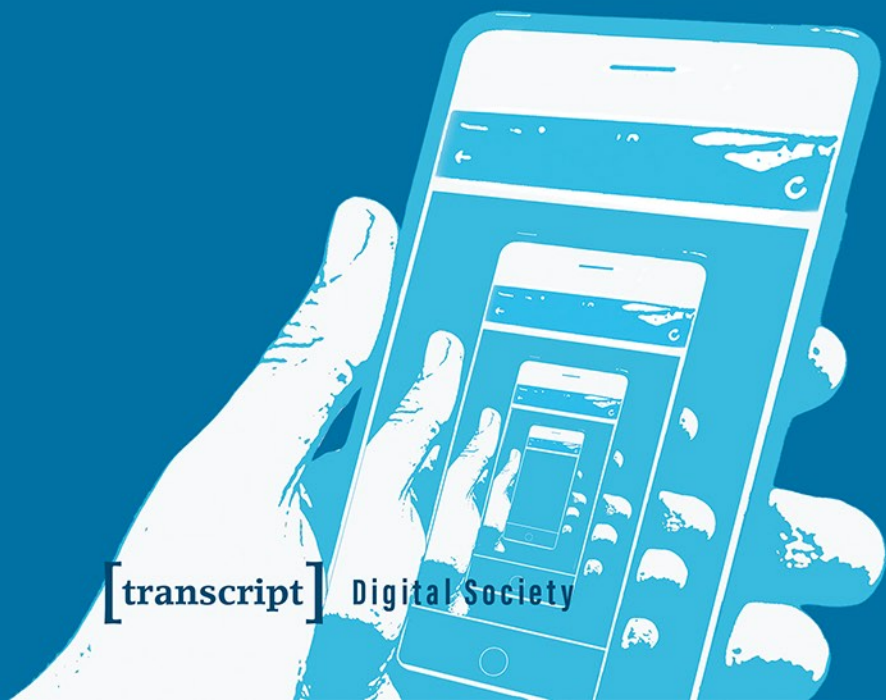


LISA GOTTO

BIG SCREENS, SMALL FORMS

VISUAL VARIETIES IN
DIGITAL MEDIA CULTURE

[transcript] Digital Society



Lisa Gotto
Big Screens, Small Forms

Lisa Gotto is Professor of Film Theory at the University of Vienna. Her research spans the fields of digital media culture, film studies, game studies, and comparative media studies.

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[transcript]

This book has been published with the financial support of the Center for Advanced Internet Studies (CAIS)



The EOSC Future project is co-funded by the European Union Horizon Programme call INFRAEOSC-03-2020, Grant Agreement number 101017536

The free availability of the e-book edition of this publication was financed by the project EOSC Future.

Bibliographic information published by the Deutsche Nationalbibliothek

The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data are available in the Internet at <http://dnb.d-nb.de>



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First published in 2022 by transcript Verlag, Bielefeld

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Cover layout: Kordula Röckenhaus, Bielefeld

Printed by Majuskel Medienproduktion GmbH, Wetzlar

Print-ISBN 978-3-8376-6197-2

PDF-ISBN 978-3-8394-6197-6

<https://doi.org/10.14361/9783839461976>

ISSN of series: 2702-8852

eISSN of series: 2702-8860

Printed on permanent acid-free text paper.

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Introduction

We witness an era with more screens than ever before, and within each screen, a multitude of visual varieties. Our experiences of screen images stretch from the large format screens of 3D cinema to the computer's multiple windows we can click through and resize. We perceive screen images to be all-encompassing when we immerse ourselves in them, or to be fleeting when we quickly scroll through them. More than ever before, we have also become screen image producers: we record videos with our mobile phones, we take selfies and post them online, we participate in TikTok Challenges or create Stories on Instagram, we process film fragments into GIFs or share our game experiences as Let's Play videos. On the one hand, digital screen images are ephemeral, since they are nothing but an accumulation of data deprived of any material basis. On the other hand, they are persistent, since, in their ubiquity, they surround us, affect our perception, and shape our modes of viewing.

This book is dedicated to the diverse image forms and aesthetics driven by digital screen culture. In particular, it explores the relationships between two predominant phenomena of screen technology and practice. These are large image forms, such as those produced by CGI blockbuster films and 3D cinema (Part I: *Big Screens*), and small mobile image forms, such as those found in the smartphone film, selfie photography, or the media practices of Instagram (Part II: *Small Forms*). I consider the media-specific potential of both phenomena as well as their intersections and entanglements as sites of productive exchange. Looking at a variety of screen media in terms of their inherent capabilities of generating visual aesthetics and shaping media practices, I demonstrate that the image forms that emerge from large and small, static and mobile screen arrangements come into being as a complex interplay of technological, sociological, and epistemological factors.

Part I involves an inquiry into the aesthetic character of new image spaces created by digital cinema, specifically in relation to spectacle and sensation,

and to television series in the age of streaming, particularly in their bridging function between large and small forms of digital visual culture. The first chapter (“Fantastic Views: Superheroes, Visual Perception und Digital Perspective”) explores the conceptual and stylistic fluidity of the cinematic image in an era marked by the continual pursuit – technologically as well as sociologically—of hyperperception. Positing the figure of the superhero as an aesthetic construction rooted in the evolution of both analog and digital technologies, I demonstrate how these tech-centric superheroes allow us to rethink established notions of cinematic space and viewing positions. Following and fostering aesthetic transformations, the superhero’s transmedia existence points to the performative process of generating perception and perspective and to media’s contribution to this very process. By analyzing how superheroes look at and move through the complex properties of urban and cyber space, I establish a connection between a contemporary stylistic trend towards visual excess and a heightened social interest in unlimited and unbound supervision.

Chapter 2 (“Attraction, Simulation, Speculation: *The Day After Tomorrow*”) considers the digital imaging techniques of CGI spectacle cinema as a form of media reflection. In doing so, I assume that in the age of post-cinema, Hollywood realigns its own image requirements and makes this process visible and recognizable through filmic operations. Using the example of the climate disaster film *The Day After Tomorrow*, I show how the narrative of climate change intertwines with the process of film-aesthetic change, demonstrating that Hollywood can not only associatively invoke the structural transformation to which it itself is subjected, but also reflexively elaborate it—especially when it comes to its own visual digital forms and formations. Central to this is a discussion of the notions of attraction, simulation, and speculation, and how they can be made productive as a post-cinematic field of aesthetic negotiation.

Chapter 3 (“Incorporations: On the Mediality of Arnold Schwarzenegger’s Cinematically Built Bodies”) provides a reading of the structural and aesthetic excessiveness of cinematic embodiment. Considering Schwarzenegger’s body as a medium, I argue that his incorporations enable viewers to reflect on complex concepts such as movement, gender, and technology. By offering mutable visual strategies of display, Schwarzenegger’s excessive corporeality becomes a multi-mediated body that produces varying applications of its representational forms. Focusing on the binaries of mobility and immobility, masculinity and femininity, and biology and technology, I demonstrate that Schwarzeneg-

ger's filmic bodies constantly cross the boundaries between these seemingly strict binaries, thus enabling audiences to realize the arbitrariness of all attempts to distinguish clearly between them.

In chapter 4 ("Dimension and Duration: On the Aesthetic Relationship of Space and Time in 3D Cinema"), I outline how 3D cinema creates its own aesthetic form of spatiotemporality. Arguing that the staging of expanded space, which has characterized stereoscopic film since its inception, is connected to a specific understanding of temporal continuity, I explore what aesthetic and narrative possibilities this opens up for 3D cinema. I first analyze the early phase of stereoscopic cinema and the first approaches to a distinct 3D film grammar, then turn to classical cinema and the aesthetic capabilities of three-dimension spatial depth gradation, and finally consider contemporary digital 3D film as an aesthetic reflection of altered perceptive dispositions within digital media culture.

Chapter 5 ("The (Imaginary) Man of (Hollywood) Cinema: An Encounter with Edgar Morin") offers a reading of Edgar Morin's anthropology of cinema and proposes to make his positions fruitful as an approach to investigate phenomena of film-aesthetic fluidity. With Morin, the category of the fluid can be understood as a central media specificity of film, making possible new spatiotemporal movements and modes of perception. I explain how Morin brings together the fluidity of the image and the involvement of cinematic man into this fluid space-time as an integrative reciprocal relationship, and then ask about the connectivity of Morin's cinematic thinking beyond the time of its creation. Here, I propose to consider the visual worlds of digital cinema as a new vanishing point for film-aesthetic fluidity. Digital images explicitly address seeing as a fluid process that can decisively help to understand their aesthetic quality and imaginative potential as a permanent state of transition.

The aesthetics of digital 3D cinema have often been discussed in relation to the special effects of blockbuster films. In chapter 6 ("Back to the Beginning. Wim Wenders' *Pina* and the Spatial Aesthetics of 3D Cinema"), I consider a different approach, namely the question of how 3D cinema can be made aesthetically productive for documentary films. Concentrating on Wim Wenders' *Pina*, I investigate how the intertwining of spatial depth and temporal continuity evokes a sense of reality that extends beyond the representational capability of the flat image. For Wenders, the question of how image space and movement can be brought together to form new modes of perceptual experiences is not a question of a cohesive event but of open play. This becomes especially clear in such moments when the actors are not performing

in specifically designed stage scenarios but act in unstaged, preexisting locations. As Wenders shows, digital 3D films don't have to be direct successors to spectacle cinema. Instead, his approach is directed to the space of our everyday experience that we need to rediscover.

The last two chapters of the first part consider the narrative and aesthetic form of contemporary television series, allowing us to reflect on a newly emerging television style in a period of media convergence. Innovations in production techniques and transformations in digital distribution have enabled TV series to create visual experiences similar to ones that were once only seen in Hollywood movies. As more and more homes install widescreen HD televisions complete with surround sound systems, television is now becoming a medium that seems to rival film for entertainment. In terms of their aesthetic character, television series have the potential to vary and transform visual motifs and image structures by means of serial processes, and, moreover, to unfold this potential as perpetually incomplete, as something that can always be continued. They are therefore not only carriers or mediators, but also drivers of image-aesthetic transformation processes in digital media culture.

Chapter 7 ("Scars and Screens: *Nip/Tuck*") discusses principles of self-optimization in relation to both the human body and serial television. Concentrating on the example of *Nip/Tuck*, I explore how this series presents plastic surgery as an effective means of self-optimization, making it appear as a catalyst for bodily perfection. Significantly, however, the program of self-regulation does not focus on a conclusion but demands perpetual continuation. It is therefore itself already serial: every intervention implies a follow-up intervention, every step in the direction of perfection demands another one. In *Nip/Tuck*, both the body and the image of the body are subjected to a series of optimization procedures, enabling television to reflect on the requirements and foundations of regulating self-production. It is precisely here where the media reflexive potential of the series *Nip/Tuck* is made manifest: it not only depicts the process of perfection but also considers its claims and contradictions as media procedures.

In chapter 8 ("Prescripts and Postscripts: *Mr. Robot*'s Digital Writing Operations"), I consider practices of writing under digital conditions and explore which cultural-technical and media-aesthetic transformations are connected to these practices. Using the series *Mr. Robot*'s preoccupation with hacking culture as thematic through-lines to my reading, I argue that the hacker's disregard for technical standards, regulations, and rules sheds light on a cre-

ative potential that exchanges the abstract world of fictional writing for the concrete situation of auto-operative writing practices. In this sense, the seriality that underlies *Mr. Robot* is a specifically digital seriality: it is based on connectivity and variability, on the constant transformability of shifting relations. This applies to both the writing and reading processes prominently addressed in the series and to the transmedial expansion of televisual narration as a whole.

Following part I (*Big Screens*) with its focus on large image constructions, part II (*Small Forms*) concerns itself with new media cultural practices that generate aesthetic forms and formats of condensation, fragmentation, and brevity. We encounter such phenomena of the small in the context of media-driven popular culture, especially with regard to mobile screens, but also where the marginal and the rudimentary are aesthetically re-valORIZED. Small formats generate new forms of representability and narrativity through their inherent ability to condense and accelerate medial processes of production and consumption. Time and again, they transcend and transgress conventional forms of visual culture, bringing information and narration, imagery and textuality, ephemerality and preservability into a productive relational structure.

Chapter 9 (“Tipp-Ex: Small Corrections”) examines the cultural technique of deletion as well as its technological presumptions and consequences in the digital age. Taking an interactive viral video campaign for Tipp-Ex as an example, I turn to forms and procedures of erasing and overwriting in order to divert the gaze from the completeness of a text and instead look at the structural and material conditions of its production. This involves a shift in perspective from the large to the small and, connected to this, the question of the epistemological function of small corrections as they are induced by erasure media such as Tipp-Ex.

Chapter 10 (“Micro Movies: On the Smartphone Film as Media Miniature”) is similarly interested in small forms and formats, turning my considerations of media aesthetic transformations resulting from the small in the direction of filmic forms. Central to my analysis are the practices of mobile filmmaking which generate a new understanding and conception of mobile images. The mobile media practices of the smartphone film are characterized by the fact that they no longer rely on stable or exclusive locations—places of production, editing, and distribution. Rather, their unique quality consists of a specific type of mobility—a mobility of devices, users, processes, and transmissions. Smartphone films are subject to and adapted to the conditions of

mobile screens and mobile viewers. They operate with a short attention span and limited means of production, thereby enabling a newly emerging aesthetic of volatile visuality.

Chapter 11 (“Strike a Pose: Robot Selfies”) investigates robotic photographic self-portraiture as a way of android self-monitoring. Dealing with Google’s museum robot *Gigapan*, NASA’s Mars rover *Curiosity*, Canadian hitchhiking robot *Hitchbot* and the automated, purely techno/self-centered images they produce, I reflect on the embeddedness of the selfie into contexts of self-knowledge within a machine age. The peculiarity of robot selfies, I argue, lies in their aptitude to mediate between self-reflection and self-transformation. Robot selfies exist both as effects and alternative modes of selfie culture, exemplifying a medial reflection that points to the consequences of a transformation of both visual technology and knowledge formation. This process involves not only questions of machinic sensibilities but also, and even more so, an enhanced understanding of the form and function of the selfie as an epistemic technique.

In chapter 12 (“Instagramming: Instagram’s Media Practices”), I explore how Instagram’s digital networked media practices stand in marked contrast to the practices of analog instant photography. Given the profound transformations that Instagram produces as a mobile image network, I argue for a shift in perspective that considers the modifiability and transformability of the image and its additional operations in the context of digital platforms. Crucial to this is the fact that the use of Instagram is no longer oriented toward an individual, inalterable image but is bound up in the practices and potentials of mobile media engagement. As a social network, Instagram organizes how images are produced, distributed, and received. This includes the fact that in the saving and sharing of an image, the app applies a set of protocols that aim to conform to predefined settings, thereby organizing both aesthetic alignments and medial forms of self-depiction via photographic images. As performative processes of image-making, Instagram’s media practices demonstrate what it means to communicate with and through images in a period characterized by mobile screen culture.

Chapter 13 (“Right here, right now. Evolution, Animation, and Music Video”) discusses two media theoretical concepts, evolution and animation, and connects them to digital media developments in music videos. Via the example of the music video for Fatboy Slim’s “Right here, right now” (Hammer & Tongs, 1999), I demonstrate how the video presents an aesthetic form of expression that not only visualizes a satire of creation history but

also implies a commentary on its own media evolution by means of reflecting on its digital imagery. Relying on the animation technique of morphing, this music video presents a flow of images constantly transforming and modifying themselves. This is where the self-reflexive potential of the digital image proves to be a salient illustration of the model of media evolution. Instead of linear chronology, evolution represents constant change; instead of a rapid break, it points to a gradual development, interdependencies, and relational structures. This enables us to rethink not only key concepts of media history and theory but also to redetect them in the microstructures of music videos.

Chapter 14 (“Types and Bytes: Ludic Seriality and Digital Typography”) focuses on the media development of writing techniques and its historically variable practices and procedures. *Type:Rider* (2013), a videogame that both implements the theme of writing’s transformation and, by means of its own specific medial properties, drives its progression, serves as an example. As an adventure and puzzle game, *Type:Rider* discovers the history of typography to be a complex configuration. By moving along the historical lines of letters and lettering, the game not only depicts their inherent techniques and aesthetics, but also renders them as evolutionary processes of mediated communication and information. Exploring the ways in which *Type:Rider* plays with mobile typography, I demonstrate that this game elaborates the potential of typing as a cultural technique in a specific manner. As a media practice characterized by ludic seriality, playing with types not only relies on the logics of digital manipulation and flexibility, but also makes them formally visible and recognizable.

In chapter 15 (“Touch/Don’t Toch: Visuality, Tactility, and Music Video”), I examine music videos as an aesthetic zone where visuality and tactility encounter one another. With “Black or White” and “Africa Shox” I consider two music videos that not only use digital technology in innovative ways, but also produce remarkable representations of the body, bringing to the fore the visible and touchable surfaces of these bodies, i.e. the skin and the sensory modalities of visuality and tactility associated with it. Presuming that sensory perception adapts itself to new media, forming itself according to their requirements, I bring together the visual and the tactile as a newly emerging media assemblage that becomes observable in experimental media forms like music videos.

The last chapter (“Going in Circles. Rotation and Immersion in Björk’s *Wanderlust*”) investigates pictorial principles that are no longer aligned with

the rectangular frame, but transcend it and expand it into a circular form. Taking the stereoscopic 3D production of Björk's "Wanderlust" as an example, I consider viewing configurations that give up the logics of vertical and horizontal image structures and replace them with curved lines. Björk's experiments with circular image forms, I argue, point to an expanded media dispositif whose digital image worlds find their vanishing point in an innovative focus on roundness. In the digital age, the rectangular format seems to be increasingly retreating. The more electronic displays and image media penetrate all areas of everyday life, the more elastic the images surrounding us become. Virtuality and immersion, augmented and mixed reality are today displacing the concept of the image as a clearly closed, hermetically framed picture surface. In this sense, the future belongs to unbounded displays, rendering the image ever more flexible and malleable.

This book was supported by generous funding from the Center for Advanced Internet Studies (CAIS). I am grateful for the stimulating discussions and inspiring exchange during my fellowship at CAIS, which considerably shaped the development of my interests and ideas. My special appreciation goes to Rudy Saliba who translated most of the essays collected here. I would also like to thank Laura Katharina Mücke for supporting the editing process and Florian Schwarz for setting up the layout.

I. BIG SCREENS

Fantastic Views

Superheroes, Visual Perception, and Digital Perspective

As a cultural conglomerate, the superhero genre has always been engaged with transmedia procedures. Since its inception, it has profoundly relied on transmedia storytelling and the ability to expand across multiple media platforms. Ranging across newspaper strips, comic books, radio shows, motion pictures, television series, and video games, the superhero fiction is characterized by narrative extension. Offering a variety of artistic intersections and numerous forms of productive exchange, it allows for acts of adaptation as well as aesthetic transformation. In the digital age, the two-dimensional drawings of comic panels and traditional matte paintings have turned into the three-dimensional sets of CGI and digital cinema as well as the navigable worlds of video games. Hence, the superhero genre not only gives us extraordinary characters who move through the complexity of fantastic worlds but also provides us with a perspective on mutable modes of perception. Exploring a novel valuation of dimensionality, the genre points to the emergence of new spatial sensibilities and viewing capacities.

What makes the superhero genre a particularly comprehensive field for the deployment of perceptual forms and effects is its capability to render vision through the production of supernatural skills. Utilizing a remarkable amount of vision-based powers, the superhero's mode of perception is communicated as a wide-ranging viewing ability. It revolves around night vision, x-ray, and telescope viewing; it makes use of extensive optical facilities, technical intelligence, and sensing equipment. Moving from analog to digital perspectives, the superhero introduces and mediates alternate ways of managing information, in terms of both narration and viewing. As a figure of mutability and transformation, he implicates changes of and challenges to perceptual modes as they have been developed by video games' first-person perspectives or the spatial potential of 3D narratives. Moreover, as the character's abilities

are delivered from mutable viewing positions, they lend themselves to an exploration of optical standpoints. The superhero is a figure that allows us to see through its superhuman eyes; still, at the same time, it is a figure to be looked at. Furthermore, this kind of conception is deeply affected by the ways in which configurations of technology, viewer positioning, media text, and context take shape in specific arrangements and are controlled by particular apparatuses. Thus, as projection and perception are in constant interaction, they influence the condition for each other's presence and thereby constantly transform themselves.

This essay investigates the superhero genre's thematic and aesthetic formations of viewing capacities. I will discuss the superhero genre as a critical space for rethinking assumptions around viewing positions as well as the historical frameworks through which they have been consistently addressed and evaluated. In doing so, three aspects deserve special attention. The first section considers the process of masking, and thus the oscillation between looking at and seeing through a mask; the second discusses the process of mapping, and thus the interrelation of spatial positioning and spatial representation; and the third debates the process of mediation, and thus the vacillation between interaction and immersion.

Following and fostering aesthetic transformations, the superhero's media existence exemplifies a modality capable of reconciling several characteristics of visual technologies. It becomes proficient to point to the performative process of generating perception and perspective, and, what is more, to allude to media's contribution to this very process.

1. Masking

As a figure whose visual capacities exceed those of the human eye, the superhero provides a specific mode of viewing. Being equipped with superhuman visual powers, he does not only enhance his own perceptual abilities but also redirects our gaze to the field of vision. This way of seeing and being seen becomes concentrated and condensed through the mask. "The mask is the perfect synecdoche for the superhero,"¹ states Scott Bukatman, pointing to interrelated visual structures of exposure and disguise. The mask conceals the

1 Scott Bukatman, *Matters of Gravity: Special Effects and Supermen in the 20th Century* (Durham: Duke University Press, 2003), 212.

wearer's true identity and thereby constructs another identity. It brings the unknown to recognition and the unrepresentable to representation. Still, as a costume or cover, the mask is not clandestine but attracts attention: "In their secret identities, superheroes all hide in plain sight."² The mask is a means of covering as well as of uncovering. While the masked is seen to be masked, the secret is revealed to be no secret at all. Thus, the mask indicates a presence of absence. It reveals what it hides, and it hides what it reveals.

This status of instability is often put on display by the contours of the mask itself. Many superheroes wear half masks, like Batman or Daredevil for example. Deriving from sixteenth-century mask types of the Italian *commedia dell'arte*, which for the first time used a half-mask theatrically, this kind of masquerade is a study in contrast. Half masks cover the upper face, leaving the mouth and jaw exposed. Hence the face's immobile upper part is in contrast with its mobile lower part, and the ornamental framing of the eyes is in contrast with the laying bare of the mouth. The half-mask depicts a face that does not exist as a whole but is always already fragmented. In enforcing a concentration of the eyes, however, it requests the viewer to look out for minuscule movements behind the shield. The combination of eyes and mask fascinates because it pairs the mobile with the immobile.³ As a result, the spectator's view is split up as well, as Paul Coates underlines regarding *The Dark Knight* (Christopher Nolan, 2008): "The recognition therefore seems to be a half-recognition, a seeing in the denied periphery of vision."⁴ Thus, the half mask is information conveyed and information withheld. It brings together mobility and immobility as well as stasis and flexibility.

In digital cinema, masking and layering have become defining practices to alter the actor's facial expression: "Whilst analogue cinema features human characters faithfully captured by an analogue camera, digital cinema often involves the modification of these human characters. [...] What this means is that the characters that we see on film are a hybrid of 'real' flesh and blood actors and digital imagery."⁵ With digital technology, the process of assimila-

2 Ibid., 213.

3 An interesting counterexample is Rorschach's constantly mobile mask in *Watchmen* (Zack Snyder, 2009). Thanks to Matthias Stork for this comment.

4 Paul Coates, *Screening the Face* (Houndmills: Palgrave Macmillan, 2012), 93.

5 William Brown, "Man without a Movie Camera – Movies without Men: Towards a Posthuman Cinema?", in *Film Theory and Contemporary Hollywood Movies*, ed. Warren Buckland (New York: Routledge, 2009), 69.

tion reaches a point of amalgamation. This kind of hybridization has implications for the notion of transformation. Digital imagery raises questions about bodily boundaries and the concepts that are associated with them. While the human is being encased within a second skin of digital technology, his organic face seems to fade into invisibility. The digital superhero emphasizes this structure by erasing the distinctions between face and mask. This becomes most obvious when the half mask is turned into a whole mask, as in the case of Spider-Man. Thus, within cinematic representation, the identity of the performer becomes unimportant; the mask of technology itself is the thing: "The cinematic superhero is becoming the incarnation (ironic word!) of electronic technology; digital beings that embody the fact of being digital. So after Tobey Maguire pulls Spider-Man's mask over his face the figure onscreen literally ceases to be Tobey Maguire."⁶ The digital mask does not depend on a face to wear it. It exists as a self-contained feature, ever more light and malleable.

Digital characters have an element of flexibility within them that can be stretched beyond the limitations given by raw material. They allow for a specific kind of transmutation. Andrew Darley analyses this transformation via the example of *The Mask* (Chuck Russell, 1994), a film that exemplifies a specific stylistic transfiguration from classical cartoon to digital cinema:

Instead of using the computer to simulate live action cinematography, *The Mask* uses it to introduce techniques of graphic exaggeration such as 'squashing and stretching'—aesthetic techniques of the classical two-dimensional cartoon—into the 'three-dimensional photo-reality' of live action film. This produces extraordinary (and paradoxical) imagery whereby corporeality and verisimilitude gets injected into the graphic hyperbole of the cartoon aesthetic.⁷

Developing stylistic choices to make a character seem cartoon-like and preternatural, digital film has often relied on graphic manipulation and exaggeration rather than cinematographic recording. On the other hand, more recent endeavors in digital cinema aspire to achieve seamless photorealism, creating a perfect illusion of the real. Obviously, digital superheroes are presented as

6 Scott Bukatman, "Secret Identity Politics," in *The Contemporary Comic Book Superhero*, ed. Angela Ndaliansi (New York: Routledge, 2009), 115–116.

7 Andrew Darley, *Visual Digital Culture: Surface Play and Spectacle in New Media Genres* (New York: Routledge, 2000), 111.

spectacle, but that spectacle is shown to be both fictional (the concept of superhuman figures as fantastic characters) and nonfictional (the display of enhanced reality created by CGI). These efforts can be considered as a production process that shuttles between venture in artifice and investment in authenticity. The superheroes' world is perceptually realistic—even if, as a nonexistent place, it cannot be an index. Nevertheless, the persuasiveness of digital effects makes indexical claims.⁸ Hence digital cinema offers a kind of hyperreal cartoon imagery, a continuum between mimesis and abstraction.

The mask of the superhero is not only a means of disguise; it is also a technological device. In *Iron Man* (Jon Favreau, 2008), protagonist Tony Stark (Robert Downey Jr.) applies a powered exoskeleton when he assumes the identity of Iron Man. The suit has a self-contained environment consisting of various communication arrays and sensors that turn Tony into a technologically enabled superhero. Viewed from the outside, his facial mask consists of a hermetically closed helmet that covers the entire head with a cutout across the eyes. However, the film does not only offer an outside viewpoint on the superhero's appearance. It also changes the perspective to inside the helmet to view all the information presented to the character (see Fig. 1).



Fig. 1: The camera allows us to cross behind the mask to view the superhero's graphical user interface.

8 Frank Kessler emphasizes: "Through a shift in perspective, the 'claim of the real' no longer depends on the indexical image but on the status a viewer ascribes to that discourse." See Frank Kessler, "What you get is what you see. Digital images and the claim on the real," in *Digital Material. Tracing New Media in Everyday Life and Technology*, ed. Marianne van den Boomen et al. (Amsterdam: Amsterdam University Press, 2009), 187.

Additionally, when Iron Man starts his flights, the film inserts several subjective point-of-view shots, allowing us to see the world through the superhero's eyes. The film thus gives us a cyberview perception, shown through a digital display and accompanied by analytical data.

This entering into the inside of the mask provides a critical space for rethinking filmic assumptions around viewing positions. Significantly, the shots depicting the superhero's view through the mask lack a defined frame: we see through a screen without noticing the confines of the screen. This way of rendering space is reflexive because it indicates a specific mode of perception: it duplicates the cinema's screen and its masking action. As André Bazin was among the first to observe, the filmic screen is not the frame of a picture but a mask that produces a centrifugal configuration:

The outer edges of the screen are not, as the technical jargon would seem to imply, the frame of the film image. They are the edges of a piece of masking that shows only a portion of reality. The picture frame polarizes space inwards. On the contrary, what the screen shows us seems to be part of something prolonged indefinitely into the universe. A frame is centripetal, the screen centrifugal.⁹

Bazin's notion of the cinematic screen as a piece of masking indicates the model of a frameless window, a now well-established concept within film theory. Its central characteristics are transparency and pellucidity: "One looks *through* a window, but one looks *at* a frame. The notion of the window implies that one loses sight of the framing rectangle as it denotes transparency [...]. The window directs the viewer to something behind or beyond itself—ideally, the separating glass pane completely vanishes in the act of looking."¹⁰ Having been developed within the framework of film theory, the idea of the unframed window as a specific model for visual perception and perspective proves to be an effective notion for wider discussion, especially with respect to digital technology: "It is the digital revolution itself, and the increasing ubiquity of 'flat' computer monitors as display surfaces, which has advanced the window to the status of a leading cultural metaphor."¹¹ In the digital age, the screen as a window replaces the frame as a stable construction. We witness an

9 André Bazin, *What is Cinema?* (Berkeley: University of California Press, 2005), 166.

10 Thomas Elsaesser and Malte Hagener, *Film Theory: An Introduction Through the Senses* (New York: Routledge, 2010), 14–15.

11 *Ibid.*, 33–34.

era with more screens than ever before, and within each screen, a multitude of visual varieties. In discussing how a medium refashions other media via the process of remediation, David Jay Bolter and Richard Grusin have shown how immediacy leads to hypermediacy: "Where immediacy suggests a unified visual space, contemporary hypermediacy offers a heterogeneous space, in which representation is conceived of not as a window on to the world, but rather as 'windowed' itself—with windows that open to other representations or other media."¹² In *Iron Man*, the superhero's view through the mask is reminiscent of the cartographic mode of video games. As an intensification of the subjective point of view shot, it shares something of the cinema of the past and the computer game of the present. Its representational mode is not unified but multifaceted. Thus, the window's tendency to transparency opens itself up to the status of virtuality. Anne Friedberg emphasizes: "The window's metaphoric boundary is no longer the singular frame of perspective—as beholders of multiple screen 'windows', we now see the world in spatially and temporally fractured frames, through 'virtual windows' that rely more on the multiple and simultaneous than on the singular and sequential."¹³

In *Iron Man*, this multiplication of viewpoints is rendered visible through the superhero's subjective perspective. Offering multimediated sights as well as multiple layers of information, this visual construction differs ostentatiously from former perspective relations. In *The Language of New Media*, Lev Manovich argues that the digital layering of processes, images, and information enriches visual perception in a complex manner. In contrast to the analog organization of media forms, digital multimedia production adds more and more elements of information without establishing any conceptual tension between them. This pertains to a shift in aesthetics: "Where old media relied on montage, new media substitutes the aesthetics of continuity [...]. Montage aims to create visual, stylistic, semantic, and emotional dissonance between different elements. In contrast, compositing aims to blend them into a seamless whole."¹⁴ Thus multilayered new media compositions displace montage

12 Jay David Bolter and Richard Grusin, *Remediation. Understanding New Media* (Cambridge: MIT Press, 2000), 34.

13 Anne Friedberg, *Window Shopping: Cinema and the Postmodern* (Berkeley: University of California Press 2000), 243. For a wider discussion and a far reaching genealogy of the window as metaphor, concept and technology see Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge: MIT Press, 2009).

14 Lev Manovich, *The Language of New Media* (Cambridge: MIT Press 2001), 143–144.

as the dominant aesthetic logic, allowing the viewer to watch and see in a fundamentally different, more complex way.

The superhero's mask comes to stand for a head-mounted display. Suggesting technologically enhanced perception, it is closer to machinic than human vision.¹⁵ As a result, the cinematic viewer is challenged to widen his perspective as well. Addressing changes surrounding the concept of the spectator in the digital age, Nicholas Mirzoeff maintains "that audiences were learning to see as computers. That is to say [...] we need to learn how the computer sees, to learn how to recognize its gaze and then to imitate it."¹⁶ Making the computer gaze accessible requires a visual enhancement of the filmic image. The camera seems to adopt a computerized visuality complete with specific digital graphics. Alexander Galloway explains: "Necessary for this effect are all the traces of computer image processing: scan lines, data printouts, target crosshairs, the low resolution of video, feedback, and so on. In other words, a deviation from the classical model of representation is necessary via the use of technological manipulation of the image—a technological patina."¹⁷ It is this technological patina, this cyber skin that covers the filmic image like a mask. While we move into the digital domain, new modes of perception alter our way of seeing the world. As this transformation transgresses boundaries between human and machine, the digital superhero's vision is most appropriate to embody that change.

2. Mapping

Being capable of transcending the laws of physics, superheroes move through space in a special way. They explore environments, navigate them, and thereby generate knowledge about space and spatial positioning. This ability to move in and out of a geographic terrain relies fundamentally on optical machines and technologies that organize visual orientation. Many superheroes supplement their powers with special devices like night vision binoculars, infrared

15 On the concept of vision machines as technical prosthesis that alter and extend human perception see Paul Virilio, *The Vision Machine* (Bloomington: Indiana University Press, 1994).

16 Nicholas Mirzoeff, "The Subject of Visual Culture," in *The Visual Culture Reader*, ed. Nicholas Mirzoeff (New York: Routledge, 2002), 11.

17 Alexander R. Galloway, *Gaming: Essays on Algorithmic Culture* (Minneapolis: University of Minnesota Press, 2006), 56.

cameras, or telescopic lenses. Thus, the superhero's vision-based powers can be seen as a reflection of the will to enhance human perception and to extend the boundaries of the visual known—an endeavor that is long rooted in media history: “From the eighteenth to the twentieth centuries, science continually expanded the realm of the visible through measurement, representation, and revelation, using telescopes, microscopes, thermometers, X rays, photography, cinema, and digital modeling.”¹⁸ While optical organization and visual investigation became defining factors in the field of perception, they enabled vision to celebrate new triumphs:

The primacy of the eye [...] as the dominant sense organ of the twentieth century is the consequence of a technical revolution that put an enormous apparatus to the service of vision. The rise of the eye is rooted in the fact that all of its aspects (creation, transmission, reception) were supported by analog and digital machines. The triumph of the visual in the twentieth century is the triumph of a techno-vision.¹⁹

Yet, expanding the realm of the visible depends on the notion of the invisible. In other words, to apprehend new modes of perception is also to acknowledge that which defies easy exploration. As modernism increased visual accessibility, it simultaneously impelled the demand toward an effort of mapping. A space that demonstrates this double bind of expanding and withdrawing, of fullness and absence, is the modern city. “The twentieth century city put new concentrations of information into increasingly rapid circulation, coincident with new modes of perception,” underlines Scott Bukatman. However, this development “includes the problem of mapping an urban space that had become so big, complex, and dynamic as to evade easy comprehension.”²⁰ Thus, the city contracted and expanded in disturbing, compelling, and captivating ways: “In fiction, journalism, and cinema, the uncentered city appeared as a dark maze or labyrinth, a site of disappearance and murky invisibilities, a giant trap for the unwary, but it was also a stage for spectacular, kaleidoscopic experience.”²¹ According to Bukatman, the rise of the superhero as a fictional

18 Bukatman, *Matters of Gravity*, 115.

19 Peter Weibel, “The World as Interface: Toward the Construction of Context-Controlled Environment Worlds,” in *Electronic Culture: Technology and Visual Representation* ed. Timothy Druckery (New York: Aperture, 1996), 339.

20 Bukatman, *Matters of Gravity*, 188.

21 *Ibid.*, 188.