building blocks or terms in a glossary.²¹⁶

Because of the immanence of disposition their representation is problematic. Easterling’s relational understanding of disposition, however, enables us to conceptualize a post-representationalist approach to the disposition of infrastructures. As the disposition of an infrastructure can be imagined as a constant immanent rendering, only a rendering can in turn make it addressable. Rendering thus addresses the reality-producing effects of infrastructures and their constant motions and adaptations alike. It becomes clear at this point that classical categories of documentarism such as fictionality or factuality are difficult to sustain to conceptualize practices in which the creation of facts and the fictionalization of realities are deeply nested. All of these concepts still operate in the paradigm of representation. Again, we can turn to Flusser for a crucial distinction between different types of rendering:

Daher wird die Unterscheidung zwischen Bild und Ding, zwischen Fiktion und Realität immer unoperationaler, insbesondere da ja die sogenannte “Realität” – im Sinn von “wahrgenommener Welt” – sich selbst als Komputation herausstellt. Stattdessen ist zwischen “konkret” und “abstrakt” zu unterscheiden: Das Projizieren ist ein Vorgang, dank

²¹⁵ McLuhan, *Understanding Media*, 18.

²¹⁶ Easterling, *Extrastatecraft*, 132.

dessen aus Abstraktionen (Punkten) immer konkreter werdende Welten projiziert werden. Das kalkulierende Denken konkretisiert sich.²¹⁷

If we conceptualize rendering as a projective process, Flusser's distinction allows us to understand its emancipating potential as artistic strategy. Rather than speaking of fictional and factual elements of a work, Flusser proposes that we speak of abstracting and concretizing elements under a post-representational paradigm. Similarly, rather than rejecting representation and its logic of authenticity, Steyerl's documentarism uses moving images in post-representational ways. Instead of criticizing a work for its realist depiction of a reality or truthful fictionalization, the criterion is which relationships the work enables and concretizes. Rendering here occurs not in a mimetic imitation of reality, but in a projective manner. For Flusser, projecting takes on a range of qualities. It is not only opposed to representation, but embedded in an ecology of abstraction and concretization:

Das Konkrete ist als ein Netz von Beziehungen anzusehen, und die Fäden dieses Netzes verknoten sich, ohne etwas Konkretes zu verbinden. Konkret sind einzig die Beziehungen selbst, wohingegen alles Bezogene oder In-Beziehung-Stehende (alle Objekte und Subjekte der Beziehungen) Abstraktionen sind.²¹⁸

When we approach images as infrastructures for projection, with Flusser, we realize that an image renders (passive) abstractions into (active) concretizing relationships. This quotation from Flusser also shows how projection operates in two directions simultaneously. On the one hand, projections concretize. They create networks of relationships by referring to and interacting with other signs or images. On the other hand, however, they allow us to grasp that only the relationships and not the entities of relating are concrete. The subjects, objects and entities connected via projection are exposed and framed as mere abstractions and thus de-essentialized. This operational double motion is central to the documentarism of Steyerl. It de-essentializes while at the same time actively constructing and projecting realities. Flusser describes this as the realization of new freedom to participate in projections:

²¹⁷ Flusser, *Vom Subjekt zum Projekt*, 19.

²¹⁸ Flusser, *Vom Subjekt zum Projekt*, 49.

Daß alle Erkenntnisse und alle Werte Projektionen aus einem vorübergehenden Konsensus sind und daß Freiheit darin besteht, am Ausarbeiten des Konsensus und seinem Projizieren teilzunehmen.²¹⁹

In contrast to extrapolation, which entails an element of preclusion, projection as another form of anticipation is more agile, enabling and opening. It is not a pulling but a throwing, as the prefix *pro-* denotes in contrast to the prefix *anti-* in anticipation. While under a representationalist paradigm, critique regarding an image is concerned with whether it is a true or untrue representation, critique in a paradigm of projection addresses the psycho-political impact of images. This emerging sensitivity to the affective dimensions of images is not only present in the discourse about trigger warnings, but also in the new forms of iconoclasm today. In fact, Flusser describes projecting as the basic operation of a contemporary progressive critique:

Aus dieser verzweifelten Notlage beginnen wir also zu projizieren – wobei “wir” nicht als eine Gruppe von Individuen, sondern als ein vernetzter Dialog zu verstehen ist. Da wir uns nicht mehr identifizieren können, beginnen wir uns als Knotenpunkte eines dialogischen Netzes und dieses intersubjektive Netz als ein Relationsfeld hinzunehmen, von dem aus auf andere Felder Projektionen entworfen werden, wobei sich hinterrücks diese Felder wieder mit dem projektierenden vernetzen.²²⁰

Flusser conceptualizes the question regarding the impact or capacity of images as a fundamentally relational one. His concept of projection seems to embrace the notion of a collective dreaming that departs from an experience of alienation and seeks realization in relating to the world in ever new ways. Instead of the parameters of fictional or documentary methods he speaks of abstraction (the dissolving of context) and concretization (the condensation of context). Reality, for Flusser, is a matter of contested projections (and their reality effects). This can be contrasted with Freud, for whom projection has a rather different implication, namely that of an externalization. What cannot be addressed in one's psyche is projected outside. As a defence mechanism, projection takes the form of a transfer of a psychological quality that one does not accept about oneself onto encounters with others. A person who is rude will often find rudeness in others. While psychoanalysis frames projection as a defence mechanism of a subject against a reality, for Flusser it is fundamentally reality-producing, a notion that Steyerl, too, highlights in her programmatic statement:

²¹⁹ Flusser, *Vom Subjekt zum Projekt*, 27.

²²⁰ Flusser, *Vom Subjekt zum Projekt*, 26.

Today, cinematic politics are post-representational. They do not educate the crowd but produce it. They articulate the crowd in space and in time. They submerge it in partial invisibility and then orchestrate their dispersion, movement, and reconfiguration. They organize the crowd without preaching to it. They replace the gaze of the bourgeois sovereign spectator of the white cube with the incomplete, obscured, fractured, and overwhelmed vision of the spectator-as-laborer.²²¹

Steyerl describes in this quotation from her programmatic essay ‘Is A Museum A Factory?’ a double motion that constitutes post-representational cinema. On the one hand, post-representational cinematic images produce or articulate a ‘crowd’. On the other hand, this organization of a community or crowd is characterized by a dispersion rather than a disclosure. Instead of shaping and educating a mass into individual bourgeois sovereign subjects, the programme of a post-representational cinema trains and prepares anticipating and projecting creative labourers. While the gaze of a disciplinary regime structures the visual field through transparency, the gaze of an anticipatory regime frames the visual field as a place of potentiality. The incompleteness, obscuration and fractures are markers of a not-yet. These underdetermined markers of a not-yet are the precondition for projecting and any other form of anticipation.

While the disciplinary representational image subjects a viewer to its rationality, the post-representational image turns the viewer into a spectator-labourer, as Steyerl writes, or indeed, into a spectator-speculator, as the mode of labour for this new labourer is that of investment.²²² On a more literal level, investment here refers to the attention and time that the viewer *spends* with an artwork. But investment here also refers to the reality- and identity-constituting relationship that a viewer enters into with a work under a post-representational paradigm. Trigger warnings before videos or performances could be read as a form designed to regulate and govern investment. In fact, the trigger is a good example for the new post-representational viewing position, in which images do not simply stand in for something, but as triggers become reality-constituting labour processes. The trigger warning is thus a good example of both the reality-constituting quality that images take on in an anticipatory regime and the governance of an anticipatory regime through anticipation, here in the forming of a warning and a framing of uncertainty. Accordingly, images as infrastructures produce ‘the crowd’ through projections. And a unified bourgeois gaze thereby makes way for a multitude of anticipations. The spectator-as-labourer that Steyerl describes here is no less a spectator-as-speculator in that they actively engage in anticipations.

²²¹ Steyerl, ‘Is A Museum A Factory?’.

²²² Steyerl’s terminology is not explicitly psychoanalytic. However, investment refers here to both a financial but also a psychological engagement as conceptualized in psychoanalysis as cathexis.

The approach to writing about Steyerl's works here takes a similarly projective form. In three close readings the works *How Not To Be Seen: A Fucking Didactic Educational .MOV File* (2013) (abbreviated in the following as *How Not To Be Seen*), *Liquidity Inc.* (2014) and the double installation of *The Tower* (2015) and *ExtraSpaceCraft* (2016) are analysed. These works are projected onto theoretical texts in order to conceptualize a theory of images as infrastructures for projection. In particular, it is analysed how Steyerl's works apply forms of rendering as critical artistic strategies. Our reading is therefore as relational as Steyerl's documentarism sets out to be. In the context of this dissertation, this chapter provides a new angle on strategies to confront regimes of prediction and make their anticipatory operations addressable.

Strikes and Projects – *How Not To Be Seen*

Steyerl's *How Not To Be Seen* is a 14-minute single-channel video installation. In 2014, it was exhibited at Andrew Kreps Gallery in New York as part of the exhibition *How Not To Be Seen: A Fucking Didactic Educational Installation*.²²³ Installed in a single white gallery space, the exhibition consisted of the main video screened in a black sub-partition, several sculptural objects such as green screen tiles and tripods (that had been used as props in the video), and symbols from the videos painted on the floor and walls. The exhibition also included a second short video installation called *Strike*.²²⁴

The exhibition opens with the *Strike* installation (2010). It is the first piece that we see when we enter the gallery space. As it faces the entrance, it seems to function as an instruction for or overture to the other works displayed in the space. The video is only 28 seconds long and screened in a loop on a flat screen monitor mounted on two black beams that connect ceiling and floor. At first only the word 'strike' appears in screen-filling huge white letters on a black background (Figure 24). Then, the video shows Steyerl as protagonist with a hammer and wedge in her hands. In a medium shot she looks at something outside the frame in front of a dark neutral background. She leaves the frame to approach with determination what we realize – after a cut – is a black flat screen. In the following shot, she faces the black flat screen and positions the wedge as if to hit it gently with the hammer (Figure 25). Although the wedge does not touch the screen – we witness a mere gesture, not an actual strike – the black screen comes to life and shows an abstract shape of lines

²²³ The images and descriptions are based on an exhibition at Andrew Kreps Gallery. *How Not To Be Seen: A Fucking Didactic Educational Installation* [exhibition] (Andrew Kreps Gallery, New York, 2 July 2014 – 15 August 2014).

²²⁴ Smith, 'Hito Steyerl: How Not To Be Seen'.

and planes that resembles a TV test pattern. As the complete video is shown in a loop, the two parts – title and scene – seem to be alternating.



Figure 24. Exhibition view of *Strike* installed at Andrew Kreps Gallery, New York, 2014.

Despite its short duration, the video introduces the main themes of the exhibition: a critique of images, a political intervention, and an artistic gesture. We can observe also how the strategies via which the exhibition is operating are introduced here. The most obvious is the strategy of enactment, as discussed in the chapter on Beloufa. Steyerl as the protagonist of the video carries out a performative strike. We see how the video brilliantly demonstrates the process of concretization as described by Flusser. This occurs by means of a cinematic gesture. From the abstract concept ‘strike’ a scene is enacted. Only after seeing the video completely we do understand that it is an instruction: first a concept, then a strike, then something becomes visible. Performing this sequential alteration between concept (title) and enactment (scene) the video raises a range of questions as to precedence: what precedes an image? What precedes a concept? What precedes an action? Already we as viewers are introduced to an anticipating mode of perceiving. The loop and the formally minimalist mise-en-scene frames the video as a meta-documentary that tests the capability of images and poses the question of agency: who is acting upon whom here?



Figure 25. Exhibition view of *Strike* installed at Andrew Kreps Gallery, New York, 2014.

One could read *Strike* as a direct commentary on a short film that Farocki made in collaboration with Vilem Flusser, its title: *Schlagworte-Schlagbilder* (strike-words, strike-image).²²⁵ The video shows Flusser in conversation with Farocki, discussing the front page of *Bild*, the most widely distributed tabloid paper in Germany. For Flusser, the front page has to be approached as an image. The scandalous depiction of a murder is designed in such a way that it is impossible to read the text on the page without looking at and being affected by the images. On the other hand, the huge letters of the text and their background create a brutal and magical atmosphere to reinforce the affective punch (or strike) of the images. This reference to Farocki and Flusser shows the trajectory of the work to come. We are introduced to an analytical mode of seeing whose images use their striking power not to lure the viewer into passive immersion such as the images of *Bild*, but in contrast, to re-direct their striking potential against other images. An image (the image of Steyerl with wedge and hammer) is striking another one (the image of the black screen) and something becomes visible. The protagonist Steyerl here enacts a montage, and a performatively visible striking of one image by the other. This enactment of montage concretizes an observation by Farocki on the difference between montage and cutting:

²²⁵ While the term 'Schlagwort' exists in German and is usually translated as catchphrase, keyword or buzzword, 'Schlagbild' is less usual. The standard translation of the film's title is catch image. Catch image, however, omits the violent notion of what literally should be translated as strike-word or punch-word.

Die Montage bemerkt man als Montage, der Schnitt versucht als Schnitt nicht in Erscheinung zu treten. Zur Montage gehört die Idee, bloß keine Ideen, sagt die Ideologie brgl. Evidenz. Wo das Wertgesetz waltet, muß niemand in die Geschichte eingreifen.²²⁶

While a cut strives to occult its visibility and its idea, montage marks an idea. While a cut affirms the status quo, a montage calls for and marks an intervention. *Strike*, thus, not only shows the enactment of a montage, of two colliding images that create a form of knowledge. The video also self-referentially highlights montage and enactment as political strategies. Rather than occluding their political trajectory behind evidence or in immersion, they render the viewer aware of the physical and ideological means of production (screening technology, montage, enactment) that are used by the video. Interestingly, in *Schlagworte-Schlagbilder*, Farocki and Flusser also enact a form of critique. Not only are both deconstructing the effects and political entanglements of the front page in a conversation staged for a camera. Towards the end of the interview, Flusser self-referentially points to the performative dimension of their televised conversation, too. He reminds the viewers of the fact that the conversation is recorded for television and directly addresses and instructs the viewers to be critical not only of the tabloid image, but of the very televisual image that they are currently watching.

In a similar way *Strike* can be read as a self-referential enactment of critique. On the one hand, the protagonist Steyerl enacts and concretizes the abstract principle of a ‘strike’ – as anticipated by the title. At the same time, this concretizing enactment is constructed in such a way that the viewer is granted a distance. The enactment is, thus, not authentic, but a mere gesture of a strike. We do not see a representation, but a *modus operandi*, a model or rendering at work. A critical rendering one would add, as the rendering points to its own construction and method of creating. A critical rendering, too, because it acts as a ‘Vorbild’ outlining, modelling and, thus, enabling a critical practice.

Enactment here is therefore not just the acting out and concretization of a particular structure. As a projective strategy enactment points to the productive and pre-emptive processes that are active at a particular moment in time. As we have seen in *Strike* it is gestural as much as it is relational. Authenticity, or the question of whether the strike of Steyerl’s wedge really touched the screen are not of importance. Rather than that the viewers are introduced to a critical sensitivity for the ways in which media shape our relationships to world and to question how one can become an aware agent in front of a screen.

²²⁶ Farocki, *Nachdruck/Imprint. Texte/Writings*, 109.

The gesture of the strike here also conjures the famous slaughter scene from Sergey Eisenstein's film of the same name.²²⁷ Eisenstein's film depicts a strike by factory workers in pre-revolutionary Russia that is eventually dispersed by the authorities. In the famous last scene of *Strike* (1925) Eisenstein juxtaposes film material from a slaughterhouse with the brutal crushing of the worker's revolt. The literally striking footage of the slaughter of cattle with several strikes with a knife (that very much resembles a wedge), charges the violent murder of the workers with an affective dimension that neither sequence could have achieved on its own. The striking image here is an image with a duty. It becomes clear that montage requires an attitude and artistic position. In contrast to the cut that aims to remain invisible the strike of a montage takes a position and explicates an idea. Steyerl's enactment, too, imagines such a literal taking of position when she moves from a medium shot to position herself in confrontation with the screen in *Strike*. By analogy with Eisenstein's cinematic work, this post-cinematic rendering can be seen as a call to the organised withdrawal of labour in its prevailing conditions, and a performative model for a more active, critical intervention in the work of images.

Beyond the hard montage, the striking montage, that is enacted in the video, we also have to see *Strike* in the context of the exhibition. How does it stand in a relation of soft montage to the other objects and videos? As an overture, introducing an analytical and meta-critical exhibition on the capacity of the image, another notion of the term 'Schlagbild' comes to mind. In the soft montage to the other works in the exhibition the term 'Schlagbild' or strike-image also refers to the theorist who has first coined the term: the art historian Aby Warburg. In 1920 Warburg introduced 'Schlagbild' when working on the use and abuse of images for propaganda during World War I. Initially, a classical art historian, under the impression of the propaganda efforts Warburg turned to the analysis of contemporary image production and iconography. For Warburg it was clear that the particular cultural and ideological developments of an era could be documented not only by 'Schlagworte' (buzzwords) but also by 'Schlagbilder'. Both the 'Schlagwort' and the 'Schlagbild' were to be read as symptoms of a particular time and also as enactments and migrations of forms from other times. Tracing propagandistic imagery back to pamphlets circulating in Germany during the reformation, Warburg concludes that 'Schlagbilder' are constructed for a maximal affective effect. They are literally striking images, and yet, they allow for deep iconographic analysis that is able to approach the forces at work in the present moment. For Warburg, the politically instrumentalized image is a predecessor of political faultlines of the future. 'Schlagbilder', in fact, coagulate into the political relationships and conflicts of the future. They are particular fixations of a collective memory and, in their anticipatory bearing, of a collective conscious.²²⁸

²²⁷ *Strike*, directed by Sergey Eisenstein (1925).

²²⁸ Warburg, 'Heidnisch-antike Weissagung in Wort und Bild zu Luthers Zeiten' and Diers, *Schlagbilder*.

Here, we come back to the initial statement by Georges Didi-Huberman. Didi-Huberman develops the idea of image trajectories from an encounter with the work of Aby Warburg. Pointing to an anticipatory, spectral notion in Warburg's works, Didi-Huberman frames images as the results of movements, which crystallize themselves in images:

die sich vorläufig darin sedimentieren und kristallisieren. Diese Bewegungen durchdringen das Bild vollständig, und jedes besitzt eine – historische, anthropologische, psychologische – Bahn, die ihren Ausgangspunkt außerhalb des Bildes hat und über es hinausführt ²²⁹

What Didi-Huberman, through Warburg, calls the trajectories of an image seems to be exposable through projection. One could easily see Warburg as a predecessor of Steyerl's infrastructural and projective meta-documentarism. Both pursue the question for the capacity of images also as a political and emancipatory projection. And both make this quality of projective thinking palpable.

In *Strike* this reference to the cultural historical approach of Warburg is embodied by the hammer and the wedge. The wedge can be read in reference to cuneiform script, the oldest medium of writing. Cuneiform literally means wedge-shaped and describes the form of the symbols that were inscribed into a clay tablet by means of a stylus. The artist here positions the oldest form of writing against one of its newest ones. We also see here a juxtaposition of a manual medium with a digital medium. Hammer and wedge are also the classical instruments of the sculptor. This overdetermined gesture invites us to relate with and reflect upon the materiality of digital media and more specifically the digital images of *Strike*. However, this juxtaposition of tools also raises the question of historical survival that is central to Warburg. While Warburg is interested in the survival or after-life ('Nachleben') and return of ancient Greek motifs in modern 'Schlagbildern', Steyerl's video enacts the question as to what survives in one medium of the other. However, while Warburg mostly concentrates on the iconographic trajectories of images, we see how Steyerl's approach extends this anticipatory reading to the infrastructures of images. The short scene seems to point to a genealogy and trajectory of media and their dissolution into infrastructures. Hammer and wedge are considered some of the earliest tools of humankind. What of these instruments and their workings lives on in the digital image as infrastructure?

Reading Steyerl's work through the projects of Aby Warburg and Vilem Flusser allows us to approach its particular form of critique. It is a post-representational critique, as it relies on the self-reflexive creation of renderings rather than on authentic representations. It approaches images as infrastructures, in that the material conditions of their production, but also their historical

²²⁹ Didi-Huberman, *Das Nachleben der Bilder*, 43.

trajectories, are reflected and made transparent. And finally, Steyerl's approach is projective. Extending Flusser's projective critique, the work makes graspable the anticipatory and projective potential of images as post-representational renderings and uses them to concretize new ways of relating.



Figure 26. Exhibition view of *How Not To Be Seen: A Fucking Didactic Educational Installation* installed at Andrew Kreps Gallery, New York, 2014.

After passing *Strike*, we enter the main space of the gallery, where drawings of abstract shapes on the walls and floor dominate the view (Figure 26). We will later find out that these are copies of resolution targets that feature prominently in the main work of the exhibition, *How Not To Be Seen*. The same is true for an assemblage of tripods on which squared green screens and more resolution targets are mounted. We will encounter these too in the video. The screening of *How Not To Be Seen* (2013) is in a separate partitioned section of the gallery space.²³⁰ In this darkened room the 15-minute video is projected onto a wall.

How Not To Be Seen, too, features Steyerl as main protagonist, in a black karate uniform. A computer-generated voice lists different ways of becoming invisible, to which Steyerl as an instructor performs the listed operations. These operations include image technical processes such as fading or applying low resolution, but also more politically charged actions such as ‘wearing a burqa’, ‘being a woman over 50’ or ‘living in a gated community’. It is clear very early in the video

²³⁰ *How Not To Be Seen: A Fucking Didactic Educational .MOV File*, directed by Hito Steyerl (2013).

that the list of different ways of 'How Not To Be Seen' in digital images show operations of hiding from control, both by persons in positions of power (in the case of gated communities) and by those who are marginalized (in the case of disappeared persons).

Rather than constructing a narrative, *How Not To Be Seen* consists of five lessons that are separated by intertitles. Each lesson introduces a set of operations in order to achieve a particular type of invisibility. The video, thereby, hyperbolically conflates different political, medial and philosophical forms of invisibility. In an often laconic and dark-humoured motion the work assembles critical reflections on these different forms of invisibility. As a result, invisibility remains an ambivalent notion and a material with which the video weaves a broad net of political and artistic references. We see a gradual progression in the order of the instructions. While the first and the second instruction still focus on a recording camera and becoming invisible in physical space, the latter instructions assume a generative visibility, most clearly expressed in the last of them:

1. How to make something invisible for a camera
2. How to be invisible in plain sight
3. How to become invisible by becoming a picture
4. How to be invisible by disappearing
5. How to become invisible by merging into a world made of pictures²³¹

The different lessons take place at three different sites and consist of three different types of visual materials. Firstly, we see a green screen studio in which Steyerl as protagonist enacts certain ways of becoming invisible in front of a camera (Figure 27). These studio scenes are interspersed with recordings from an abandoned military site in the desert of Arizona that is later introduced as a resolution target with the size of a football field. Finally, a range of computer-generated architectural renderings of luxury apartments and shopping malls appear towards the end of the video. Throughout the video, however, the separation between these three different sites and the three respective types of images is gradually blurred. The performers in black or green full body suits that were present in the studio, suddenly appear in the computer-generated images. Stand-ins that appear in the renderings suddenly enter as performers in the on-site footage of the resolution target as much as the green screens from the studio.

²³¹ Chapter titles from *How Not To Be Seen*, directed by Hito Steyerl (2013).



Figure 27. Exhibition view of *How Not To Be Seen: A Fucking Didactic Educational .MOV File* installed at Andrew Kreps Gallery, New York, 2014.

The images of the video are therefore operative in three different endeavours: a documentary about resolution targets, an artistic performance in a studio and renderings for architectural projects. Towards the end of the video we see how these different images have leaked into each other and that they are connected not only by a common infrastructure, but also by the same economy of invisibility. One could call this a gradual nesting of the three separate image sources (studio enactment, documentary field recording and computer animation). These evolving interferences that the green screens, the performers and also the resolution targets enact become markers for the infrastructural quality of the images that we see as viewers in the gallery. They all stand in as placeholders or proxies for invisibilities in the images that self-reflexively destabilize the realisms of the different endeavours. In this way, we can read them as enactments of what we saw Steyerl describe as the documentary ‘Unschärfeprinzip’.²³² More than representations, they act as renderings that make their own conditions of production addressable.

As the title *How Not To Be Seen – A Fucking Didactic Education .MOV File* suggests, the work imitates the form of an instructional video from corporate or educational institutions. The title is not only a pun on instructional videos, but also points to the sketch of the same name (‘How Not To Be Seen’) by the British comedy group Monty Python’s Flying Circus.²³³ The three-minute

²³² Steyerl, *Die Farbe der Wahrheit*, 8.

²³³ ‘How Not To Be Seen’, *Monty Python’s Flying Circus*, BBC One, 8 December 1970.

sketch was broadcast as part of the group's television show in 1970. On one hand, Steyerl's work extends and amplifies many of the critical parameters that are already present in the Monty Python sketch. On the other hand, the reference to the sketch shows how the organization of power has changed from the 1970s to today.

In a similar way to Steyerl's work, the sketch imitates the form of an instructional film. This is introduced by a first screen title announcing a British government public information film. Then, to empty landscape shots, an invisible narrator describes and names people who are hiding behind bushes or trees in the image. Any persons that reveal themselves after an instruction by the narrator are either shot or killed by an explosion. This scenario is repeated several times in ever more destructive escalations, as the invisible protagonists refuse to comply with the instruction to reveal themselves. As viewers we come to anticipate the increasingly vicious attacks by the omniscient and omnipotent narrator. They culminate in the explosion of an entire housing block in which an invisible person is supposed to have lived at some point. Here the footage changes from enacted and recorded scenes to stock footage. In the last scene John Cleese as the - hitherto invisible - narrator appears on the screen and is subject to detonation, too. The comedy of the sketch lies in its creation of and play with anticipation, the escalating violence of the narrator and his falling victim to his own vicious logic.

The opening titles frame the sketch and, thus, raise the expectation of a rational, moral and authoritative instruction. This expectation is, however, broken in two ways. On the one hand, throughout the sketch we as viewers are confronted with incomplete and unreliable pictures. We only see landscapes and have to rely on the seemingly omniscient voice of the narrator that states that people are hiding in them. On the other hand, the seemingly official narrator turns out to be vicious, manipulative and escalating. Eventually, the absurd escalation of violence appears to go hand-in-hand with the omniscience and position of power of the narrator that in the end turns against him. The sketch accentuates and models the entanglements of power and visibility in image-making processes in a remarkably self-reflexive manner. The image is presented as the result of a struggle between those who control its production and those who are to be depicted: an official voice of authority (that remains invisible) and resisting subjects (that first are invisible but then are uncovered). The sketch sensitizes with its unreliable images, its escalation and absurd violence (absurd here in the empathic sense of the word as stupid and devoid of meaning) for these entanglements between power and image making. We as viewers laugh, because the manipulation in the sketch is so blatantly blown out of proportion. But we also realize that the violence, execution of power and annihilation presented in the sketch is an instructional quality of all images. Even though generally in much subtler forms, images filter and delete in the interests of those that make them. Absences and presences, visibility and invisibility are formed according to these parameters

of power. What the sketch achieves through its absurdization and escalation is making palpable this signature of power that is at the core of image production.

Power, in the sketch, is the power to remain invisible and uncover others. This points to a panoptical and disciplinary framing of power that in the end is reversed upon the narrator, but not subverted. While the sketch frames visibility as a form of subjugation that even the narrative force of the narrator is subjected to in the end, Steyerl's work provides a more dialectical understanding of visibility. Her work accordingly also addresses a different organizational system of power beyond the panopticon. In Steyerl's *How Not To Be Seen* visibility can also be an insurance. And vice versa, invisibility can be used to cover up violence. Rather than just hiding from an authority, invisibility can also be the condition of persecution today (in the cases of disappeared persons) or alternatively an expression of economic power (as in the case of tax havens or gated communities).

Steyerl's video thus extends and diffracts the critical impulse of the Monty Python sketch. Rather than a panoptic enclosure and its disciplinary enactments, the video shows the liquid and hybrid modes of anticipation in which power and invisibility are organized today. Visibility and invisibility in her work become currencies in anticipatory economies. Both can be the means for domination or subversion, depending on context and position. Power is not modelled by a personalized narrator, nor embodied by a person, but operates as the result and shaping force of infrastructures. 'Don't hate the player, hate the game.' This seems to be the comment of Steyerl's work on the sketch.

It is in this infrastructuralist stance that Steyerl's *How Not To Be Seen* appropriates instructional aesthetics and the instructive quality of filmic images.²³⁴ While in the Monty Python sketch the camera was an instrument of reconnaissance for an authoritative force, in Steyerl's video the camera as infrastructure and the reality-producing capacities of images become graspable. Although Steyerl's video seems much less violent and less governed by escalation than the Monty Python sketch, both works are characterized by an atmosphere and system of threat. The threat in the sketch manifests itself as an inescapability of its protagonists. We see – or rather do not see – persons with names and addresses being first described and uncovered and then killed as the work unfolds. The threat in Steyerl's work is much subtler. Rather than a feeling of inescapability, a sense of enclosing external borders or the forces of an other and a concomitant fear of dispersion and disappearance are enacted in her video.²³⁵ The cause of anxiety here is not exclusion, but preclusion. Rather than disciplinary action, a systemic dispersion of agency, a divestment of options and the consequential increase in precarity and indebtedness is the cause of fear. Rather than being

²³⁴ See for an in-depth discussion on infrastructuralism Peters, *The Marvellous Clouds*.

²³⁵ See for this transformation of a modern disciplinary uncanny of enclosure into a more contemporary uncanny as incapacity: Dernbach, 'The Uncanny of Surveillance'.

punished and disciplined and, thus, being aware of punishment and discipline, dispersion as a process of persecution divests capital and agency from a deviant actor in subtle and often unrecognizable ways.

This might sound paradoxical at first, as the video seems to introduce emancipatory strategies in which one can become invisible. However, not only does the potential for ever-more all-encompassing surveillance shine through these strategies, and not only does the multi-temporal scale of anticipatory surveillance and its military origins become palpable, it also becomes clear that in a world where power is organized through anticipating flows of data, deviance is not persecuted by confrontation and punishment but by deletion, disappearance and preclusion. Power, in this rendering, is framed as being able to make things unaddressable and ungraspable. While exclusion is addressable, preclusion in its processual and anticipatory mode is much harder to grasp or address.

Accordingly, the persecuted and disappeared persons in *How Not To Be Seen* remain without names. They literally remain renderings, mere ghosts, that are deleted from the files of an infrastructure and only resuscitated in the enactments of the video. And as much as the victims remain without names and addresses, no single embodied authority can be addressed in Steyerl's work. 'Don't hate the player, hate the game.' This phrase also seems to describe how the organization of power has become softer, but certainly not less violent. While the sketch from the 1970s still points to a critical intervention, when the powerful narrator suddenly becomes subjected, the video installation frames hybrid systems that operate as economies and impose their parameters on other domains of life. The fear of systemic totalization and economization are here at the same time a fear of dispersion and disappearance. Certainly, the accompanying subtitle 'a fucking didactic educational video' can be read as a desperate and hopeless plea.

And yet, the humour in Steyerl's video adds a layer of pragmatism that recalls Gilles Deleuze's 'Postscript on Societies of Control' essay, where he states: 'there is no need to fear or hope, but only look for new weapons.'²³⁶ This looking out for or projecting of new weapons – with all the ambivalence that such a weaponized and weaponizing gaze entails – is constructed by *How Not To Be Seen*. The militarization of images and their role within, but also at the flanks of, the military refers to older works of Steyerl. Most prominently, the documentary *November* is being referred to here.²³⁷ In this auto-biographical essay film Steyerl recounts the story of her friend Andrea, who after joining the Kurdish separation movement, disappears because she was targeted by the Turkish military. After her disappearance Andrea is proclaimed a martyr by the Kurdish activists and turned into an icon that Steyerl captures at demonstrations. Through the story of her

²³⁶ Deleuze, 'Postscript on Societies of Control', 4.

²³⁷ *November*, directed by Hito Steyerl (2004).

friend, the film develops a critical position towards image economies and the role of visibility and invisibility in the exercising of state power, motifs that come back in *How Not To Be Seen*.

The geometrical forms exhibited in the gallery space are eventually introduced as ‘resolution targets’ in *How Not To Be Seen*. Resolution targets are test charts developed to test the resolution of optical systems such as microscopes and cameras. The targets shown in *How Not To Be Seen* are a design for aerial photography by the US Air Force in 1951. On a black square, white lines, blocks and numbers are arranged in alternating patterns. While remaining abstract structures – we only see in one scene how low-resolution renders visibility – their presence is an index for the infrastructural quality of images that the work highlights. In this way the resolution targets in the video allow us to experience images as embedded in, but also images in themselves as, infrastructures. From the first scene onwards, a resolution target mounted on a tripod is the most prominent prop of the video, by turns hidden, removed and manipulated by Steyerl as protagonist.

In the first scene of the video, we see a resolution target in front of a green screen (Figure 28). The abstract form that is mounted on the tripod then makes way for the projection of an aerial shot of a resolution target. The video of this physical target zooms out in a continuous motion to a picture of the Earth while the audio commentary explains that resolution targets were used to determine the resolution of images:

This is a resolution target, it measures the resolution of a picture.

This is a resolution target, it measures the world as a picture.

Resolution determines visibility.

Whatever is not captured by resolution is invisible.²³⁸

This scene is characteristic for the strategic entanglements of abstraction and concretization that are developed in the work. The resolution target is, first, introduced as a functional form, as an infrastructure that enables the measurement and description of visibility. Then, however, the projection of the physical resolution target concretizes this abstract functional form. The abstract image-as-infrastructure manifests itself as a place with particular historical, political and social entanglements and trajectories. Two models of depiction are assembled here in order to examine each other’s trajectories. The relationship between abstraction and concretization is scrutinised further later in the video when we see the footage from the ground of a football-field-sized physical resolution target at a military testing ground in a desert in Arizona.

²³⁸ *How Not To Be Seen: A Fucking Didactic Educational .MOV File*, directed by Hito Steyerl (2013).

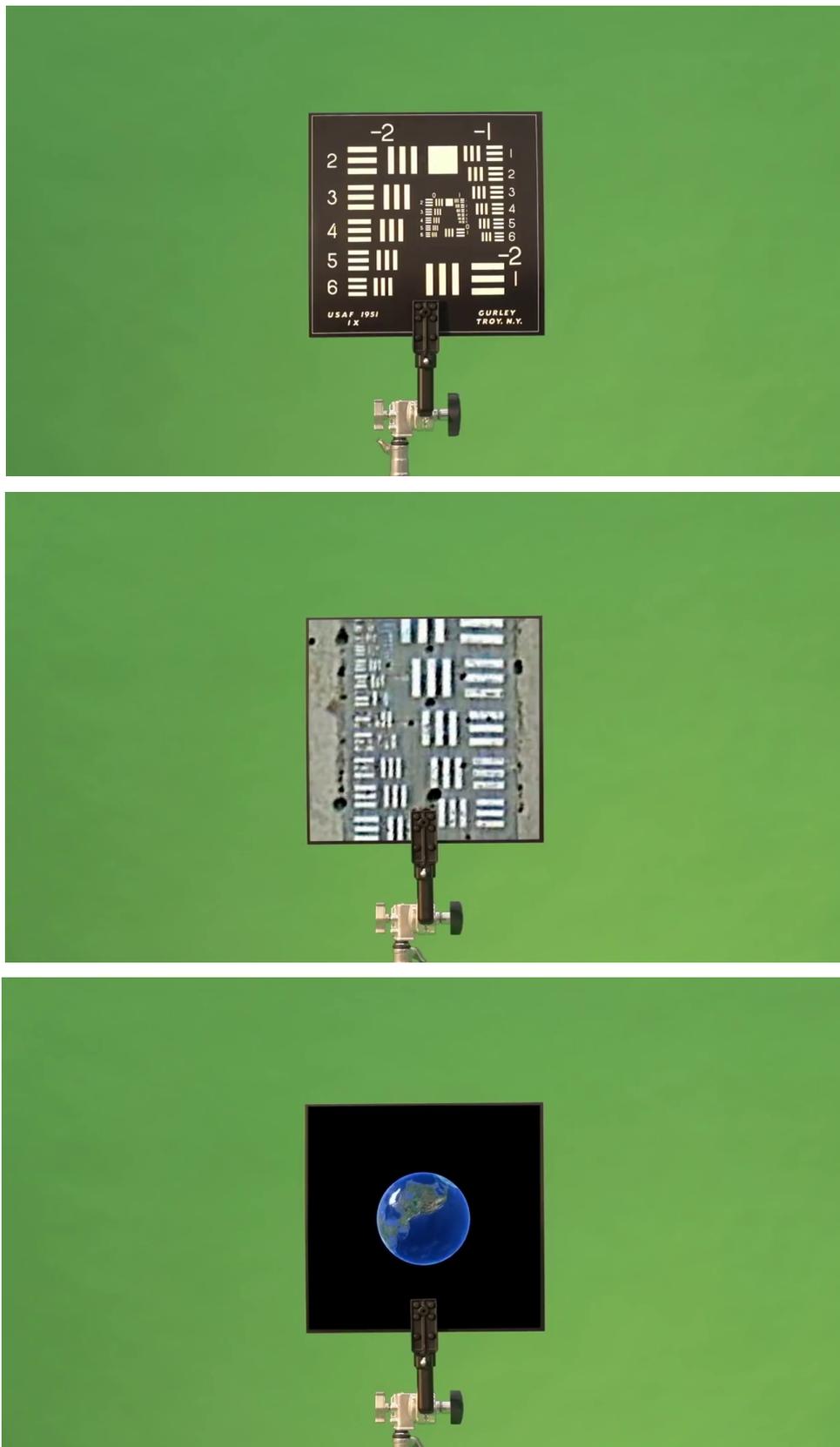


Figure 28. From resolution target to globe, stills in sequence from *How Not To Be Seen: A Fucking Didactic Educational Mov.File*.

This effect is emphasized in the juxtaposition of resolution targets from the 1950s (such as the historical site) with more recent versions. Later in the video we are introduced to an updated version of resolution targets that merely consists of three black and white squares arranged into a corner that constitute pixels for measuring the resolution of digital images. By assembling these different images-as-infrastructure, the constitutional qualities and path dependencies of the particular image infrastructures come to the fore. Rather than just their historical embeddedness and functionality within control regimes, we come to grasp the trajectories of these infrastructure as images.

In a self-referential way, the resolution target makes visible the potentially occulted areas that the image's visibility comes with. By juxtaposing different versions of resolution targets and by contextualizing their historical development, the lineage and trajectory of resolution as a parameter structuring images also becomes palpable. What, then, structures these images-as-infrastructure for projection? What are they capable of? And what could they be capable of? The resolution target here not only becomes the symbol for an infrastructure, but also a parameter that allows us to approach other images. A particular quality of images becomes graspable. Not only is visibility determined through resolution, invisibility, too, is enabled through blurriness or relative lack of resolution. By revisiting the site and enacting the performativity of digital images on the site, Steyerl's work engages in a process of projection. The different places, times and rationalities of the resolution targets become graspable as dispositive. We see as viewers how protocols that govern our contemporary image economies are embedded in particular historical times and particular geographical locations. *How Not To Be Seen* makes these trajectories palpable through an infrastructural attention.

One of these trajectories is the globalized gaze that the video enacts: the world as a picture, as it is framed in the work. To speak of the world not only means to talk about Planet Earth but entails a construction of totality. To claim the world as a picture also means to exclude everything and more importantly everyone who is not part of the picture. It becomes clear that this globalized gaze, too, operates within particular economies of visibility and invisibility. *How Not To Be Seen* here not only references the Silicon Valley myth of the Whole Earth Catalogue, with Stewart Brand's famous call: 'why haven't we seen a photograph of the whole Earth yet'.²³⁹ The video also playfully exposes the military infrastructure behind one of the apparently civilian foundational myths of Silicon Valley. The picture of the whole earth is certainly what Aby Warburg would have described as a 'Schlagbild', a 'strike-image', that in a single visual structure encompasses and concretizes the complex dialectical relationships of a time.

²³⁹ See for a discussion of the role of the Whole Earth Catalogue on the cyberculture of the Silicon Valley Turner, *From Counterculture to Cyberculture*.

Placing this foundational myth and ‘Schlagbild’ in front of a green screen on a tripod allows the multi-layered infrastructural relationships of the image to come to the fore. On the one hand, as with the other green screens in the film, the material condition of the digital image that one is seeing is expressed. We see a coded image and are aware that everything we see has gone through digital post-production. On the other hand, the green screen here seems to imply an absence or incompleteness. It shows the mutual entanglement of worlds and their particular reality principles. The performers from the green screen studio – dressed up as pixels – start to dance through the physical resolution target, thus performing and enacting the limits of resolution and a form of resistance to its entanglement with predictive regimes. In *How Not To Be Seen*, then, an economy of invisibility is rendered visible that appropriates invisibility as a strategy to withdraw relationships from control.

Green screens appear in myriad forms in *How Not To Be Seen*. Not only do we see countless green screen backgrounds, with performers in green full body suits populating the video, we also see Steyerl as protagonist applying green paint to her face in order to become transparent and disappear. The green screen and its application for camouflage strategies here is an index for the ever-present possibility of manipulation of digital images. It is the second prominent prop and infrastructure examined in the video. Green screens are green surfaces used in digital video production for chroma key compositing. Based on colour hues, this digital post-production technique allows two video streams to be layered together. A colour range (green) in the foreground is rendered transparent, in such a way that a background video becomes selectively visible. The layering of two video streams certainly recalls soft montage, although the aim of chroma key compositing is generally to hide the fact that two separate video layers constitute the image. If the difference between montage and cut in films – as previously mentioned – was one of visibility, the difference extends to the digital image, too. However, as the digital image is fragmented, a ‘cut’ would be intended to cover these fragmentations, while montage would emphasize them. The depiction of green screens therefore makes visible the always already coded and fragmented renderings of digital images.

It becomes clear that soft montage in *How Not To Be Seen* is not simply the adaptation of a cinematic strategy. The use of soft montage takes place within a single screen in the work. While a classical hard montage would comply with an image as an image, soft montage here creates a distance in which the viewer can observe entanglements of infrastructures that usually remain in the dark, well hidden in the unified immersion of single-channel cinematic reality. Not only images but also images-as-infrastructures can hide their politics. As in the soft montages by Farocki and Godard, here different visual media are combined and set off against each other. However, while in Farocki’s and Godard’s conception of soft montage two moving images are still to be recognized

as separate frames within one frame, in *How Not To Be Seen* the diffraction of soft montage is more intensive.²⁴⁰ The photo-realistically recorded image of a site becomes perceivable as digitally constructed, as can be seen in Figure 29.

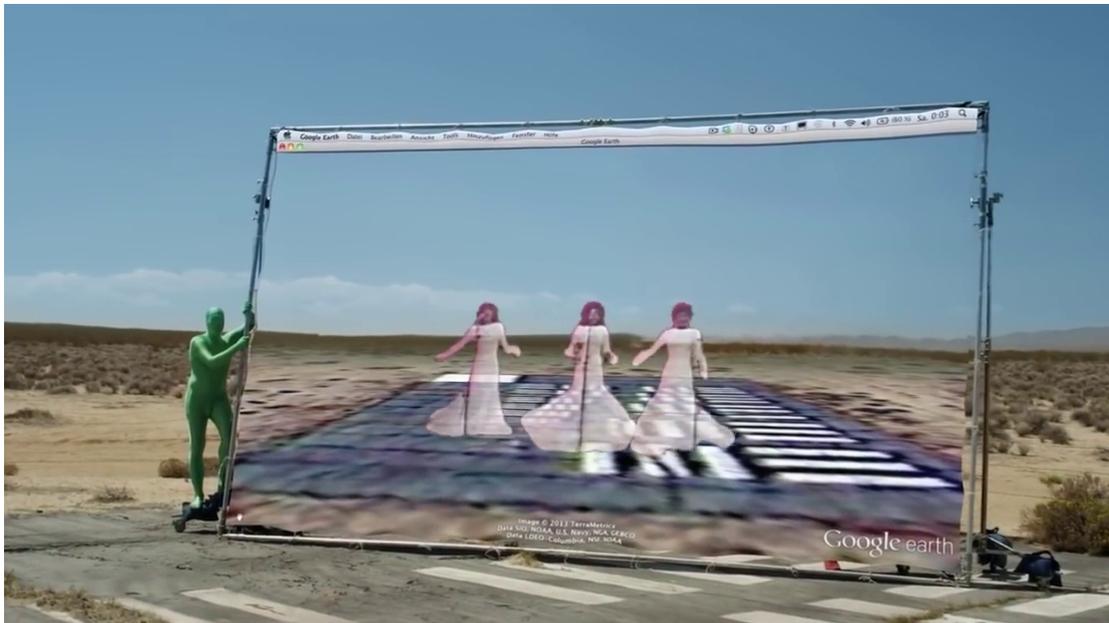


Figure 29. Green screens in action, still from *How Not To Be Seen: A Fucking Didactic Educational Movie*.

Projection, it becomes clear in *How Not To Be Seen*, is not necessarily bound to a particular subject projecting onto a particular object. It is rather a fluid set of relationships between different entangled infrastructures. It is through this application of rendering as a projective strategy that the work develops a critical position. The green screen stands for a particular kind of indeterminacy, a potentiality and a spectrality of digital images. To recall Aby Warburg, the image as pre-political formation that has not yet coagulated into a political relationship or conflict is emphasized here. Just as much as language, images are reality-constituting and, thus, have a projective quality.²⁴¹ The green screen here is used both as cipher of the liquidity and transformability of the digital image and as production tool in the editing that we see on screen. We as viewers are shown images as objects and more importantly as reality-constituting infrastructures. Most prominently, this technique is used to question the materiality and performativity of the images that we as viewers see.

Where a green screen is in place, potentially anything could be projected. It is the colour of pure potential in regard to the digital visual field. However, as we see with the green full body suits of the performers that appear throughout the video, pure potential can also make the best material

²⁴⁰ Intensive here describes the magnitude of tensions between the different material layers of an image.

²⁴¹ Didi-Huberman, *Das Nachleben der Bilder*.

for camouflage. We experience an indexical charging of the colour of the green screen and the ability to occult power structures in the images and abstractions of potentiality. And yet, more fundamentally it seems that the green screens in *How Not To Be Seen* act as stand-ins or proxies for a not-yet. Rendering visible the infrastructures and projects of anticipation allows the video to make them addressable.

This use of green screens as stand-ins is reminiscent of a debate on the documentary quality of simulated images in documentary films. Mark Wolf argues in his essay ‘Subjunctive Documentary’ that simulations form a subgenre of documentary and proposes approaching them as the ‘subjunctive documentaries’ of his programmatic title. Simulations are considered as subjunctive documentaries, as they ‘limit or elongate’ the indexical links between reality and the image in different ways to documentary films. The same rendering and projecting of potentiality occurs in the use of green screens in *How Not To Be Seen*. Wolf writes about the use of simulations and computer-generated images in documentaries:

Whereas most documentaries are concerned with documenting events that have happened in the past [...] computer imaging and simulation are concerned with what could be, would be, or might have been.²⁴²

Following Wolf’s argument, it becomes clear that the ontological tense of simulations is different from that of classically recorded photo-realistic material. It is a present conditional tense but also the conditional perfect: they show what could, would or might be or, indeed, have been. Next to the green screens this critical operation is established in the work by an appropriation of computer-generated architectural renderings. The architectural renderings gain a different filmic tense in *How Not To Be Seen* to that in their original context. Not only are they simulations concerned with virtual futures, but also documents rendering a particular system of imagination visible in the context of the work. They are released from their functional projective operation and become documents, in the sense elaborated earlier. As part of the video installation they are framed as enactments of a particular project and projection. And through this framing, many questions that bear upon the documentary image also apply to simulations here: which models of reality underlie a simulation? Which aspects of reality are absent? How is agency distributed among the different actors of a simulation? On which forms of authorship does a simulation rest?

Again, Easterling’s concept of disposition is of use here to conceptualize the projective strategy of *How Not To Be Seen*. Disentangling architectural renderings from their functional

²⁴² Wolf, ‘Subjunctive Documentary’, 274.

entanglement with power allows us to see their conceptual blind spots. It becomes clear that images always entail an operation of camouflage, a ‘Deckoperation’ (camouflage operation) or ‘Deckerinnerung’ (camouflage memory).²⁴³ Considering the particular future-oriented quality of the potentiality of images, different modes of camouflage can be observed. Images can be self-fulfilling prophecies, self-deferring prophecies or even self-defeating prophecies. In *How Not To Be Seen* the characteristic ‘Deckoperation’ becomes palpable through an uncanny presence in the architectural renderings. This uncanny presence arises, on the one hand, from the perfected and sanitized architectures themselves in the trajectory of the uncanny valley. On the other hand, the uncanny is the result of the organization of bodies in these spaces. Instead of human stand-ins, the images are populated by white translucent figures in the shape of human beings. While they are framed as individuals – no group formation, commonality or even mass is imagined in the images – they share their lack of features. Their white, ghost-like rendered quality in contrast to the detailed rendering of the infrastructure shows them as mere stand-ins for an infrastructure (Figure 30).



Figure 30. Architectural rendering, still from *How Not To Be Seen: A Fucking Didactic Educational Mov.File*.

Differences in resolution govern the architectural renderings, too, and constitute another example of the anticipatory organization of visibility and power that the work points to. Remarkably, even the names of certain luxury brands are visible in the renderings of a mall, while the human figures remain two-dimensional abstractions. Certainly, the architectures rendered here are primarily

²⁴³ See for a discussion on the psychoanalytic notion of ‘Deckerinnerung’ Laplanche and Pontalis, *Das Vokabular der Psychoanalyse*, 113.

directed for investors. The architectural renderings also show that simulation and securitization are intimately related when we learn via the voice-over to the architectural renderings that ‘living in a gated community’ is a way of becoming invisible. Here the renderings appear as fantasies of a securitizing anticipatory regime. The voice-over also points us to the realities that are excluded, and indeed precluded, from the architectural renderings. As in Farocki’s works, plans and computer-generated renderings are edited in such a way that the ideological parameters and projective forces that structure an image become graspable. Although the ethnicity, social and cultural background of the figures are occulted by the renderings, they clearly appear in male and female gendered shapes, for example.

At the same time, these renderings remain Potemkin structures, fantasies of substance without a solid or guaranteed realization. This is particularly the case when, later in the work, they are populated by performers in green screen body suits that are edited into the material by Steyerl. The renderings then turn into documents of the absurd efforts that are made today to maintain a capitalist logic, and a capitalist gaze fixated on growth and value production. Who or what hides behind the fancy terms and images of digitalization remains open and ambiguous. Rendering as critical practice, however, allows us to see what parameters are constrained and where critical agency can arise. The architectural renderings in *How Not To Be Seen* gain their uncanny quality in the juxtaposition with the studio enactments and the increasing hybridization of all three materials. The appearances of performers and green screens highlight a spectrality that is present in the images. Again, it becomes clear that the renderings, as ‘utopian’ ideas of spaces, are ‘exclusive’ images in the worst sense of the word. Exclusive and exclusionary are the parameters under which these images are generated. Through the montage of *How Not To Be Seen*, its critical renderings, we get a sense of the operations of invisibility that the frames hide.

Subjectivities in Anticipation - *Liquidity Inc.*

Liquidity Inc. is a 30-minute single channel video installation that was exhibited at the gallery Artist’s Space in New York in 2014.²⁴⁴ It is projected onto a two-sided transparent screen in front of a wooden ramp structure that resembles the form of a wave (Figure 31). The gallery space is bathed in ultramarine light creating an atmosphere that is simultaneously oceanic and digital, as the artificial blue light makes the entire space seem as if it was merely lit by computer or mobile phone screens.

²⁴⁴ The descriptions and images are based on the exhibition *Hito Steyerl* [exhibition] (Artists Space, New York, 8 March 2015 – 24 May 2015).

Together with the wave form of the ramp structure and the many sounds of water emanating from the video, even before focusing on the images of *Liquidity Inc.* we as viewers are introduced to a system of aquatic liquidity. In fact, as in *How Not To Be Seen*, the installation sets the stage for the video, thus producing not only a viewing experience but a viewing experience as a picture. This strategy of a dissolve of viewing position and image is consistently carried out throughout the work, as viewers sit down on cushions leaning into the wave-like structure.

The title '*Liquidity Inc.*' stands for 'liquidity incorporated', a blending of two terminologies from the financial sector. 'Liquidity' describes the availability of assets for quick market transactions without a loss in value. While cash would be an asset with a high liquidity, real estate or art objects would have a much lower liquidity, as the efforts for selling these assets would be higher in comparison. 'Incorporated' in turn refers to the process of incorporation, the formation and recognition of a corporation as a legal person. An incorporated company or corporation is a form of business that legally separates a company from the people forming it. While directors and investors can buy shares in the business, the liability of individuals in the case of lawsuits or bankruptcy is limited.



Figure 31. Exhibition view of *Liquidity Inc.* installed at Artists Space, New York, 2015.

Throughout Steyerl's work both terms are, however, partially dissolved from their context and extended. Liquidity, here, not only refers to financial terminology but also describes the fluid quality of water. And in a reciprocal materialisation, 'incorporated' rather than merely remaining a legal

term takes on a broader meaning of an embodiment or personalization. These dissolves and linguistic and etymological explorations allow a critical reflection on the metaphors and processes that form the language of finance throughout the work. At the same time, the title again can be read as an effect of instruction: we as viewers witness an incorporation, the embodiment or personalization of an abstract principle: liquidity, the optimized dissolution and integration of matter into the flows of capital.

Formally, *Liquidity Inc.* is loosely arranged around the story of Jacob Wood, a financial analyst who had lost his job during the 2008 financial crisis. Instead of continuing in the banking sector, he decides to turn to a mixed martial arts career. He is portrayed in several competition fights and interview scenes, in which he describes his shift from the finance sector to martial arts. In the interviews he reflects on the similarities that his martial arts philosophy and the rules and requirements of the financial world display. However, this documentary storyline makes up only around a third of the video. It is intersected by an essayistic assemblage of images, ranging from highly stylized collages of water, to pictures of computer desktops designing simulated landscapes, financial self-help videos and staged fictional weather forecasts (Figure 32). Through this multitude of materials and montages *Liquidity Inc.* examines the role of financial terminologies and metaphors with a particular focus on the subjectivities and instructional environments these terminologies produce inside and outside the financial world. Through this examination the work also addresses the materialities and performativities of anticipatory dispositives. Both liquidity and incorporation operate as parameters to understand the demands and practices that subjects face under an anticipatory regime:

You have got to adapt to whatever is happening in the market. It is like fighting, you got to adapt to the situation. It's very fluid, it is kind of like fighting. What you saw is people became hybrid fighters. They became versed in everything. That is what it makes so exciting that keeps things liquid, fluid.²⁴⁵

This is how the protagonist of *Liquidity Inc.* describes his transformation from banker to martial arts athlete in one of the interview sequences. Apparently, the activities on the financial market and these in mixed martial arts tournaments are comparable. Both situations are characterized by a 'fluidity' and the encounter with 'hybrid' antagonists. The interview sequences with Wood are interspersed not only with fighting scenes and stylized collages and enactments, but also by financial self-help videos. In these videos, a financial guru teaches the concept of liquidity and how

²⁴⁵ *Liquidity Inc.*, directed by Hito Steyerl (2014).

to adapt to the ‘attacks’ of market forces. All these collected videos share an instructional quality and a preparatory character. It becomes clear here that anticipatory regimes manifest themselves not only through languages of prediction, but also with a particular mode of instruction. Instructions differ from orders in that they are usually embedded in a system rather than a personalized authority. Instructions support the realization of a potential of a subject rather than subjecting them to a line of command. In contrast to an order that has a sender and a receiver, an instruction aims to make itself superfluous, by apparently empowering its addressee. However, this empowering quality of an instruction subjects the addressee to an organization of affects. As in *How Not To Be Seen* we can observe that a particular mode of montage allows the infrastructural qualities of instruction to come to the fore. The fighting scenes here are enactments of market transactions; and conversely, the language and concepts of finance elevate the martial arts into a materialist philosophy of financial battles.

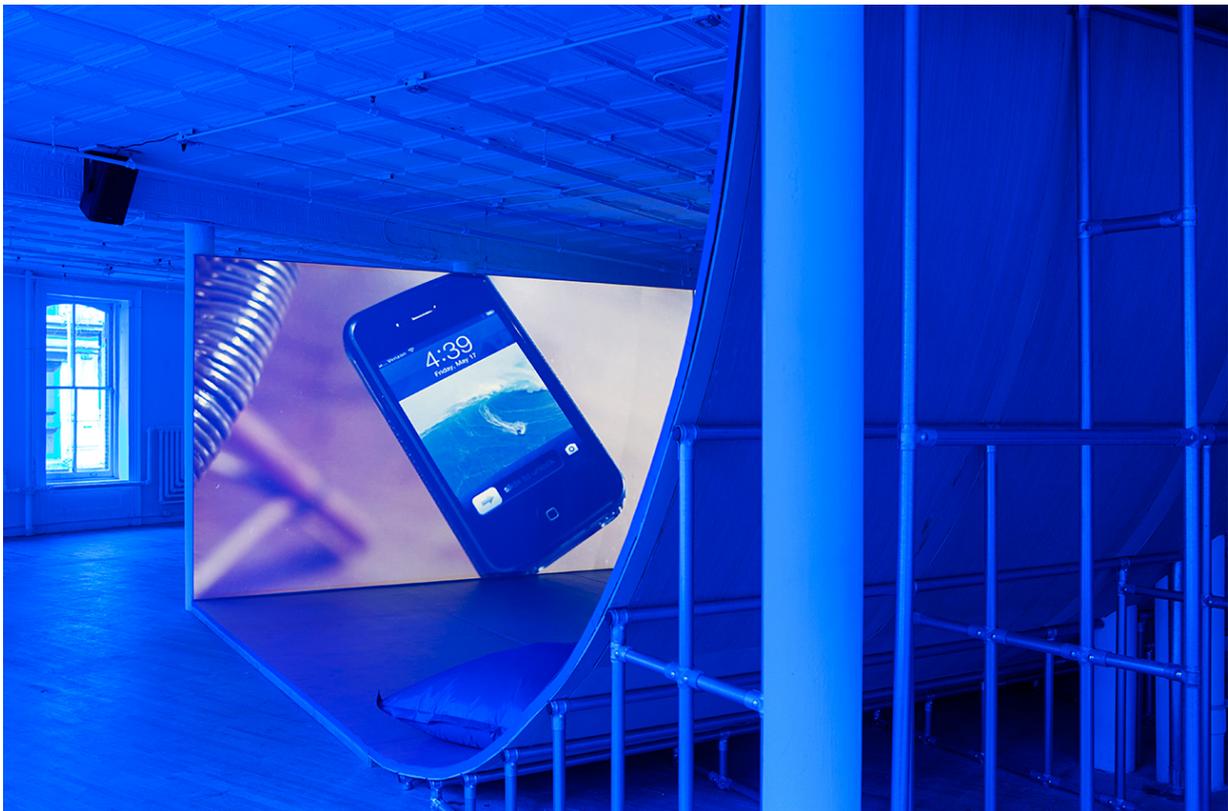


Figure 32. Exhibition view of *Liquidity Inc.* installed at Artists Space, New York, 2015.

The statement by Jacob Wood also frames this affective organization characteristic for an anticipatory regime. Wood describes his excitement about things being kept ‘liquid, fluid’. Rather than fearing an unpredictable environment or opponent, unpredictability here is experienced as excitement. Both in the interviews and in these self-help videos the two-sided quality of anticipatory subjectivities comes to the fore. On the one hand, we witness the production and distribution of

anxiety, fear and unpredictability through anticipatory regimes, on the other we see how this unpredictability – as affective material or background – serves to take on and reinforce anticipatory subjectivities. The protagonist compares the benefits of mixed martial arts, in which not a single form of combat, but a combination of judo, karate, kick boxing and others are practised, to the flexibility required as an investment banker. It becomes clear here that flexibility arises from adaptability. Only if a fighter is versed in different martial arts, can he or she adapt to an opponent that has such versatility. In fact, the protagonist here delineates the imperatives of a new worker:

You don't want to be frozen, that's the kiss of death, so you're always being liquid and moving whether you're striking, faking fainting, or doing take-downs. That's why, in a fight, they'll always keep the action moving.²⁴⁶

Anticipation and adaptation are required from the subject to become a project him- or herself. The subject has to be constantly engaged with the future through protocols of prediction and speculation. A fighter aims to outperform his or her opponent in anticipation, that means he or she must remain unpredictable, while being successful in anticipating the next actions of an opponent. Liquidity, it seems, is the aggregate state of futurity and capital, it becomes a metaphor for these anticipatory and dissipating regimes. Again, the tension between theoretical concept and actualization or enactment is a prominent force in the video. Jacob Wood it seems is the incorporation of these abstract principles. Water here becomes a cipher for the flows of capital, but also for the flows of futurity. In this way, Steyerl uses the metaphors of a financial dispositive as projective screens. The abstract principle of liquidity is concretized through images of water, martial arts videos and weather forecasts (Figure 33).

The protagonist, however, only embodies a particular section in the spectrum of affects tied to anticipation. His professional excitement, his habitus as a banker and fighter becomes perceivable as an embodiment of liquidity and the practices it requires. In an article on the role of anticipation in technoscience, Adams, Murphy and Clarke have described a much broader range of affects bound to anticipatory subjectivities. Not only do the authors tie the organization of affects through anticipation to processes of speculation, they also point to the often-problematic subjectivities that follow this organization. Certainly, the subjectivities of an anticipatory regime go well beyond a liquid feeling of excitement. The production of hope and the securitization of futures also comes with rather different affective states:

²⁴⁶ *Liquidity Inc.*, directed by Hito Steyerl (2014).

Anticipatory regimes offer a future that may or may not arrive, is always uncertain and yet is necessarily coming and so therefore always demanding a response. Anticipatory regimes in their specificity can conjure many versions of the future, but what all speculations share is the orientation towards and claim to the future as that which matters. At the same time, this process also entails a forced passage through affect, in the sense that the anticipatory regime cannot generate its outcomes without arousing a ‘sense’ of the simultaneous uncertainty and inevitability of the future, usually manifest as entanglements of fear and hope.²⁴⁷

It becomes clear here that the hope and excitement of the protagonist of *Liquidity Inc.* is infrastructurally entangled with the production and distribution of anxiety and precarity elsewhere.²⁴⁸ The imperative to anticipate establishes new modes of subjectivity and their affective structures.

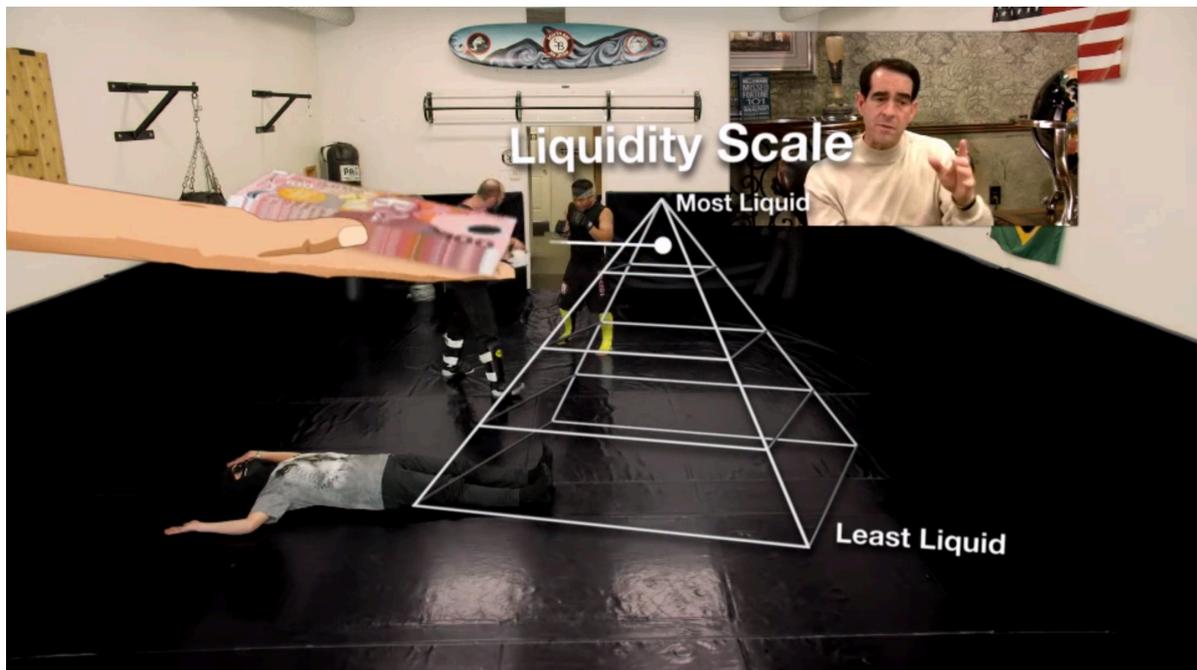


Figure 33. Multiple moving image layers, still from *Liquidity Inc.*

The authors concretize here many of the aspects that Joseph Vogl has attributed to ‘Angstpolitik’, a politics of fear. It is the political imagination of a fear-driven anticipatory trajectory of the contemporary politics of ‘prevention societies’. In his presentation at the HKW Berlin, Vogl examines the initiatives and rhetoric of predictive policing and prevention programmes after school

²⁴⁷ Adams, Murphy and Clarke, ‘Anticipation: Technoscience, life, affect, temporality’, 249.

²⁴⁸ Precarity here is understood in its etymological older mean as indebtedness or more precisely ‘held through the favor of another’.

shootings.²⁴⁹ He concludes that fear has become an important political operator. Fear, grounded or ungrounded, is the justification for fear politics. Fear politics accumulates fear-capital by acting out and simultaneously generating fear. By first identifying threats and then creating preventive infrastructures, a self-perpetuating cycle is established. The fear that legitimizes prevention does not have to be real. It can be a fear of a second order. From identifying and preventing existing threats, fear politics has incorporated the exploitation of potential threats, that is, of patterns or situations that could become a threat in the future. The mutual resonance of uncertain threat situations and diffuse anxieties without objects nurtures the activity of fear politics according to Vogl. Referring to Luhmann, he calls fear a modern *a priori* with a great political and moral future. It translates uncertainties of reality into a factual certainty of fear that then can be used to legitimize action. Fear is always authentic and has become a code and a resource for political action. Adams, Murphy and Clark describe this also as an orientating function of anticipation.

Anticipation is the palpable effect of the speculative future on the present. The anticipatory excitement of the cliff hanger as a narrative mode is as familiar as terror-inducing apocalyptic visions. As an affective state, anticipation is not just a reaction, but a way of actively orienting oneself temporally. [...] Anticipation as an affective condition is not simply a matter of the anxieties within individual subjects. Regimes of anticipation are distributed and extensive formations that interpellate, situate, attract and mobilize subjects individually and collectively.²⁵⁰

The self-perpetuating circle that Vogl has described for financial futures in *The Specter of Capital* thus also applies to the organization of state power. Vogl concludes that the circulation of fear is the base for tyrannical rule. Fear and anxiety are – in reference to Hannah Arendt – anti-political principles. They ally feelings of powerlessness with a will to power and, so, undermine action in and for the community. The extension of the realm of fear falls in with a proliferation of policing and security dispositives. However, prevention, as described by Vogl, is still guided by a negative understanding of power. It is concerned with the detection of crime or potential crime and is, thus, a futurized re-configuration of the panoptical principle. The document, including the filmic documentary image, has a particular role in prevention societies. It fulfils a double function: beyond its value as evidence, it is an agent of threat, a mystifying carrier of potentially dangerous futures. On the other hand, also beyond its value as evidence, it becomes a mode of fiction that allows for

²⁴⁹ Vogl, 'Angst'.

²⁵⁰ Adams, Murphy and Clarke, 'Anticipation: Technoscience, life, affect, temporality', 247.

speculation and projection, and thus, for attacks on the very anticipatory dispositive it helps to maintain.

Next to the protagonist, the American mixed martial arts pioneer Bruce Lee plays an important role in *Liquidity Inc.* Recordings from interviews that Lee gave repeatedly appear with an image of him throughout the video, and Jacob Wood tells about the influence that his teaching has had on his martial arts education. One such, an instructional excerpt from one of interviews, even precedes the first scene of the video:

Be like water making its way through cracks. Do not be assertive, but adjust to the object, and you shall find a way around or through it. If nothing within you stays rigid, outward things will disclose themselves. Empty your mind, be formless. Shapeless, like water. If you put water into a cup, it becomes the cup. You put water into a bottle and it becomes the bottle. You put it in a teapot, it becomes the teapot. Now, water can flow or it can crash. Be water, my friend.²⁵¹

It is not difficult to see in Steyerl's 'liquid' montage and enactments the critical concretization of a famous imperative that is attributed to the American architect Richard Buckminster Fuller: 'you never change things by fighting against the existing reality. To change something, build a new model that makes the old model obsolete.'²⁵² This instruction has become an influential axiom in Californian countercultural and cybercultural communities that started in the late 70s in what we now know as Silicon Valley.²⁵³ It seems to precede some of these operational principles and metaphors of liquidity in Steyerl's *Liquidity Inc.* The instruction explicates a strategy for political action, namely to refrain from resistance and instead to engage in a disruptive exchange. Rather than fixating on solving an existing problem, Buckminster Fuller's advice is to build a model that will replace and make obsolete the one that had produced the problem. With the old model the existing realities that had caused the problem will disappear.

Instead of approaching a problem directly, it is made redundant and stripped of necessity by a theoretical leap forward. A leap of faith, one is tempted to add, as critique and resistance here make way for modelling, solving, and projecting. Rather than analysing a problem in its own terms, rather than dissecting it into subparts and understanding their functional relationships, Buckminster Fuller calls for a radical projectionism. It is not difficult to recognize the Californian

²⁵¹ Bruce Lee as quoted in *Liquidity Inc.*, directed by Hito Steyerl (2014, Hito Steyerl).

²⁵² Although the exact origins of this quote are unclear, it has become a popular saying attributed to Buckminster Fuller. He often uses the expression of one technology making another obsolete in his books, especially in: Buckminster Fuller, *Critical Path*.

²⁵³ See for instance Turner, *From Counterculture to Cyberculture*.

and more generally North American ‘frontier ideology’ in this instruction. ‘Don’t bother too much with the present if you can shape the future.’ And yet, beyond the problematic notion of a ‘flight to the future’ inherent in the Californian ideology, Buckminster Fuller’s instruction also entails a different re-orientation: from ‘solving a problem’ to the injunction or instruction to problematize and to ‘dis-solve existing realities’.

This second more ambivalent shift rests on a set of assumptions that allow us to understand Steyerl’s take on the liquidity of reality construction. Firstly, for Buckminster Fuller, models are not just representational tools, but also projective frames that can ‘change things’. They fulfil two simultaneous functions: a representational one and a projective one. They operate as abstracting and representational when they refer to a reality, but they also operate as reality-constituting and -concretizing once they exist. Models are abstractions through which a set of relationships is described. The Latin *modus* and its diminutive *modulus*, from which the term *model* derives, point to this. A model abstracts a set of relationships by measurement. These measurements are the parameters of a model. By means of calibration and scaling, reality is (re-)organized through a model. Simply put, behind every model there is an intention and a project to be realised. Seeing models as projects allows us to address their fundamentally two-directional trajectory of referencing. On the one hand, a model represents and is measured against a reality, namely the reality that it functionally describes. On the other hand, models also refer to other models. One model can rest upon another, extend it, compete with it or make it obsolete. The relationships that models have to each other are framed here as a struggle for functionality. The model that causes least friction or resistance – achieving optimal liquidity, we might say – makes older models obsolete.

Reality for Buckminster Fuller is framed as a projective screen. Rather than fixed and concrete it is assumed to be malleable and abstract and constituted through models. Rather than reality being dealt with as a cause of a problem, it is re-framed in such a way that a problem becomes obsolete. One can say that reality is treated as a project that can be optimized. Treating a model as a projection means redirecting one’s gaze, from the existing reality that a model constructs to the not-yet existing reality that it projects and aims to produce. It becomes clear that Buckminster Fuller’s imperative has a self-referential trajectory. His instruction is in itself a model with a particular project: namely that of a turn towards the future in political action. However, the instruction also encapsulates the ambiguity of a projective approach towards political action. If reality becomes a project what if one does not want to be part of it? Has one the right to not participate? And if not, will one disappear?

It is not difficult to see in this instruction what Gilles Deleuze calls the modulation of control: ‘a modulation, like a self-deforming cast that will continuously change from one moment to the

other, or like a sieve whose mesh will transmute from point to point'.²⁵⁴ In contrast to disciplinary power that imposes forms on its subjects, control constantly self-regulates. In a similar way, Buckminster Fuller's instruction, too, calls for a shift of attention from existing reality to the processes that constitute it.



Figure 34. I am water, still from *Liquidity Inc.*

In *Liquidity Inc.* this infrastructural quality is modelled through metaphors of water. In fact, liquidity both as metaphor and the material state of water is framed as an ultimate infrastructure. In the first scenes of the work, liquidity in the form of water is the narrator, both metaphorically and quite literally. In the introductory scene of the video the following text appears in subtitles (Figure 34) screened onto a computer-generated image of water and the sound of the rushing sea:

I am water and I am not from here. My home is outer space. I came to this planet as a passenger on objects travelling through the universe at sub-light velocities. Some would like to claim me as a native of earth, but in fact, even though I cover this planet, I am not from here. Nor are you. I run through your veins. Your eyes. Your touchscreens and portfolios. I am gushing through your heart, plumbing and wires. I am liquidity incorporated.²⁵⁵

²⁵⁴ Deleuze, 'Postscript on the Societies of Control', 4.

²⁵⁵ *Liquidity Inc.*, directed by Hito Steyerl (2014).

That these words appear as titles rather than being spoken is characteristic of this work. Liquidity here takes on agency that has to be translated or rendered by the work. Accordingly, the video embarks upon an exploration of this structural parameter and the subjectivities and objectivities that it produces. First of all, the introductory quotation points to an alienating project of liquidity. 'I am not from here' frames water as the narrator and indeed incorporation of liquidity as an alien, but also as an alienating force. Liquidity as a governing paradigm operates in alienating ways, which means it transforms and makes things comparable and moveable and aims to reduce friction.

This already points to the second quality of liquidity: totality. As water, but also as an abstract principle, liquidity not only covers the planet but permeates and takes its part in all technical and natural processes, such as the heartbeat, touchscreen or portfolio. It becomes clear here that liquidity constitutes the ultimate infrastructural principle. Water as an incorporation of liquidity also points in this instance to other incorporations. The montage also makes visible the operability of templates, pre-figured scripts or images that structure a communication process. It becomes clear that the imperative for liquidity poses paradoxical demands. On the one hand, constant adaptation to an environment is required. On the other hand, this constant adaptation is only possible by the use of standardization in the form of templates and scripts, which pre-figure, pre-scribe and pre-prepare certain reactions.

Rather than formulating a philosophy of action for the individual, Steyerl's work sees any kind of action as always already embedded in the ever-shifting flows of capital and its paradoxical movements. The question is then not to come up with solutions that would increase liquidity further, but with forms of resistance and negation that make use of the new conditions. This is highly reminiscent of Gilles Deleuze's call for new weapons of resistance and his explicit rejection of a politics of hope and despair. The video in this way negotiates a particular attitude to and quality of infrastructures. Liquidity is in some ways the attempt to avoid any kind of material infrastructure and the liabilities that come with it. At the same time, liquidity takes on the role of an ultimate meta-infrastructure that adapts to all contexts.

Polygonization – *The Tower / ExtraSpaceCraft*

One has to go underground in order to see Steyerl's contribution to the 2016 Berlin Biennale.²⁵⁶ In the cellars of Akademie der Künste next to the Brandenburg Gate, the two video installations *The*

²⁵⁶ *9th Berlin Biennale for Contemporary Art* [exhibition] (Akademie der Künste, Berlin, 4 June 2016 – 18 September 2016).

Tower (2015) and *ExtraSpaceCraft* (2016) are located. After descending in an elevator, we enter a space that is separated from the rest of the Biennale exhibitions in the above-ground levels. The typically well-lit white cube rooms upstairs make way for a grey functional depot. The atmosphere would be that of a bunker or military testing laboratory rather than of a museum, were the ceilings not exceptionally high. Certainly, the dimly-lit massive concrete walls set the tone of the exhibition. A chilly atmosphere of secrecy, post-industrial functionality, of a laboratory or surveillance complex is created here. We already sense that the exhibition space is framed as a *Schauplatz* for the enactment of contemporary production and command, resembling a military control centre, a factory, or a vault.



Figure 35. Exhibition view of *ExtraSpaceCraft* installed at Akademie der Künste, Berlin, 2016.

As well as the exhibition space, the sculptural environments in which the works are embedded also contribute to this atmosphere (Figure 35). As in the previously discussed installations, visitors can sit or stand in these structures and can take up different positions in relation to the projected or screened images. Rather than creating a maximal immersion, the sculptural environments accentuate the materiality of the images as projections. This ‘rendering as projections’ is achieved in two ways: firstly, the sculptural environments allow for a multitude of possible viewing positions. Each position allows the viewer to examine different potentials and potential framings of an image in ways that more immersive viewing situations would preclude. Secondly, the sculptural environments are populated by physical objects that appear as props or symbols in the moving

images. This embeds the moving images in a complex network of materialization and abstraction, pointing to the reality producing capability of images and the potential to manipulate and organize physical space and its objects.

By means of this spatialization, the trajectories of the images, their parameters of rendering also physically extend into the exhibition space. Through its presentation in these sculptural environments – as in the previously discussed works – the videos reveal their instructive trajectories and thus their projects. The principle of soft montage is expanded into space. Steyerl has described her strategy to create a constellation of gazes beyond immersion and authorial self-reflexivity as a ‘multiple gaze’:

Cinema inside the museum thus calls for a multiple gaze, which is no longer collective, but common, which is incomplete, but in process, which is distracted and singular, but can be edited into various sequences and combinations.²⁵⁷

In her essay with the title and programmatic question ‘Is A Museum A Factory?’, she locates this multiple gaze in what she calls the ‘museum-as-factory’. The essay starts with the observation that the spaces for politically engaged filmmaking have moved from screenings at factories to art galleries and museums since the 1970s. In contrast to conservative critics lamenting this shift as bourgeois and attesting to a loss of relevance, Steyerl retorts that, in fact, ‘the displacement from factory to museum never took place’.²⁵⁸ In an inversion, she argues that the museum itself has become a factory: today the place of immaterial labour such as speculation, knowledge exchange and forecasting, but also of forms of exploitation such as unpaid labour. The museum-as-factory not only houses these new forms of labour and exploitation but can also be the space in which they can be understood and resisted. For Steyerl, the multiple gaze of cinema in the museum-as-factory is a prime example for a manifestation of the project of immaterial labour. It is simultaneously the symptom of and means for understanding the museum-as-factory:

This gaze is no longer the gaze of the individual sovereign master, nor, more precisely, of the self-deluded sovereign (even if “just for one day,” as David Bowie sang). It isn’t even a product of common labor but focuses its point of rupture on the paradigm of productivity. The museum-as-factory and its cinematic politics interpellate this missing, multiple subject.

²⁵⁷ Steyerl, ‘Is A Museum A Factory?’.

²⁵⁸ Steyerl, ‘Is A Museum A Factory?’.

But by displaying its absence and its lack, they simultaneously activate a desire for this subject.²⁵⁹

The multiple gaze in the museum-as-factory is constituted by an absence of a unified subject. However, the absence of a unified subject activates the desire for a unifying productive subjectivity. In this dialectical absence – an absence that produces incomplete projections of presence - the anticipatory character of the multiple gaze becomes apparent. Although no longer the gaze of a sovereign, the multiple gaze, too, organizes capabilities and trajectories. Although not attached to a single authority, it is embedded in different competing systems of sovereignty. Rather than the unified central perspective of a sovereign, the absence of and simultaneous longing for subjection seems to organize the multiple gaze. This new organization is, however, no less oppressive than the rule of a sovereign and the sovereign perspective of a subject.

What else is desperately missing from the museum-as-factory? An exit. If the factory is everywhere, then there is no longer a gate by which to leave it—there is no way to escape relentless productivity. Political cinema could then become the screen through which people could leave the museum-as-social-factory. But on which screen could this exit take place? On the one that is currently missing, of course.²⁶⁰

Steyerl's conclusion to her essay points to the lack of alternative modes of imagination that anticipatory dispositives leave, but not only this: she also draws attention to the fact that any anticipation operates under the rules of what is always-already there. However, Steyerl also describes a more fundamental not-yet that lies in the possibility of 'desperately missing' an exit. While anticipation, as a form of longing, still operates in the realm of distributing agency, 'desperately' missing here subverts the mode of anticipation. In fact, this desperate – because deprived of hope – projecting of a 'missing exit' or 'missing screen' is different, more fundamental, a projective longing. One could call it a hope without object, a form of hope that is already present in the absence of the unified subject. In an interview, Steyerl accordingly concretizes this stance on desperation:

²⁵⁹ Steyerl, 'Is A Museum A Factory?'

²⁶⁰ Steyerl, 'Is A Museum A Factory?'

Remember Karl Kraus during WW1? He said: ‘The situation is hopeless, but it’s not serious’. Or to rephrase it for today – only if it were serious, it would be hopeless. It would be helplessly hopeless but it’s not.²⁶¹

The image of workers leaving the factory that Farocki was fascinated by and concerned with in its ever-new historical re-enactments is such a carrier of this latency or project, too. If the factory is the spatial expression of a paradigm of relentless productivity, the image of workers leaving the factory is the projected exit. As in Steyerl’s essay, in *The Tower*, again, a fundamental not-yet shines through, a different form of organization, of projection that is neither subject to the old logics of discipline and control nor to the new logic of an anticipatory realism. And yet, Steyerl does not show an exit, but the forces that maintain our contemporary entanglements and complicity with productive, exploitative and anticipatory dispositives. Thereby, the works do not form a sovereign story or a story of sovereignty. On the contrary, by presenting the material, performative and, in fact, instructive qualities of images, the work undermines the very anticipatory organization of reality of which it is part.



Figure 36. Exhibition view of *The Tower* installed at Akademie der Künste, Berlin, 2016.

²⁶¹ Steyerl and Kay, ‘Interview with Hito Steyerl’.

In *The Tower*, Steyerl's programme of a 'multiple gaze' and the presentation of images as projects finds layered manifestations. The 3-channel video installation of eight minutes' duration is projected onto a rounded black screen (Figure 36). We see computer-generated images and polygons (fragments of digital renderings, literally 'many-angled shapes') from combat-themed computer games. The material stems from games and renderings from a rendering studio in Kharkov, Ukraine. On the audio track, the protagonist, Oleg Fonaryov, describes his work as director of the studio and how he came to create the company. After losing his job as an engineer in the space and aircraft industry in the wake of the collapse of the Soviet Union, he founded his own business with former colleagues. Together they apply their knowledge to the newly evolving sector. In the voice-over Fonaryov also talks about the everyday life in Kharkov that was a site of armed conflict after its occupation in 2014 by pro-Russian separatists in the aftermath of the Maidan Revolution.

Fonaryov's succinct descriptions of 'an explosion here or there' contrast with the renderings of the computer game, in which we see soldiers in military uniforms fighting in emplacements in the colours of the Ukrainian flags. His descriptions remain analytical and quickly point to the graphic engines that the studio developed. Despite the conflict the studio continued to work in architecture and the gaming sector, modelling and rendering worlds and digital scenarios for their international clients. The renderings we see include sequences from a first-person perspective shooter game, as well as camera drone flights over rendered landscapes or combat scenes captured by shaky cameras. Sometimes, the sequences stretch over all three screens simultaneously, occupying the entire field of vision for a viewer who sits frontally to the projections. Mostly however, the three channels operate independently; thus enabling a range of soft montages and multiplied perspectives.

The montage on the three channels owes much to Farocki's concept of soft montage. Rather than a clear-cut juxtaposition, the arrangement of several moving images allows for a soft simultaneity. As we saw before, Farocki has described this practice of soft montage as allowing for a particular kind of comparison that the filmic cut is not able to provide. However, while for Farocki comparison was the main epistemic mode of soft montage, it seems that *The Tower* extends this strategy. The montage displays a fuzzier logic here, interlacing and folding several images and fragments of images into each other. Two or more visual channels at times constitute one single image and then diffract into individual channels again. Several times, the same rendering of an object or landscape is shown from slightly different angles. One could call Steyerl's strategy, with reference to Farocki, a soft projection or even a comparative rendering. This extension of soft montage constantly produces and deletes gazes and potential perspectives. The absence of a unified

also more generally point to the counter-intuitive distribution and organization of reality in an anticipatory regime. The singular image itself becomes graspable as a rendering and thus as a soft montage of different scripts and their enactment. By disturbing the immersive qualities of the computer game renderings through polygons, the operative character of the images we see becomes palpable. As viewers we witness the transition from material to signification, or what Sigrid Weigel has called in reference to Jacques Derrida the ‘trace preceding an image’,²⁶² that which precedes the image or, in fact, that which is the infrastructure of the image. Rather than a sovereign story, the work renders visible the modes of sovereignty that lie in the infrastructures of our mediated contemporary imagination and indeed in the mediated production of this imagination.

The multiple gaze and the infrastructuralist perspectives that it allows are also enacted by the protagonist and the story he tells in the voice-over. One particular rendering, a tower from the game that was created by Fonaryov’s company, gives Steyerl’s work its name. This tower is based on an idea by the Iraqi dictator Saddam Hussein. While still in power, Hussein conceived of a building combining architectural features from the Tower of Babel, the Samarra tower, the Einstein tower in Potsdam and the Reichstag building of the German parliament. The studio has re-created it as site and map for the computer game:

There are reports that Saddam Hussein wanted to reconstruct the Tower of Babylon and use it as a symbol to unite Islamic peoples. We wanted to use this tower as a brand. In our computer game, Saddam builds this tower, which has mystical meaning—providing contact with other worlds. It functions like a portal to parallel dimensions, where all kinds of monsters emerge.²⁶³

As fragmented as the polygons on the screen is the narration of the work and, indeed, the history of the eponymous tower. Multiple layers of time and narrativity are entangled in it, from the biblical story of the Tower of Babel, via the modernist plans by Saddam Hussein, to its appropriation as a portal for monsters in the computer game. Curiously, in all these different narrative and temporal layers, the tower remains a projection that does not find its concretization. While in the biblical story the tower is destroyed before its completion, in the computer game we only see it as rendering made of polygons.

However, the different narrative layers also emphasize particular relationships between infrastructure and sovereignty in each other. The biblical story of the tower of Babel treats the question of human sovereignty in the face of god, and the relationship between language and

²⁶² Weigel, *Grammatologie der Bilder*, 9.

²⁶³ Excerpt from an interview in *The Tower*, directed by Hito Steyerl (2015).

sovereignty. God destroys the tower because of the overreaching pride of the human beings that question his authority by attempting to build stairs to heaven. The tower is destroyed through the dispersion of a universal human language into different untranslatable dialects. Saddam Hussein's attempted unification of the Islamic peoples under the tower is a similar gesture of sovereignty that fails. What all these narrative layers share is the tower as a figure and as an intersecting point for the entanglement of power and infrastructures. It becomes clear that sovereignty rests on infrastructures. The more sinister origins of these entanglements (of both the tower and images as infrastructures for projection) become increasingly apparent throughout. This too is highlighted by the polygons of the company that are used in the work both to render computer-game-like conflict scenes from the Ukraine conflict after 2014 and architectural plans for international architecture offices. As in the aforementioned works by Steyerl, the economies of war, entertainment and architecture are more entangled than might be graspable at first. The critical operation of *The Tower* lies not so much in the creation of a particular future scenario, but in testing and examining the manifestation of futurity-producing frameworks and practices.

The second part of Steyerl's contribution to the Berlin Biennale, *ExtraSpaceCraft* (2016), is also set in a zone of political instability. At a national observatory in Northern Iraq, pilots of a fictional space programme fly drones over a valley. At the point of recording the footage the valley is contested between different military parties after the rise of Daesh in Iraq and Syria. In the 12 minutes of the 3-channel video installation, we see pilots in orange space suits, landscape shots, as well as recorded photorealistic footage from the space observatory that has suffered the ravages of the last thirty years of war in the region. A rendering of the tower that gave *The Tower* its name also appears with its peak housing an observatory. It is juxtaposed with the filmed Iraqi observatory, forming yet another iteration of the exhibition's multiple gaze. The juxtaposition of the observatory with renderings of Saddam's tower again points to the multiple diffractions of sovereignty discussed previously.

As in *The Tower*, at the centre of *ExtraSpaceCraft* stands the transformation of state organizations and state power into the hybrid public-private organizations under an informational economy paradigm. The observatory evolves from a place for the observation of outer space into one for the surveillance of a population. One of the intertitles in the work highlights a global organizational shift from the surveillance of external to internal, too: 'before: NASA, now: NSA'. The observatory in Steyerl's docu-fiction takes on the role of a control tower of an imaginary space programme. As in the case of *The Tower*, the work self-referentially explores the image economies and forms of organization that this paradigm shift brings with it.

The focus on these sites and protagonists that operate from zones of political instability is far from arbitrary. The videos portray how sites of hybrid conflicts and imminent military threats are not only sites of imagination, but also locations in which imagination operates. Documenting and testing the economies involved in the production of computer-generated industrial imagery, the work grants us insights into our contemporary relationships with the anticipatory regimes. Both *The Tower* and *ExtraSpaceCraft* show the transformation from Cold War infrastructures and practices to forms of organization under the paradigm of an information economy. This transformation is not only examined as a genealogy but also shows the emerging parameters of a visual information economy. The installations, however, do not merely document this transformation, but model it. The documents in the videos do not represent a particular reality, but rather concretize abstract forces that are operating in and on the present moment. In both videos these forces include privatization, gentrification, and the hybridization of war. Both show how an anticipatory realism governs and permeates these forces. In the credits of *ExtraSpaceCraft*, Steyerl explicitly mentions that the work was inspired by Keller Easterling. The title *ExtraSpaceCraft* is a direct reference to Easterling's previously discussed book, *Extrastatecraft*. For Easterling, 'extrastatecraft' is defined as particular set of activities of governance that operate outside and in addition to state action:

As a site of multiple, overlapping, or nested forms of sovereignty, where domestic and transnational jurisdiction collide, infrastructure space becomes a medium of what might be called extrastatecraft – a portmanteau describing the often-undisclosed activities outside of, in addition to, and sometimes even in partnership with statecraft.²⁶⁴

What Easterling calls 'nested forms of sovereignty' find a visual expression in *ExtraSpaceCraft* through the spatial installation of the work. The application of projection is also remarkable here. The work is simultaneously screened by four different projectors. Some of them project their images onto white screens that are hanging from the ceiling, while others are directed onto a concrete pedestal, and yet another seems to project onto the entire scenery, changing its position during the screening. The boundaries between image and space, between screen and environment are blurred (Figure 38). The image becomes experienceable as an object, and the projection as an environmental factor, creating an atmosphere with the temperature of its colours and its selective illumination of the physical objects in the space.

²⁶⁴ Easterling, *Extrastatecraft*, 15.



Figure 38. Exhibition view of *ExtraSpaceCraft* installed at Akademie der Künste, Berlin, 2016.

As much as in *The Tower*, the sculptural environment of the work frames projection not just as a visual technique to present an image, but also as an architectural parameter. Here, the physical projection does not only present an image, but also produces a space. *ExtraStateCraft*'s projections do not only illuminate a screen but move through the space and thus use walls, ceiling, floor and any visitor who accidentally runs into them as screens alike. The diffraction of perspective described previously as multiple gaze here also extends into a structuring parameter for the exhibition space. Anticipation here is framed as both a quality and as a conducive parameter for the organization and distribution of power and precarity, of security and uncertainty, of predictability and uncertainty, and, ultimately, of visibility and invisibility. The method of the works is a set of radical montages combining computer-generated images, enactments, theoretical citations and audio material from documentary interviews. This montage allows the work to break through the visibility and veiling techniques that the future scenarios and rendering images stand for. As viewers, we get a sense of the future scenarios, and in particular their visual expression, as computer generated renderings, both utilised as media for the organization of power.

In an interview, Steyerl stated that the conception of *The Tower* and *ExtraSpaceCraft* is linked to Bertolt Brecht's famous poem 'Questions from a Worker Who Reads'.²⁶⁵ The poem was a starting point for the works, and the artist also published a re-written version of it on the website

²⁶⁵ Brecht, 'Questions From a Worker Who Reads'.

of the Berlin Biennale accompanying the exhibition of *The Tower* and *ExtraSpaceCraft*. Brecht's poem considers a series of famous historical monuments and battles – including the Tower of Babel – from the perspective of the worker. The narrative voice of the poem wonders who has built these monuments of human history, critically questioning the influence that famous rulers have played. This voice concludes that it was the workers who have built the Tower of Babel, the Chinese Wall and Imperial Rome.

As in the Brecht poem, Steyerl's adaptation regards infrastructures and infrastructural gestures of sovereignty. However, in her contemporary adaptation, questions about the Wall of China are ironically turned into questions about the 'Mall of China' and the digital workers that construct the rendering for contemporary architecture. In a series of puns, Steyerl's poem renders a 'reading worker' addressing the questions of history and authority, into a Chinese Gold farmer addressing the entanglements between authoritarian rule, conflict zones and the productive forces of our contemporary information economy. The adaptation of the Brecht poem follows similarly diffracting parameters as both of the works in the exhibition. In one way, the poem turns Brecht's addressing of historical embeddedness into an inquiry of contemporary entanglements between power and digital workers and infrastructures. The re-framing of gazes onto the present through these historical abstractions is inverted by questions that address the experiential and psychopolitical infrastructures in which we live and will live in the future. In another, the questions of Steyerl's poem ask about a new class of digital workers and its relationship to the infrastructures of the present. Through these re-writings, the intersecting projection and trajectory of Brecht's and of Steyerl's questions becomes graspable. And again; rather than a story of sovereign realization (of a worker and his position in history), Steyerl's poem points to the entanglements and complicity of new forms of labour and new forms of exploitation. The references to warlords and oligarchs highlight this.

Questions from a Chinese Gold Farmer (Steyerl after Brecht)	Question from a Worker Who Reads (Brecht)
<p>Who rendered the gated community?</p> <p>In the books you will find the names of warlords.</p> <p>Did oligarchs model the polygons?</p>	<p>Who built Thebes of the 7 gates?</p> <p>In the books you will read the names of kings.</p> <p>Did the kings haul up the lumps of rock?</p> <p>And Babylon, many times demolished, Who raised it up so many times?</p>

<p>And Babylon, many times demolished,</p> <p>Who made it into a shooter game?</p> <p>Who programmed the zombie swarm?</p> <p>Where, the evening that the Mall of China was finished,</p> <p>Did the 3D experts go?²⁶⁶</p>	<p>In what houses of gold glittering Lima did its builders live?</p> <p>Where, the evening that the Great Wall of China was finished, did the masons go?</p> <p>Great Rome is full of triumphal arches. Who erected them?</p> <p>Over whom did the Caesars triumph? Had Byzantium, much praised in song, only palaces for its inhabitants?</p> <p>Even in fabled Atlantis, the night that the ocean engulfed it, The drowning still cried out for their slaves.</p> <p>The young Alexander conquered India. Was he alone?</p> <p>Caesar defeated the Gauls. Did he not even have a cook with him?</p> <p>Philip of Spain wept when his armada went down. Was he the only one to weep?</p> <p>Frederick the 2nd won the 7 Years War. Who else won it?</p> <p>Every page a victory. Who cooked the feast for the victors?</p> <p>Every 10 years a great man. Who paid the bill? So many reports. So many questions.²⁶⁷</p>
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²⁶⁶ This poem is the prologue of an essay by Steyerl that accompanied her exhibition for the 2016 Berlin Biennale. It was published on the website of the festival. See Steyerl and Fonaryov, 'Business is Creativity'.

²⁶⁷ Brecht, 'Questions From a Worker Who Reads'.

Going back to Steyerl's claim that documentary images today have to show what is not-yet existing, the question in *The Tower* and *ExtraSpaceCraft* becomes more about how our contemporary yet-to-come and our contemporary not-yet are framed. The not-yet lies firstly in the renderings that are analysed, and secondly in the enactments that are executed in *ExtraSpaceCraft*. What Easterling describes as extrastatecraft finds an examination in the installation, and yet *ExtraSpaceCraft* both literally and in its examination also seems to point beyond the realm of extrastatecraft. Both Easterling and Steyerl are interested in the manifestations of sovereignty as architectural or infrastructural principles. Both analyse these principles and come to a critical description of a capitalist anticipatory realism and its parameters. In both works, future scenarios and future scenario techniques are taken from their functional context and appropriated for an institutional, but also epistemological critique.

Refraining from showing solutions or consistent enemies, the attitude of the works seems hopeless. We as viewers are left with a sense of complicity and diffused inescapability; however, the hopelessness and 'missing exit' in Steyerl's works might in fact hold their most important and most effective critical potential. In a passage from *Gay Science*, Friedrich Nietzsche observes that science and the pursuit of objective knowledge only become possible through the existence and work of witches and alchemists²⁶⁸ Only in their transgression of existing categories of knowledge, only through their daring esotericism – esotericism here explicitly means opaque and secret knowledge – can science come into existence. What Nietzsche observes here is the heretic not as an adversary, but as the pre-conscious of science. The heretic holds through his or her practice an opaque not-yet open. This 'missing exit' forms the overdetermined sensing and dreaming background in front of which the meaningful illumination and enlightenment that drives science can occur. Creating this opacity and overdetermination, according to Nietzsche, is the source of the desire of science to pursue knowledge. It is only this opacity that enables the desire to know and thus for the search for an epistemic object to remain active. The radical insight of Nietzsche here is that not only meaning and order but also the opacity and indeterminacy that precedes it are constructions. Just as the research systems that drive our inquiries are effects, so is the not-yet that renders them necessary. Departing from Nietzsche's postulation here, it becomes clear that the hopelessness and inescapability in Steyerl's works constitute the condition and holding open of a not-yet beyond anticipation.

The not-yet that is addressed by the heretic differs from the articulations of an always-already by extrapolation. An example of such fundamentally different forms of not-yet would be the equally un-scientific inquiries of the conspiracy theorist. The conspiracy theorist – from the start

²⁶⁸ Friedrich Nietzsche, *Gay Science*.

of their inquiry - is always looking for a greater power or cause behind the appearances in the world, a messiah that explains and redeems all complexity: a reduction of complexity. In contrast, the inquiry of the heretic is fundamentally progressive in that it creates the desire to know more. While the conspiracy theorist operates in the realm of an always-already certain conspiracy, the heretic through their inquiry maintains the conjecture of a not-yet. We are used to believing that the first operation of critique is that of doubt. And yet, through Steyerl's works we come to realize that it is in fact projection – the open encounter with a not-yet known that is the proper impulse of critique. Steyerl's works show that heresy precedes knowledge, and bold projection precedes critique. Only in the transgression – indeed the diffraction – can the secret come into existence and with it that which later becomes the project of science or of critique.

This chapter has proposed rendering as crucial post-cinematic strategy in the works of Steyerl, serving to expose anticipatory operations. Rendering is conceptualized as a self-reflexive projective practice that lays bare the materiality of digital images as embedded in infrastructures. In particular, it has been shown how translational operations in works by Steyerl form an infrastructuralist approach that releases images from their contemporary entanglement with rule. This release comes with a politicization of the gazes that have constructed them in the first place. We pursued the question of how anticipatory infrastructures constitute a new form of organization of reality. In particular, the chapter focused on the anticipatory organization of subjectivities. The conceptualized release of images from their entanglement with power sets them free to obtain a critical distance.

Through treating images as infrastructures, the works have allowed for an understanding of the complex economies of rendering involved in anticipation. Rather than authentically referring to an external reality, the works examine the reality-producing operations and infrastructures that guide and produce realities today. The radical use of montage and spatial installation allow for a particular examination of the materiality and performativity of these reality-producing images and image-making processes. This critical rendering was particularly embodied in the use of computer-generated images featured in the works. Steyerl's installations have helped us to conceptualize the agency of futures in the present.

Critique here has been conceptualized as a distance that allows us to understand and address the entanglements of images with anticipatory power. The image as infrastructure remains, however, ambivalent. It is on one hand an instrument for ever-new and liquid forms of governance and oppression. At the same time, it is also an instrument that allows an exposure of the covering and camouflage operation that concentrations of power rely on. Visibility and invisibility have been conceptualized as crucial parameters for the anticipatory organization of power. Invisibility can

protect lives, and it can be the condition under which lives are taken all too easily; just as visibility can protect from or be the distributor of precarity. Rather than representing and giving insight to a reality, the images as infrastructures discussed here have exposed their own reality- and futurity-producing qualities as a reflection upon prevailing regimes of rendering.

Conclusion

What does the future hold? Throughout this dissertation, I have proposed a critical re-interpretation of this question as embedded in, and enabled by, anticipatory media and infrastructures. Framing anticipation as a cultural technique has allowed us to explore the particular agency of anticipatory media and their reality-producing and futurity-producing operations. The emphasis has been on a conceptualization of anticipation as producing both concrete future scenarios, but also futurity, the conditional framework or environment for future construction. Just as imagination is required to perceive something as an image, so anticipation is required to perceive something as being from or having a future. Anticipation as a cultural technique has been approached as a differentiation between a not-yet and an always-already. The ontic operations of anticipation simultaneously enact a latency and a duration, framing something as not-yet-realized, while also establishing expected constants. Through this intervention, the thesis has examined how contemporary post-cinematic art is concerned with futures as processes of social and aesthetic construction. Thus, post-cinematic art was analysed in the context of a ‘turn towards the future’ in contemporary philosophy and cultural criticism.

Building on this methodology, this dissertation has provided a framework for the critical addressing of the political dimension of anticipation and its organization of power in regimes of prediction. By juxtaposing several theoretical texts and close readings of selected post-cinematic artworks, I have examined the role that art can play in such a critical addressing. It was subsequently shown that particular cinematic and post-cinematic techniques can make the agency of anticipatory media addressable. Three post-cinematic strategies – enactment, soft montage and rendering – were read as techniques that can both construct futures and make anticipatory realisms addressable. While this dissertation concentrated on these three strategies, the ways in which anticipation operates go well beyond the framework established here and would warrant more extensive scholarly attention. Although the idea that anticipation as a cultural technique differentiates between the not-yet and the always-already is not context-specific, the materialization and

enactment of anticipation in different media requires a context-specific adaptation of the developed approach.

The close readings in this dissertation of post-cinematic artworks by Neil Beloufa, Harun Farocki and Hito Steyerl were guided by the following questions: how are futures constructed and negotiated in encounters with art? How in turn can art highlight and expose processes of anticipation? And how can such an encounter expose the political dimension of anticipation and contribute to its democratization? In these close readings, we encountered the contemporary art gallery as an experimental space, a laboratory, but also as a place of enactment, a *Schauplatz* for these questions. The gallery was rendered a place at which futurity is produced and distributed, but also a place where various futurities and their production processes can be played out against each other in hybrid perspectives. Further, the close readings provided us with a framework to approach images as agents and as operative elements in agential infrastructures of future production. The second chapter focused on images enacting spectral entanglements and acting as apophenic screens. In the third chapter, we examined images as processes embedded in infrastructures. And subsequently, in the fourth chapter, images themselves became graspable as infrastructures framing reality and futurity production. At the same time, spectrality, operativity, and the trajectory of images were conceptualized as categories under which we can approach the role of images in the construction of futures.

Post-cinematic art, as the term already implies, has been introduced as a critical practice departing from, but also moving beyond, the modernist configurations of cinema. One of the major concerns of this dissertation has been to show how post-cinema constitutes an anticipation in itself. The concepts developed here thus have mapped an anticipatory realism negotiated in post-cinematic art that organizes the construction and distribution of futures and futurity. Given the prominent role of Beloufa, Farocki, and Steyerl in the contemporary art world, the combined discussion of their works also has pointed to a shared approach. This shared approach entailed questioning the indexicality and apparatus of cinema. Although each chapter has served to focus on one particular post-cinematic strategy of anticipation, we saw that enactment, soft montage and rendering are present throughout the works of the three artists and, in fact, frequently draw upon each other. It is my ambition that the analysis conducted here can be viewed as paradigmatic, helping to conceptualize phenomena of contemporary image production well beyond the work of these individual artists. The application of anticipatory strategies is to be read as a symptom both for a new organization of power and for the emergence of new forms of critique that enable us to address the anticipatory organization of power through media and infrastructures. Indeed, departing from this analysis we can further develop concepts to describe a more general shift in our contemporary relationships with images and their role in constructing futures.

The argument of this thesis points to a range of possible further research endeavours. It would be worthwhile, for instance, to extend the scope of the developed methodology to a more historically-focused project. Such a project could examine comparatively the historical developments of anticipatory media and their constructions of futures. One could think, for example, of a project analysing the development of corporate scenario-planning techniques by Shell and other companies in reaction to the oil crises in the 1970s and their particular production and distribution of futurity. Another appealing extension would be the study of the material and performative economies of light as signifier for futurity in cinema, or the influence of divination systems such as the I Ching or the Yoruba Oracle as governmental techniques preceding contemporary predictive systems. While the aim of this dissertation is to highlight the post-cinematic form of contemporary constructions of futures, such projects would make it possible to grasp more fully the ontic operations of anticipation as a cultural technique and in turn provide us with a different accent to approach anticipation in the present.

In conclusion, approaching futures as mediated processes allows us not only to expose and address regimes of prediction, but also to develop our sensitivity for more critically and self-reflexive engagements with anticipation. How do we anticipate and how are our anticipations rendered by media and infrastructures? How do the institutions and infrastructures that we are part of enact preclusions? And to whom or what do they afford futurity? The question of what the future holds, the question of which trajectories it prolongs or disrupts, is ultimately a question of emancipation. Emancipation refers here to a political liberation and self-determination, but also, in its etymologically older sense of *ex manus capere*, to a gesture of release.²⁶⁹ An emancipatory construction of futures in this sense allows not only the liberating construction of futures but also the letting go of the old and its concepts. Such emancipatory anticipation accepts, welcomes and fosters encounter with the yet-unknown new. While the question as to what the future holds can be posed as retentive, indulging fearfully or melancholically in nostalgia,²⁷⁰ it is at its core a question of release. And eventually, as ‘the new renders the old’, a question of release always-already holds the future open.

²⁶⁹ *Ex manus capere* (to take out of the hand) referred in antiquity to both the liberation from slavery and to the release of a son from the charge of a father.

²⁷⁰ For a discussion of such a nostalgic projecting into the future, see Bauman, *Retrotopia*, and Boym, *Future of Nostalgia*.

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Exhibitions

- 9th Berlin Biennale for Contemporary Art* [exhibition] (Akademie der Künste, Berlin, 4 June 2016 – 18 September 2016).
- Counting on People* [exhibition] (ICA, London, 23 September 2014 – 16 November 2014).
- Democracy* [exhibition] (Ghebaly Gallery, Los Angeles, 11 June 2016 – 30 July 2016).
- Evidentiary Realism* [exhibition] (NOME Gallery, Berlin, 2 December 2017 – 17 February 2018).
- Future in Present Tense* [exhibition] (Galerie Kai Middendorff, Frankfurt, 5 November 2009 – 18 February 2010).
- Harun Farocki: Ernste Spiele / Serious Games* [exhibition] (Hamburger Bahnhof, Berlin, 6 February 2014 – 18 January 2015).
- Hito Steyerl* [exhibition] (Artists Space, New York, 8 March 2015 – 24 May 2015).
- How Not to Be Seen: A Fucking Didactic Educational Installation* [exhibition] (Andrew Kreps Gallery, New York, 2 July 2014 – 15 August 2014).
- Parallel I-IV* [exhibition] (Greene Naftali Gallery, New York, 9 September 2014 – 18 October 2014).
- Permanent Collection (Centre Georges Pompidou, Paris: November 2012–ongoing).

Filmography:

Works by Neil Beloufa

Data for Desire, directed by Neil Beloufa (Neil Beloufa Production, 2014).

Kempinski, directed by Neil Beloufa (Neil Beloufa Production, 2007).

The Analyst, the researcher, the screenwriter, the CGI tech and the lawyer, directed by Neil Beloufa (Neil Beloufa Production, 2011).

World Domination, directed by Neil Beloufa (Neil Beloufa Production, 2012).

Works by Harun Farocki

Ange / Machine, directed by Harun Farocki (Harun Farocki Production, 2000).

Ange / Machine II, directed by Harun Farocki (Harun Farocki Production, 2001).

Ange / Machine III, directed by Harun Farocki (Harun Farocki Production, 2003).

Nicht Lösbares Feuer, directed by Harun Farocki (Berlin: Harun Farocki Produktion, 1969).

Parallel, directed by Harun Farocki (Harun Farocki Production, 2012).

Parallel II, directed by Harun Farocki (Harun Farocki Production, 2014).

Parallel III, directed by Harun Farocki (Harun Farocki Production, 2014).

Parallel IV, directed by Harun Farocki (Harun Farocki Production, 2014).

Schlagworte-Schlagbilder. Ein Gespräch mit Vilem Flusser, directed by Harun Farocki (Harun Farocki Produktion, 1986).

Schnittstelle, directed by Harun Farocki (Harun Farocki Production, 1995).

Serious Games I: Watson Is Down, directed by Harun Farocki (Harun Farocki Production, 2010).

Serious Games II: Three Dead, directed by Harun Farocki (Harun Farocki Production, 2010).

Serious Games III: Immersion, directed by Harun Farocki (Harun Farocki Production, 2009).

Serious Games IV: A Sun with No Shadow, directed by Harun Farocki (Harun Farocki Production, 2010).

Works by Hito Steyerl

ExtraSpaceCraft, directed by Hito Steyerl (2016).

The Tower, directed by Hito Steyerl (2015).

How Not to Be Seen: A Fucking Didactic Educational .MOV File, directed by Hito Steyerl (2013).

Liquidity Inc., directed by Hito Steyerl (2014).

Strike, directed by Hito Steyerl (2010).

November, directed by Hito Steyerl (2004).

Works by others

Der Riese, directed by Michael Klier (1983).

Solaris, directed by Andrei Tarkovsky (1972).

'*How Not to Be Seen*', *Monty Python's Flying Circus*, BBC One, 8 December 1970, online video recording, <<https://www.youtube.com/watch?v=ifmRgQX82O4>> [21 July 2018].

Strike, directed by Sergey Eisenstein (1925).