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The Gulliver Effect. Screen size, Scale and Frame, from Cinema to Mobile Phones

Abstract

The encounter between the cinema image, originally created to be seen on a large screen, and the mobile phone used as screening device, stands as one of the most striking instances of what Erkki Huhtamo calls the “Gulliverisation” of our contemporary environments: “a two-directional optical-cultural ‘mechanism’ that works against the idea of a common anthropomorphic scale”.

In what follows, I focus on the aesthetic impact of the coexistence of images coming from extremes of the representational scale, from the cinema to the monumental projections that typify the contemporary trend in spectacular displays in museums and public spaces, to the tiny screens of our mobile phones. With reference to practices of collecting, archiving and possessive viewing, as well as the relationship between off and on-screen space, I suggest that strategies of making strange allow us to remain alert to, but also to historicize the diverse modes of reception and appreciation of the moving image that such shifts in scale produce.

Keywords:

Screen size

Miniaturization and Gigantism

On and off-screen space

Assayas (*Personal Shopper*)

Egoyan (*Butterfly*)

Wenders (*Wings of Desire, (E)Motion*)

A thirty-meter-high winged silhouette overlooks the crowd of spectators gathered in the glass and ironwork nave of the Grand Palais. The vision is awesome yet familiar: This giant apparition that borrows the features of actor Bruno Ganz is one of the angels from Wim Wenders film, *Der Himmel über Berlin* (1987). There is something eminently Benjaminian in this figure of the angel appearing in this particular setting. A former Universal Exhibition pavilion the Grand Palais was built as an architectural celebration of progress and peace. Yet its erection preceded the first world war by less than twenty years.¹ Famously, Benjamin cast the angel, propelled into the future but looking back at the accumulating wreckage of the past, as the antithesis to historical progress, an allegory of human history as an endless cycle of catastrophe. Wenders' version of the angel is arguably more hopeful: it was created two years before the fall of the Berlin wall. Summoned back in 2019 however, its apparition seems to interrogate our capacity to take stock of the past in the face of today's culture of immediacy and fast-pace technological change. From its dual landing place, in Berlin in 1987, and in Paris in 2019, it dominates both the crowd of passersby who are seen walking the streets of the German capital in the twentieth century, failing to register the presence of the celestial envoy who observes them, and the swarm of twenty-first century Parisian visitors who film relentlessly with their mobile phones so as to keep a trace of the colossal but fleeting vision. Compressed in manageable files of data, videos of the angel soon escape their original setting to be uploaded on Dailymotion, Instagram or YouTube and broadcast on social networks. Hence like Benjamin's angel, Wender's angel, charged with the memory of the distant and recent past, is irrepressibly propelled into the future, its image caught in electronic

communication and digital reproduction's regime of instantaneous circulation. But in focusing on this process of accelerated transmission, we tend to forget to register the wonder of the unfolding spectacle, and in particular the unforeseen reconfigurations of the visual field produced by the simultaneous appearance of the image across widely diverse scale.

Given carte blanche to occupy the main hall of the Grand Palais from the 18th to the 23th April 2019, Wenders installed *(E)Motion*, a work comprising of twelve 4K (ultra-high definition) projectors, yielding 30 000 lumens power and a 270° coverage, projecting extracts of his films on a giant scale.² Sampling the director's key works to-date, the images were edited together based on graphic and thematic connections (motion and gestures, framing and camera movement, as well as landscapes, faces, drives and flights amongst other motifs). The sequences were looped and set to music, and superimposed to the Grand Palais' characteristic metal structures. The montage ran in several simultaneous segments according to a mapping projection system extending to three of the building's internal walls.

Set in a former exhibition pavilion of the 1900 universal exhibition, advertised as a technological as well as artistic tour de force³, Wenders' monumental cinematographic installation ostensibly worked to resurrect the spirit of a former epoch that had experimented with visual technologies on a grand scale. In 1900 for instance, the Lumière brothers were invited to take over the space at the vast Galerie des Machines (set a stone throw away from for the newly built Grand Palais), where they presented their *cinématographe géant*, an apparatus involving an exceptionally powerful projector and a retractable 400 m² dual sided screen.⁴ In the course of its nightly screenings (like Wenders, the Lumière brothers had to contend with an expansive glass roof), the *cinématographe géant* was seen by over a million people.⁵

Similarly to the Lumière's installation, Wenders' has been praised for its immersive qualities.⁶ In contrast with the single screen *dispositif* of the *cinématographe géant* however, *(E)Motion*'s semi-circular projection designed for ambulatory viewing can be understood as

part of today's trend for large scale museum and gallery-based media installations⁷, a development often related to the spectacular panoramas that were also a popular attraction of universal exhibitions and coexisted, on the eve of the 20th century, with moving image shows such as the Lumière's. A film installation, yet poised between the heritage of 19th century and the innovations of 21st century media, Wenders' project thus exemplifies the deep history of technology that media archaeologists have been exploring for several decades now.⁸ *(E)Motion* further resonates with media archeological methods in the way its orchestration of visual effects and image circulation across scale points to ruptures as well as technological and cultural continuities.

Fig.1.

Fig.2.

Auguste and Louis Lumière's installation was documented through photographs and sketches printed and circulated in leaflets and newspapers. Similarly, photographs and videos of *(E)Motion* were disseminated by the organizers as well as the press online and on paper. In both cases, the documenting process involved a radical scaling down of the initial set up, the reduction of hundreds of meter squares of projected image to a few centimeters of photographic or video material, including crowds of viewers miniaturized to the point of becoming mere specks. Crucially however, Wenders' panoramic projection was also filmed by hundreds of visitors who had come with their mobile phones. Acting as view-finders, held high above the heads of other spectators, the tiny screens superposed on the enormous expanse of the projected images their minute versions of the same sequences, like so many minuscule doppelgängers floating and glowing in the shadowy nave of the Grand Palais.⁹

Getting the measure of the spectacle thus involved considering the striking contrast between the huge moving figures deployed on the walls and the dwarfed silhouettes of the spectators, but also the strange doubling effect produced by the same figures appearing live on the walls and on the minute screens of the mobile phones shining here and there in the semi darkness.

Often coined the “4th screen”, evolving into an everyday screening device next to the cinema, television and the computer, the mobile phone radicalizes the impact of re-scaling and the size disjunctions produced by other devices. The combination of figurations on greatly diverse scale that the presence of the mobile phone produces in public spaces is one of the distinctive phenomena of today’s urban visual culture. In contrast with the impact of the moderate dimensions and restricted spatial presence of domestic screens (television and the personal computer), the more recent complexification of the visual field relegates the human size, once the key reference and measure of the visible, to the margins of visibility.

Media archeologist Erkki Huhtamo describes the contemporary proliferation and coexistence of screens of greatly dissimilar dimensions as the “Gulliverisation” of our modern environments, “a two-directional optical-cultural ‘mechanism’ that works against the idea of a common anthropomorphic scale.”¹⁰ As we will see, Huhtamo’s terminology hints at a long-lasting collective imaginary with complex ramifications. But in its description of a contemporary phenomenon, it also serves as an immediate and vivid form of defamiliarization: there is indeed something of Brobdingnag meets Lilliput in the way mobile phone users superimpose the miniature worlds that unfold on the hand-held screens of their mobile phones with the enlarged projected images on display in Wender’s projection, or indeed, any of the giant screens that adorn urban environments.

However, media theorization that addressed the juxtaposition of the cinema image, originally created to be seen on a large screen, and the mobile phone used as screening device,

quickly focused on the practical aspects of the transfer of film images to new viewing devices and platforms,¹¹ paying attention first and foremost to issues of accessibility, convenience and distribution, and less so to the aesthetic implications of such shifts.¹² Doing so, early “remediation” or “relocation” scenarios¹³ tended to implicitly reproduce a logic of industrial and commercial discourse (on media obsolescence and replacement) rather than account for the co-occurrence of images of different qualities displayed on old and newer media, and affording a variety of spectatorial experiences. Yet, as pointed out by Pepita Hesselberth and Maria Poulaki in their study of media compactness, « format, content, technology, and use are inseparable ».¹⁴ Similarly, in her comparative study of Quick Time movies and Imax films, Haydee Wasson stresses that not only “big screens engage us differently from small ones”, but size “changes the meaning of the represented changes”.¹⁵

In what follows I consider the two aspects, the technical-operational and the aesthetic dimension of the various *dispositifs* not merely to compare and contrast, but to explore the ways in which they *coexist*. In the first instance, I propose to look at the effect of the process of reduction that the filmed image undergoes as it is displayed on small screens. Rather than pitch one mode of viewing against another, I hope to put into relief the particular appeal elicited by the process of miniaturization,¹⁶ an attraction that sets it apart from the experience of cinema proper yet draws on a common imaginary and culture of the image. In the second instance, I will focus more particularly on cases of “reverse” remediation, that is, on the appearance of small screens used as display *within* the cinema image itself. I will focus on the aesthetic impact that the presence of screens-within-the-screen and miniature versions of moving images exert on the cinema image that hosts them. In both cases, I am interested in the visual reconfigurations produced by such superimpositions.

Making strange and the optical unconscious

As in the case of the re-filming of Wenders' installation where the same images is displayed simultaneously in radically divergent formats, the presence of devices such as the mobile phone on cinema screens appears to facilitate the surfacing of what we might call an optical unconscious¹⁷ specific to contemporary multimedia environments. In this context, Walter Benjamin's elusive concept comes to describe a form of reframing or internal juxtaposition: the re-mediating of lens-based images by recording and displaying them as part of another image brings to our awareness phenomena that would ordinarily not be perceived consciously.

Benjamin's notion of the optical unconscious, and the capacity of mass media like photography and film to trigger new awareness, was steeped into the belief that not only was such awareness connected to a collective imagination, but that it helped us put the present into perspective and see through capitalism's "dream-world".¹⁸ Benjamin's insistence on the need for an "awakening" derives from his analysis of the ways in which consumer culture colonizes our environments and our minds with images whose processes of production and circulation are rendered invisible. In this context, the doubling and scale-shifting remediations of the technical image point to the ambivalent role of audiovisual technologies in fostering critical awareness of consumer culture while facilitating its spread. On the one hand, audiovisual saturation contributes to mass consumption and its attendant economy of attention. On the other, the coexistence of scale-shifting media reorganizes the field of vision through unforeseen effects of montage, foregrounding processes of image dissemination and alteration, and thus wittingly or inadvertently working to reveal or resist strategies of automatic consumption.

In her book on the miniature and the gigantic, Susan Stewart relates the proto-cinematic history of scale-shifting representations to the development of consumer culture. She points out how miniaturization in particular, tends to obfuscate the labor that goes into the production of goods and images, rendering them more readily available to possession and consumption.¹⁹ Her observations resonate in the context of today's culture of small portable screens. Although it

has become so ubiquitous we have stopped noticing, there is something wonderful, childlike and uncanny in the spectacle of tiny figures going about their business on the palm of one's hand, of entire, live universes contained in a few inches of screen space. Yet at the same time, there is no denying miniaturization's power to reify the live figure, turning it into a toy, an insect, whose appearance and movement are controlled with the tip of a finger. Enlargement alters our perception of an image differently, but with comparable, reifying effects: fusing with their surroundings, large scale urban displays arguably acquire ambient or ornamental qualities.²⁰

One way to uphold encounters between the miniature and the gigantic as part of the experience of a dialectical visuality (triggering awareness through the "image-making medium within" us),²¹ is to emphasize the strangeness of their co-appearance. Pointing to the increasing fast pace with which the introduction of new technologies leads to habitualization, Tom Gunning warns that the accelerated process of banalization "renders us unconscious to our experience", and therefore unable to learn from it. Gunning advocates a "path back to aesthetic awareness" inspired by Viktor Chklovski's strategy of "making strange".²² Though devised in the 1920s, the creative strategies identified by Chklovski to fight the blinding effect of automation and routine, including changes of perspective and point of view as well as breaking away from the conventional terminology, may still be usefully translated to contemporary scholarly and artistic practices.²³ In addition to defamiliarizing descriptive accounts, references to proto-cinematic literary and visual culture as well as technology, especially as they eschew teleological short-cuts, and point to the peculiarity of genealogies and evolutions instead, partake in a similar effort to consider anew contemporary everyday experience.²⁴ Hence ultimately, making strange and the optical unconscious conjoin. The latter emerges through the dissolution of the filter of habituation which obscures some of the more troubling features of the technical image's mediations and remediations of the profilmic reality (the doubling of the

film image for instance, reduced to the size of a toy or its blown up to the size of a building, gives form anew to the anxious fascination for technological autonomy and the reification of the human figure).

Gulliverisation and the collective imaginary

From the view point of Western visual culture however, the concept of “optical unconscious” and the tactics of “making strange” should be further envisaged against the backdrop of a collective imaginary that long predates cinema and digital media yet endures in our contemporary “imagining consciousness”.²⁵ By referencing Jonathan Swift’s *Gulliver’s Travels*, Huhtamo reconnects optical scale shifting to precinematic tales of the gigantic and the minuscule that arguably anticipated the perceptual revolution and the era of global circulation ushered in by modernity. Kara Manning draws similar parallels as she seeks to explain the appeal exercised by the world of Lewis Carroll’s novels on generations of film directors. She associates the principle of radical fluctuations of size (later to become an integral part of cinema’s visual grammar) which governs the spatial and narrative organization of Alice’s adventures with the early effects of an industrial modernity which would profoundly modify the relations of modern man to his environment.²⁶ Huhtamo’s choice of term and Manning’s transmedial observations point to the deep-seated fascination and anxieties aroused by the destabilization of a conventional system of measurement where the human body had once featured as the primary reference. Doing so, they also remind us of the marvelous and alienating nature of some of the technological innovations and visual effects that have since become familiar but which retain a power to astonish us.

As Huhtamo points out, “Gulliverisation” is an ancient phenomenon that has manifested through a variety of media: it was already in evidence from the antiquity to the medieval era, in the disparity of scale between large murals and miniature paintings for instance. In the

nineteenth century however, it became a staple of modern urban life, best exemplified in the difference of scale between the enormous circular panorama or diorama paintings that preceded the appearance of cinema screens, and the tiny photographs whose circulation started to increase at the same period.²⁷ The beginnings of film were also marked by a characteristic disparity in terms of apparatus, its distribution divided for a time between individual viewing through peephole-style²⁸ devices and the large-scale public projections that would come to define the cinema experience.

But crucially, in the case of the screened image, the re-scaling is part of a dual process: both the image, and the way it is screened, have the capacity to alter the size of the represented. As a result, the process of “Gulliverisation” was intensified by the dissemination of screens, from the massive advertising boards hung in city centers to the tiny mobile phones that most of us now carry though the same urban centers. However, cinema’s contribution to the unsettling of the “common anthropomorphic scale” remains unique in that shifts in scale are both a part of the projection, and, through framing, montage and special effects, intrinsic to the very grammar of film.

Griffith is generally credited with having freed the cinema from its theatrical set up, leaving behind a mode of representation which reproduced the distance from the stage and the fixed point of view assigned to the body of the theater spectator, choosing instead to systematically “blast the filmic space apart”²⁹. However, with *The Big Swallow*, a film shot in 1901, the pioneering film director James Williamson already offered a masterful demonstration of film unmoored from the stable, theatrical view point. In a radical subversion of relative sizes operated through savvy montage and the alteration of distance, the film gradually moves from the medium shot of a man to an extreme close up of his mouth. In the end, the monstrous lips fill the frame and part wide open to swallow both the camera and the cameraman. A striking example of early cinema’s experimentations with close up shots, Williamson’s film, in its focus

on the drastic disproportioning of the human body, heralded a whole history of cinematic play on scale that still infuse today's genre cinema with some of its most spectacular effects. It also fed on a long-lasting collective imaginary that has been nourished by literary creation: Williamson's cannibalistic character recalls Rabelais' giant Gargantua swallowing up (albeit involuntarily) hapless subjects unable to escape the cavernous expanse of their master's mouth.

Cinema's close relation to visual rescaling however, is further embedded in its combination of miniaturizing material base and enlarging screening apparatus. In this, the hand long remained "the measure of the miniature"³⁰. In classic representations of analog filmmakers or editors at work, holding filmstrips, looking at rushes, the presence of the hands that dwarf the frames imprinted on the strip manifests the 'Alice in Wonderland', scale-shifting quality of the to-be-projected film image. Fittingly, in the well-known shots of Elizaveta Svilova at the editing bench in *Man with a Movie Camera* (1928), she is seen working on strips of frames showing the face of a little girl.

Miniaturization

To abandon the analog projector and cinema screen for plasma and liquid crystal display panels is to lose the magic at work in the blowing up of the tiny single-frame film-world to gigantic expanses where the eye can wander. Yet a trace of that magic arguably persists in the co-existence of cinema screens with today's smallest kinds of display, the tiny screens of compact cameras and mobile phones—a sense of magic emphasized by the toy-like nature of the latter.

In their study of small screens as viewing devices, Francesco Casetti and Sara Sampietro argue that the cinema can be "relocated in the iPhone".³¹ Successful "relocation" depends on the establishment of an "existential bubble" (that is, the combination of small screen with earbuds that supposedly allows one to isolate and engage fully with the film showing on the diminutive screen). Yet watching films on a small portable screen is evidently not *cinema*.

Beyond the crucial issue of collective versus individual spectatorship, and the quality of sensory engagement afforded by the large screen, lies the question of the aesthetic effect of image reduction. To identify the specific appeal of such display devices, one needs to consider the impact of miniaturization, a radical alteration of moving images that were initially created for much larger screens.

Steve Jobs appeared aware of this already in the first public presentation he gave of the iPhone, in 2007. With its tactile, keyboard-free design, the iPhone was the first portable device that offered itself as a proper rectangular screen, small enough to fit in one's hand or pocket, but big enough to not only look at photographs, but to watch sequences of moving images, possibly whole films. Jobs made an interesting choice of film for his very first demonstration of the iPhone as pocket screening-device: he played an extract from *Pirates of the Caribbean* (Gore Verbinski, 2003), shrunk to fit the tiny display device. Turning to the genre of the fantasy swashbuckling film (at the cross between adult and children fiction), he thus resorted to a high production value Hollywood blockbuster, replete with expansive sets and spectacular landscapes, complex costumes, crowds of extras and intricate battle scenes. In spite of—or thanks to—the reduced size of the frame,³² the prospective viewer was therefore, from the onset, expected to enjoy moving image spectacles that involved an astonishing amount of minutiae, or, as Stewart puts it in her description of crafted miniature worlds: a “hallucination of details”.³³

The continuous investment in improving the quality of image display would later contribute to that characteristic feature of Apple's device. High pixel density as well as the calibration of color and luminosity ensured a high-quality rendition, facilitated by the compact dimensions since, in relative terms, a degraded, low definition image will look sharper when reduced to the size of a match box.

Hence, very small screen devices, in particular mobile phones, share with earlier, painterly forms, more than the traditional terminology of framing : beyond the continued use of terms such as “landscape” and “portrait” to describe the two display formats available to the mobile screen user, its diminutive and portable nature is reminiscent of a whole tradition of miniature painting, both in terms of aesthetics and of usages.

On the one hand, the appeal of the miniature display’s softly glowing, delicately hued (including the infinite gradations of grey of black and white footage) or intensely colorful image, with all its perfectly rendered detail, bears a similarity to that of the art of the miniature, in its many forms. On the other hand, as a hand-held, often costly device, ever more precious that it contains all kinds of private information, it is reminiscent of what could be described as possessive or fetishistic forms of imaging and looking. In periods of the history of representation where miniature portraiture flourished, people carried with them, hanging on their neck, in their breast pocket or pouch, small renditions of their loved ones. The locket, akin to today’s mobile casings, allowed the owner of the miniature to protect it while keeping it close.³⁴

In time, photography took over, offering itself, in its initial, diminutive formats, as an equally portable, more democratic version of the painted miniature. But we should not overlook the specific sense of wonder that befits today’s display devices: what they show is not merely *still* images, but *moving* images. Considered in relation to the miniaturized moving image, Laura Mulvey’s concept of the “possessive spectator” takes on a new, and, admittedly, a somewhat more literal, dimension. In Mulvey’s description, the possessive spectator is one who is enabled, thanks to viewing systems such as the VCR and the DVD player, to delay the film at will by pausing on the image of his or her choice.³⁵ When watching moving images with hand-held tactile devices, it is by touching the screen that we cause the image to pause, the light pressure of a finger-tip suddenly freezing all movement in the Lilliput-like world on display.

Objectified and contained, the miniaturized film image thus lends a doubly possessive dimension to the changed relationship between movement and stillness manifest in contemporary viewing practices.

Cinema itself however, is already reflecting on such usages. As portable screens became ubiquitous, they also started to populate the diegetic spaces of contemporary films—a form of reverse remediation—, and filmmakers became sensitive to the aesthetic potential of the shifts in scale and gestural regimes that their presence implied.

Small screens on big screens

Three salient dimensions mark this encounter, within the same figurative space, of highly dissimilar modes of appearance of the image: The collage effect in its combination of comparative size and different qualities of rendering and image texture; the question of the frame and the offscreen; and the issue of viewing regimes, which, in this context, arises from the *mise en abyme* of one type of gaze by another.

Amongst practitioners who have long engaged with film and video's transmedial dimensions, Canadian filmmaker Atom Egoyan was quick to seize on the new possibilities, experimenting with the superposition of large and small screens in his short films in particular.³⁶ In *Butterfly* (2013), the combination of possessiveness, stillness, movement, and relative screen size, comes compellingly into play. In a voice over commentary, Egoyan introduces the film as a means of freeing memory space: he explains that sharing images with us will enable him to erase them from the saturated memory of the small mobile device that initially served to record and store the footage. The technical operation thus serves as a prosthesis and metaphor for the way human memory more generally circulates and vanishes.³⁷

As a contribution to the *Venezia 70 - Future Reloaded* (2013) program, *Butterfly* was intended to circulate initially on cinema screens. The migration from private archive and

individual screen device to public display in cinemas thus ostensibly redeems the images from the practice of possessive ‘collectionism’ characteristic of contemporary digital practices.³⁸

The selected footage documents Egoyan’s visit to an Anton Corbijn photography exhibition. Playing it on the mobile phone he holds between his fingers, Egoyan re-films the footage shot in the gallery while commenting on the process. Included in the frame, his hands thus serve as a “measure of the miniature” against which to gauge the size of the screen but also the changes in scale that occur in the footage through variations in framing. Bordered by Egoyan’s giant fingers, shots of the gallery progress from views of the exhibition space as a whole, to close ups of a framed photograph of the singer Tricky³⁹ to finally focus on one detail in the portrait: a butterfly perched on the musician’s naked torso. Egoyan’s re-mediation of the photograph relocates it explicitly as part of a prosthetic memory⁴⁰ that is both individual (based on the filmmaker’s unique experience of the exhibition) and collective (structured by a shared history and culture that includes the photographer, his model, and the surrealistic style of the portrait). Whereas the re-filming is static, in the original footage the hand-held shots and the device’s microphone recorded the trace of Egoyan’s bodily movements and the noise made by his footsteps as he walked through the gallery space. The voice over superimposes itself on a preexisting sound track. The film thus plays on a series of temporal and spatial disjunctions⁴¹: the simultaneous appearance of the image filmed with the small screen and its re-filmed version on the one hand, a dual sense of embodied presence on the other, and, through the appearance of the still photograph, an awareness of time and space as frozen and abstracted.⁴²

The gallery setting and the choice of the detail (the butterfly), seemingly renew the longstanding connection between the exotic, the miniature and the collection, that “paradise of consumption”. Based on seriality and possessiveness, and the sense of control they afford, the collection “removes the object from context and places it within a play of signifiers that characterizes the exchange economy”. Here the miniature proves particularly suitable “because

it is sized for individual consumption at the same time that its surplus of detail connotes infinity and distance".⁴³ Rather than keep the images trapped in the small device's hard disk like a boxed specimen in an entomologist's collection however, Egoyan shares them, allowing them to come to life and circulate. One can only delight in the simultaneous effect of miniaturization and magnification that is deployed in the process. As the camera gradually approaches it, the butterfly of the title, that first appears precariously balanced on Tricky's chest, pinned for eternity by the photographic record, slowly regains, through the grace of the close up, and relative to Egoyan's hands, its natural size.

Yet at the same time, Sergeï Eisenstein's classic definition of the close up as monstrosity's vehicle still applies in the case of *Butterfly*.⁴⁴ For, projected on a cinema screen Egoyan's hands take on the size of a giant's. Split from the rest of his body by the close up shot, they become strange, autonomous entities holding a butterfly of appositely monstrous proportions.

Fig.3.

Previously however, it was the whole space of a gallery, containing the entirety of an exhibition of famous photographs, that appeared on a screen small enough to be dwarfed by the fingers that hold it. Egoyan makes good of the possibilities afforded by the frame-within-the-frame effect, playing on perspectives and openings, doors as well as the frames of mounted photographs.

The first of the frames-within-the-frame is the small screen itself. Held between the filmmaker's fingers, set against a softly lit, blurry backdrop, it effects a strong centripetal power of attraction, sufficient to make us engage with an illusory sense of depth, until the shot brings

us close enough to the photograph to remind us that what we are looking at is a layering of screens, of flat surfaces.

In its reduced duration, adapted to mobile viewing's fragmented modes of reception, the short film, in turn, appear as a 'natural' format for films or videos showcasing the small screen.⁴⁵ In feature films to-date, the presence of mobile phones rarely exceeds the status of narrative accessory. Olivier Assayas' *Personal Shopper* (2016) is an exception, unusual in the attention it pays to the aesthetic challenge represented by the multiplication of screens, and in particular that of the smart phone, when they are integrated into the cinema image.

Akin to Egoyan's approach, depth and surface are key dimensions of the aesthetic choices that preside over the composition of *Personal Shopper*'s images. However, whereas in *Butterfly* Egoyan's hands form the primary backdrop against which miniaturized footage unfolds, in *Personal Shopper* the small screen is intrinsic to a broader spatial configuration that engages the gaze of the spectator in an intriguing overlay of centrifugal and centripetal forces.

Personal Shopper is a fantastic thriller that draws on contemporary horror tropes, in particular in its articulation of a dual critique of today's capitalist materialism and the impact of technologies of communication and audiovision. Doing so, it deceptively hints at the genre's prevalent topos, where noise, interference or glitch usually signal the contamination of communication devices by evil forces. Yet it is strangeness rather than dread that imbues Assayas' film, a sense of uncanniness born out of the combination of miniaturized and magnified images, and its impact on the status and function of the off-screen space.

In the social sphere described in *Personal Shopper*, time has become such a precious commodity that the rich hire people to perform an expanding number of mundane tasks for them. Hence as "personal shopper", the main protagonist is employed by a celebrity of some kind or other, film star or reality TV persona, to shop for her. Exchanges, trade, communication and services need to be swift and fluid in the world inhabited by Assayas' characters – ideally,

to comply with the principles of the new economy of attention,⁴⁶ they should be instantaneous, with the mobile phone as a pivotal tool of spatial and temporal compression.

However, the film's central character, Maureen, is also a medium. Her interest in spiritualism offers itself as a relief⁴⁷ from the consumerist, superficial world she is immersed in through her profession.⁴⁸ As she explains early in the film, communication with the spirits is difficult, it requires time, it does not fit in with the speed of exchanges that characterizes today's world of neoliberal productivity.

Thus summarized, *Personal Shopper*'s narrative and formal configuration appears based on a rather clear-cut opposition. On the one hand, there is the world of advanced capitalism, a spectral world populated by homo-consumers unable to live in the present. On the other, there is the parallel world inhabited by the ghosts of the deceased, governed by distinctive rules and durations, and a different concept of debt to that accumulated on our credit cards—a debt that engages the livings' responsibility to remember and correct the wrongs suffered by those who died before them, or, more generally, to create a present that makes good of the past.

Debt, spiritualism, ghosts and audiovisual technologies: Assayas' film is thus impregnated by a spirit of Derridéan « fantômachie » that relates, through the obsessions of his character, with the beginnings of photography and cinema.⁴⁹ For, in the course of her research on spiritism, Maureen becomes absorbed in the work of the Swedish painter and spiritist Hilma af Klint, who lived at the junction between the nineteenth and twentieth century. Together with the figure of Af Klint, it is spiritualism's thriving period that is conjured up, when technologies such as photography and film, the product of a desire for efficiency and scientific objectivity, also provided a passageway to the occult.⁵⁰

Maureen's encounter with af Klint is orchestrated as a series of scale-shifting mediations, as she scouts for information and reproductions of the artist's paintings in exhibition catalogues,

but also on websites and in documentary films, gleaning the data from the internet to watch on her computer or mobile phone.

Here, hapticity, where the tactile eye engages not merely with the figurative content, but with the images' material appearance, combines with the forms of tactility triggered by digital interfaces. As with *Butterfly* and Egoyan's previous short, *Artaud Double Bill* (2007), Assayas' *mise en scène* enhances both the difference between the cinema image (where the large expanse of the screen allows for haptic immersion, even from a distance) and small devices held close, where tactility supplements the gaze, the interface allowing for touch to take over and determine that which is offered to the eye.

To Maureen, the mobile phone seems to offer the most congruent relation to Klint's abstract work (a contemporary, as one of art historian featuring in a documentary reminds us, to the invention of the Morse code). In contrast with the glossy art book whose pages produce both contextualization (captions and complementary text) and a form of material resistance to the touch, when the young woman swipes the screen of her smart phone the reproductions of paintings succeed each one another with the volatility typical of dematerialized contents. The fluid gestures lithely consign images to the off-screen, emphasizing the flat, surface-effect of the geometric and brightly colored pictures.⁵¹ However, the frame-within-frame construct, and the play on scale, work to counterpoint the sense of depthlessness elicited by the small device.

Isolated from the bustle by her earbuds, Maureen watches and listens while traveling around, mingling with crowds of commuters, hopping in and out of in trains, sitting in carriages and cafés. Through the alternation of long, medium and close up shots that follow her moves, the integration of the mobile phone screen to the environment provided by the large-scale cinema image produces heterogeneous arrangements of textures and colors, movement and stillness, flatness and depth. The pleasure experienced when looking at such intricate compositions calls to mind the mixing and matching of fragments in classic forms of collages

whose enduring appeal derive from an ability to engage the gaze with shifting haptic sensations.⁵²

In one key scene, Maureen sits in a café watching a documentary on af Klint on her mobile phone which she has laid on the table, next the leftovers of her lunch. The program includes live interviews as well as archival material - reproductions of paintings and black and white spirit photographs that are, in turn, re-contextualised by the film's diegetic setting. The film's sound track is filled with a combination of noise and voices, art historians' explanations superimposed with the mundane yet richly varied noise associated with the life of the café where the young woman has settled. The sharper contours and intensified contrast and colors of the reduced images are set off by the limited color palette of the surroundings, the slight softening of contours, and the play on light which endow the rest of the image with a greater sense of depth and volume. The framing enhances the effect of relative scale, the wonder of the moving and talking heads that appear in the diminutive frame, next to a towering glass and a plate the size of a roundabout, holding the scraps of a giant's lunch. The banal bar-table thus turns into a disproportionate, shadowy landscape, surrounding the small frame of the telephone with the its vague outlines and obscure corners.

Fig.4.

There is no denying the power of attraction of the small screen, even as the cinema image as a whole offers itself as a much larger space onto which our gaze could stray (and the camerawork renders this attraction manifest, as it moves away and then slowly travels back in to peak at the little screen over the young woman's shoulder).

Setting in tension two forms of attraction of the gaze, one centripetal, the other centrifugal, the presence of the small screen at the heart of the image of film recalls André

Bazin's classic distinction between painting and cinema: in painting the frame delimits the boundaries of a world in itself, while the cinema image is the record of a portion of reality that continues beyond its edges.⁵³

The refutations to Bazin's concept of screen frame are numerous and the arguments well known.⁵⁴ Unexpectedly however, the presence, via small, portable screens, of miniaturized moving images included in the broader expanse of the film image, arguably gives some renewed, if skewed, pertinence to Bazin's initial concept of centrifugal and centripetal spaces. Small display devices such as mobile phones tend to have discreet casings, narrow frames, unobtrusive rather than decorative, designed to preserve as much screen space as possible, coming as close as possible to the borders of the actual device so as not to interfere with a visual content.⁵⁵ Yet where the expansive cinema image fills the periphery of our vision, and invites the eye to wander and lose itself in the depth of the field, the shallow background, or in the uncertain zones that form its borders, the diminutive size of the portable screen allows the image to be consumed whole by our gaze. Even where sequences involve the kind of shot-counter-shot montage that rely on the alternation of on/off screen space, the presence of the out-of-frame is weakened by the reduced format. There is no blending, at the borders of the images, of the off-screen with a mysterious outer-field: in its compactness, the small screen only offers a strictly circumscribed version of the image. Its specific appeal comes from the size and perfection of its display compared to the environment that surrounds it, but the absorption it fosters cannot compare with that of the projected film. Hence paradoxically, in spite of the "connected", endless network of receivers and transmitters to which they belong, as an inset into a larger cinema image, the small, enclosed images that play on the precisely bounded rectangle of the mobile phone offer little or no sense of an off-screen space of their own.

In his critique of Bazin, Louis Seguin argues that the cinema does in fact construct a universe contained within the space delimited by the frame. And yet, at the same time, Seguin

contends, the space demarcated by the borders of the image, and, in turn, of the screen onto which it is projected, is an unstable one, whose edges form an ill-defined, precarious peripheral space.⁵⁶ Seguin's writings on the uncertain boundaries of cinematic space resonate with that of another of Bazin's critic, Pascal Bonitzer, who talks of the "ghosts of the gaze and the voice that haunt the hallucinatory confines of the image".⁵⁷ In this view, the off-screen space belongs to the film image in its large, cinema projection appearance—not a hidden extension of reality as Bazin would have it, but a space that feeds on the images' in-definition and on the spectator's imagination.

The boundaries with the space occupied by the viewer are even more uncertain when the lights go out at the beginning of the projection, and the edges of the screen fade in the darkness. The mobile phone is easily substituted to television⁵⁸ in the following quote by Pierre Sorlin: "Entering the room, before the projection, we see a large rectangle with a black frame. But as soon as darkness falls, the border disappears and the frame loses the compelling presence that it always maintains on a painting or a television image."⁵⁹ In the cinema, the off-screen in its dual meaning, as the out-of-frame (space already seen and temporarily excluded from the frame), and the out-of-field (space that is not, or not yet, visible, a space of potentiality that may never be 'actualized') is thus absorbed by the darkness, open to the roaming presence of ghosts.

Ultimately, in Assayas' film, digital devices, including computers and phones, are windows nor gates onto life, or on the spirit world. Although the distracted regimes of audio-vision, the automatically connected networks, and the modern traceability and surveillance systems produce their own forms of spectrality, they do not befit the slow, erratic mode of appearance and communication of the afterworld (when contemporary horror cinema relies on electronic and digital devices it is, in the end, to exploit their malfunctions and power failures). Hence Assayas' film suggests that the privileged relationship that the cinema enjoys with the

off-screen, and with the spirit world more specifically, is not easily transferred or ‘relocated’: to find the sense of the image as a threshold onto the imaginary, it is on the cinema image that the spectator has to rely. When Maureen does finally see a spirit, it is not thanks to the interactive, connected technologies that she surrounds herself with but - as befit such an encounter – by exploring an old, deserted house.

The main character is persistently filmed bent over her screen, watching images, a bit like the Zoetrope viewers of old. Doing so, Assayas emphasizes the orphic nature of his character, whose absorption in images marks the capacity to cross over to the other side. He also points to the existence of another off-screen space, which Bonitzer, in his own refutation of Bazin, describes as the « production space », where the recording apparatus once stood and which in turn becomes the space occupied by the audience. Denied by classic cinema’s continuity system, the production space arguably vanishes entirely in contemporary regimes of seamless remediation and circulation where traces of the labor that went into the making of the images disappear together with the awareness of the process of mediation. As such, the ‘relocation’ of film images is exemplary of a more generalized trend in consumption, where the increasingly dematerialized circulation of goods work to sever ties with the source and process of their creation.

In the café scene described earlier, the young woman, akin to a contemporary Alice in Wonderland, faces a wall adorned with a large mirror. While the character’s reflection, part of the overall composition, ostensibly stands as a metaphor for her orphic nature, Assayas emphatically keeps his camera away from the mirror, filming the scene at an oblique angle. On the one hand, the film documents Maureen’s routines as part of an increasingly dominant type of contemporary image consumption, that is, as a solitary and isolated viewer. On the other it manifests, by default, the invisible existence of the production space that is also the shared space of cinema spectatorship.

The reflexive dimension of the *mise en abyme* of spectatorship however, does not take away from film's capacity to defamiliarize other forms of mediation. What is true of images also works with sound, as the cinematic apparatus allows its audience to hear the normally inaudible, the "miniature of sound".⁶⁰ Whilst next to the Lilliput world featured on the mobile phone screen, the most ordinary objects of Maureen's oversize world acquire fantastic proportions, the sound-track accounts for a sense of intimacy and captivation that recalls Tom Thumb's whispering in the ear of the horse - in Gaston Bachelard's words "a voice that no one hears, but the one who has to 'listen'".⁶¹

Fig.5.

Conclusion

Staging the extremes of scale and screen size as part of an art installation, orchestrating encounters between old and new technologies, or turning devices such as the mobile phone into objects subjected to the transforming gaze of the film camera, the emphasis on the co-existence of images and screens across scale can be envisioned as a contemporary form of making strange, drawing attention to the way technologies transform the most routine interactions with our environment. What surfaces in the interstices left by habituation and the dominant narrative of replacement of old by new media, is the awareness of the extent to which our perception and sensorium have become infused by the terminology and logic of industrial profit. Our attention however, is also drawn to spatial and historical dimensions of the moving image that cannot be fully tamed: an "imagining consciousness" that is dependent on the presence of an out-of-field. The out-of-field not only infers the existence of a space of production, but it also points to the persistence of forms of otherness which, in the image of the ghost, remain impervious to the injunctions of the consumerist logic and the reconfiguration of desire by technology. Gulliver

and Alice, angels and ghosts, massive screens and tiny portable devices: our collective imagination feeds on the unforeseen effects of montage born out of technological diversity (rather than technological substitution) and the reorganization of the visual field that such diversity implies. It relies on the complex articulation of off-screen and on-screen spaces, and the concurrence of individual viewing and collective modes of spectatorship. Envisaged both as a source of destabilization and re-enchantment, the coexistence of the gigantic and the minuscule thus points to visual culture's potential to repurpose the scalar logic that rules over our contemporary mediascapes into a dimension of our imagining awareness.

Captions

Fig.1. *(E)Motion*. View of the installation, Grand Palais, 20th April 2019.

Fig.2. View of the Cinématographe Géant, Galerie des Machines, 1900 (cinémathèque française).

Fig.3. *Butterfly*, Color, DV, 3mn (Atom Egoyan, *Venezia 70 - Future Reloaded*, 2013). Screen capture

Fig.4. *Personal Shopper*, 35mm, Color, 105 mn (Olivier Assayas, Les films du losange, 2016).
Screen capture

Fig.5. *Personal Shopper*, (Olivier Assayas, 35mm, Color, 105 mn, 2016). Screen capture

¹ The Grand Palais was transformed into a military hospital in the first world war, and used as an exhibiting space in the service of Nazi propaganda in the second world war.

² <https://www.grandpalais.fr/fr/evenement/emotion>; <https://thejamproject.athem.fr/les-projets/emotion-wim-wenders>, accessed 18 October 2020.

³ See the Grand Palais' web site, including the interview with the head of the ATHEM studio which provided technological support through the *JAM PROJECT*.

<https://www.grandpalais.fr/fr/article/trois-questions-sur-la-scenographie-de-levenement-emotion-wim-wenders> accessed 08 September 2019.

⁴ Toulet Emmanuelle, « Le cinéma à l'Exposition universelle de 1900 », *Revue d'histoire moderne et contemporaine*, vol. 33, no 2 (Avril-juin 1986), 179-209, 185-188. Auguste and Louis Lumière had to scale down from their initial project (of a 700 m² screen) to accommodate other exhibitors.

⁵ Maurice Gianati, « Les films Lumière de l'Exposition de 1900 », paper delivered at the *Cinéma 1900 : magie et technologie* conference (Centre national du cinéma, 14th June 2019).

⁶ See, amongst others, *Les inrockuptibles*, and *Vogue*, <https://www.lesinrocks.com/2019/04/news/emotion/>, <https://www.vogue.fr/fashion-culture/article/paris-exhibitions-wim-wenders-emotion-at-the-grand-palais-a-free-immersive-installation-has-landed>, accessed 08 September 2019.

⁷ See Sarah Kenderdine, “Prosthetic architectures of the senses: museums and immersion”, in *Screen*, special dossier on immersion, edited by Martine Beugnet and Lily Hibberd, forthcoming in 2020. A number of filmmakers have engaged with large scale projections in historical settings. Peter Greenaway in particular, has produced several such installations. See Elisa Mandelli, *The Museum as a Cinematic Space. The Display of Moving Images in Exhibitions*, Edinburgh: Edinburgh University Press, 2019.

⁸ See the work of Erkki Huhtamo, Thomas Elsaesser, Oliver Grau, Jay David Bolter and Richard Grusin, Mary Ann Moser, Barbara Maria Stafford and Frances Terpak, and Jonathan Crary amongst others.

⁹ On the ‘parasitic’ quality of the relationship between cinema and mobile phone as recording and screening devices, see Martine Beugnet and Kriss Ravetto, « Parasite Cinema », *Image and Narrative*, vol 17, no 5, 2016, 66-77.

¹⁰ Huhtamo, Erki, “Messages on the Wall: An Archaeology of Public Media Displays”, in S. McQuire, M. Martin, S. Niederer, eds, *Urban Screens Reader* (Amsterdam : Institute of Network Cultures, 2009),15-28, 20.

¹¹ Janet Staiger argues that “contextual factors (...) more than textual ones, account for the experiences that spectators have watching films and television.” *Perverse spectators: the Practices of Film Reception* (New York : New York University Press, 2000), 1.

¹² “To be preoccupied with the aesthetic properties of digital imagery (...) is to evade the subordination of the image to a broader field of non-visual operations and requirements (...) what fully occupies individual attention is the management of the technical conditions that surround them: all the expanding determinations of delivery, display, format, storage, upgrades, and accessories.” Jonathan Crary, *24/7: Late Capitalism and the Ends of Sleep*, (Londres, Verso, 2013), 47, 49.

¹³ Francesco Casetti and Sara Sampietro, “The Relocation of Cinema Into the iPhone”, in P. Snickars and P. Vonderau, eds., *Moving data – The iphone and the Future of Media* (New York: Columbia University Press, 2012), 19-33. See also Roger Odin, “Spectator, Film, and the Mobile Phone”, in Ian Christie, ed., *Audiences: defining and researching screen entertainment reception* (Amsterdam : Amsterdam University Press, 2012). In the context of film watched on mobile phones, the term remediation is used somewhat anachronistically since Jay David Bolter and Richard Grusin’s classic book predates the invention of the smart phone as viewing device. *Remediation. Understanding New Media* (Cambridge : MIT Press: 2000).

¹⁴ Pepita Hesselberth and Maria Poulaki, eds., *Compact Cinematics: The Moving Image in the Age of Bit-Sized Media*. London: Bloomsbury Academic, 2017.

¹⁵ Haidee Wasson, « The Networked Screen : Moving Images, Materiality, and the Aesthetics of Size », in *Fluid Screens, Expanded Cinema*, eds. Janine Marchessault and Susan Lord, (Toronto : University of Toronto Press, 2008), 74-95, 87.

¹⁶ That is, the relative conditions of display rather than capture. Miniaturization reverses the logic of the close up described by Sergeï Eisenstein in his comparison of cockroaches and elephants. No matter how it was framed, how close up it was shot, though it appeared much larger on cinema screens, seen on a small device, the average body appears smaller than the human hand. See Martine Beugnet, « Miniature Pleasures: On Watching Films on an iPhone », *Cinematicity*, eds. Jeffrey Geiger and Karin Littau (Edinburgh: E.U.P, 2014), pp. 196-210.

¹⁷ The notion of an ‘optical unconscious’ is addressed in “Little History of Photography” (1931), and in “The Work of Art in the Age of Its Technological Reproducibility”. *Walter Benjamin: Selected Writings*, vol. 2, part 2, 1931–1934 , (Cambridge, MA: Belknap, 1999), 510-512, and vol. 3, 1931–1938, (Cambridge, MA: Belknap, 2002), 117-119.

¹⁸ On the coexistence of capitalistic and non-capitalistic (or divergent) dream images and dreamworlds in Benjamin, see Susan Buck-Morss, “The Flaneur, the Sandwichman and the Whore: The Politics of Loitering,” *New German Critique* 39 (Fall 1986): 99–139.

¹⁹ Miniaturization and enlargement are processes readily adopted by advertisement. Susan Stewart, *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*, (Durham NC: Duke University Press, 1993).

²⁰ See Martine Beugnet, *Le cinéma et ses doubles*, (Paris : éditions Bord de l’Eau, Forthcoming in 2021).

²¹ Benjamin points to the development of an internal capacity to reconfigure the visible. Quoting Rudolf Borchardt , he proposes to educate the “‘image-making medium within us, raising it to a stereoscopic and dimensional seeing into the depths of historical shadows’.” See

Michelle Smith and Sharon Sliwinski, eds. *Photography and the optical unconscious* (Durham : Duke University Press, 2017), 11.

²² Tom Gunning, « Re-newing Old Technologies : Astonishment, Second Nature, and the Uncanny in Technology from the Previous Turn-of-the-Century », in *Rethinking Media Change: the Aesthetics of Transition*, eds Thorburn, David, Jenkins, Henry, Cambridge, Mass, London : MIT, 2004), 39-60, 41.

²³ Viktor Chklovski « L’art comme procédé (1925) » in *Théorie de la littérature. Textes des formalistes russes réunis*, T. Todorov (dir.) (Paris : Seuil, 1965), 76-97.

²⁴ As media archeologists emphasize, historical “short-circuits” whereby we identify a direct lineage between the Imax and the panorama, or the mobile phone with the flipbook and kinoscope tend to “naturalize” evolutions that are neither linear nor consistent. Éric De Kuyper, “L’Autre Histoire du cinéma, ou la perte du spectacle: qui gagne, qui perd?,” in *In the Very Beginning, at the Very End* , ed. Francesco Casetti and Jane Gaines (Udine, Italy: Forum, 2010), 143–151. See also Elsaesser, Thomas, “The New Film History as Media Archaeology”, *Cinémas*, 14 : 2-3 (2004), 75–117 and Strauven, Wanda. « Media Archaeology: Where Film History, Media Art and New Media (Can) Meet ». In *Preserving and exhibiting media art: challenges and perspectives*, eds Noordegraaf, Julia, Barbara Le Maitre, Cosetta Saba, and Vinzenz Hediger, Amsterdam: Amsterdam University Press, 2013 : 59-79.

²⁵ Gaston Bachelard, *La Poétique de l’espace* (1958) (Paris : PUF, 2011). Translated in English by Maria Jolas, *Poetics of Space* (Boston: Beacon Press, 1994), 184.

²⁶ Manning, Kara M. “That’s the Effect of Living Backwards: Technological Change, Lewis Carroll’s *Alice Books* and Tim Burton’s *Alice in Wonderland*.”, *Neo-Victorian Studies* 4, no 2, (2011), 154-179. My thanks to Clémence Folléa for pointing this text out.

²⁷ See Tom Gunning, « Tracing the Individual Body: Photography, Detectives, and Early Cinema » in Leo Charney and Vanessa Schwartz, *Cinema and the invention of modern life* (Berkeley and Los Angeles, University of California Press, 1995), 15-45.

²⁸ It is worth noting that as an immersive form of viewing (a precursor to VR's HMD set ups in the way it detaches the viewer from its own body) peep-hole viewing produces a particular relationship to scale and relative size.

²⁹ Pascal Bonitzer, *Le Champ aveugle* (Paris : éditions du cinéma/Gallimard, 1982), 25. See also Sergei Eisenstein, *Au-delà des étoiles*, translated by Jacques Aumont, Bernard Eisenschitz, and Sylviane Mossé, (Paris : Union générale d'éditions, 1974), 112.

³⁰ Stewart, op.it., 46.

³¹ Casetti and Sampietro, op.cit., 19-33.

³² Job's demonstration creates additional scale shifting effects since images of the iPhone were displayed on a large screen, to a crowd of viewers.

³³ Stewart, op.cit., 112.

³⁴ Stewart, op cit., 125-127.

³⁵ Laura Mulvey, *Death 24x a Second* (London: Reaktion Books, 2006) 161-181. See also 'The Ghost in the Machine', in Nicholas Chare and Liz Watkins (ed.), *Gesture and Film, Signalling New Critical Perspectives* (London / New York: Routledge), 2017, 10.

³⁶ See Beugnet and Ravetto, op.cit.

³⁷ Patricia Pisters, "The Filmmaker as Metallurgist: Political Cinema and World Memory", *Film-Philosophy* 20 (2016), 149–167.

³⁸ See the introduction to Le Marec Joëlle and François Mairesse, *Collectionnisme numérique et environnements matériels, Enquête sur les pratiques savantes ordinaires* (Lormont : Le Bord De L'eau, 2017).

³⁹ Anton Corjin, *Tricky, Los Angeles*, b&w digital print, 39 2/5 × 39 2/5 inches, 2002.

⁴⁰ To use the expression coined by Alison Landsberg. *Prosthetic Memory: The Transformation of American Remembrance in the Age of Mass Culture* (New York: Columbia University Press, 2004).

⁴¹ Pisters relates the film's title to the butterfly wing allegory of Chaos Theory. "The Filmmaker as Metallurgist", 164. Such complexification of time and space is also reminiscent of the Benjaminian optical unconscious. See Smith and Sliwinski, op. cit.

⁴² There is a long tradition of objectifying depiction of the 'racial other', a "defining feature of modern social and psychic structures", with which photography, and its spectator, still has to contend. In contrast, Corbijn's surrealist touch (the presence of the butterfly, the model's pose and hair) hints at the possibility of an oneiric world of images unrestricted by prejudice. On the optical unconscious and the repressed memory of colonialism and slavery see Smith and Sliwinski, op. cit., 14.

⁴³ Susan Stewart, op. cit., 148-149 (on the exotic) and 153-156.

⁴⁴ Eisenstein, op. cit., 112.

⁴⁵ See my discussion of Jean-Luc Godar's *Nos espérances* (2019) in *Le cinéma et ses doubles*, op. cit.

⁴⁶ See Jonathan Crary's *24/7: Late Capitalism and the Ends of Sleep* (Brooklyn, NY: Verso Press, 2013) Crary, 2013, op. cit. and Yves Citton, ed., *L'économie de l'attention. Nouvel horizon du capitalisme ?* (Paris: éditions La Découverte, 2014).

⁴⁷ Spiritualism itself has proved a lucrative activity, exploiting people's grief to mercantile ends. However, Assayas' film it is portrayed as a redemptive and (in contrast with the mere consumption of goods and images) creative activity: preparing to enter into communication with a ghost, Maureen produces drawings of the haunted house.

⁴⁸ In his critique of the 'soulless' deployment of technology, Henri Bergson emphasizes how if "the tools developed by humanity are an extension of the human's body (...) the augmented

body awaits a supplement of soul (...) The origins of this technology are perhaps more mystical than one would believe; it will not find its true direction, rendering the services proportionate to its power, unless the humanity which it has bent even more towards the earth, uses it to stand up, and to look at the sky”. *Les deux sources de la morale et de la religion* (1932) (Paris : PUF, coll. Quadrige, 1984), 329-331.

⁴⁹ Jacques Derrida, and Bernard Stiegler, *Echographies de la télévision* (Paris : Galilée-INA, 1996), 127-151. See also *Le cinéma et ses fantômes*, interview of Jacques Derrida by Antoine de Baeque and Thierry Jousse, *Cahiers du Cinéma*, (April 2001).

⁵⁰ See Tom Gunning, « Re-Newing Old Technologies », *op. cit.*, and “To Scan A Ghost: The Ontology of Mediated Vision”, *Grey Room* no. 26 (Winter 2007), 94-127.

⁵¹ See Emmanuelle André, “Seeing through the Fingertips”, *Indefinite Visions. Cinema and the Attractions of Uncertainty*, Martine Beugnet, Allan Cameron and Arild Fetveit, eds., (Edinburgh: E.U.P) 273-288.

⁵² Laura Marks contrasts the experience of caressing the surface of a blurred image with that of lingering through the detail of a minutely rendered Dutch painting. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses* (Durham NC: Duke University Press, 2000), 169. See also Giuliana Bruno, *Surface: Matters of Aesthetics, Materiality, and Media* (Chicago : University of Chicago Press, 2014).

⁵³ André Bazin, *Qu'est-ce que le cinéma ?*, Cerf, Paris, 1999, 160. Bonitzer Pascal Bonitzer, *Le champ aveugle. Essais sur le cinéma* (Paris: Gallimard, 1982), 115. At the same time, the metaphor of the window inherited from Alberti has continued to flourish in our contemporary technological imaginary, nourished by the terminology associated with connected digital screens. Anne Friedberg, *The Virtual Window. From Alberti to Microsoft* (Cambridge, Massachussett: MIT, 2009).

⁵⁴ Pascal Bonitzer classically describes mainstream cinema as a reconfiguration of the visible designed to hide the space of its own production: « *Hors-champ (un espace en défaut)* », in *Cahiers du cinéma*, n° 234-235 (Decembre 1971- January/February 1972) and *Le champ aveugle. Essais sur le cinéma*, (Paris: Gallimard, 1982), 115.

⁵⁵ Rather than the decorative, isolating frames of classical painting, casings provide ‘object-frames’. Jacques Aumont, *L’oeil interminable* (Paris : Editions de la Différence, 2007), 127.

⁵⁶ Louis Seguin, *L’espace du cinéma. Hors-champ, hors d’œuvre, hors-jeu* (Toulouse : Ombres, 1999). See also Noel Burch, *Theory of Film Practice*, translated by Helen Lane (Princeton: Princeton UP, 1981), 17-30, and Gregory Flaxman, « Out of Field. The Future Of Film Studies », *Angelaki, journal of the theoretical humanities*, volume 17, no 4 (December 2012), 119-137.

⁵⁷ Bonitzer, *Le champ aveugle*, 107. See also Gilles Deleuze’s description of the out-of-field which testifies to “a more disturbing presence, one which cannot even be said to exist, but rather to ‘insist’ or ‘subsist,’ a more radical Elsewhere, outside homogeneous space and time”. *Cinema 1: The Movement-Image*, translated by Hugh Tomlinson and Barbara Habberjam, (Minneapolis : MIT Press, 2003), 17.

⁵⁸ Sorlin implies television as a medium size screen rather than as home cinema.

⁵⁹ Pierre Sorlin, « L’image espace ou l’éclipse du cadre », https://www.academia.edu/16156277/limage_espace_ou_l%C3%A9clipse_du_cadre, accessed 08 September 2019.

⁶⁰ Gaston Bachelard, 154.

⁶¹ Bachelard, *La Poétique de l’espace*, 154.