

CURATING THE NETWORKED IMAGE: CIRCULATION, COMMODIFICATION, COMPUTATION

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ABSTRACT

In the context of today's networked culture, where artworks and photographs circulate online alongside other commodities and digital objects, online users and data aggregation tools partake in the selection, filtering and dissemination of visual content. The conflict of differentiation emerging from within the shared space of the Internet is at once aesthetic, social and political. At the core of this research is the question of how the curation of networked images can produce cultural value and social meaning in the face of such a conflation of interests and agendas. The study argues for the necessity to reconsider the conventional paradigm of art curating in light of these shifting conditions and in response to the emergent discipline of digital curation, and it repositions the role of the curator and the work of networked images within this accelerated and evolving field.

To this end, the research employs a practice-based mode of inquiry grounded in curatorial work, experimenting with three case studies that challenge existing curatorial paradigms through a reconsideration of the traditional object of curating, the context of curating and the agents partaking in its process. The documentation from the case studies is gathered in the memory stick accompanying this dissertation that constitutes an integral part of this research.

The practical analysis at the heart of this thesis shows that conditions of online circulation, commodification and computation impact both the operations of networked images and the renewed procedures of curating within an online context where the logics of profit and aesthetics coalesce. While networked images are identified as 'rich images' by virtue of their participation in processes of valorisation and commodification, the new role and practice of the curator is found to be embedded within a complex network of human and algorithmic agents and technical protocols, signalling a shift from online curation to processes of 'network co-curation'. The critical reflexivity that informs the methodological framework of this research is posited as the differentiator for the production of cultural value in a time when search engines and algorithms are agents of meaning and aesthetic patterns.

Curating the networked image means stepping out of the 'art filter bubble' in order to develop a sophisticated knowledge and critique of the aesthetic, economic and sociotechnical conditions that shape the current state of art and culture on the Web – conditions of circulation, commodification and computation.

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CHAPTER 0. INTRODUCTION

0.1. RESEARCH BACKGROUND

When there are no clear boundaries, routines and institutional practices to produce forms of art, subjects and knowledge such as the ones we are used to knowing, it is what we, as part of computational matter, strive for, produce and sense out, that becomes.

(Goriunova 2013, p.31)

In the fall of 2011, I had the opportunity to contribute as a guest curator to or-bits.com, an online platform funded by curator and researcher Marialaura Ghidini which ran from 2009 until 2015. Or-bits.com was dedicated to promoting practices and dialogues across media, inviting artists and researchers to actively engage with the format of the empty web page. In line with the themed-focus orientation of the programme, I was asked to reflect upon the concept of *TRUTH* (https://or-bits.com/truth.php). Ghidini framed it in relation to the unsettling relationship between information, knowledge and power, which at the time was at the forefront of philosophical and cultural debates contending with the impact of digital technology on historical events such as the WikiLeaks case and the Arab Spring uprising.

My entry point into the project was from the perspective of the image, and one specific image in particular. The image, that later became known as *The Situation Room*, was published in the news on May 1, 2011. It featured President Obama, Hillary Clinton and Joe Biden, along with members of the national security team, receiving live updates on the military operation which led to the killing of Osama bin Laden, the leader of Al-Qaeda. The image swiftly attained iconic status because of its historical relevance, widespread reproduction and distribution across a variety of media outlets and online platforms, whilst also receiving great attention within the academic and artistic milieu. In the context of the project, which was entitled *Is Seeing Believing?*, I approached this as a 'meta-picture' (Mitchell 1994) – 'a moveable cultural apparatus' (Mitchell 1994, p.48) that creates a dialectical tension between what is represented and how the latter is inscribed within a wider discourse on visuality, language and representation. I used it to open up a dialogue about photography's truth claims with a number of artists, activists and collectives, including Jon Rafman, Foundland, The International Errorist and Alterazioni Video. Their various visual and textual contributions were then

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¹ See, for instance, J.W.T. Mitchell's address of the image in 2014 in his workshop entitled 'Methods, Madness and Montage' at the Center for Contemporary Critical Thought at Columbia University, New York. Works of art that engage with the image include the video installation *May 1, 2011* (2011) by Chilean artist Alfredo Jaar and the book *War Primer 2* (2011) by Adam Broomberg and Oliver Chanarin amongst others.

assembled onto an autonomous web page on the or-bits.com website, which mimicked the design and layout of the Al-Jazeera news website (https://or-bits.com/truth.php).

Is Seeing Believing? evolved into a symposium at the New Academy of Art (NABA), Milan, in 2011 and a round-table discussion at Impakt, Utrecht, in the spring of 2012. On both occasions, important questions were raised concerning the radical transformations that the development of Web 2.0 and online platforms for usergenerated content were having on the status of the image and on the processes of curating: What impact do digital means of reproduction and distribution have on the social function and power of images? Is a critique of the image still possible under conditions of online visual abundance, networked distribution and digital manipulation? Which curatorial tools are needed to grapple with the new relationship between politics and aesthetics as shaped by digital technologies?

The project received a healthy amount of constructive criticism, challenging my role as a curator and my specific approach to the photographic image. The most piercing critique was offered by media scholar Taina Bucher in the context of an interview with the online journal furtherfield. There, she contended that the project implied that 'we have no choice but to believe the image' (Bucher 2012) and that the format of the online magazine was 'surprisingly static' (Bucher 2012) considering the project's intention of embracing the 'visual volatility of the web' (Tedone 2012 cited in Bucher 2012; Tedone 2015 cited in Ghidini 2015) and 'the associative and eclectic character of a browsing session' (Tedone 2012 cited in Bucher 2012; Tedone 2015 cited in Ghidini 2015, p.269). Bucher's observations pointed to the necessity of acquiring a new theoretical framework that would challenge my use and understanding of semiotics, as the area of study traditionally concerned with the interpretation, cultural value and social function of photographic images, whilst also serving my renewed curatorial ambitions. These consisted in curating with and about images and of problematising the threshold between the visible and the invisible, the representable and the unrepresented. From this early attempt at online curating a number of preliminary questions developed which have shaped the multiple problems of this research: How is the networked culture changing the role and activity of the curator with particular reference to the function and value of networked images? What types of curatorial methods can expose and challenge the modes of production, organisation and structure of the networks?

² See the 1960s writings of Roland Barthes and John Berger and the 1980s work of Victor Burgin.

0.2. A TRANSIENT FIELD OF STUDY

This study is concerned with the online curation of networked images. It examines how networked culture is changing the role and function of both the image and the curator. Importantly, it suggests that the two are deeply interlinked and that in order to understand the latter, one needs to begin by coming to terms with the former. In other words, the underlying hypothesis of this study is that if the status of the image is changing within networked culture, so is the notion of aesthetics - here preliminary defined as the language of the visual - and, with it, the role of the curator which I understand to be concerned with the extraction of cultural value and meaning from aesthetic forms. The approach this research takes considers the World Wide Web as the contextual network in which both the image and the process of online curation are situated and, as such, it critically engages with the Web's current state of privatisation, corporisation and commodification. Consequently, this study offers an expanded definition of curating with respect to networked technologies and to the online environment, whilst also foregrounding the key role that networked images play as interfaces 3 of socio-economic transactions and interactions under conditions of 'computational capitalism' (Beller 2016a).

This thesis proposes an interdisciplinary approach that directly links theory of art and media curating (often treated as separated fields of inquiry), new media and software studies (expanding the traditional discourse of photographic theory), and a relatively recent interest in experimental humanities (according to which the notion of human agency is expanded to non-human agents, including machines, software and algorithms). Although there is an increasing body of critical work and practices that deal with online curating, and a wealth of literature dedicated to the digital image, the two have not yet been considered together. This research aims to waive the two dimensions together and to explore a perceived gap of knowledge, both in practice and theory, concerning the online curation of networked images. One of the few studies that addresses the intersection between curating and the networked image is Andrew Dewdney's essay 'Curating the Photographic Image in Digital Culture' published in Martin Lister's book *The Photographic Image in Digital Culture* (2013). There, Dewdney highlights the paradoxical condition of the photographic image, which is trapped between being a singular medium in museum culture and a distributed image in networked culture, whose fruition is mediated by the interface of screens. From this, he

³ From the perspective of software studies, 'interfaces link software and hardware to each other and to their human users or other sources of data' and 'emphasize the representation or the re-articulation of a process occurring at another scalar layer' (Fuller 2008b).

argues that the curation of the photographic image has remained largely paralysed within an institutional logic and 'system of an aesthetic modernism' (Dewdney 2013, p.99) and that it is currently struggling to revive its modes and practices, as well as discourses. As he observes:

What is now at stake is the struggle for a new paradigm, a new epistemology that would account for the strange new world of computer systems in terms that are meaningful to the world of social relations, enmeshed with and admitting the computational means of reproduction. In this endeavour those attempting to 'curate the networked image' are leading the way, while those admitting the analogue media archive to the canon of modernist art are engaged in nostalgia.

(Dewdney 2013, p.110)

In a later article, Dewdney argues for the need to inquiry into the role of computational systems and networks as agents of meaning, and to develop a form of 'practical criticism' towards the power structures that support the new means of reproduction and distribution of networked images: not only is the task of the curator – alongside the artist, academic, photographer – to make 'the network of power visible', but also to 'create new publics based upon equality of knowledge, access and experience' (Dewdney 2016).

This research takes up the challenge of attempting to curate the networked image. Its exploratory stance stems from a recognition of the shifting contours of the wider field of knowledge examined: Internet studies. The latter, as media theorist Geert Lovink argues, is 'in a permanent state of flux and will disappear shortly' (Lovink 2011, p.7). As he explains: 'PhD research cannot keep up with the pace of change and condemns itself for capturing vanishing networks and cultural patterns' (Lovink 2011, p.6). Whilst acknowledging Lovink's cautionary words, this research does not condemn itself for taking up this compelling task; rather, it maintains the relevance of accepting trial and error, recursivity and evanescence as part of a research process that is closely involved with computational matter. In doing so, it argues for the importance of undertaking practice-based research for sensing out, analysing and keeping up with the rapid speed of the present cultural transformations.

0.3. AN HYBRID FORM OF PRACTICE

Facing the hybrid is a great first step towards change. (Martinez 2016, p.85)

In her catalogue essay for the 9th edition of the Berlin Biennale entitled *The Present in Drag* (2016), curated by DIS Collective, curator and writer Chuz Martinez provocatively suggests that the art world should overcome the practice of exhibition-making, its mode

of presentation and explanation and its inside/outside logic (Martinez 2016). Drawing inspiration from philosopher Vilém Flusser's dismissal of the book format, she makes a case for discarding the linear temporality of the exhibition in favour of embracing hybrid forms of practice and production that would collapse the very premise of aesthetics, described as 'the distance between art from institutions, viewers, and artists themselves' (Martinez 2016, p.85). Martinez suggests that curating, in spite of all its inner paradoxes and contradictions, might be the right way to challenge the book format and embrace the hybrid, a notion she claims philosophers have rejected out of fear or because they perceive it as parasitical. As she states: 'We are so bad with hybrids, yet everything stable, steady, and self-contained is uninteresting' (Martinez 2016, p.83). Although it remains unclear which philosophers she is referring to, her claim could be easily undercut when confronted with the work of notable philosophers of science (Bateson 1972; Latour 2005), theorists of the assemblage and the rhizome (Deleuze and Guattari 1983; DeLanda 2006) and feminist posthumanist scholars (Barad 2007; Braidotti 2013). What all these accounts have in common is the recognition of the essentially hybrid, processual, associative and entangled nature of knowledge production and subject formation.

Thus, what is relevant in Martinez's advocacy of the hybrid, is not so much the outmoded proposition that no single language, discipline or field can alone deal with the complexity of the world, nor the practical solutions she offers – a rather nebulous invite for art and artists to engage more closely with educational facilities, the youth and children. What is most interesting is the cultural context in which her assertion is situated, that is, the 9th edition of the Berlin Biennale. The latter, in fact, is one of the few art events held in recent years that can be described as a curatorial hybrid in so far as it performed several distinctive operations: first, it challenged the single authorship of the curator by demonstrating that a collective of artists and creators with no previous experience in Biennale curating could assemble a visually and conceptually thoughtprovoking project; second, it brought together different constituencies, namely the art and new media world and simulated an institutional critique of both through a play on their dynamics of inclusion and exclusion; third, it approached the activity of curating as a corporate task inextricable from a savvy branding and marketing strategy, reflecting one of the prevailing roles curating has come to be associated with in the online context, as I will argue throughout this thesis.

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⁴ This was best exemplified by the communication and marketing campaign *Not in the Berlin Biennale*, created by Babak Radboy for the 9th Berlin Biennale. The campaign listed a number of artists who were not officially involved in the Biennale's main exhibition and whose work was assimilated into Radboy's project.

The Biennale produced a fierce reaction in the mainstream press that usually reviews large-scale exhibitions of contemporary art, as illustrated by the article written by Jason Farago for *The Guardian* (2016). There, Farago describes DIS's enterprise as an arrogant, ultra-slick, ultra-sarcastic Biennale, lacking art historical references and producing a politically dangerous 'digital nihilism' (Farago 2016). Although the article dismisses the Biennale for implying that art no longer has a social role, it credits DIS with recognising that 'artists have to work inside the economic and image-saturated straitjackets of contemporary culture' (Farago 2016). However, this proposition is not followed through and Farago arguably fails to understand the intentions of the whole DIS project, as clearly expressed by co-founder Lauren Boyle in the official statement for the Biennale's press conference: 'Instead of pulling talks on anxiety, let's make people anxious; rather than symposia on privacy, let's jeopardize it; instead of talking about capitalism, let's distort it [...]' (Boyle 2016).

Within the context of this study, the case of the 9th Berlin Biennale is relevant for two distinct reasons: first, DIS's curatorial position acted out the entanglements between online curation, branding and commodification that this research is similarly preoccupied with. Accordingly, this study aims to occupy a position of immersion within the same environment it interrogates – the seemingly homogenised space of the Web – and to embody the contradictions and opacities emerging from the collision between different interests and agendas, these being commercial/economic, cultural and sociopolitical/civic. Second, the Biennale's critical reception pointed to the institutional and market separation between the fields of contemporary art and new media art, a condition that has been referred to as the 'Digital Divide' by art writer and critic Claire Bishop (2012).

Bishop first introduced the concept in an article published in *Artforum*, where she suggested that the overlaps between the fields of contemporary art and new media are rare. Moreover, she presented the latter as a niche and specialised subfield of the former, with its own discourse, star system and network of distribution (Bishop 2012). Bishop's point, which was peripheral to her main argument about the impact of the digital regime on visual art production, was widely criticised by new media advocates, who refuted the subordinate distinction of new media art to mainstream contemporary art and reacted against the proposition that code is alien to human perception.

⁵ The Guardian's position was also sustained by the online journal hyperallergic.com. For a counter argument, see Alyssa Buffenstein's response for *Vice Creators* (Buffenstein 2016).

However, the fierce tone of the debate testified to the fact that these two fields so indeed rely upon different systems of reference and cultural paradigms, as Martinez's above-mentioned essay demonstrated. The latter highlights how the digital divide, originally framed by Bishop in relation to the critical receptions of works of art, has now also translated to curatorial practice, contributing to polarising the positions of new media curators and contemporary art curators.

This research aims to help narrow this divide by engaging in hybrid curatorial experiments at the crossover between the fields of contemporary art, photography and online image culture and through a theorisation of such experiments. In so doing, it argues for a cross-disciplinary approach that posits what I call 'the accelerated field of contemporary curation' as an emerging arena where notions of art and new media curating are conflated with notions of digital and content curation. Moreover, this research seeks to engage with the original meaning of the term digital divide⁶ within the field of social science, where it is used to refer to uneven access to technology, social inequality and network power structures (Ragnedda and Muschert 2017). Such considerations were not incorporated in the critiques and comments of Bishop's argument (Cornell and Droitcour 2013; Cramer 2017), which remained hitched to the polemic reinforcement that the term played in the title of her article.⁷

In response to this on-going debate, this study aims to integrate these two different meanings of the notion of the digital divide to frame a curatorial position that operates in a hybrid territory at the crossover between distinct fields whilst also being preoccupied with the socio-political implications of the curatorial function in relation to real world issues. By engaging with the recent social science perspective of the notion of the digital divide (Ragnedda and Muschert 2017), this study proposes that the problem of curating should be framed in light of broader issues of global information capitalism, particularly in relation to dynamics of access to images and information (first case study), to the monetisation of users' taste and purchasing preferences at the hands of online platforms (second case study) and to the increasingly important role of corporate algorithms in shaping social behaviours (third case study). An integrated perspective on the notion of the digital divide, which acknowledges its global dimension – the so-called 'global digital divide' (Castells 2001) – and its entanglement with problems of digital literacy and algorithmic governance, could not only serve the

⁶ In 1997, Lloyd Morrisett from the Markle Foundation coined the term 'digital divide' to refer to the gap between the information 'haves' and 'have-nots'. See Katz and Aspden (1997).

⁷ It is useful to mention that the title of the article was the result of *Artforum*'s editorial process and that Bishop's original proposal was *Digital Disavowals*. See Bishop "Sweeping, Dumb, and Aggressively Ignorant! Revisiting 'Digital. Divide." In *Mass Effect: Art and the Internet in the Twenty-First Century*, edited by Lauren Cornell and Ed Halter, p.353-355. Cambridge, MA: MIT Press, 2015.

purpose of expanding the genealogy of art and media curating, but also of reconsidering the relationship between aesthetics and politics within networked culture. As such, this thesis posits curation as a reflexive method that can account for the crisis of cultural value brought about by the algorithmic world and perform a mode of 'criticism in action' (Lovink 2011, p.74) or 'processual criticism' (Finn 2017a, p.13) towards the wider issues of power and control that characterise the current state of the networks. What this thesis argues is that the awareness and understanding of networked infrastructure, algorithmic systems and their resonating impact on wider dynamics of visibility and circulation is the first necessary step for developing a critically reflexive mode of online curation. This argument is founded upon the framing of three key concepts – networked image, online curation and circulation – that this research explores in depth.

0.4. KEY TERMS

0.4.1. NETWORKED IMAGE

The networked image is a slippery image as much as it is a slippery concept: its material and conceptual boundaries are currently being drawn, posing the question of how the term originally developed and whether it should be theorised further. At present, the concept has taken up a flexible role, coming to define 'a set of contemporary practices, platforms, software and computer programmes which are reconfiguring the visual and sonic in culture and shifting settled notions of temporality, movement and space' (http://www.centreforthestudyof.net). Although this thesis maintains an elastic definition of 'networked image', it also retains the usefulness of the concept to describe the dynamics of online image searching and the circulation of images within computational culture. The networked image is here understood as a computational structure as well as a mode of visual representation defined by the conditions of online search and circulation. The latter, which will be described in more detail later in this section, can here be provisionally defined as the key socio-technical process that enables the distribution and sharing of online content (objects, images, data) across various users and contexts of reception.

The notion of networked image can be traced back to Daniel Rubinstein and Katrina Sluis's essay *A life more photographic; mapping the networked image* (2008). There, they define it as 'data' and as 'visual information to be analysed and remapped to new contexts via algorithms' (Rubinstein and Sluis 2008, p.21). Already implicit in this definition is the sense that the networked image is not bound to a specific location or

context; rather, it finds itself at the hinge between physical and digital modes of existence (Rubinstein, Golding and Fisher 2013). The term emerged amongst a proliferation of other terms reflecting a compelling theoretical debate informed by cultural, technological and philosophical reflections. Such terms include: the 'computational' and 'algorithmic' image (Rubinstein and Sluis 2008; Uricchio 2011) from the field of software studies; 'ubiquitous photography' (Hand 2012) and 'fractal photography' (Rubinstein 2016) from the theory and philosophy of photography; the 'emergent' image (Joselit 2013) from contemporary art discourse.

Since then, further reflections on the networked image have focused on its behaviours and operations rather than on its ontology. This is precisely because the networked image marks a rupture with the conceptual categories of traditional photographic ontology, including indexicality, iconicity, signification and representation⁸ and it is symptomatic of a paradigmatic shift from representation to post-representation. In this research, an awareness and problematisation of this paradigmatic shift is considered essential to approaching the concept of networked image. In their 'genealogies of representation' (2013, pp.25-6) Rubinstein and Sluis trace the critique of representation back to Martin Heidegger's seminal essay 'The Age of the World Picture' (1977). There, Heidegger posited representation as a key characteristic of modernity, which is shaped by two interconnected events: the world becoming a picture and the human being becoming a subject. Heidegger's critique of representation contends with the Cartesian model of rational knowledge, according to which there is a dichotomy between object and subject and to represent something means to submit it to the rigors of rational discourse. Building upon this view, Rubinstein and Sluis lay the groundwork for the renewed procedures of photography - historically conceived as an offshoot of objectivity and empiricism - within computational culture. From there, they identify a new set of operations that characterise the behaviours of the networked image, such as instantaneity, seriality, undecidability, recursiveness and virality (Rubinstein and Sluis 2013b).

⁸ Representation is a foundational concept in aesthetics and semiotics and has become a crucial notion of political theory in the modern era, forming the cornerstone of representational theories of sovereignty and relations of the individual to the state (Mitchell 1995). In Western philosophy the concept can be traced back to the early theories of representation of Plato and Aristotle. Plato's distrust of media representations comes from his belief that representations create worlds of illusion leading one away from 'real things'. Aristotle, on the other hand, argued that representations are necessary since mimesis is natural to man. For him, representation becomes man's way of being in the world and his method of learning.

⁹ One of the major features of Heidegger's thinking is his criticism of Cartesian subjectivity. According to Heidegger, Descartes reduces all entities to ideas or representations whose validity is determined by the rules imposed on them by the subject ego. An examination of Heidegger's main writings reveals that for him these shortcomings of the subjectivistic view were not limited to Descartes but formed the axis of the modern philosophic tradition.

As they put it:

A networked image is both instantaneous in the sense that it can move across the Internet close to the speed of light and multiple in the sense that it can bifurcate into any number of copies. In this climate, repetition, seriality and divergent parallel narratives take precedence over signification and representation.

(Rubinstein and Sluis 2013b)

Rubinstein and Sluis's account of the networked image is here considered as the most comprehensive to date, while being open to further interpretation and speculation. In particular, this thesis is interested in extending the authors' reflections on the networked image's relationship to meaning and its political power. Both of these aspects are tightly connected to the notion of network, which takes up in their work different significations in different contexts: in regard to the problem of meaning, the network is understood as the web of relations from which the meaning of the networked image is formed, contrasting with older notions of 'indexicality and iconicity' (Rubinstein and Sluis 2013a, p.36); on the other hand, as far as the political agency of the image is concerned, the network refers to the often opaque technical and organisational infrastructures that support the operations of digital images. As they speculate: 'What is the political power of the undecidable digital image? The answer might be found in the ability of the digital image to capture the modes of production, the organization and the structure of the network' (Rubinstein and Sluis 2013a, p.35).

The different roles that the term network plays in their discussion of the networked image point to the broader ambiguity of the concept in its distinct uses across the fields of photography and curating. Writing from the perspective of visual studies, Martin Lister detects the ambiguity of this concept when generically applied to discussions of the status of the photographic image in digital culture. As he observes:

It seems to me that this generic term 'the network' is used to avoid the greater specificity of the 'internet' or 'the world wide web', and other networks such as 'intranets' for example. It has evolved as an abstract concept to denote a condition.

(Lister 2013, footnote, p.20)

Meanwhile, media curator and theorist Joasia Krysa problematises the notion of network in regard to issues of curating and its agency. In the introduction to her doctoral thesis *Software Curating: The Politics of Curating in/as (an) Open System(s)* (2008), Krysa provides a helpful review of the concept, emphasising how the ambiguity of the term can be ascribed to its distinct uses within various disciplinary contexts and traditions. Particularly, she draws upon the definitions of network offered by Tiziana

Terranova (2004), Bruno Latour (2005) and Manuel Castells (2000) to examine how the concept has been interchangeably used to address the difference between a specific interconnected system and a 'network of networks' such as the Internet (Terranova 2004), the relational and associative patterns of various technical, social and material formations (Latour 2005) and a privileged mode of organisation linked to the pervasiveness of information technology (Castells 2000). In other words, the term network has come to simultaneously signify the physical infrastructure that connects computers (the Internet), the information-sharing model built on top of the Internet to transmit data via browsers and through hyperlinks (The World Wide Web, or simply the Web) and a mix of the two, referring to a generic online universe including computers, routers, optical cables and the Web.

Considering the problematisation of the concept offered by both Lister and Krysa, it is important to clarify how the term is being understood and used in this dissertation, especially in relation to the key notions of networked image and networked culture. In regard to the first, this thesis attempts to defy generalisation by identifying the specific networks at stake. As previously mentioned, this study is primarily concerned with the World Wide Web, and in particular with Web 2.0 and Web 3.0¹⁰ as the contextual networks of online platforms for user generated content within which the operations of images (sharing, posting, liking, linking) and the processes of curating (searching, filtering, editing, assembling) are being examined and revived. In other words, this research posits the networked image as an image that originates from and is imbricated with the online environment and its ubiquitous protocols of search and circulation. Moreover, this study remains attentive to the socio-technical context of the Internet, which is the 'network of networks' (Terranova 2004) that connects computers across the globe through physical infrastructures. However, it does not simply consider the Internet as a tool or a medium, but as an 'inseparable part of economic, social, and cultural processes' (Lovink 2011, p.69).

With respect to the notion of networked culture, the term network is here also employed as both a concept and as condition. Following Lister, this position also resonates with the praxis-oriented definition of network culture proposed by media theorist Geert Lovink who describes it as a 'wider phenomenon in society and a

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¹⁰ The term Web 2.0 was coined in 2004 to refer to the second stage of development of the Web, known also as 'the read-write Web' or 'the social Web', in which users do not simply read content but also write, modify and update content and thus interact more and share data. Web 3.0 is the third stage of development of the Web, also known as 'the intelligent Web', 'the semantic Web' or 'the Web of personalization' where information retrieval and organisation is aided by search engine optimisation and artificial intelligence. Web 3.0 is based on dynamic content and machine interaction and focuses on predicting answers based on user priority.

resonating concept that can be used for research and action' (Lovink 2011, p.73). Lovink further observes that the concept of network culture should be approached as 'a strategic term for humanities-based internet studies, enlisted to diagnose political and aesthetic development in user-driven communications' (Lovink 2011, p.74). Importantly, he opens the concept to its inherent plural, transient and collaborative dimension when he states: 'network cultures can be understood as social-technical formations under construction' (Lovink 2011, p. 73.). It is this processual quality of the networked culture which is at stake in this research, particularly with reference to the practice of online curation and its potential to put different constellations of human and machinic agents, objects and practices into relation with one another, activating processes of network co-curation, as I will argue in chapter three (3.5.).

Similarly to Lovink's position, Olga Goriunova highlights the importance of recognising the plurality of cultures inhabiting the online environment and identifies in this plurality a pre-condition to make any form of cultural critique or emancipatory and creative practice possible. Such a view contends with Tiziana Terranova's deterministic model, which frames any attempt at cultural production as inevitably subsumed under the logic of capitalism, implying a monolithic understanding of both the concept of culture and of capitalism. ¹¹ On the contrary, Goriunova offers a more nuanced reading of the relationship between capitalism, creativity and digital cultural production. She argues for the emergence of a novel paradigm of cultural analysis and practice that recognises creativity's potential 'to resolve subsumption into autonomy' (Goriunova 2007), hence creating a space of resistance to capitalism. Building upon her view, this thesis maintains that receptiveness to the multiplicities, differences and radical inconsistencies of the world of cultures manifested on the networks (Goriunova 2007), opens up small brackets of intervention for the online curator, framing the latter as a 'paradigmatic cultural practitioner' (Krysa 2013).

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¹¹ In her article 'Towards a new critique of network cultures: creativity, autonomy and late capitalism in the constitution of cultural forms on the Internet' (2007), Goriunova puts forward a critique of Terranova's book *Networked Culture* (2004) which she defines as 'deeply pessimistic', yielding paralysis for the cultural practitioner. She takes issue with Terranova's central claim that Internet cultural production – most of which is supported by free labour – gets automatically absorbed by the advanced forms of capitalism without envisioning the possibility for struggle and resistance.

0.4.2. ONLINE CURATION

Curatorship produces art by displaying and writing about it and by putting art into relationships, spaces, and organizations, and markets. As new media changes the constitution of these spheres and the energies feeding them as well as the network of production of the works themselves, curatorship as a practice finds itself transformed and seeks new concepts to catch up with the phenomena unfolding at full speed.

(Goriunova 2012, p.69)

Nowadays, within the context of the networked culture, the understanding of the curatorial function is essentially manifold, as desperate professional fields and discourses coexist under the same semantic rubric. While the literature from the field of curatorial studies (Levi Strauss 2006; O'Neill and Wilson 2014; Smith 2015) continues to validate the role of the curator as a cultural operator and as a 'free agent, capable of almost anything' (Levi Strauss 2006) within the domain of art, the work of creative entrepreneurs and business scholars (Rosenbaum 2011; Dale 2014) posits curation as the savvy use of data aggregation tools and real-time technology to accrue competitive advantage within the online marketplace. Rather than dismissing such hybridisation, this study considers it the ground upon which the curation of networked images fundamentally takes place.

In this dissertation the terms 'online curation' and 'curating' are both used and are not considered to be mutually exclusive. However, the first term is used when the activity it refers to expands from the domain and discourse of the field of art, whilst the latter is employed in reference to the specific set of conventions, parameters and institutions proper to the art world. Underlying this distinction is the important recognition that over the last ten years, while the discipline of art curating was preoccupied with the construction of its own genealogy, it lost sight of the wider socio-cultural transformations that were occurring outside of its confines, where the Internet was blurring the traditional categories of cultural production and permanently altering the definitions of both art and curating.

In his key essay 'The Curatorial Turn: From Practice to Discourse' (O'Neill 2007, pp.13-28), curator and writer O'Neill ponders the status of art curating as a field of enquiry with its own practice and emerging theoretical discourse, requiring the same careful consideration as that attributed to artistic practice and art criticism. O'Neill's project has significantly contributed to bridging the divide between artistic and curatorial practices by advocating for their interdependence in cultural production and by emphasising the potential of the public exhibition as a site of mediation at the hands of hybrid cultural agents (2007). Moreover, his essay marked the beginning of the so-called 'curatorial

turn', which came to describe a specific mode of practice that surpasses the conventional narrative-oriented authorial model¹² of curating and exhibition making to instead embrace 'dialogical practices in which the processual and serendipitous overlap with speculative actions and open-ended forms of production' (O'Neill and Wilson 2014, p.12). The curatorial emerged as a performative method to stretch out the boundaries of curating beyond exhibition making towards situated and enacted research, opening up new opportunities to rethink the dynamic of knowledge formation within the scope of both independent curatorial projects (Sheikh 2014) and museological practices within networked culture (Walsh 2016). Such a curatorial turn has significantly contributed to establishing the curator as a figure of authority within the contemporary art world and creating a specialist field of knowledge which has resisted the increasing hybridisation of the curatorial role brought about by networked culture. As a result, it has produced a self-referential discourse that has failed to actively engage with the cultural impact of networked technologies on art and curating and to open up a dialogue with those curators preoccupied with such transformations.

New media scholars and curators have maintained a more responsive approach to the changing nature of curating in light of the cultural shifts brought about by the advent of the digital. When looking at the development of the field of online curation over the last fifteen years, there seems to be an agreement that the conventional role and status of the curator is hard to maintain on the Web (Stallabrass 2003) and that curatorship as a practice is trying to catch up with phenomena unfolding at full speed (Goriunova 2012). New concepts such as 'immaterial curating' (Krysa 2006), 'distributed curating' (Krysa 2008c; 2013), 'computer-aided curating' (Grubinger 2006; Paul 2006) and 'post-human curating' (Tyzlik-Carver 2016a; 2016b; 2017) have been put forward to enrich the genealogy of art curating and to discuss important shifts in practice and theory. In particular, Tyżlik-Carver makes a convincing case for an expansive approach to curating that weaves together references from different disciplinary fields. In her genealogy of curating, she takes into account the lineage of 1960s conceptual art and curatorial experiments, traces its evolution through the concept of 'the curatorial' and couples it with more recent insights coming from the perspectives of cybernetics and system theory, through the work of the above-mentioned curators and media scholars, such as Joasia Krysa and Olga Goriunova. Other significant curators who form part of this new media lineage include Sarah Cook, Annet Dekker, Marialaura Ghidini, Beryl Graham and Christiane Paul, amongst others.

¹² In curating, a narrative-oriented authorial model commonly translates into exhibitions or projects that are centred on a pre-determined theme chosen by the curator. In response to such a theme, a number of artworks are selected around which the curator constructs a specific narrative.

Their work has importantly contributed to place new media technologies and digital art on the agendas of contemporary art organisations (Dekker 2013, Paul 2008) and curatorial training programmes (Cook and Graham 2010), producing some useful distinctions between online and offline curating (Paul 2006, Cook and Graham 2010) and exploring the migration of these two modes of curating in independent curatorial practices (Ghidini 2015). It is the latter position that this study further pursues, through an independent curatorial practice whose experiments are grounded within the online environment through the case studies, whilst simultaneously also being translated offline, through their various forms of circulation and presentation, as the portfolio of practice which accompanies this thesis illustrates. This position is based on the recognition that a firm distinction between these two modes of existence – the online and the offline – no longer proves adequate for capturing the specificities of curating the networked image, which is here primarily considered as a practice of translation between different registers of code (the human and the computational), language (the visual and the semantic) and value (the cultural, the commercial and the social).

While my research acknowledges this lineage and values the inputs of the resulting theoretical discourse, specifically in relation to reframing questions of agency and politics in the digital realm, it acknowledges that, as Goriunova has also highlighted, adding new terms to the genealogy of curating does not necessarily constitute a productive move. As she provokingly observes:

To my mind, the problems of such terms and the theories they put forward originate from a move to account for the previously rather disregarded part that the technical plays in the subjectification of art, while at the same time finding themselves locked in the narrow confines of a particular historically defined area of practice. With the development of digital media, the grammar of the reciprocal genesis of the technical and the cultural changes, and such change spreads in domains and dimensions beyond the field of art.

(Goriunova 2012, p.69)

Goriunova's argument calls for a paradigmatic shift in curatorial discourse from the field of art to networked culture(s), a shift that this study indicates by adopting the term 'network co-curation'¹³ as a way to signal the expansion of curating outside the field of art and to enhance its distributed and multi-agential dimension, as I will detail below. This shift entails a radical rethinking of the notion of aesthetics as simultaneously a 'major mode of operation for contemporary society' (Goriunova 2012, p.94) and a practice in a constant process of becoming whose very constitution is being changed

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¹³ The term 'network co-curation' is adapted from the work of digital scholar Arjun Sabharwal (2012) who employs it to refer to innovative outreach practices in archives and museums that use social media and other Web 2.0 technologies to curate online collections. In the context of this study it is used to refer to a collaborative mode of online curating which operates through the formation of strategic alliances between human and machinic agents, as I will detail in chapter three.

by networked technologies. Building on Goriunova's suggestion, this thesis considers aesthetics as the language of the visual, whose syntax and semantics are currently being reconfigured through the operations of software. This notion of aesthetics allows for the reframing of online curation simultaneously within and outside the fields of art, providing an answer to the question of how different curatorial paradigms might coexist within networked culture while also pointing to the multiplicity of agents involved in the processes of 'network co-curation'.

The implications of this claim extend to a revision of fundamental questions which have historically been at the core of the aesthetic debate – questions about the very definition of what art is and how creativity operates, the role played by judgment and criticism in the constructions of value and the way in which meaning is apprehended through the visual and knowledge is formed. The account of the practice that is at the core of this dissertation will offer specific insights into the socio-technical conditions that shape the aesthetics of the networked image and its cultural value (1.2.; 2.3.). For now, it is important to foreground that the problem of aesthetics is here approached through the lens of a cultural theory of media 4 which explores the culture/technology relation and places the means of reproduction and circulation of the image at the nexus of the relationship between aesthetics and politics; in other words, that foregrounds the socio-technical function of the image over its representational dimension.

This expanded definition of aesthetics, as mentioned above, enables the shift from online curation to processes of 'network co-curation'. A number of the new media curators and researchers cited above have previously explored this move towards a multi-agential and collaborative mode of curating. While some have expanded the scope and reach of curatorial practice by advocating for the inclusion of non-human agents (Krysa 2008, Tyzlik-Carver 2016), others have focused on the distributive, processual and collaborative dimensions specific to the procedures of new media curating (Cook and Graham 2010, Ghidini 2015). This study complements and advances this line of theoretical and practical enquiry in three distinct ways. First, by placing the networked image at the core of processes of 'network co-curation', as the analysis of the first case study reveals. Second, by locating the process of 'network co-curation' in the context of online commercial platforms as emphasised in the account of the second case study. Third, by enhancing the performative dimension of the process

¹⁴ This genealogy goes back to the work of key Marxist and poststructuralist philosophers, particularly, to the analyses of reproduction by Walter Benjamin (1936), Marshall McLuhan (1994[1964]) and Jean Baudrillard (1994[1981]), and to Guy Debord's consideration of consumption (1994[1967]). These are followed by a more recent generation of media and culture theorists who critically address the technologies of image production, including figures such as Lev Manovich (2001) and Jonathan Beller (2006; 2016). I will explore the work of Beller in more detail in chapter two (2.3.).

of 'network co-curation', as discussed in the analysis of the last case study in chapter three (3.5.). There, 'network co-curation' is defined as a process forging strategic alliances between different agents (both humans and machinic), objects (art and mundane objects) and practices (curating, hacking and commercial endeavours) and that aggregates each time a specific constellation of relationships.

0.4.3. CIRCULATION

The hegemonic principle of the manufacturing society is accumulation: that of the information society, circulation.

(Lash 2002, p.144)

The notion of circulation is central to the argument of this thesis and functions as a conceptual umbrella bringing together the operations of networked images and the function of online curation. On the one hand, circulation is posited as one of the defining and operational conditions of the networked image, enabling its visual surface and computational structure to interact with various environments and users. On the other hand, circulation is recognised as having important implications on conditions of online curation, pointing to problems of commodification, aesthetics and interpretation. While scholars from diverse fields, including media theory and art history, have recently emphasised the relevance of the concept of circulation in relation to the currency and value of digital images (Steyerl 2012; Joselit 2013; Olson 2015), little attention has been paid to the implications of this for curatorial practice. The curatorial experiments undertaken as part of my fieldwork are intended to explore this gap in practice and develop a set of theoretical insights and curatorial methods in response to this state of affairs.

Before moving to an account of this practice, it is important to acknowledge that circulation is a complex concept that is widely used in science and technology studies as well as in media and cultural studies, but discussions of it have nevertheless remained largely generic. A recent issue of the Italian *Journal of Science & Technology Studies* (Balbi, Delfanti, Magaudda 2016) has attempted to address this problem, offering an integrated perspective that foregrounds the need to bring together considerations about media, materiality and technological infrastructures. It is to such an integrated approach to the notion of circulation – or a 'critical perspective on circulation' (Lee and Lipuma 2002, p.192) – that this research responds, by considering the notion in a conceptual space beyond disciplinary boundaries and positioning it as 'a cultural process with its own forms of abstraction, evaluation, and constraint' (Lee and

Lipuma 2002, p.192). This thesis approaches circulation as an open-ended cultural process, which cuts across different socio-technical and economic layers and greatly impacts systems of exchange and commodification, as well as dynamics of sharing and cultural appropriation.

To this end, I identify in this study four distinctive aspects of circulation that are relevant to the discussion of the networked image and its cultural value: 1. The technical aspect of circulation, by which I mean the performative capacity of software to execute and reconfigure code by virtue of its algorithmic processes (McKenzie 2005); 2. The distribution process of circulation which mediates the intersection of popular culture with everyday life (Beer 2013); 3. Circulation as a social activity which involves users in the operations of sharing, posting, postproducing, linking and liking images (Steyerl 2013); 4. Circulation as the essential feature of global dynamics of commodification and of cultural and economic flows (Appadurai 1986; 2010).

The latter aspect of circulation is key to Lee and Lipuma definition of 'circulation-based capitalism' (2002, p.210). In their key essay 'Cultures of Circulation: The Imaginations of Modernity', they present a new stage of development in the history of capitalism. Capitalism, they observe, has been transformed over the last century from a production-centric system to one whose primary dynamic is circulation. This has produced two main circulatory movements: the increasingly transnational character of labour and the global mobility of financial capital. Such processes are entangled with information/disinformation 'economies' and with new relations of power that emerge with the information mode of production (Lash 2002). This new stage of 'circulation-based capitalism' is considered essential by Lee and Lipuma (2002, p.210) for developing a cultural account of contemporary economic processes and for understanding systems of exchange based upon an expanded notion of performativity – one that moves beyond the level of speech act (Austin 1962)¹⁵ to the constitution of collective agency.

'Circulation-based capitalism' (Lee and Lipuma 2002, p.210) is the economic and social background against which all forms of cultural production analysed in this study are framed. Throughout this thesis, I will adapt this concept to the specificities of the

¹⁵ British philosopher of language J.L. Austin introduced the term performativity in his book *How to Do Things with Words* (1962). He described performative utterances as statements that perform an action: Speech Acts. Such uses of language are generally concerned with function, and not with aesthetics, pleasure, or silliness. By arguing for a notion of performativity that goes beyond the level of speech act, Lee and Lipuma (2002) suggest the inclusion of other discursively mediated practices, including economic practices. Moreover, by seeing performativity as an aspect of circulation, they seek to move beyond reference and description, providing an alternative to the analytical categories of meaning and representation.

contexts and practices observed. For instance, I will use 'image capitalism' (Mbembe 2011) when referring to the circuits of affect, desire and consumption produced by networked images, linking back to a Latourian understanding of networks as relational, material and social formations (see 0.4.1). My understanding of this concept is based on Achille Mbembe's definition of image capitalism as 'a form of capitalism in which the image is not simply taking over the calculative functions yesterday associated with numbers, but has become a techno-phenomenological institution' (Mbembe 2012, p.10). Mbembe's theorisation of this phenomenon, which anchors the image in capital's broader project of transforming life itself into a commodity, is complemented in this study with Jonathan Beller's detailed analysis of the 'image-commodity' (Beller 2006; 2016b). As I will show in chapter two (2.3.2.), Beller defines the latter as a screen image that serves as visual interface for processes of massive value extraction, by engendering the production of both data and meta-data. The integration of these two perspectives allows framing the online environment as a cultural and aesthetic space as much as a commercial one, where the operations of the networked image understood as the expression of computational language – attend to different pathways and logics of capital, as my analysis of the case studies will demonstrate.

Accordingly, I will adopt the notion of 'computational capitalism' (Beller 2016a) to emphasise the technical dimension of cultural flows engrained in computational matter, while I will employ the concept of 'platform capitalism' (Lobo 2014; Srnicek 2017) to address socio-technical assemblages, such as social media platforms, that harness technology for the extraction and manipulation of data. Over the last few years, the notion of platform capitalism has come to designate the present-day environment of Internet business models based upon the ownership of algorithms, hardware and digital infrastructures that foster the extraction and control of data, as I will detail in chapter three. This concept has helped to foreshadow two important conditions that characterise the present socio-technical juncture: the first concerns the evolution of the platform from an 'operating and gaming system' (Weatherby 2018) into a 'sociotechnical intermediary and business arrangement that is incorporated into wider processes of capitalization' (Langley and Leyshon 2017). The platform, in other words, has become 'the computational interface between society and capital' (Weatherby 2018) by virtue of hosting processes of cultural and economic production and extraction that are centred on 'the intensive techno-creative labour of users' (McQuire 2013). The second condition concerns the role of algorithms as proprietary assets of such online platforms and business models whose specific encoding shapes the distinctive ways in which users' online activities, preferences and interactions get

operationalised and hence monetised. The concept of platform capitalism will prove particularly useful in my analysis of eBay, when exploring the ways in which this specific commercial platform operates as an intermediary of social and economic interactions (chapter two) and analyse the workings of its search algorithm Cassini (chapter three).

This integrated perspective on circulation links the wider dynamics of global capitalism detailed above and their networked infrastructures to the circulation of culture across so-called 'virtual worlds' (Goriunova 2013, p.25) or the 'infosphere' (Floridi 2014). The operations of networked images form part of these cultural flows and help to reshape what it means to live, create, consume and imagine in the age of computing. As I will show in chapter one (1.2.), under conditions of circulation, networked images operate as socio-cultural entities that spin out of the control of their makers, through dynamics of reproduction and acceleration. As a result of these circulatory movements, they entangle themselves in processes of commodification and become subjected to the logic of cultural appropriation.

As mentioned above, artist and theorist Hito Steyerl is a key commentator of circulation, understood as the social process of image sharing and distribution. She describes this in terms of 'circulationism' (2013) – the 'art of postproducing, launching, and accelerating an image rather than producing it' (Steyerl 2013). She contends that on the Web, production and circulation are mixed up to the point of being indistinguishable, therefore she focuses on the representational value of image circulation at the expense of its technical dimension. In spite of this limitation, her theorisation of this concept can be useful in pointing to the need to be critical of the very patterns that image circulation produces across networks. As Steyerl obverses:

Circulationism, if reinvented, could also be about short-circuiting existing networks, circumventing and bypassing corporate friendship and hardware monopolies. It could become the art of recoding or rewiring the system by exposing state scopophilia, capital compliance, and wholesale surveillance.

(Steyerl 2013)

In this broad sense, the concept of 'circulationism' can be employed to formulate a more creative and political approach to the wider dynamics of circulation, inviting the online curator to consider not only 'the circulation of forms' – which cultural objects circulate and how – but crucially 'the forms of circulation' (Appadurai 2010)¹⁶ – how

¹⁶ Arjun Appadurai makes this distinction to account for circulation's different formal properties, such as speeds, circuits and spatial reach and for its uneven effects.

circulation itself operates, which power structures it relies upon or reinforces and what kind of invisible processes it activates or obstructs. This thesis argues that the discontinuous and performative nature of circulation affects the conditions under which value is produced within the networked culture and calls for a certain operational agility on the side of the online curator, as I will show in my analysis of the practice.

0.5. METHODOLOGY

Action should remain a surprise, a mediation, an event. (Latour 2005, p.45)

Stop Searching. Start questioning. (Lovink 2011, p.157)

As I explained at the outset of this chapter, this research emerges from a problem in practice and as a response to the set of challenges I encountered during my first attempt at online curating. The opportunity to embark on this study also came at a time when I was experiencing a certain discontent towards the institutional establishment of the so-called contemporary art world, as shaped by a culture of overspecialisation, individualism and cultural hyper-production. This prompted the need for me to articulate a form of critique, both in theory and through a novel curatorial practice. As such, I here maintain the relevance of undertaking a practice-based mode of inquiry grounded in curatorial work to respond to such challenges. The value of undertaking a practice-based research is also related to the malleability of the object of study at stake - the online curation of networked images - which calls for an elastic set of research methods and technical and cultural agility on the part of the curator who engages as a practitioner in the process of academic research. Such agility is necessary for a fluid transition from practice to theory, curation and research, writing and analysis, empirical engagement and methodological reflection. In this study, I concern myself with the problems of independent curating applied to the online context – a less charted territory in comparison with the field of independent art curating (O'Neill 2012; Rogoff and von Bismarck 2012; Smith 2012; Martinon 2013) - and build on the scholarly research produced by curators including Joasia Krysa (2006), Sarah Cook and Beryl Graham (2010), Marialaura Ghidini (2015), and Magda Tyzlik-Carver (2016).

At the start of this academic research, my curatorial practice had no specific contours. Its lack of characterisation marked a clear rupture with the kind of curating I was previously accustomed to and that is widely discussed in contemporary curatorial theory (Kwon 2002; O'Neill 2010; von Bismark 2012; Smith 2012) – a curating that is relational (involving many different constituencies, namely artists), context-specific

(taking place in a physical space or venue) and *time sensitive* (leading to an exhibition, a project, or an event). Taking these three elements as points of reference, the only parameters I could initially identify for this study were my own position as both *subject* and *object* of the research, a context as broad as the World Wide Web and the timeframe of my three-year scholarship.

0.5.1. CORE RESEARCH METHODS: ACTION-RESEARCH AND CRITICAL REFLEXIVITY

In response to these initial conditions, I recognised in the methodology of *action-research* ¹⁷ a more useful framework for supporting the experimentation of new curatorial patterns and forms of understanding. This methodology simultaneously offers the opportunity to analyse each step of the process as it happens. Bridget Somekh's definition of action-research as an inquiry that 'integrates research and action in a series of reflexive cycles' and involves a 'high level of reflexivity and sensitivity to the role of the self in research' (Somekh 2006) offers a useful entry point into the way that this particular methodology has been understood and employed as the overall framework for this study. This research is also indebted to the methods of the philosopher of science Bruno Latour and of media theorist Geert Lovink, specifically, to Latour's advocacy of the 'heterogeneous and uncertain nature of actions' (Latour 2005) in research processes and to Lovink's emphasis on 'criticism in action' (Lovink 2011, p.74) as a valuable method to produce critique in the context of networked culture.

While Latour's theoretical and practical framing of actions as knots and conglomerates of 'many surprising sets of agencies' (Latour 2005, p.44) is conducive to understanding the unstable and multi-agential dimension of my own actions as a researcher and curator of the network, Lovink's emphasis on the potential implementation of action-research at the level of 'code, policies, rhetoric and users culture' (Lovink 2011, p. 70) offers a roadmap into the possible ramifications of this emerging curatorial practice. These two distinct approaches, which are usually measured up against each other, ¹⁸

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¹⁷ Action research has its roots in a disparate set of research and intellectual traditions (Charles and Ward 2007), including philosophy, social sciences, psychotherapy, systems theory, critical theory and radical pedagogy. Key exponents of this tradition include pragmatist philosopher John Dewey, progressive educator Paulo Freire, social psychologist Kurt Lewin and anthropologist and philosopher Gregory Bateson, among others.

¹⁸ The divergence of theoretical positions between Geert Lovink and Bruno Latour can be traced back Lovink and Pit Schultz's interview with Latour in 1997 titled: 'There is no information, only transformation'. While the approach of the former supports a certain abstractness of technology and the potential for situated critique in open networks, the latter insists on the materiality of machines, the absence of divides between technology and the social and on hybridity. More recently Lovink has stated: 'I am not in the school of Latour but in general do not oppose these ideas, as long as they are non-dogmatic and open for other directions' (Lovink 2013). On the other hand, Latour has argued against critique because it creates a distance from the facts and from the possibility of a new empiricism that can overcome modern epistemology and its dichotomies (Latour, 2004). Similarly, he has been sceptical of the method of reflexivity in social sciences which, he contends, privileges the position of the analyst at the expense of the actors he/she studies.

are integrated in this study using 'non-representational theory' (Thrift 2008), specifically through an understanding of 'performativity' and 'embodiment' as creative and discursive research practices (Bolt 2009) with an emancipatory potential under the current socio-economic and technical conditions of 'circulation-based capitalism' (Lee and Lipuma 2002, p.210). These existing methods will enable me to approach my actions as a curator-researcher as the raw materials of the research and to recognise their broader social, economic and cultural repercussions within a networked context. In other words, they will guide the development of a critically reflexive approach to the practice and allow me to analyse and reflect upon each step of the curatorial work undertaken and identify the different parameters of online curating. Critical reflexivity hence features as the core method for the development and the analysis of my practice. With the curatorial work and analytical framework proposed in this dissertation, I aim to extend current debates on the theory and practice of online independent curating (Krysa 2006; Ghidini 2015; Tyzlik-Carver 2016) and connect with wider discussions about the critical role art and culture can play at this socio-technical juncture.

My use of the term 'critical reflexivity' draws on Alvesson and Köldberg's framing of the notion of reflexivity as a research method. In their seminal book Reflexive Methodologies (2009) they describe reflexivity as 'ways of seeing which act back on and reflect existing ways of seeing' (Clegg & Hardy, 1996, p.4 cited in Alvesson & Köldberg, 2009, p.271), whereby the act of seeing is 'inseparable from the perspective, it is perspectival' (Alvesson & Köldberg 2009, p.6). In other words, the interpretation of data is always filtered by the perceptual, cognitive, theoretical, linguistic, political and cultural circumstances of the research and of the researcher, and an awareness of these circumstances must be taken into account and reflected upon when a reflexive method is adopted. Alvesson and Köldberg's approach provides a valuable set of guidelines for how to conduct an analysis and interpretation of one's practice. They stress the importance of maintaining contact with the empirical material, developing an awareness of the act of interpretation, clarifying the political and ideological contexts of the research and handling the broader questions of authority and representation (Alvesson & Köldberg 2009, p.263). In addition, my interpretation of the term 'critical', draws on the work of sociologist and cultural theorist Scott Lash who explains that reflexivity becomes critical when its point of reference shifts 'from everyday experience to "system", of commodities, bureaucracy, or reification of life forms' (Lash 1994, p.140). In this context, the use of the term aims to emphasise my concern with the

wider context, conventions and sets of relationships – the system or establishment – of art curating and its relationship with a commoditised networked environment.

Within my application of the methodology of action-research, five main elements work in synergy over the course of a series of reflexive cycles¹⁹: 1. theoretical research; 2. the performance of specific actions from which each case study is extrapolated; 3. the public presentation of a given case study at conferences and workshops; 4. the writing about the case study for academic and non-academic purposes; 5. the conceptualisation of the curatorial methods developed from the application of the core method of critical reflexivity to the specificities of each case study. I will return to these curatorial methods – *online critical tracing, cautious differentiation, embedded practice, the forging of strategic alliances* and *circulation* – in the analysis of the case studies in the upcoming chapters and expand upon them in the conclusion (4.4). For now, it suffices to say that these curatorial methods diverge from the core research methods of action-research and critical reflexivity. Importantly, they ground in practice the shift from 'curation' to 'network co-curation' that this research argues for in theory and thus serve as the answer to the second research question (0.1., p.8).

0.5.2. METHODOLOGICAL DIAGRAMS AND TABLE OF REFLEXIVE CYCLES

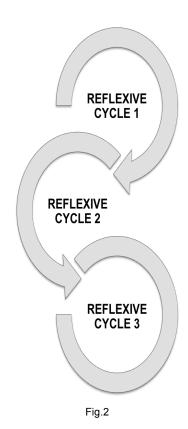
In the next two pages, two graphic diagrams and a descriptive table are presented with the purpose of visualising the conceptual framework of this research's methodology and to highlight its processual quality. The first diagram (Fig. n°1), illustrates the interaction between the five elements of the research and how this interaction amounts to the full cycle of the action-research. The core method of 'critical reflexivity' is visualised as the grey ring that links all the components of this research. The second diagram (Fig. n°2) elucidates the three reflexive cycles as interconnected and open loops. Its purpose is to convey how each reflexive cycle produces a set of outcomes that informs subsequent actions, theoretical research and reflections that are then taken up in the following reflexive cycle and so forth. The table (Fig. n°3) in the next page, alongside the narrative explanation which follows it, describes this process in more detail by offering an overview of the research's timeframe and by presenting some concrete examples of the specific insights, methods and outcomes produced during each reflexive cycle. The table indicates that the timeframe of each reflexive

¹⁹ Building upon Somekh's definition of action–research, I have identified in the above five elements those which support the curator-researcher in developing 'exploratory engagement with a wide range of existing knowledge and understanding' (Somekh 2006). The identification of a number of research's components that work in synergy in practice-based curatorial research is also indebted to the methodological approach of curator and scholar Marialaura Ghidini, as detailed in her doctoral dissertation (Ghidini 2015, p.18).

cycle approximately covers the arch of an academic year, including the final moment of reflection that occurs during the writing of this thesis and the organisation of the portfolio of practice for the submission.



Fig.1



	REFLEXIVE CYCLE 1	REFLEXIVE CYCLE 2	REFLEXIVE CYCLE 3
	- First Year of Research, further to completion of Case Study 1 (June 2016 – March 2017)	- Second Year of Research, further to completion of Case Studies 2 & 3 (April 2017 – December 2017)	- Third Year of Research, during the writing up of the thesis (January 2018 – January 2019)
AND PRACTICAL INSIGHTS	- Framing of the concept of the networked image; - The problem of the networked image and that of online curating are entangled;	- The problem of online curation takes centre stage; - The practice develops as a twofold intervention into the context of a commercial platform within the framework of the project #exstrange, as a 'conventional guest curator' first and as an experimental curator-researcher later.	- 'Circulation' emerges as the key theoretical notion that brings together the concepts of Online Curation and that of the Networked Image. It also emerges as the fifth curatorial method employed for the conceptualisation of the overall strategy for the submission.
METHODS	- Core Research Method: 'Critical Reflexivity'	- Core Research Method: 'Critical Reflexivity'	- Core Research Method: 'Critical Reflexivity'
METHODS	- Curatorial Method: 1. 'Online Critical Tracing'	- Curatorial Methods: 1. 'Online Critical Tracing' 2. 'Cautious Differentiation' 3. 'Embedded Practice' 4. 'Strategic Alliances'	- Curatorial Method: 5. 'Circulation' Under the umbrella of the core method of 'Critical Reflexivity', the curatorial methods of 'Embedded Practice' and 'Circulation' are jointly applied to the choice and the conceptualisation of the portfolio of practice.
OUTPUTS	- Presentation of Case Study 1 at the Conference 'Post-Screen Cultures/Practices' at London South Bank University (June 2016) - Production of a T-shirt for the above occasion; - Subsequent publication of the academic article 'Tracing Networked Image: An Emerging Method for Online Curation'; - Presentation of Case Study 1 & Introduction to Case Study 2 at the workshop 'Operative Images' at Humboldt University (March 2017).	- Presentation of Case Studies 2 & 3 at the conference 'Post-human Curating: Curating Authenticity or the Question of Content Online', at The Photographers' Gallery, London (April 2017); - Publication of the essay within the #exstrange catalogue; - Presentation of Case Studies 2 & 3 at the Conference 'Ways of Machines Seeing' at Cambridge Digital Humanities Network and CoDE conference (June 2017); - Production of a T-shirt for the above occasion.	- Completion of the written thesis and submission of the portfolio of practice; - The portfolio of practice is embedded within a specific thumb drive recirculated from the eBay case study, which contains the documentation from the case studies discussed in the thesis. These projects are presented alongside other curatorial interventions, which are not discussed in the thesis, but that nonetheless provide evidence of how the practice re-circulates across further networks of distribution.

Fig.3

As the table schematically indicates, the first reflexive cycle provided the opportunity to critically reflect, as a researcher, on the curatorial actions undertook as part of the first case study and to frame the concept of the networked image and its entanglements with the problem of online curation. The latter was identified as enmeshed within the commercial logic of the Web, preparing the ground for the second and third case studies, which took place on the commercial platform of eBay. Moreover, in the first reflexive cycle the curatorial method of 'online critical tracing' was put into focus and its theoretical grounding explored in occasion of the writing of an article for the Journal of Media Practice (Memory Stick Folder 7 Subfolder B). Similarly, the second reflexive cycle focused on the analysis of the second and third case studies on eBay and elaborated on the curatorial methods developed in response to the application of the core method of critical reflexivity to the specificities of this context. During the third and last reflexive cycle, the notion of circulation was also identified as a key concept that links the problem of the networked image with that of online curation and the overall research process was being critically examined. In this instance, the core method of critical reflexivity was applied to the writing of this thesis and to the conceptualisation of the portfolio of practice for the submission. The relationship between these two components of the research is explained in more detail in the concluding section of this chapter (0.6.1.).

0.5.3. FURTHER PREMISES

Two further methodological premises are in order at the outset of this thesis concerning the dual role I inhabited as the researcher-practitioner of this study and the absence of images from this dissertation. With regard to the former, it should be noted that in this study my position oscillates between the role of the curator-practitioner who is preoccupied with re-examining the *object*, *context* and *process* of online curation, as I will detail below (0.6.2.), and that of the researcher who formulates a methodological framework and analytical response to the practice. As such, in this study moments of immersion in the practice alternates with periods of critical reflection, which inform the subsequent stages of the practice. In an attempt to reconcile the tension between these roles, in this thesis I adopt a consistent writing style that foregrounds the 'intellectuality of the making' (MacLeod 2000) whilst integrating the descriptive accounts of the practice with its own theoretical and critical analysis.

While none of the images produced in the course of the case studies have been included within the thesis itself, a memory stick containing the whole visual

documentation of the three curatorial experiments has been provided alongside the written work. The reason behind the exclusion of the images, is that in the present study images are not treated as illustrations of the practice, but as the practice itself. This position resonates with the broad historical context of the 'pictorial/iconic/visual' turn (Mitchell 1994; Boehm 1994; Mirzoeff 1999) which has dominated academia and the art institution since the early 1990s, whereby images are considered vital sources of information and insight for both academic research (Sullivan 2010, p.xi) and curatorial enquiries. While being influenced by this position, my work also adopts a somewhat critical stance through its problematisation of the paradigm of representation, as has already been mentioned above and will be elaborated on throughout the course of this dissertation.

The decisions taken around how to submit and present this research already reflect the paradoxical nature of the networked image as a mode of visual communication (and hence a form of representation) and computational structure that consists of a non-representational utterance. As Rubinstein and Sluis argue, the networked image is 'neither visible nor invisible, neither fully present nor absent, embodying both the linear representational logic of the Cartesian space and the recursivity of the algorithm' (Rubinstein and Sluis 2013, p.37). In this study this paradoxical state of affairs is embraced by formally separating the documentation of the curatorial practice (where images act as representation) from the theorisation of the practice (where images act as non-representational instances and form part of an analytical operation). However, references to the images contained in the memory stick will appear throughout the text, using the following coding system: Memory Stick; Folder Name (such as for instance 'Case Study 1'); Image Number: (Example: MS_CS1_01). This highlights that the portfolio of practice and its analysis are two intertwined components of this research and bear equal weight.

0.6. STRUCTURE

0.6.1. SUBMISSION

The proposition at the heart of this study is first and foremost tested in practice, through three curatorial experiments situated in the online environment. Accordingly, the submission of this research includes both a written component (this thesis) and a portfolio of practice (the memory stick) that presents the visual documentation of the above-mentioned experiments. The thesis and the portfolio of practice are intended to

work in dialogue with each other and bear equal weight in this research. In other words, they are both constitutive elements of this research's contribution to knowledge. Their individual structures and rationales, which are detailed in the following two sections, have been conceptualised to reflect the key research method of critical reflexivity. For instance, while the main body of the thesis is structured around the analysis of the three case studies (Chapter 1., Chapter 2. and Chapter 3.), the portfolio of practice is similarly organised around the three curatorial experiments undertaken (Case Study 1., Case Study 2. and Case Study 3.). Alongside these experiments, which constitute the core of the fieldwork, the memory stick also includes three additional folders (Case Study 1.0., Case Study 2.0. and Case Study 3.0.) containing the documentation of supplementary curatorial interventions which are not discussed in this thesis. Their inclusion is motivated in the last section of this chapter (0.6.3.) and their content is detailed in Appendix 1 (A.1.4).

The ways in which the thesis and the portfolio of practice have been structured and connected aim to highlight the interdependence between these two components of the research. In other words, the conceptual strategy and rationale of the submission locates this research's novel contribution to knowledge – concerning both the theory and practice of online curating and the circulation of the networked image – in the curatorial experiments analysed in the written work as well as in their visual documentation on the memory stick. Consequently, the curatorial position this study argues for is one that integrates practice with theory and research through an attempt at overcoming the conventional knowledge separation between them.

0.6.2. SUMMARY OF THE THESIS

In order to investigate how networked culture is changing the process and contexts of curating, I work around different curatorial settings and opportunities, some of which are self-driven (Case Study 1.), others collaborative (Case Study 2. and Case Study 3.). As mentioned above, the main body of the thesis is thus organised around the three curatorial experiments undertaken, which are treated as case studies and analysed in the central chapters. Each chapter tackles a specific case study and frames it in relation to or against a particular curatorial paradigm informed by the writing of key scholars in the field.

For instance, in chapter one I focus on how networked culture is shifting the *object* of curating through a discussion of the case study 'This Image is Not Available in Your

Country'. In order to uncover what happens to curating when its focus is no longer on a conventional art object, but on a networked image, I draw upon Tyzlik-Carver's concept of 'not-just-art-curating' (2016; 2017a; 2017b) and work with a specific visual object — an H&M t-shirt patterned with the statement 'This Image is Not Available in Your Country'. By tracing the online movements of this particular t-shirt/image, I produce new insights into the concept of the networked image and its relationship with online curating, bringing to the fore the centrality of the notion of circulation and its entanglements with processes of branding and commodification. My curatorial intervention is framed in the grey area of practice between art curating and online cultures of mass participation. Its analysis unveils how the Web is an environment dominated by a commercial logic, where the language and practice of both art curating and visuality are put into the service of marketing strategies and customised selling procedures. This outcome prompts the need to examine more in detail how such a context impacts the process of online curating and the agents that partake in it.

In chapter two I proceed with an exploration of the context of curating, zooming in from the generic system of the commercial Web to the specific networked architecture of a commercial platform: eBay. In the case study, 'Very Hard to Find', I recount my participation as a guest curator with the project #exstrange (http://exstrange.com), an online collaborative initiative organised by curators Marialaura Ghidini and Rebekah Modrak on eBay. I pose the question of what it means to curate in the context of a commercial platform and frame my curatorial intervention against the backdrop of Olga Goriunova's concepts of 'art platform' and 'organisational aesthetics' (2012). By taking up the position of a reflexive eBay user, I examine the platform's technical infrastructure and database whilst commissioning three invited artists - Niko Princen, Eva and Franco Mattes and Garret Lynch – to explore the protocol of the eBay auction. I remain attentive to the function of networked images within the wider media ecology of eBay and expand upon the different value regimes - aesthetic, social, economic they produce. In parallel, I investigate the currency of the activity of curating on eBay, uncovering the convergence of different curatorial paradigms on the platform, such as art curating and content curation. I then identify in the search algorithm named 'Cassini' a key curatorial agent on the platform.

Having provided a nuanced analysis of the merits and pitfalls of the project #exstrange, in the following case study I further test my own curatorial position within the commercial platform and set out to experiment with a mode of human and algorithmic curation. To this end, chapter three tackles the issue of who/what is behind the process

of online curation. In the case study discussed, 'Curatorial Consultancy with Cassini on #exstrange', I investigate what kind of relationship the curator can create with the algorithm, drawing upon Krysa's notion of 'software curating' (2008) and Tyzlik-Carver's concept of 'post-human curating' (2016). I complement these references with insights from the emergent discipline of critical algorithm studies (Finn 2017a; Bucher 2018) and test these propositions by forging a strategic alliance with the Cassini algorithm, selling a mixed service of human and algorithmic curation on the platform. In my account of the unfolding of this experiment, I develop a more nuanced approach towards the relation between curator and algorithm, arguing that one can view this as an alliance while nonetheless maintaining a critical attitude towards the agency of technology and its social implications.

This position is supported by a comparative analysis of three additional experiments in the field of human and algorithmic curation: 1. Artist Angie Waller's project *eBay Lodging* (2003); 2. The embedded approach of *Cosmos Carl* (2014–), an online repository funded by artists Frederique Pisuisse and Saemundur Thor Helgason (http://www.cosmoscarl.co.uk); 3. The algorithmic curation of the recently funded Museum of Digital Art in Zurich (MuDA). Such analysis serves the purpose of problematising the false dichotomy of being either *for* or *against* the algorithm, paving the way for the notion of *network co-curation*, which is a central argument of this thesis. This is defined as a space of performativity and operationality that expands the scope and activity of curating and is founded upon the creation of strategic alliances with algorithms, machines, online users and various set of practices (hacking, cultural work, commercial endeavours).

Overall, the critical analysis and theorisation of the practice at the core of this dissertation responds to one key problematic: how networked culture is changing the role and activity of the curator with particular reference to the function of the networked image and its cultural value. In the conclusion in chapter four, the theoretical and practical insights produced by the case studies are summarised alongside a reflexive account of my position as a curator-researcher during the process of this study.

0.6.3. PORTFOLIO OF PRACTICE

As already mentioned, the visual documentation of the three experiments undertaken is contained on the memory stick that accompanies this dissertation. Particularly, the images in the folders entitled Case Study 1., Case Study 2., Case Study 3., are the practical components of the research and thus work in direct dialogue with this thesis. More specifically, the folder entitled Case Study 1. includes the visual documentation of the curatorial experiment developed from an H&M t-shirt patterned with the statement 'This Image is Not Available in Your Country', while the folders Case Study 2. and Case Study 3. encompass the documentation of the two experiments undertook on eBay within the context of the project #exstrange (http://exstrange.com).

Alongside these experiments, which constitute the core of the fieldwork, the content of the thumb drive also translates the overall conceptual strategy of the submission, which consists in the re-circulation of elements of the case studies across a variety of formats (image sequence and GIF, desktop performance, video remix and algorave) and channels of distribution (informal networks, private settings, independent festivals). The folders Case Study 1.0., 2.0. and 3.0., whose content is detailed in Appendix 1 (A.1.4.), are thus to be approached as an extension, recirculation or anticipation of the curatorial practice analysed in this thesis. Their inclusion in the thumb drive serves the purpose of supporting one of the central arguments of this thesis, which is that the online curation of networked images is entangled with processes of reproduction, self-replication and online circulation as well as with research and theory. In this sense, the construction of the portfolio exemplifies the blending between practice, theory and research which I mentioned above.

In line with this rationale, the memory stick chosen as the hardware support for the portfolio of practice is itself re-circulated from the second case study. In the context of her participation to the project #exstrange, artist Elisa Giardina Papa sold this spiral shaped pink thumb drive on eBay containing the last two months of her browser history as part of the work 'Archive Fever Vol.37: My browser history [Feb 2017]'. Further to previous consultation with the artist, I obtained a second edition of the work, in both its hardware version and as its data component (Case Study 2.0.), and used the memory stick not only to organise the content of the fieldwork, but to also emphasise how circulation is a defining trait of this research's open-ended and processual curatorial practice. Importantly, the use of this particular hardware support for the portfolio of practice turned the submission into an opportunity to examine the link between practice

and theory within the overall process of this research and to identify in critical reflexivity a valid operational strategy for developing more effective processes of online curation. A final folder, which is entitled 'Additional Documentation', contains further contextual material from both the curatorial practice and the research process. It is included to assist future researchers in understanding how the whole research project circulated in the public arena. This additional material also serves the purpose of clarifying for the reader what I did as a curator-practitioner on the one hand, and how I reflected upon my own doings as a researcher, on the other hand.

CHAPTER 1: NOT-JUST-ART-CURATING

The main question this chapter seeks to ask is what happens to curating when its focus is no longer a conventional art object, but a networked image – a key concept for this research as highlighted in the introduction. This first case study considers a networked image that carries a particular aesthetics, commercial appeal and the semantic lexicon of the web: an H&M t-shirt (MS_CS1_01) that displays the text 'This Image is Not Available in Your Country'. In order to answer the chapter's main research question and frame my analysis of the findings, I will begin by drawing on the work of curator and theorist Magda Tyzlik-Carver and specifically on her concept of 'not-just-artcurating' (2016; 2017a; 2017b). Further to an account of the case study and its outcomes, I will frame the concept of the networked image in light of processes of circulation, computation and commodification. I will then bring to the fore the key notion of circulation to consider how circulation affects the status of the image and the wider conditions of networked aesthetics. The chapter then turns its focus to a discussion of the renewed procedures of curating and their enmeshment with the commercial logic of the Web. Finally, it examines how the shifting status of the image and the renewed procedures of curating are intimately connected within the networked culture.

Tyzlik-Carver defines 'not-just-art-curating' (2016, pp.75, 277; 2017a; 2017b) as a kind of curating that is no longer dependent on an art object, but is 'tactical and speculative and focused on relationality that is enacted with art and that intervenes into common practice of curating' (2016, p.278). Her proposal invites us to rethink curating in a way that goes beyond art practices and recognises that within the networked culture, aesthetic experience and creativity can no longer be circumscribed by the perimeters of the field of art but encompass a wider set of mundane practices that are performed by users in social media platforms including posting, linking, liking and commenting.

This concept is key to Tyzlik-Carver's broader genealogical project, mentioned in the introduction (0.4.2.), which is concerned with revisiting the conventional paradigm of art curating and extending it to different kinds of contexts, activities and agents in the process of curating. The roots of the concept can be found in the notion of 'not-just-art' (1997) advanced by media theorist Matthew Fuller in his discussion of the software art project *I/O/D 4: Web Stalker*, a web browsing application which 'provides a mechanism through which the deeper structure of the web can be explored and used' (Fuller 1997). In Fuller's words, the project 'produces a relationship to art that at times works on a

basis of infiltration and alliance, and at others simply refuses to be excluded by it and thus threatens to reconfigure entirely what it is part of (Fuller 1997).

At the heart of both Fuller and Tyzlik-Carver's arguments lies the question of what can be defined as art and, in turn, what can be called curating in a networked context. The dissensus around the definition of art, as Fuller suggests, can be traced back to the readymades of Marcel Duchamp at the beginning of the twentieth century and to the subsequent development of Conceptual Art in the 1960s and 1970s. Since then, whilst anything can be taken as art, art can also be taken as anything, producing a paradoxical condition. Meanwhile, the dissensus with regard to the definition of curating is more recent. For Tyzlik-Carver this is reflected in the way that the Wikipedia entry for the term has expanded since 2003, when curating was defined in only one sentence as the management of collections in cultural heritage institutions. Today, the Wikipedia entry is far more robust: it highlights the different responsibilities of the curator and includes new branches such as 'content curation' and 'digital curation', as well as a section dedicated to 'technology and society'. Although Wikipedia is not considered a trustworthy academic reference, it can nevertheless be seen as an indicator of certain trends in online culture, in this case detecting the recent expansion of curating within the networked context.

Over the last two decades, conditions of 'not-just-art' (Fuller 1997) and 'not-justcurating' (Tyzlik-Carver 2016; 2017) have emerged as a result of the development of software and distributed digital tools that have enabled the rapid circulation of online content both within the field of art and the Internet. More precisely, the technical dimension of circulation has allowed the movement of data through software and algorithmic processing and the ubiquitous access and distribution of content in the online environment. In parallel, the social nature of circulation has also become apparent through activities such as sharing, manipulating, linking and liking of all kinds of cultural content. These interlinked dynamics of socio-technical circulation have contributed to the erosion of the traditional boundaries of cultural production and the increasing assimilation of art and curating into online popular culture. Moreover, they have produced a new grey area of cultural projects and propositions, which are not quite art, nor quite curating. In the context of this research, this grey area is understood as the uncharted territory in which the online curator operates, where culture and commerce coalesce to the point of becoming indistinguishable and where processes of commodification and valorisation are encoded by means of the same computational systems and mechanisms.

In order to test these propositions, in this case study I have positioned my experiment at not-just-art-curating in the grey area of practice that exists between art and online popular culture, the everyday handlings of technologies and technologically-aware aesthetic investigations. In what follows, I will recount the series of actions and operations that I undertook and analyse how I came to frame the concept of the networked image and its close link to the renewed procedures of curating through my attempt at curating this H&M t-shirt/image.

1.1. CASE STUDY: THIS IMAGE IS NOT AVAILABLE IN YOUR COUNTRY

In January 2016, I purchased from a charity shop in South London a second-hand H&M t-shirt that had printed on it the phrase: 'This Image is Not Available in Your Country'. My interest in this particular visual object was twofold: on the one hand, its status as a mundane object presented a radical rupture with everything I had curated in the past (mainly artworks and artists), marking a fresh beginning for my experiment at 'not-just-art-curating'. On the other hand, the printed phrase 'This Image is Not Available in Your Country' – usually associated with the removal of content from the Web for censorship and copyright reasons (MS_CS1_02) – opened up some thought-provoking questions on the conditions of availability and the circulation of images within the networked culture: Where and how could this image circulate and where could it not? Within the networked culture's continuous stream of interactivity, what determines which image is available and to whom?

As part of the process of 'not-just-art-curating', I spent the next six months closely investigating and interacting with this t-shirt/image, both as a material object and as a networked-screen image. This led me through a series of actions. The first consisted of photographing, posting and sharing the image of the t-shirt on my social media accounts and observing the various likes it triggered (MS_CS1_03). The second involved my attempt at physically hanging up the t-shirt as if it was an artwork ready to be displayed. Through these actions it became apparent that the t-shirt simultaneously operated as a digital image, an aesthetic object and as a commodity. The analysis of these dimensions was conducive to my elaboration of the concept of the networked image, as an image that is shaped by the following processes: 1. Circulation; 2. Computation; 3. Commodification.

Following on from these initial actions, two parallel tracks were pursued during the fieldwork, which encompassed tracing²⁰ the status of the t-shirt as a material object as well as a networked image. The first involved making contact with H&M's customer service to enquiry about the conditions of production and distribution of this specific commodity. Such information was not easily disclosed, demonstrating the company's resistance towards sharing information about its global retailing system and copyright policy. This is a problem that has been experienced not only by H&M customers, but also by the company's shareholders who have lamented the lack of transparency and information about how ecommerce develops in different markets (Milne 2017). What nevertheless did emerge from my investigation, however, was that the t-shirt was sold out and was therefore technically 'unavailable' in my country as well as in all other countries. Its design was claimed by H&M, yet the name of the designer and the circumstances behind its manufacture were not revealed. The only relevant information to this regard came from the label which listed the place and year of production – Bangladesh, 2014 – together with the t-shirt's material and size.

The second track I pursued was that of exploring the t-shirt's screen culture and the patterns of circulation of this specific image across the Internet. Online the image of the t-shirt had instigated a wide range of visual responses: from numerous portraits and selfies that were shared by online users on social media platforms such as Pinterest and Instagram (MS CS1 04/05), to amateurs' fashion blogs (MS CS1 06) and more 'idiotic' (Goriunova 2013) imageboards (MS CS1 07), including, for instance, 'themetapicture.com' (MS_CS1_08). My curatorial efforts at tracing the online response to this object revealed the pivotal role that online users play in the construction of patterns of aesthetics and meanings. It also brought into focus a number of questions about the status of the networked image itself: where and what was the networked image (actual or potential) that was supposedly claimed by this t-shirt? Was the printed phrase a kind of networked image in itself? Or was the networked image the resulting selfies that were anticipated by H&M's visually savvy branding strategy? Or, again, was the networked image to be found at the meta-level prompted by its message, that is, in the networks of invisibility and paths of censorship of an allegedly interconnected global world?

As the findings disclosed, the image of a black box framing the white statement, as it appeared on the t-shirt, did in fact exist as a transferable image in its own right: in

²⁰ The notion of tracing was developed further in an article I published at the end of this case study for the Journal of Media Practice (2017): 'Tracing networked images: an emerging method for online curation', Journal of Media Practice, 18 (1), pp. 51-62. There, I posited 'online critical tracing' as a reflexive method to begin charting, connecting and critically examining the unstable flow of networked images. I will return to this curatorial method in the conclusion.

contexts as diverse as on the flyer of an Amnesty International campaign for the 'right to protest' (MS CS1 09), and the website of the LA-based commercial platform 'Society 6'. The existence of multiple instances²¹ of this same networked image online, served to raise doubts about H&M's copyright claim, pointing to the difficulty of identifying the legitimate copyright holder of this specific visual statement and, more generally, of understanding the parameters regulating the fair use of images on the Internet. In other words, the question of whether H&M was the first to use and commercialise this image remained unsolved. Crucially, the various online iterations of the t-shirt/image revealed how the networked image is shaped by its own dynamics of circulation. It is important to note that on the website of 'Society 6' one could order tshirts printed with this same graphic image (similar to the ones sold by H&M), while also ordering copies of the image as a fine-art print, or printed on a blanket, an IPhone cover, and a shopping bag, amongst several other items of merchandise (MS CS1 10). Interestingly, 'Society 6' does refer to its merchandise as 'artworks', its anonymous designers as 'artists' and its commissioning agents as 'curators', pointing to a linguistic appropriation that reflects an increasingly hybrid understanding of the curatorial function online. This hybrid understanding collapses the logic of culture, which is proper to the paradigm of art curating, with that of profit that underpins the activities of marketing and customised sales of the commercial Web, creating the conditions for the emergence of hybrid practices of 'not-just-art-curating'.

The second phase of the fieldwork took place at H&M's main store in London where I located a vintage looking Photoautomat, designed and produced in collaboration with the company The Flash Pack (MS_CS1_11). Despite its retro aesthetic, the photo booth could print images instantaneously, while also producing digital files that could be easily manipulated using filters, could be shared on social media, or sent to personal email addresses. The blending of analogue and digital photography in the photo booth attests to H&M's expansive awareness of the language of the visual and its aggregative social power, making it a useful tool for the company to appeal to different generations of customers – from those who can appreciate the materiality of print to the ones who circulate their images on social media. In the photo booth, I took a number of self-portraits wearing my H&M t-shirt (MS_CS1_12).

²¹ In computer science each time a process runs, it is an instance of that programme. The concept of image instance will return in chapter three (3.2) in the discussion of Alessandro Sambini's artwork for sale on eBay entitled 'Portable Wildlife Image Instance'.

This autopoietic²² gesture was intended as an act of reflexive self-exposure that would allow me to engage in a critique of the pervasiveness of mechanisms of 'commercial image-making, brand development or trend-setting' (Groys 2016, p.129) typical of the networked culture. This critique was performed through the embodiment of such mechanisms, whereby embodiment here denotes not only physical reality and everyday experience but also participatory action (Dourish 2001). Upon printing, the photostrips appeared with the H&M logo printed onto them, transforming my own image into a by-product of the H&M brand (MS_CS1_13/15). When I shared the images on my social media they triggered some confused reactions. While on Facebook they were interpreted as evidence of my recruitment as a model for H&M (MS_CS1_16), on my Twitter account they were immediately re-tweeted by some unknown user, or perhaps an Internet bot, related to H&M and the Flash Pack (MS_CS1_17). As a closing action, I decided to print the images onto a new organic cotton t-shirt bought from the 'H&M Conscious' line at my local Snappy Snaps' printer (MS_CS1_18).

1.1.1. OUTCOMES

It was at this point that the case study came full circle. While attempting to curate an image of an H&M t-shirt, my own image was being curated by H&M. This outcome had several important and interrelated implications concerning the status of the networked image and its relationship with the processes of online curation.

Computation and Circulation

As the case study revealed, under conditions of online search and circulation, the aesthetic, economic and social value of images is to be found in the operations they perform and in the networks they create, rather than in what they represent. In other words, the behaviours of online images can be best described in terms of the paradigm of 'post-representation' (Lister 2013; Steyerl 2013; Rubinstein and Sluis 2013; Rubinstein 2015) and 'operation' (Farocki 2004; Hoel and Lindseth 2016), rather than through that of representation. Accordingly, online images function as language in the broadest sense of the term: as a mode of visual communication, an aggregate of data and meta-data and an interface between human and computational code, whose

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²² The term 'autopoiesis' (from Greek: autos = self, poiein = to produce) means self-(re)production and is a biological concept which has gained currency since the late 1990s in debates across the fields of cybernetics, the social sciences and the humanities. This concept had been applied to the practice of curating. Krysa (2008a, pp. 42-3), for instance, offers a genealogy of the relationship between autopoiesis and reflexivity via the works of Maturana and Varela (1980), Luhmann (1995) and Hayles (1999).

lexicon and semantics increasingly interact. More specifically, because of their computational nature, online images can be instantaneously reproduced, manipulated, shared, linked and liked, independently of what they come to signify or denote. In accordance with this shift, our attention should move away from their indexical or symbolic content (Barthes 1961, 1964; Berger 1972a, 1972b; Burgin 1982) to consider their processes of reproduction, self-replication and circulation. Such processes are activated by users and enabled by computational systems, indeed the interaction between the two embeds the image within a specific socio-technical network, which in turn partakes in the creation of its meaning, value and function. As such, under these conditions, the image becomes a *networked image*.

Commodification

The same conditions of online image searching and circulation that enable the operations of the networked image also serve to monetise attention and social interaction within a networked context dominated by a commercial logic. Through dynamics of appropriation and re-appropriation, networked images are thus used to fuel an endless vortex of commodification of both objects and subjects. As a result, they produce entanglements between processes of branding, commodification and curation, facilitating the latter's assimilation by marketing and advertising agendas. This was evident in two particular instances: first, on the commercial website of 'Society 6' and, second, in the case of the marketing strategy adopted by H&M in general and through The Flash Pack Photo Booth in particular.

As far as the first example is concerned, it was interesting to note how on the website of 'Society 6' curating was exclusively associated with the work of a sales agent: the curator had no other function than to post and share links to objects for sale so as to attract potential customers and gain a percentage from the sales. In the case of H&M, however, it became clear that the activity of online curation was related to branding strategies and relied heavily upon the free labour of online users. More precisely, the appropriation of the statement 'This Image is not Available in Your Country', which is associated with the activity of online browsing, operated as a strategy to invite users to engage with the t-shirt/image. By generating traffic around the brand through posting, linking and liking, the networked image produced free advertisement for the company. As a result of my interaction with The Flash Pack photo booth, I too was solicited to share my selfies branded with the H&M logo onto my social media accounts. In other words, I was asked to publicly interact with the branded content as part of my online

activities, whilst serving the purpose of H&M marketing strategy by offering my data for profiling and tracking. As the website of The Flash Pack openly states: 'An in built external touch screen allows guests to view, filter and share their images directly from the booth in store, whilst a custom H&M microsite allows for re-shares of content and trackable analytics of data' (The Flash Pack website).

In the following sections, I will elaborate on this further by highlighting how the notion of circulation is key to understanding the shifting status of the image and the wider conditions of networked aesthetics. I will examine the renewed procedures of curating within the networked culture as enmeshed with the commercial logic of the Web. And finally, I will look at the entanglements between the shifting status of the image and the renewed procedures of curating, arguing for the need to develop a more critical awareness of the processes of circulation, computation, and commodification.

1.2. THE SHIFTING STATUS OF THE IMAGE

One important consequence of photography's diffusion into general computing is that it is no longer clear 'where' the image is. Online, there is no point at which the image ends; rather, there is an endless succession of temporary constellations of images, held together by a certain correlation of metadata, distribution of pixels or Boolean query.

(Rubinstein and Sluis 2013a, p.30)

With this statement, Rubinstein and Sluis perceptively point to an essential problem that emerged during the case study: how to locate and define where and what the image evoked by the H&M t-shirt was. As a result of my curatorial actions, it became increasingly apparent that the image could actually be located in the 'network event' (Rubinstein, Golding and Fisher 2013, p.10) from which it originated. This event was the result of the patterns of circulation – socio-technical, cultural, economic – that both its visual surface and computational structure articulated on the Web by ways of dynamically interacting with various contexts of reception and with online users. Thus, it became clear that it was no longer relevant which image was the original image, or where this could be located; what was relevant was how the different instances of the image related to one another at a computational and semantic level. In other words, how the socio-technical dynamics of circulation shaped the very conditions of the image and its value.

As previously observed, the image of the H&M t-shirt was widely accessible online: it could be found on personal blogs, search engines results, social media and imageboards. The t-shirt was photographed, posted, shared and commented on by Internet users (socio-technical circulation) and its image used by other e-commerce

sites such as 'Society 6' for the creation and distribution of other items of merchandise (economic and commercial circulation). The printed statement inspired various artists in the titles given to their works and exhibitions²³ (cultural circulation) and my own academic research also contributed to its 'critical' circulation, since the visuals and information of my presentations and writings left data traces on the Web.

Overall, the circulation of this image beyond the physical object of the H&M t-shirt revealed that the networked image is an image whose currency and value can be determined by means of the circulation patterns it creates with various users and within different contexts of reception. The tracing of such patterns exposed how circulation is as much a response as a condition of both the commodity logic of the networked image within the commercial environment of 'computational capitalism' (Beller 2016a) and its social currency within the context of the 'performativity of digital culture' (Paul 2013, p.21). As the findings revealed, under conditions of online circulation, the status of the image (how it can be defined and how it operates) undergoes a fundamental change. With respect to such a shift, the artist and theorist Hito Steyerl puts forward an elastic definition of images, describing them as 'nodes of energy and matter that migrate across different supports, shaping and affecting people, landscapes, politics, and social systems' (Steyerl 2013). The case of the H&M t-shirt/image was exemplary in this sense, functioning as an image that traverses the computer screen (Steyerl 2013), moving across different formats in a process of continuous alteration, translation and reconfiguration.

1.2.1. NETWORKED AESTHETICS

The findings also revealed that conditions of online circulation and 'circulationism' (Steyerl 2013) are not only changing the status of the image but are also crucially redefining the notion of aesthetics *in/of* the networks. The aesthetic analysis of this particular networked image reveals the overlay of three specific visual registers: first, the text-based 'declarative strategy' (Green and Lowry 2003) of the conceptual art of the 1960s and 1970s according to which the act of stating, declaring and announcing constituted in itself the premise of the work of art; second, the meta-dimensionality of early net art and contemporary post-representational photographic practices (Steyerl 2013; Rubinstein 2015) both of which are concerned with exposing the mechanics and

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²³ This is the case of the performance by Alexandra Stanciu at The Photographers Gallery, London (2016), and the solo show by Ghana-born, Chicago-based Solomon Adufah at Surplus Gallery, Carbondale, IL (2017).

language of the networks;²⁴ third, the semantic lexicon of online platforms such as YouTube, specifically error messages, such as 'This image is Not available in Your Country', which users encounter when trying to access content that has been blocked for copyright or privacy reasons. In this sense, the H&M t-shirt/image was illustrative of the enmeshments of different modes of aesthetics emerging from the networked culture, where traditional boundaries of cultural production, such as, for instance, fine arts, photography and popular culture are blurred and a plethora of content is produced by artists as well as online users.

Over the last ten years, scholars from different theoretical perspectives have attempted to describe and theorise this new mode of aesthetics. For instance, Vito Campanelli, from the field of new media studies, has advanced the notion of 'web aesthetics' (2010) to foreground the processuality shaped by the flow of actions and interactions performed by online users on the Web. Meanwhile, artist James Bridle has coined the term 'new aesthetic' (Bridle 2012; Contreras-Koterbay and Mirocha 2016) to refer to the increasing appearance of the visual language of digital technology and the Internet in the physical world and to describe the practices of a generation of artists that are currently referred to as 'post-internet' artists. Around the same time, art historian David Joselit proposed the notion of 'network aesthetics' (2013), placing emphasis on online circulation and on the emergence of forms and patterns from populations of images. Based upon acts of appropriation, reiteration and the reframing of existing links and formats, this is an aesthetics of networks rather than of objects, in which 'connection' – understood as the hyperlinked relation between different formats and data – is a new critical object per se (Joselit 2013, p.59).

What is currently missing in these propositions, however, is an account of how these different modes of aesthetics cohabit on the Web and what implications they have for the role, function and practice of the curator. A useful conceptual and operational tool in this respect is offered by Olga Goriunova's concept of 'aesthetic differentiation', which consists of seeing, recognising and dissecting aesthetic value and meaning outside and before appropriation (Goriunova 2013, p.29). This tool works as 'a nuanced gradient' (Goriunova 2012, p.13) to account for regularities and patterns in computational matter and can be used by curators alongside artists and other actors who are interested in investigating the aesthetic complexity and creative liveness of

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²⁴ An example of the first register is the series of paintings *Today* (1966-2013) by Japanese artist On Kawara, which depicts in white letters and numbers the date on which each painting was produced. Examples of the second register include JODI's interactive work *404 Not Found %Unread %Reply %Unsent* (1999), a web page that guides the user into a continuous loop of different error pages. More recent examples include the video work *This Image or Video Has Been Removed or Deleted*, 2011, by Turkish artist Berkay Tuncay, and Paul Mutant's canvas *This Painting is not available in your country*, 2010.

computational culture. The insight offered by Goriunova is valuable in relation to the analysis of the case study so far, which has been centred on the *differences* produced by the circulation of the same image online in various contexts and the connections and juxtapositions that can be drawn from such differences in order to open up new patterns of meaning and interpretation. However, the type of differentiation the networked image calls upon itself does not only concern its aesthetic dimension, but crucially entails a recognition of the different value regimes – technical, economic, social – that it carries within the context of the commercial Web.

1.3. RENEWED PROCEDURES OF CURATING (ENMESHED WITH THE COMMERCIAL LOGIC OF THE WEB)

As a mass-produced fashion item, the H&M t-shirt/image opened up an interesting vantage point from which to observe the dynamics of production and circulation of images and goods within an online environment dominated by a corporate logic. There, networked images play a key role as representations of actual or potential goods, in the latter case enabling the functioning of business models typical of e-commerce, such as the 'print on demand' or 'manufacturing on demand'. Such business models reflect a customised and tailor-made tendency that not only favours the saving of production costs, but also fosters strategies of personalisation and curation for accruing competitive advantage. In this respect, the business model proposed by 'Society 6' — a print and manufacturing on demand business that makes artworks available for sale on different consumer goods and grants commissions to curators for such sales — is symptomatic of a number of conflations occurring within the online marketplace: between different understandings of what constitutes a work of art and of who can be called a curator and between the customisation of sales and the procedures of curation.

Another important aspect that characterises the renewed procedures of curating as enmeshed with the commercial logic of the Web pertains to the role online users play, often inadvertently, as free generators of advertisement revenues and branding construction. This became particularly obvious on the occasion of the automatic circulation of the images I produced in the H&M photo booth which I shared through my social media accounts. Whilst H&M orchestrated, through the photo booth, a branding operation that played on my drive for self-representation, its members of staff or presumed bots automatically circulated the visual content I shared the moment it reached the online environment. This is a vivid example of a coordinated marketing strategy and brand identity construction made possible through the free labour of users, disguised as a creative act. The question then becomes to what extent are

customers and users aware and conscious of such mechanisms, which are normally concealed in the lengthy 'terms of service' or 'users agreement' of social media platforms and e-commerce sites. This issue will be further examined in the following two case studies where eBay's 'users agreement' will be reviewed to assess whether or not art and curatorial interventions might be considered infringements of the commercial platform's regulations.

My analysis of H&M's retailing system offered the opportunity to shed light on the entanglements between economic and political forces that mould the circulation of goods and images online and to recognise in those entanglements disguised forms of (cultural) regulation and control that the online curator needs to be critical of. For instance, H&M exploits the economic dependency of a less advanced economy, Bangladesh, to secure the production of goods in offshore factories at cheap labour costs. When one considers that the H&M t-shirt was in fact produced in one such factory, the meaning of the statement 'This Image is not Available in your Country' – which invokes wider dynamics of inclusion and exclusion in global information capitalism, the so-called digital divide (Castells 2001) – becomes darkly ironic, if not perverse.

The analysis of this statement thus offered the opportunity to reflect upon circulation as a process that is entrenched with a proliferation of invisible boundaries, ruptures and enclosures. As previously observed, this sentence is commonly associated with the impossibility of accessing content on the Web, particularly on online platforms such as YouTube (MS_CS1_02), because of specific geo-localisation restrictions prompted by issues of copyright and censorship or ascribed to the practice of geo-blocking. The latter refers to the use of technology to restrict access to Internet content, based upon the user's geographical location. Such a practice is employed by online platforms and e-commerce sites, such as H&M, which filter international audiences and customise their offerings according to territory, language, and advertising markets. As media scholar Ramon Lobato observes:

Like search localisation and algorithmic recommendation, geoblocking is a 'soft' form of cultural regulation. Its widespread adoption is changing the nature of the open internet by locating users within national cyberspaces and customising content based on certain ideas about territorial markets.

(Lobato 2016, p. 10)

My inquiry into H&M's distribution chain confirmed how the corporation operates according to the territorialisation of national markets.

As previously mentioned, the t-shirt only featured on the US website where it was sold out, and it was not possible to track whether it was purchasable from any other H&M website or store. Hence, the item of clothing was, in a very real sense, 'unavailable in my country' as well as everywhere else. In fact, even if the t-shirt had been available on the US website, I would not have been able to purchase it, as one cannot purchase an item online unless one is able to pay in the local currency. These findings revealed how within the current state of the commercial Web, the online environment mimics a networked economy that gives the illusion of smooth global transactions but is actually deeply permeated by economic and geographic boundaries. It also pointed to the role technology plays in restricting access to users by performing automated mechanisms of inclusion and exclusion and filtering the circulation of goods, images and content.

1.4. ENTANGLEMENTS

Overall, the tracing of the t-shirt/image across different online contexts illuminated how the Web is far from being a neutral arena, but is a space largely subdued to private and corporate interests that influence the behaviour of images, objects and users alike. Such a state of affairs poses some urgent challenges to curators. Not only must curators take into account the increasing commodification of the Web when producing and circulating content online and when acting on social media; they are also called to disentangle and expose the existing power structures and corporate dynamics of the networks, at the risk of seeing their gestures be subsumed into a logic of branding and advertisement. Here, Goriunova's above-mentioned concept of differentiation assumes a political undertone, suggesting the emancipatory potential of the project of online curation under the current socio-technical conditions. As she intuitively observes:

Curators are compelled to attend to the production and extension of aesthetic forms, values and procedures by understanding, building and making use of human-technical devices or computational procedures, in which they (should) find themselves if not in direct competition then still in ontological conflict of differentiation with other forces, among those that are capitalist, deterministic and entropic, in order to carry out their work.

(Goriunova 2013, p.29)

What is being maintained here is that the convoluted conflation of opposing interests and agendas – whether cultural, economic or political – that characterise the current state of the commercial Web should not prevent the curator from operating within the online space. On the contrary, this should be considered as an indicator of the necessity for such intervention.

As the curator Omar Kholeif puts it, addressing such problem is a matter of urgency: 'We continue to speak of the relationship between museums and corporate sponsorship, but we have yet to fully discuss how the commodification of our most shared space, the internet, affects not only artwork but also contemporary curatorial practice' (Kholeif 2013, p.85). This provoking statement by Kholeif points to a general disinterest on the part of the traditional art world in engaging with the commercial aspect of the Web as a crucial part of the social fabric of contemporary art and computational culture.

This case study has attempted to deliberately run counter to this logic by shifting the focus of its curating from a traditional art object to a networked image – a mass-produced fashion item, the commodity par excellence. In doing so, it has revealed how on the Web curating becomes a practice entangled with processes of valorisation and commodification that are enabled by dynamics of online reproduction and circulation. More precisely, the analysis showed that online curating is itself enmeshed within the very same processes that enable the operations of networked images: circulation, commodification and computation. As a result, the curator must remain attentive to such processes and develop a critical awareness of them by performing 'caution differentiation' (Goriunova 2012, p.45) between different aesthetic registers and regimes of value. Moreover, when acting in the capacity of an Internet user, the curator can attempt to activate 'performative moments of narrative dissonance' (Thrift 2008, p.87) from the dominant logic of commerce and open up small brackets of intervention – what Goriunova calls spaces of resistance and autonomy (Goriunova 2007).

Having examined how the collision of aesthetic and commercial agendas in the networked culture is impacting the status of the image and the renewed procedures of curating, the following two case studies explore in more detail the context of an online commercial platform and how this influences the process of online curating and the agents participating in such a process. Thus, the focus of the next two chapters shifts from the generic environment of the commercial Web onto the specific socio-technical assemblage of a commercial platform: eBay.

CHAPTER 2. ONLINE CURATION ON A COMMERCIAL PLATFORM

2.1. CASE STUDY: VERY HARD TO FIND

EBay is a self-contained universe with its own distinctive community, soundtrack, operational protocols and even a language. Not surprisingly, its search algorithm is named after a 17th Century Astronomer, Giovanni Domenico Cassini. Countless images make up this universe. Preferably shot against a white background, saved in jpeg format and with a minimum length of 500 pixels, a good image is a key asset in a universe governed by the ratio of visibility. Regardless of the items they depict and the services they promote, images function as the interfaces between the user and the search engine. buyers and sellers, the virtual world and the physical one. Their lifespan is proportionate to the engagement they engender. Within this visually rich universe populated by data and meta-data how planet art and planet curating are orbiting is the conundrum emerging from this #exstrange invitation. Are artistic endeavours to be seen as fraudulent schemes in the galaxy of eBay happy transactions? Can conceptual supremacy win over the power of the Cassini's search algorithm and temporarily suspend the equation between images and commodities? Are users ready to take up the economic risk of a full cycle of artistic production or is art on eBay bound to remain Very Hard To Find?

(http://exstrange.com/hello/#guest-curators 2017)

This hyperlinked text was the curatorial statement I wrote as part of my participation in the project #exstrange, an initiative mobilised by curators Marialaura Ghidini and Rebekah Modrak that used the online marketplace of eBay as 'a site of artistic production and cultural exchange and as an artistic intervention into capitalism' (Ghidini and Modrak 2017a). The premise of the project was to treat the auction as an artwork. From the type of item selected to be auctioned, to the uploaded images, the price and the description, everything was to be considered part of the artwork and each auction would run for seven days. All auctions and interactions with buyers were documented on the project's website (http://exstrange.com) and in a catalogue published in the summer of 2017. Using this conceptual framework, the curators aimed to place art into a context from which it could solicit an 'exchange with a stranger', and this is where the title #exstrange originated. The word 'stranger' recalled the sociologist and philosopher Georg Simmel's use of this term, understood as a figure characterised by nearness and remoteness, who enters into a community able to 'perceive entrenched dynamics with new eyes' (Ghidini and Modrak 2017a).

Building on the outcomes of the previous case study, in which the role of the online curator was paralleled to that of the Internet user and found to be enmeshed in processes of branding and commodification proper to the commercial Web, this chapter draws on my engagement with #exstrange to interrogate what it means to curate in the context of a commercial platform. The following sections will analyse the

curatorial challenges and possibilities I encountered in the process of acting as a guest curator for the project #exstrange to explore whether online curation can open up a space of autonomy (Goriunova 2007) in the context of a commercial platform. I will then consider the function that networked images play on the platform to examine their imbrication with processes of commodification and with wider dynamics of 'image capitalism' (Mbembe 2011). This will allow me to offer an account of how technology influences the curatorial function on eBay, paying attention to the platform's interface, database and the machinic performance of its search algorithm, Cassini. Finally, I will assess the overall impact of the project #exstrange on eBay, its value and shortfalls as a curatorial intervention.

2.1.1. AN INTERVENTION ON EBAY: PROJECT #EXSTRANGE

EBay was one of the first online platforms that allowed users to mingle and interact with strangers on the Web – all in a pre-Facebook and pre-Tinder era. The platform officially came online in 1997, two years after its founder Pierre Omidyar wrote the code for AuctionWeb – its first iteration – from his living room in San Jose, California (MS_CS2_01). Soon after, it established itself as an honest and open marketplace dedicated to bringing together buyers and sellers and producing 'an army of bubble wrap entrepreneurs' (Lewis 2008, p.7). In June 2000, eBay even started to run its 'University Learning Center' to teach users how to become master sellers. The latter, which ran until 2006, encompassed a sponsored programme at its headquarters in San Jose, a popular series of workshops across the United States and several online courses. Today, the company continues to engage in community building and education, through more informal programmes such as 'Friends of eBay', an initiative hosted by eBay NYC, which fosters entrepreneurship and networking among tech start-ups.

With the project #exstrange, Ghidini and Modrak orchestrated an artistic and curatorial takeover of the commercial platform. The interests of the two curators had already coalesced around eBay: in 2006, Modrak organised an exhibition on the platform entitled 'ebayaday' and Ghidini interviewed her as part of her doctoral research which focused on experimental exhibition practices on the Web. With #exstrange, Ghidini and Modrak brought to the project two different curatorial perspectives: while the former has an established practice as an online curator, being the founder of the curatorial platform or-bits.com, the latter is an artist and designer coming from a tradition of culture jamming and interventionism in creative contexts who simply found herself

acting as a curator in the context of the project (Modrak 2017). The encounter between these two perspectives was reflected in the degree of openness of the project, which was positioned to appeal to both a specialist and non-specialist audience.

As explained by Ghidini, the project's curatorial structure was rooted in the experimental practice of the conceptual artist Lucy R. Lippard (b.1937). In particular, it was inspired by the *Number Shows* (1969-1974), a series of four international exhibitions based upon the principle of 'instructions'. In response to Lippard's invitation, the participating artists sent her guidelines on how to assemble and install the exhibiting works on index cards. Lippard turned an economic limitation – the inability of paying the plane fares for the participating artists – into a conceptual devise that challenged traditional models of display and presentation of a work of art. Although Lippard never saw herself as a curator, her model broke new ground and has since then been assimilated into the genealogy of curating, shaping both its historical (Obrist 2008; O'Neill 2012) and more recent discourse (Tyżlik-Carver 2016 and 2017a) and practice.²⁵

In the 1960s, the model of the instructions-based exhibition created cross pollination between early curatorial experiments and post-minimalism, conceptual art and fluxus practice. Instructions served to problematise artistic authorship and to subvert the conventional dynamics and hierarchies of the art gallery by providing propositions or directions on how the work of art was to be assembled, by whom and under which conditions. Moving beyond the physical boundaries of the white cube, Ghidini and Modrak retained the experimental character of those early cross-pollinations and applied the model of the instructions-based exhibition to the online context, asking artists to insert their works within the categories of the e-commerce platform and to follow its pre-formatted templates and operating protocols. In this way, they opened up the possibility of exploring how eBay could function as a site for curatorial experimentation and 'aesthetic germination' (Goriunova 2013, p.26).

Ghidini and Modrak attentively curated the project's conceptual framework, timing and documentation and adopted a decentralised curatorial model whereby several guest curators where also invited to intervene in the process. As a result, they gave away some degree of curatorial control. Following the project's inaugural slot in January 2017, they slowly faded into the background, acting as efficient 'platform builders and

²⁵ A more recent example of a project that directly references her model is, for instance, 'do-it' (1993–on-going) conceived by curator Hans Ulrich Obrist and artists Christian Boltanski and Bertrand Lavier.

²⁶ Artists who produced instructions-based works include renewed conceptual figures such as Sol LeWitt, Lawrence Weiner and Robert Barry, among others.

organisers' (Ghidini 2017, p.9), allowing the project to unfold by itself and for its shape to be defined over time by the interactions between the platform, its audiences and users, and the growing number of participating artists and guest curators. In this sense, they allowed the project's aesthetic force to amplify (Goriunova 2012), it to operate as an 'art platform' (Goriunova 2012). Olga Goriunova's definition of the art platform is particularly useful in framing the role of the project within the larger media ecology of eBay. As she puts it:

An art platform can be a stand-alone website that, together with other actors, forms an ecology of aesthetic production, but it might also take place as a subsection of a large platform, or even as a space between a corporate service, artists' work, hacking, collaborative engagement, and a moment of aesthetic fecundity. An art platform engages with a specific current of technosocial creative practices and aims at the amplification of its aesthetic force.

(Goriunova 2012, p.2)

By inviting artists to adopt, disrupt and challenge eBay's existing protocols and categories, project #exstrange operated as a catalyst which challenged traditional definitions of art and its well-rehearsed mechanisms of production, commissioning and consumption. Responding to the invitation to participate in the project, I decided to address two specific claims drawn from Goriunova's characterisation of an art platform: first, that an art platform is 'an assemblage of human-technical objects and relations reflexive of their own processual composition' (Goriunova 2012, p.2), and, second, that one of its key features is to show 'a certain kind of attentiveness to and allowance for the mechanisms of differentiation and problematization of networks' (Goriunova 2012, p.3). These claims informed the methodological framework I followed in this research that of critical reflexivity - and the specific curatorial methods I employed in this case study - tracing and cautious differentiation - in the following ways. On the one hand, I explored the processual composition of eBay as the wider human-technical context within which project #exstrange operated. On the other hand, I was also particularly attentive when searching the eBay database to dissect the differences emerging from the corporate use of the language and the practice of both photography and curating, and its computational culture as shaped by the platform's users. The application of these curatorial methods, propelled by the creative current that originated from the project itself, guided my investigations and operations on the commercial platform and shaped the evolution of my curatorial role from a conventional guest curator in this case study, to a more experimental one, as will be shown in the following chapter.

2.2. CURATORIAL CHALLENGES AND POSSIBILITIES

Project #exstrange involved two main curators, eleven guest curators and, importantly, eBay's own technological infrastructure acting as an invisible curator. At the start of my engagement with the project, it became amply clear to me that this additional curatorial layer was embedded in the platform's technical infrastructure by means of its selling categories and standard operating protocols. In other words, the platform was itself administrating what is traditionally considered as the window of action of the curator – that is the mediation between the artists, the exhibition context and its public.

Upon my initial evaluation, the project appeared 'overtly and overly curated'. Such a condition was deemed symptomatic of the current curatorial exuberance that can be ascribed to two interrelated tendencies, respectively detected in the fields of online popular culture and in the specialist domain of art curating. Within the context of online popular culture, the activity of curating has become heterogeneous, abundant and massively distributed (Tyzlik-Carver 2017a; 2017b) and every user can potentially engage with some form of curating through the organisation, filtering and arrangement of digital images and information. These forms of curating, which are commonly referred to as content curation, digital curation or, more broadly, as online curation, are shaping the professional field of 'the 21st century knowledge worker' (Dale 2014) and are supported by an emerging literature and a range of digital data aggregation tools and software. The latter include, for instance, software solutions for content curation and content marketing, such as *Curata*, *flockler*, and *scoop.it* among others.

Online curation crucially relies upon the work of algorithms and software for searching, collating, sorting and visualising data. Additionally, it is embedded in the everyday use of social media platforms and networked devices. As such, it is both openly executed by digital professionals, online users and software, and excessively performed, since it is virtually applied to all sorts of commercial contexts and situations — any sellable product or service can now be curated as the first case study demonstrated. This is the argument put forward by writer, researcher and digital publisher Michael Bhaskar who has addressed the spread of curation in his recent book *Curation: The Power of Selection in a World of Excess* (2016). As he obverses in the Introduction, curation is 'at work everywhere, from the art gallery to the data centre, from the supermarket to our favourite social networks' (Bhaskar 2016, p.6). His statement can be effectively illustrated by the Tumblr blog 'curating the curators'. The blog gathers²⁷ posts and

²⁷ By the time this dissertation was completed (March 2019), this blog had disappeared from Tumblr.

news outlets which map the different uses of the term across online popular culture: from its appearance on a wine label from South Africa to an article which defines the leader of Labour Party Jeremy Corbyn as 'the curator of the future' (Monbiot 2015).

This hyper-curated scenario, I would argue, is the consequence of, and in part mimics, the parallel growth in popularity that curating has witnessed since the early 2000s within the specialist domain of contemporary art. This was the result of the proliferation of Master programmes in Curating over the last ten years and of the consequent development of a copious theoretical discourse. The latter has served to both historicise exhibition making and inform the conceptualisation of a discursive mode of practice which is acted out through the organisation of activities such as talks, workshops and screenings. In both cases, the emphasis is firmly placed on the process of curating, either on its historical legacy or on its expansive discoursiveness, often translating into situations that Bhaskar describes as involving 'curators curating curators curating' (Bhaskar 2016, p.66). In order to substantiate this claim, Bhaskar makes reference to the 2007 Lyon Biennale curated by Stéphanie Moisdon and Hans Ulrich Obrist, which featured sixty-six players from all over the art world, forty-nine of whom were curators and critics, resulting in what has been referred to as an 'oppressive curatorial scaffolding' (Rehberg 2008). A couple of other examples can be added. For instance, the contentious²⁸ recuration by curator Germano Celant of curator Harald Szeemann's 1969 exhibition When Attitudes Become Form at Fondazione Prada in Venice in 2013. Here, an established curator recurates what is considered the hallmark exhibition in the history of curating as an independent practice. The increasing tendency of art fairs such as Artissima in Turin to appoint a main curator who in turn puts other curators in charge of specific sections of the fair, such as its public programme or most experimental projects, could also be cited here. In this example, curating and its discursiveness can even be seen to expand in the domain of the art market.

It is around this current curatorial exuberance that distinct and at times rival curatorial paradigms and definitions coalesce. This can be most vividly detected in the online environment where a new definition of curation is only ever one click away. In this respect, eBay offers a condensed version of what occurs on the Web more broadly and is an interesting example of the convergence between different curatorial tendencies: art curating, content and digital curation, and 'not-just-art-curating' (Tyzlik-Carver 2016;

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²⁸ Celant's operation raised fervid debate in the art world, specifically in regard to the ethics and responsibilities of restaging a historical exhibition that was radical because of its site-specificity. See Tara McDowell, *Towards an Ethics of Recuration: When Attitudes Become Form: Bern 1969/Venice* (2014) and Terry Smith's essay 'Artists as Curators / Curators as Artists: Exhibitionary Form Since 1969', in the catalogue accompanying the exhibition (2013).

2017a; 2017b). For example, the platform boasts an 'Office of the Chief Curator' (MS_CS2_02), which selects 'the most interesting, story-worthy, even spectacular items eBay has to offer and showcases them in beautiful, curated collections' (eBay.co.uk 2017). As such, it borrows one of the key tropes of art curating – the creation of collections – to actualise the curation of its own content with the scope of generating more online traffic and sales. But while doing so, it simultaneously also reproduces the richness of online popular culture and the diversity of meanings that are currently associated with the term and the activity of curating. For instance, different kinds of items surface from the eBay database when keywords such as 'curator' or 'curating' are inputted, starting with the whole spectrum of the literature on curating, including books about art curating, new media curating and content curation (MS_CS2_03). These are dispersed amongst many other items, including humorous T-shirts gadgets from the Dr. Who TV series, ²⁹ a vintage postcard addressed to the Photography Curator of London's Victoria and Albert Museum and protective oil for wood (MS_CS2_04).

2.2.1. CURATING IN AN OVERTLY AND OVERLY CURATED ENVIRONMENT

Not only was project #exstrange 'overtly and overly curated' but it also operated in an 'overtly and overly curated' environment. In practical terms, the project thus required very little curatorial expertise from my side. The eBay instructions on how to produce a listing, which Ghidini and Modrak shared in the e-mail invitation template and on the website, were essentially the only guidelines the artists had to follow. Hence the question of what kind of curatorial position was left to uncover became critical. Additionally, in my initial interactions with the project as a regular eBay user I experienced some difficulties locating the #exstrange auctions within the platform's vast repository of online items and services. The latter could indeed be found more easily if one followed the daily links shared by the project's curators on social media and on the #exstrange website. This consideration opened up the project's overall premise – the accidental encounter and exchange amongst strangers – to critical scrutiny. What was the actual visibility of the project #exstrange on eBay? Who were its audiences and participants and why did the #exstrange works not appear at the top of my search?

In order to answer these questions, I decided to remain attentive to my position as an eBay user while acting as a guest curator to the project #exstrange. Such a move

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²⁹ It is worth noting that the results of any eBay search are bound to the specific location of the user, in my case the United Kingdom. This explains the appearance of gadgets from 'Doctor Who', a popular British science-fiction television programme produced by the BBC since 1963.

translated into an exploration of the platform's history, community and culture and in an engagement with the curatorial resources already existing on the platform. Conceptually, this was based upon an important premise: that the online curator is first and foremost a user who is subjected to the same operative protocols of any other user and similarly contributes through his or her behaviour to shape the networked culture and its landscape of data.

This premise was theoretically grounded in Goriunova's argument that there is no distinction between curator and user, since the former, alongside the artist, operates side by side with other human and non-human agents similarly occupied in intervening in the production of aesthetic life. However, Goriunova also recognises the need to speculate on the emergence of a mode of contemporary curation which is concerned with 'disciplining or acquiring the new vocabulary of visual language on a mass scale' (Goriunova 2013, p.30). This is a curation of bio-computational gestures and procedures, which begins with 'seeing aesthetic differentiation within the muddy swathe of cultural stuff' (Goriunova 2013, p.29). In this sense, then, the curator is invested with a renewed operationality. Such operationality, I would add, is not defined in terms of the kind of actions that are being performed or executed (for instance, both users and curators search, filter and collate images and information) but in the degree of awareness of the wider implications that these very actions carry with them and the kinds of values they produce. In other words, the difference relies on the critically reflexive examination of the procedures, protocols and power structures of the networks, which are often taken for granted in the everyday use of smart devices and social media platforms. Hence, under these circumstances, the curator is called to act as a reflexive user. As a consequence, the curator's role needs to be reframed in relation to a wider network of other agents with conflicting interests and agendas economic, cultural and political – and is invested with the social remit of exposing and differentiating the various kinds of relationships which are assembled and disassembled within such a network - relationships of power, control, alliance and cooperation.

Some of these relationships of power and control are indeed concealed in the lengthy terms of service and users' agreements that commercial platforms produce and which are rarely subject to any scrutiny (Berreby 2017; Obar and Oeldorf-Hirsch 2018). Having examined the eBay user agreement, it became clear to me that the project #exstrange was pushing the boundaries of what is commonly considered as acceptable practice on the platform. For instance, on eBay, users are not entitled to

'post, list or upload content or items in inappropriate categories'. Additionally, actions such as 'reproducing, performing, displaying, distributing, copying, reverse engineering, decompiling, disassembling, or preparing derivative works from content that belong to eBay' are considered to be an infringement of the site's Intellectual Property Rights. Inevitably, as emerged from this case study, when acting as a reflexive user, the curator must occupy a position of antagonism, conflict or resistance with other forces and logics, including, for instance, the logic of consumerist and capitalist behaviour.

2.2.2. AUCTIONS AS ARTWORKS

As a guest curator of the project #exstrange, my initial task was to select three artists and guide them through the set of instructions provided by the project's curators, which mimicked eBay's guidelines on 'how to produce a listing'. I invited Niko Princen (b.1979), Eva and Franco Mattes (b.1976) and Garrett Lynch (b.1977), all artists I had not worked with previously and whom I selected according to the following three criteria: 1. They were practitioners whose previous works demonstrated a critical stance towards the impact of networked technologies on the status of the online image (Princen and Mattes) and on traditional procedures of art production, commissioning and sale (Mattes and Lynch); 2. Their works could be best framed within the domain of new media art, but were also prone to cross pollinations with other fields, such as digital photography (Princen), conceptual art (Lynch) and net culture (Mattes); 3. They belonged to a similar generation but were at different stages of their careers, hence their works had different quotations in the art market. In addition to inviting and managing the three selected artists, I also produced a curatorial statement in order to frame my intervention. The statement, which I presented at the outset of this chapter, is hyperlinked to eBay: each highlighted word refers back to either a search result or a page on the platform, including VHTF - Very Hard To Find - one of the many acronyms within its vast glossary, which became the title of my intervention.

'Very Hard To Find' was launched at the end of February 2017 and was effectively advertised through the social media machine operated by the #exstrange curatorial team (MS_CS2_05). Each auction produced a different outcome on the platform, generating distinct sets of values: economic, conceptual/cultural, or a combination of the two. The measure of such values was based on three main factors: the level of visibility the auction reached on the platform, the degree of engagement it produced within the eBay community and whether or not it generated sales. Additionally the way

each auction played out had distinct implications with regard to what it means to curate within the context of a commercial platform, and this allowed me to build on the outcomes of the previous case study which put into focus the enmeshments between the commercial logic of the Web and the renewed procedures of curating. My consideration of these auctions as artworks led to new insights in regard to the function of networked images as representations of actual and potential goods and as non-representational utterances of invisible, yet monetisable, computational processes.³⁰

For instance, the auction by Eva and Franco Mattes fully embraced the dynamic of cultural commodification proposed by the commercial platform and tested the latter as a surrogate, albeit a more direct one, of the art market. The work was an iteration of their on-going series Image search result (2014–) in which an image associated with a keyword from their browser history is printed on specific items of merchandise using online printing services. In their work for the auction, they picked an image associated with the word 'trolling' - the activity of posting provocative and sarcastic messages in an online community - and printed it on a toothbrush holder and soap dispenser, a neoprene laptop sleeve and a pair of leggings (MS CS2 06). In adapting the series to the eBay context, the artists openly stated that the work would only be produced when purchased, otherwise it would simply exist as an image. The artists therefore highlighted the key role that the networked image plays at the nexus of the author/audience paradigm as well as the producer/consumer chain. The auction was sold for \$490 to a contemporary art collector. While being commercially successful and conceptually coherent, it did not provoke much interaction with the eBay community and remained visible predominantly only within the art circuit. The outcome of this auction suggested that the role of the online curator on a commercial platform might be akin to that of a sales agent, as suggested by the online platform 'Society 6' and its Curator Programme, whose model was discussed in the previous case study (1.1.1). The Curator Programme granted a 10% commission to curators from the sales resulting from the sharing of a specific 'curator link' associated with an item on the 'Society 6' website.

For his part, Niko Pricen addressed the concept of source file by placing one of his photographic works in the eBay category 'Office Supplies > Filing, Storage & Binding > Files & Supplies'. The work consisted of an iPhone photograph of a computer screen with the text 'IMG_4320.jpeg' – which is also the title of the work – reflected on its surface (MS_CS2_07). The item's description was an integral part of the work and

³⁰ Here I am referring to eBay's employment of artificial intelligence, data mining and user behaviour analytics to personalise the shopping experience, as will be explored later in the chapter.

featured all the technical specifications of the image file, including its exposure time, resolution, thumbnail length, aperture, brightness and shutter speed value. The work, while conceptually compelling in its reflexive³¹ treatment of the photographic image, was indeed 'very hard to find' and remained unsold. The result of this auction complicated my analysis of the previous one by pointing to the fact that online curation on a commercial platform is not necessarily about facilitating the process of selling art. Rather, its role could be to creatively rupture the flow of commodity exchange and to challenge existing protocols and definitions. In this case, this involved challenging the meaning of the networked image, what it consists of (a stream of data) and where it developed from (a source file) – all aspects that were addressed in the discussion of the status of the image in chapter one (1.2) and which will be further explored in the upcoming section that focuses on the function of networked images on eBay. For now, it suffices to say that these kinds of conceptual operations risk invisibility on a commercial platform and hence 'fail' its dominant logic of profitability, pointing to the equation between visibility and success in the online environment.

Finally, Garrett Lynch invited eBay users to participate in the process of commissioning an artwork (MS CS2 08). Using the amount paid by the auction winner to contract eBay services, Lynch created a bespoke aluminium plaque which bore evidence of the interaction between the artist and buyer. The latter received a certificate of authenticity for its commission, in this way contributing to Lynch's long-term project Transformations: Actions to Matter / Matter to Actions (2015 – ongoing). Although the work did not challenge the definition of art per se - it was sold in the art category - it problematised common understandings of art commissioning and production, and it was circulated more widely than the other two commissioned auctions within the eBay community. In a similar vein to the Mattes auction, Lynch played with the potentiality of the digital artwork to be produced first as a networked image and then as a physical object. The way the auction played out revealed that online curation on a commercial platform can open up different strategies to engage with the resources and services provided by the platform itself and by its users. In other words, online curation can channel the aggregative power of its community and its technical protocols for noncommercial ends. As such, online curation can lead to a reconsideration of the very nature of artistic production and create the conditions for more distributed processes of creation both in term of the contexts in which art and curatorial activities might circulate

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³¹ A number of Niko Princen's works crystallise my understanding of reflexivity as an operational condition of the networked image. *The Self-reproducing Image* (2012), for instance, is a web-based artwork consisting of an interactive frame whose central text 'Drop Image Here' invites any image to be subjected to an automated process of endless self-replication.

- 'not-just-art-contexts' - and the types of agents, human and non-human, that participate in such activities.

Despite their differences, all auctions illuminated how the creative role and authorship of the artist and curator needs revisiting when inserted in the context of a commercial platform and, more broadly, into an online environment dominated by the logic of profit and cultural appropriation. In such environments conditions of reproduction and distribution undermine the authenticity of the work of art (Benjamin 1936) as well as the status of the author (Barthes 1967). These issues, which have been at the forefront of critical debates since the era of postmodernism, have once more been raised by the ubiquity of online technologies and the exponential increase and availability of means of digital reproduction and manipulation that have facilitated the appropriation, mashups and remixing of cultural content at the hands of online users. The destabilisation of the author-audience paradigm, as Rubinstein and Sluis detect, derives from the fact that 'every participant in the networks is simultaneously a viewer and performer of the image', and that authorship is happening in 'several parallel instances and potentially simultaneously contexts (by both human and non human actors)' (Rubinstein and Sluis 2013a, p.32). For instance, online users, who constitute the audience of commercial platforms, also act as authors by engaging in activities such as creating images, uploading them and sharing them online. In doing so, they assume the hybrid positions of both producer and consumer (Alvin Toffler 'prosumers' 1980) and perform these roles concurrently across various platforms. In light of the increased accessibility to means of creative production that technology enables, the position of the artist as well as the process of art making need radical reframing. As Goriunova and Shulgin observe:

The artist's mission now shifts from creating images to manipulating and redirecting information currents. The artist becomes, on one hand, the information filter, and on the other, its re-transmitter. This new role of the artist, then, in many ways becomes linked with the functions of communication and computer technologies: her activity is performed by means of networks and computers. The difference is that computers work on the basis of "bare" algorithms, while humans apply intuition, emotions and other non-rational elements — exactly those qualities that are beginning to disappear due to the influence of technology that makes everyone work rationally.

(Goriunova and Shulgin 2002)

In the context of this study the relevance of this statement is manifold. It points to the role of the artist as a filter – understood as the editor of existing content rather than a producer of new content. This idea will be extended to the role of the curator in the next chapter, given that no fundamental distinction is being made here between the artist

and the curator. Moreover, Goriunova and Shulgin highlight the interdependence of humans and machines in creative processes based upon the interaction and circulation of existing online content. This also constitutes another important topic that will be expanded upon in the next case study. Finally, the statement highlights how when it enters into the circulation flow of a commercial platform, the image – once the primary site of artistic creation – turns into a networked image in so far as it operates as a node of various types of information currents and exchanges (of objects, ideas, money, data). This raises the following questions: To what extent do networked images condition the interactions between users from which sales might be produced and economic value generated? More specifically, in what ways do they impact the ratio of visibility of an eBay listing, which is its search rank?

2.3. RICH IMAGES: SHOW MORE, SELL MORE

In the curatorial statement for 'Very Hard To Find', I described eBay as a self-contained universe of data and meta-data, where countless images are governed by the ratio of visibility. Indeed, images play a key role on eBay, as they support the functioning of the whole marketplace, acting as interfaces among different users and enabling multiple economic and social transactions. Unlike other platforms such as Pinterest, Facebook, Instagram or Tumblr, eBay is not commonly recognised as a site for the sharing and displaying of images. However, I would argue, the functioning of its whole mechanism is precisely based upon the use of images as visual interfaces. Images are the precondition for entering the online marketplace and the discriminator for accruing competitive advantage. With slogans such as 'Show More Sell More' or 'Take better pictures. Sell more stuff' (MS CS2 09), the company points to the potential that images have to generate economic value, suggesting a direct relationship between an increase in image quality standards and the volume of sales. With no images, there is no visibility for the commodities on sale, no traffic on the listings and hence no revenue. For this reason, eBay defines and supports a good image practice. According to the eBay Photo Center manual, a good image is one which is 'clear' and 'crisp' and can thus attract buyers and influence their purchase decisions. Since on eBay images simultaneously work as representations and computations, they crystallise two operative conditions of networked images: on the one hand, they problematise traditional canons of photography and their value judgment, on the other hand, they also perform the role of commodities. As such, they highlight how commercial platforms are key sites for contemporary image practices under the condition of 'image capitalism' (Mbembe 2011).

2.3.1. EBAY AS A SITE FOR IMAGE PRODUCTION

As in the case of art curating, eBay officially supports a conventional understanding of photography. In particular, it sets the canon of commercial stock photography as its standard. However, as Modrak perceptively observes (Modrak 2017), this corporate strategy is not consistent with the photographic culture produced by the platform's users, which is far more stratified and complex than what can be inferred from its official slogans and standard photographic guidelines. What distinguishes eBay from other online platforms such as Amazon and Etsy, is that commercial and stock photography are only one version of the several photographies that exist on the platform, other versions being, for instance, 'garage photography', 'home photography'³² and 'craft photography', all of which are amalgamated into a messy aesthetics cluttered with 'pre-formatted text' and 'logos for payment services' (Walker 2017, p.109).

Additionally, as Modrak notes, the quality of the image does not necessarily mirror the quality of the objects on sale. Quite the opposite: the more pristine an image looks, the less authentic the intention of the seller might be, and the less valuable an item could in fact turn out to be. For instance, a 'poor image' (Steyerl 2009) - an image whose low quality and substandard resolution allows it to be easily uploaded and shared – can be seen as proof of a actual user, as opposed to a corporate, an agent or a bot, who has genuine intentions in regard to the economic transaction and is not purely concerned with generating profit from a good or a service; someone who might be interested in giving the object a second life or home amidst a trusted community of users.³³ As it appears, considerations of authenticity, affect and intentionality enter in the construction of image values on eBay. In other words, images reveal more about the user who produces them, rather than the object they depict; they reflect the affective conditions of the community of users who upload them, their cravings, personal histories, idiosyncratic aesthetic sensibilities, taste, sense of humour and entrepreneurial aspirations. As such, they capture the specificities of the networks they are embedded within. In this respect, they are 'rich' also because they produce social value, reflecting the public composition of the platform as a site for contemporary image production.

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³² Penelope Umbrico's *TVs from Craigslist* (2008) is an example of an artistic project that addresses the emergence of new photographic genres as shaped by the activity of online users. This consists of a series of images downloaded from Craigslist, which feature the inadvertent reflections of the sellers of unwanted TVs for sale in their homes. Interestingly, the artist resold such images on Craigslist, embedding her own artistic gesture within the platform.

There is a whole market of sentimental items being sold on eBay, as the web project *Sentimental Value* (http://www.sentimental-value.com) by artist and writer Emily Spivack demonstrates. This is an archive of clothing with noteworthy stories extracted from the eBay database, which is open to further participation by external users via a submission page.

2.3.2. NETWORKED IMAGES AS COMMODITIES

Nonetheless, in spite of the diverse aesthetic registers and values they carry, images on eBay primarily represent commodities for sale. Traditionally described by Karl Marx as a two-sided entity consisting of use value and exchange value, the value of the commodity functions as crystallised labour (Dragstedt 1976). Building upon Marxist theory, cultural critic Jonathan Beller argues that the commodity increasingly tends to the status of an image, embodying its value as a brand: commodities are 'no longer paradigmatically objects with singular points of sale, but rather arrays of images (imaginaries) tethered to computable information and anchored to a distributed material system with multiple points of interface' (Beller 2016b). In his attempt to bring Marxist's theory of value up to date, Beller claims that labour is in fact a subset of the larger and emergent category of attention, introducing the notion of an 'attention theory of value' (Beller 2006).

From the perspective of such theory, as labour had once been sedimented in the commodity, attention now comes to be sedimented in the image and therefore commodities and images converge in the 'image-commodity' (Beller 2006; 2016b). Artist and theorist Hito Steyerl offers another cultural reading of the commodity, highlighting its relational and transformative dimension. Drawing on the work of Walter Benjamin, Steyerl posits commodities as 'a condensation of social forces', and 'as conglomerates of desires, wishes, intensities and power relations' (Steyerl 2006). The commodity, she argues, can 'move beyond representation' and 'become creative' in the sense that it can transform the relations which define it (Steyerl 2009). This transformative dimension resonates with Goriunova's notion of 'autocreativity' (Goriunova 2012, p.43) as an energy emerging from art platforms and the participatory Web, which is neither rooted in representation nor in originality, but is channelled in the operations of mundane images by means of repetition and imitation.

This framing of the networked image as a commodity was evocatively problematised by Eva and Franco Mattes's #exstrange auction Image Search Result (2014–). In the listing (MS_CS2_06), images were not intended as faithful representations of the depicted objects, but rather as promises for a future production that was only guaranteed where consumption was assured. By choosing to subordinate production and consumption through the deliberate use of the sensual appearance of images, the Mattes auction effectively suggested the role that aesthetic illusion – understood as the commodity's promise of use-value (Haug 1986) – plays within the online marketplace. As such, the listing highlighted that images can fulfil the role of advertising devices

regardless of any indexical relationship they entertain with an actual object. They can be, to all effects, synthetic images, computationally generated and manipulated, baring no trace of an optical system or of human action. These kinds of images diverge from poor images for their vibrant colours, shiny surfaces, standardised formatting and lack of personality; their richness is not exclusively found in their sensual appearance but also in their participation in the processes of valorisation of 'image capitalism'. As Achille Mbembe observes:

The circuits from affect to emotions, and from emotions to passions and convictions are more than ever before attached to a circulation of images meant to stimulate desire; the connection of affect and capital serve to reconfigure not only the everyday, but also the physical, political and psychic conditions of embodiment in our times.

(Mbembe 2013, cited in Chetty 2013)

This statement highlights how the online circulation of networked images as commodities engineers 'positive affective responses in consumers across a series of sensory registers' (Thrift 2007, p.39) connecting their interfaces with desire and consumption. The way artists are acknowledging and exploiting these dynamics is producing a paradoxical condition, which was effectively exemplified by the economic success of the Mattes auction: artworks intended as a critique of commercialisation become in themselves commercially successful (Buskirk 2012). A related project, which similarly conflates images aesthetic and commercial values, is Ultraviolet Production House – an online Etsy store by artists Joshua Citarella and Brad Troemel (2016 - ongoing). The store provides customers and collectors with high quality material kits and fabrication guidance for assembling original artworks. As the project's website states: 'Works on the store are initially advertised as digital composites of advertising images sourced from just in time online retailers, presenting a hypothetical view of what the completed artwork will look like after assembly'. Moreover, by entering into a direct relationship with potential audiences and buyers, Citarella and Troemel provocatively dismiss the role of the art dealer or the gallery as a mediator in the business of art, much in the same way the #exstrange auctions did.

Such dismissal of an intermediary figure can equally be extended to the traditional role of the art curator within the context of commercial platforms and in an 'overtly and overly curated' environment. Hence, a paradoxical condition emerges. Since online all images can be curated, as the first case study demonstrated, making the distinction between artwork, advertisement and commodity nil, artists no longer need a curator as they can directly reach their audiences, customise their sales and manage their own reputation. But this leads to the question of whether there actually is anything left to

curate in this context. Who is the curator left to curate with or about? And what kind of mediation and engagement is she in charge of within the online environment? Prompted by these questions, the next section turns to the eBay search algorithm Cassini to explore its role as a curatorial agent within the commercial platform.

2.4. CASSINI: THE ALGORITHM OF ENGAGEMENT

When reflecting upon the actual visibility of the project #exstrange and its penetration within the platform, it became clear that the latter was executing a key operation of mediation between the project and its publics by means of its search engine and 'best match system'. Further to exploring eBay analytics I soon discovered that the eBay search algorithm was enhanced in 2013 to improve the platform's overall performance, selling standards and costumer satisfaction. Interestingly, eBay renamed its algorithm after a NASA space probe dedicated to a famous Italian-born astronomer of the Seventeenth Century, Giovanni Domenico Cassini (MS_CS2_10).³⁴

Cassini replaced eBay's previous search engine, Voyager, revealing the consistent fascination of eBay developers with NASA. Its implementation, led by eBay's then-vice president of experience and search Hugh Williams, was part of a rebranding strategy which began around 2008 and that marked a new era in the platform's history - the move from a seller-oriented marketplace to a customer-centred one. The Cassini engine was designed to reward sellers who strive to answer the needs of their customers with integrity and an earnest desire to engage in transactions that are good for all parties involved. In terms of its implementation, it required infrastructural upgrades, leading to the opening of a new major data centre in Utah. Being eBay's primary asset and property, its source code still remains black boxed and is regularly tweaked by eBay's developers to ensure the transparent functioning of the platform. By constantly changing its code, the developers ensure that the algorithm's performance is improved and adapted to customers' needs, whilst also preventing sellers from manipulating the ranking of their listings in order to increase their visibility. Before Cassini, in order to dominate the marketplace the typical seller strategy consisted of making multiple listings of the same product with different keywords in the title and items specifics. As the successful eBay seller Jessica McDonald observes, 'in the past, it was easy to cheat search engines by "stuffing" keywords all over the place' (McDonald 2016). With the implementation of the new algorithm, the system became

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³⁴ Cassini was the first to take successful measurements of the solar system latitude and to discover what became known as the Cassini Division in the rings of Saturn. The Cassini Mission to Saturn, which started in the early 1980s and terminated on September 15, 2017, was one of NASA's most renewed missions in recent times. A Google Doodle was realised on April 27, 2017 to greet the spacecraft before its final mission (MS_CS2_11).

more difficult to 'game' and began rewarding those 'best practices' that boost customer engagement and enhance image quality standards.

Tips on how to best understand and use the search algorithm are publicly available online in articles as well as in a wide range of YouTube tutorials uploaded by both professional and amateur 'eBayers' (MS CS2 12). As Todd Alexander, director of search for eBay Australia, states in one of the most popular videos, 'there is no golden rule' to succeed on eBay, but certain steps can be taken to 'be competitive and stay competitive' (Alexander 2013). Cassini is programmed to link customers' search criteria and preferences, based on their own previous purchase history, with the bid of a respectable seller. When a query is inserted in the database, the search engine gathers data regarding human search, engagement, purchasing and selling behaviours. The seller behaviours which are tracked include their return policy, the response time to customer questions, the accuracy of the product information and description, the quality of the images and shipping policies. Based on the data gathered, it then assigns scores to each listing and produces its best matches. The algorithm ranks highly listings that are honest and clear, informative, categorised correctly and supported with excellent customer service. To foster the platform's computational culture, Cassini values engagement over everything else. This is measured in terms of how much time customers spend on a given listing and how many of them interact with it by watching or bidding. Overall, the algorithm is described as 'data-driven, values-driven, shopper-oriented' (Hsiao 2017), being based upon eBay's four corporate values of 'Relevance', 'Value', 'Trust', and 'Convenience' (Hsiao 2017). If these values are observed, the visibility of a listing is optimised and long-term relationships between users are maintained.

In light of these discoveries, the poor ratio of visibility achieved by some of the #exstrange auctions can be attributed to two main factors: one the one hand, artists created brand new accounts for the project which had no previous purchase or selling history on records; on the other, modest engagement was generated as a result of their insertions into less popular eBay categories and for the rather unconventional commercial appeal of their offers. Through my analysis of Cassini, it became clear that the algorithm is a crucial curatorial agent on the platform, since it sorts out content according to criteria of relevance as well as manages the interactions between users. This type of curatorial function can also be ascribed to the algorithms of other

commercial platforms, such as Facebook's *Edge Rank*³⁵ and Amazon's *A9*, which similarly determine what users see, know and consume, enabling the technical circulation (Mckenzie 2005) of data and content. In the specific case of eBay, the algorithm directly feeds the strategies of micro targeting which are in turn reflected in the personalised emails the platform sends to its users.

2.5. PERSONALISATION, AUTOMATION, CURATION

'You are always on our mind Gaia' (April 25 2017) 'We know you better than you know yourself' (June 29 2017)

These were amongst the email headings that most explicitly revealed my degree of engagement with eBay during the course of the project #exstrange. Indeed, the quantity and quality of my correspondences with the platform magnified, becoming each day more humorous, intimate and reflexive of my purchase behaviour. The personalisation of the eBay language was a feature of the platform's processual composition that I chose to engage with and curate as part of my critically reflexive methodology. This occurred in two distinct instances during the project: first, in the hyperlinked curatorial statement already discussed; second, in the leaflet, entitled 'eBay poem' which I created to introduce the commissioned auctions (MS CS2 13). The latter was produced using solely the headings of the emails I had been receiving from eBay over the years; its title acknowledged the creative authorship I shared with the platform based on my appropriation of eBay's customised marketing jargon. Such a deliberate use of the eBay language was also a response to #exstrange's overall communication strategy. The latter, as Ghidini and Modrak revealed, purposefully departed from the conventional terminology of the art gallery press release to embrace the hashtagged and swift tone employed on the social media platforms where the project circulated, namely Facebook, Twitter and Instagram.

In the context of the platform, the use of this personalised and automated language fulfils a dual commercial function: the building of customer relationships and a strong community of reference and the fabrication of customised offers based upon cybernetic feedback loops which draw on purchase histories and previous behaviours. Based on this, custom-centred marketing and advertising strategies are shaped which aim at producing a more direct and 'better curated' offer for their customers. From this it follows that a clear connection exists on the platform between the use of personalised and automated language, marketing strategies and curation. While this particular kind

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³⁵ Media scholar Taina Bucher has carried out extensive research on Facebook's algorithm *Edge Rank* over the last six years. Her work on the topic is gathered in her recently published book *If...Then. Algorithmic Power and Politics* (2018).

of language is employed to communicate with users and build customer relationships, marketing absorbs the logic of curation to sell more tailored experiences, services and goods. This connection is computationally enabled by the platform's algorithmic performance and recommendation systems, which increase the visibility of content which might be considered relevant to a specific user.

2.5.1. THE COLLECTION COMPLEX

The function of eBay collections, mentioned earlier in the chapter, is a good example of how personalisation, automation and marketing define the platform's practice of curation. The collection experiment, as eBay expert and writer Dan Wilson observes, 'came at a time when "curation" was very much the industry buzz word and beautiful, colourful mosaics of pics were increasingly being used to promote and expose inventory' (Wilson 2017). The UK Team, he continues, 'was so committed to Collections that they had a team of staff building collections in the Richmond office that could be used in email campaigns and across the site'. The function was not only particularly appealing to members of staff for marketing purposes, it was also designed to be used by all eBay users, offering an interactive and custom-made alternative to the simpler, yet more popular, 'wish list' (the virtual shopping basket where items of interest can be added before purchase).

Within eBay collections, images of selected items can be arranged, highlighted, titled, captioned and contextualised; they remain accessible for either 'private' or 'public' viewing even after the items have been sold and no longer appear in the database search, thus, in a sense, forming a snapshot of the platform at a particular moment in time. As a consequence, the function of collection creation relies upon the algorithmic flow of searching and indexing, whilst simultaneously offering a tool for extracting and maintaining relevant content from such a flow. As Cubitt observes, 'the database remembers everything as if it was permanently present' (Cubitt 2017, p.270-1).

The results of my inquiry into the model of the eBay collection had two significant interrelated implications which could be extended to online curation and collection creation more broadly on commercial platforms. By offering customers the possibility of creating their own personal collections through a user-friendly interface, the platform invites them to potentially partake in the curation of its overall content. In addition, it effectively combines the algorithm's capacity to aggregate data with the human users' tastes and choices, producing a form of human-machinic curation. For instance, when

a user searches for a desired item, the algorithm automatically yields all other similar items contained in the database which the user can select from. Once the user chooses the items of his/her own liking, these can then be arranged in the dedicated section called 'my collections', from where they can also be displayed in a particular order and accompanied by additional text and specifications written by the user.

However, despite the encouraging premise of opening the curation of the platform's content to a wider set of actors, the function of collection creation on eBay did not gain popularity on the platform and amongst its users. On the contrary, through the course of this case study, the feature faded into the background on the platform.³⁶ The lack of engagement was attributed to the fact that the value of collections was never plausibly explained to users (Wilson 2017). This highlights how asserting the conventional logic of art curating in the context of a commercial platform is not necessarily a fruitful strategy and might limit the possibilities emerging from the promiscuous blurring of the multiple curatorial registers coalescing within it. Additionally, it brings to the fore the key question of value in relation to online curation in the context of eBay and of commercial platforms more generally: What kind of value, other than economic, does online curation produce and how can it be made visible?

The outcomes of this case study have so far revealed that the value produced by online curation does not necessarily conform to the logic of visibility, since in today's over-visualised culture the latter has been co-opted by the imperatives of profit. At a time when, paradoxically, visibility has nothing to do with seeing and 'can only be verified by statistical means such as polls, viewing figures and market research' (van Winkel 2005), it is in what cannot be quantified or measured that other forms of value might lie. With specific reference to the value of networked images, my analysis revealed that whilst networked images can be considered either 'rich' or 'poor' as modes of *representation*, according to their pixel resolutions and formal qualities, when approached as both *representations* and *computations* these images are always 'rich' as they reflect the aesthetic and social intricacy of computational culture, whilst also consisting of packets of extractable and monetisable data. Drawing on this insight, the next section examines the kind of value that the project #exstrange produced in regard to its two initial mandates: that of soliciting unexpected encounters between strangers and of producing an intervention into capitalism.

³⁶ By the time this dissertation was completed (March 2019), the function of collection creation had been entirely removed from eBay.

2.6. THE ART FILTER BUBBLE

Any overall assessment of project #exstrange must inevitably take into account the project's intention and bifurcation across a wide spectrum of audiences: the art and media audiences and a generalist one predominantly comprised of users from the eBay community. From a curatorial perspective, the project's most significant innovation was to consider eBay's categories as constitutive parts of the conceptualisation of a work of art, thus advancing a new model for aggregating and documenting online artworks, beyond the conventions of medium-specificity, as the archive section of the website demonstrate. However, despite such an achievement, the project still operated at the level of representation, in what can be described as a 'curatorial takeover' of eBay from the new media art world. For instance, it reproduced some of its usual hierarchies 'replicating more conventional models of curating and art institutions in general' (Krysa 2008a, p.9). Specifically, it mimicked the professional separation among its main actors — artists, curators and guest curators — and replicated one of its key operating protocols: the art commission. In this respect, it used the commercial platform as a 'surrogate' for the art world and its market.

The project, therefore, was not so different from its direct forerunner – Modrak's earlier exhibition 'ebayaday' (2006). The latter involved thirty-three artists and treated the website as an art gallery, adopting the curatorial protocols of any conventional group exhibition, 'thinking thematically, considering timing, scheduling and other curatorial issues' (Modrak 2007). As such, it pursued a one-sided definition of curating which did not embrace the plurality of forms and practices emerging from the platform, as the analysis of this case study foregrounded. The main difference between 'ebayaday' (2006) and #exstrange was in the latter project's sales and circulation. As Modrak confirmed, in terms of both sales and engagement, project #exstrange appealed predominantly to art and media audiences, with few notable exceptions.37 This was a slightly different scenario from the one she had experienced with 'ebayaday' (2006) where the absence of social media allowed a deeper penetration into the platform's community and a larger number of users asked questions and bid for the auctions. In her view, this shift can be ascribed to two main factors. First, to a more generalised change in people's shopping habits, which are increasingly motivated by a guest for 'a more targeted experience' (Modrak 2017). This is the result of the strategies of customised marketing that have been previously discussed. Second, to the

³⁷ An exception to this was offered by a number of items commissioned by researchers Fred Feinberg and Lu Zhang that most obviously resembled 'consumable goods'. These were the iPhone made of dirt, iPhone EarthX, and the Long Form Relationship (LFR) Network.

extraordinary growth of social media as a communication device, which disseminated the project within specific audience circuits creating a form of 'filter bubble' – an 'art filter bubble', I would add, by which I mean an algorithmically-delineated community of artists and art professionals whose online preferences and searches qualify them as already part of a particular system.

In fact, although the #exstrange website featured an open call for external participants and contributors, such submissions were not automatically accepted; rather they had to pass 'curatorial quality control', revealing a certain uneasiness over fully embrace the clash between different aesthetic registers deriving from the online meeting of distinct constituencies - professional, amateurs and 'accidental artists and audiences' (Troemel 2013; Ripps 2013). 38 I consider this uneasiness to be the result of the curators' different backgrounds and positions: while Ghidini was more concerned with curatorial and conceptual rigour and aesthetic quality, Modrak was more interested in blurring the lines between art professionals and what she suggestively defined as the 'independent voices of contemporary visual culture' (Modrak 2017). This uneasiness exemplifies how the integration of different curatorial paradigms in the online environment is not devoid of frictions and contradictions, one of which involves the different extents to which the curator wishes to retain control over the project's reach. These considerations are deemed essential for informing a critically reflexive mode of online curation, which expands from the field of art into the messiness of online visual culture and recognises the role of online audiences as legitimate participants in the formation and distribution of creativity and knowledge.

However, Ghidini and Modrak's positions converge around the social and political remit of the project, synthesised in the initial provocation to operate as 'a site of artistic production and cultural exchange and as an artistic intervention into capitalism' (Ghidini and Modrak 2017). In this respect, the most insightful outcome produced by the project was precisely to undermine capitalist's seemingly smooth logic. As journalist Rob Walker perceptively observes:

Project #exstrange reveals that there are some cracks and corners in these virtual structures, hidden in plain sight and waiting to be exploited. It takes just one encounter with a truly unexpected eBay listing to reframe what eBay is, and what (and who) the wider techno-culture it now represents is really for — to

³⁸ It is interesting to refer here to the debate between artists Ryder Ripps and Brad Troemel. The former took issue with the latter's article 'The Accidental Audience' (Troemel 2013), which gathered a number of critical reflections from the online reception to his Tumblr blog *The Jogging*. Ripps took issue specifically with Troemel's claim that online audiences are unaware when they encounter art on the Internet. Ripp considered this to be not only dangerous, since it polarises 'artists' from the rest of the world, but also snobbish and rooted in privilege and class. The outcomes of my research point to the fact that an expansive definition of art and creativity needs to be embraced if the networked culture is be approached as a *culture* and not just as a set of computational tools.

complicate, if only momentarily, whatever's going through "the unconscious mind of capitalism." This is the real transaction, and this is the real exchange. It doesn't cost a penny, and you couldn't own it if you wanted to. There is nothing more valuable.

(Walker 2017, p.113)

As a concluding remark to this case study, it might be useful to refer back to Simmel's definition of value and the reworking of this term by Appadurai. According to Simmel, value is 'never inherently a property of objects, but rather is a judgment made on them by subjects' (Simmel cited in Appadurai 1986, p.4). From this Simmel argues that what constitutes economy as a social form 'consists not only in *exchanging values* but in the *exchange* of value' (Simmel in Appadurai 1986, p.4). In other words, exchange is not a by-product of the mutual valuation of objects, but its source: exchange *is* the source of value. Building upon Simmel's proposition, Appadurai argues that 'what creates the link between exchange and value is politics' (Appadurai 1986, p.3). His claim is founded on the premise that commodities, having social lives, produce different *regimes of values* due to their various circulations across space and time. Hence, the value produced through the act of commodity exchange might be highly variable from situation to situation and from commodity to commodity.

In the context of the networked culture, I deem it to be more productive to think of value in terms of a process, enabled by socio-technical circulation, which cuts across the economic, the aesthetic and the political, rather than being associated with a specific situation or commodity. This proposition is based upon a recognition that the distinction between different contexts, commodities and regimes of values becomes increasingly blurred within 'the space of flows and the timeless time' (Castell 2009) of the networks. Under conditions of online circulation, aesthetic, technological and commercial values can blend into each other to the point of dissolution. As Goriunova intuitively observes:

The technical is aesthetical is political is cultural; each of these domains folds into the other and is fed back on itself. Every layer informs, embeds, and models the others, distributing their particular power patterns throughout societal systems and their blurry zones of transfer.

(Goriunova 2012, p.21)

This case study revealed that in order to comprehend and navigate the complexity of today's computational culture it is necessary to step into the blurry zones of transfer between the commercial and the aesthetic, between art and non-art. Only from there, online curation can become a critically reflexive method for producing cultural differentiation and valorisation under the current state of privatisation, corporisation and commodification of the Web. Project #exstrange, in its operation as an art platform,

offered the opportunity to begin doing so, blurring the boundaries between aesthetic and cultural work, corporate service and hacking. My own intervention within such context produced three main outcomes: 1. It highlighted that in the context of a commercial platform the curator is called to act as a reflexive user, a position that enables a great attentiveness to the mechanisms of differentiation and problematisation of the networks. 2. It emphasised that users' interaction, participation and exchange make an online platform a social and cultural space as much as a commercial one. This became particularly evident when observing the behaviours of networked images, which are both a reflection of user culture (hence produce social value) and operate as image-commodities (thus generating economic value). Therefore, under conditions of 'image capitalism' (Mbembe 2011), the networked image participates in both processes of valorisation and commodification and, as such, turns into a 'rich' image (in the sense of data streams concerning both objects and subjects). 3. It pointed to the need for the online curator to acknowledge and interact with the algorithmic systems that support the machinic performance of commercial platforms. It is the latter proposition that I tested further in the next case study, as I set out to open up shop on eBay to sell my curatorial consultancy services in partnership with the Cassini algorithm.

CHAPTER 3. HUMAN-ALGORITHMIC CURATION

3.1. CURATORIAL CONSULTANCY WITH CASSINI

Category/sub-categories:

Specialty Services > eBay Auction Services > Appraisal & Authentication

Title of the auction: Curatorial Consultancy with Cassini on #exstrange

Item Specifics: Human and Algorithmic Curation; Reliable, Efficient, Creative

Starting price: \$15

Full descriptive text:

Are you wondering why your listing is not available in your location or has been removed? Or perhaps you are concerned with improving your ratio of visibility?

Take a detour with Cassini's spacecraft into eBay Universe of Happy Transactions.

This service will offer ad hoc curatorial consultancy with the Cassini algorithm to analyse:

- The currency of your name and your image within a highly competitive marketplace
- The quotient of criticality of your listing on planet art and planet curating
- The display opportunities available to you on the platform

What you will get:

- An electronic report on Cassini's trajectory during its mission
- A curated selection of the finest items relevant to your listing arranged in a bespoke online collection
- A special mention to your name or listing during a public event in a prestigious London-based Gallery

Please note: The service is immaterial, online-based and buyer specific.

The above text box contains the full descriptive information of the eBay auction I set up in response to Ghidini and Modrak's invitation to participate in the project #exstrange's coda (MS_CS3_01/02). Two interrelated outcomes from the previous case study informed my decision to sell a curatorial consultancy service with Cassini on eBay: first, the acknowledgement that curating in 'an overtly and overly curated' environment and, in particular, in the context of a commercial platform, entails coming to terms with those invisible algorithmic processes which often remain concealed in the everyday use of the participatory Web (Web.2.0 and Web.3.0); second, the recognition that the Cassini algorithm was accountable for the organisation and arrangement of visual content on eBay and, in that respect, that its actions (search, collate, group, sort, analyse, visualise) and aims (to produce engagement on the platform) were similar to that of an online curator. From here arose the question of what kind of relationship I could create

with the algorithm. How could such a relationship be described – as one of antagonism, resistance or alliance?³⁹ Also, what would be the consequences for the curator?

This chapter addresses these questions, situating my curatorial intervention in the context of recent debates in the theory and practice of human and algorithmic curation. In what follows, I will begin by explaining the choice of working with the algorithm by way of creating a strategic alliance with Cassini. I will then proceed to analyse the effects and affects this produced and the possibilities it opened up in relation to other projects similarly engaged with modes of human and algorithmic curation on the commercial Web and in respect to the art system. Drawing on my comparative analysis of these examples, I will problematise the false dichotomy of working either with or against the algorithm, suggesting instead that a critically reflexive approach to technology is needed to address the crisis of cultural value brought about by the algorithmic world. As a conclusion to the chapter, I will put forward the notion of 'network co-curation' as a theoretical concept and operational strategy for challenging the modes of production, organisation and structure of the networks and for envisioning new types of strategic alliances between humans and machines.

3.2. FORGING A STRATEGIC ALLIANCE

In business jargon, the term 'strategic alliance' is usually employed as a synonym for 'strategic partnership' – an agreement for cooperation between two parties who decide to work together towards common objectives, capitalising on each other's strengths, while maintaining their independence (https://businessjargons.com). In the context of this case study, the use of this formula specifically draws on eBay SWOT analysis – the company's assessment based on market strengths, weaknesses, opportunities and threats – produced by John Dudovskiy for the online education portal *Research Methodology* (Dudovskiy 2016). There, the 'formation of strategic alliances' features in the category of 'opportunities' together with other actions such as 'business diversification' and 'disruptive innovation' that could potentially produce a competitive advantage for the platform and thus generate further economic value. Having been interested in investigating the value of curation as a process which cuts across the economic and the cultural (as well as the social and the technical), in the context of a

³⁹ The term alliance occurs widely in the literature examined and is used by several key authors for different purposes. For example, Fuller employs it together with the notion of infiltration to refer to conditions of 'not-just-art' (1997); Steyerl (2009) uses it to describe one type of relationship created by the poor image as it travels across global networks; Dekker (2014), by drawing upon the work of Deleuze 2000[1964], links it to the concept of authenticity and coins the notion of 'authentic alliances' in her account of net art conservation practices.

privately owned and corporate Web, I hence decided to explore the suggestion opened up by Dudovskiy's SWOT analysis – to approach the forging of strategic alliances as an opportunity for generating more value on the platform.

To this end, I used the notion of 'strategic alliance' to frame a mode of human and algorithmic curation that staged a collaboration between a human agent (myself) and a non-human one (the Cassini algorithm). While the Cassini algorithm executes automated tasks such as searching, collating, sorting, categorising and visualising, the work of a human curator involves the use of specific cognitive faculties in contextualising, interpreting, reflecting, sensing out, imagining, criticising and inserting humour. The complementarity of these different capabilities and my acknowledgment of the growing interdependence of humans and algorithms in everyday sociotechnological systems, suggested to me the need to creatively integrate these two spheres by setting up new forms of cooperation that would overcome the 'gap between computation and culture' (Finn 2017a, p.55) by means of creativity and new forms of cooperation. It is important to emphasise that my strategic alliance with Cassini did not involve any actual manipulation of the algorithm's code, as this would have been beyond the reach of my actions as a reflexive user. Instead it manifested itself as a joint performative utterance between the algorithm and myself which was scripted and executed through and with the platform. By this I mean that the performativity of my actions was enabled by a technical protocol of the platform - the listing - whilst simultaneously also being a response to it. The notion of the performative is thus being used here to refer to an action that does not simply describe something, but that does something in the world (Bolt 2009; Austin 1962; Butler 1993) and is coupled with an understanding of the processual capacity of code to describe and simultaneously enacts what it describes (Arns 2005; McKenzie 2005; Cox and McLean 2012). In this sense, the notion is key to suggesting the potentiality for action that both human and machines share. In this case study, the scripted performance consisted of the circulation and subsequent sale of a curatorial consultancy service on eBay in partnership with its algorithm. But how did this strategic alliance play out in practice? What effects and affects did it produce?

From a methodological perspective, engaging in a strategic alliance with the algorithm involved recognising that the latter occupied an embedded position within the platform. In this sense, it required that the algorithm be understood as being a 'relational, contingent and contextual' agent (Kitchn 2017), inseparable from its socio-technical assemblages and from the conditions under which it was developed and deployed

(Kitchin 2017). In light of this, as part of my efforts to cooperate with the algorithm, it was necessary for me to also recognise the ways in which I was myself also similarly embedded within the platform. This entailed understanding how my own curatorial actions were dependent on the environment in which they took place and how economic relations form part of actual social networks and do not exist in an abstract idealized market (Granovetter 1985).⁴⁰

From my embedded position, I decided to engage with the production of a listing and to act within the commercial platform in the capacity of a reflexive user. This entailed employing the platform's protocols and procedures so that my curatorial actions could be shaped by the algorithm's operations not only conceptually – by means of announcing and stating a collaboration with Cassini – but also technically.

Working with the algorithm from an embedded position within eBay served the purpose of this study in two interrelated ways: first, it allowed me to enact the economic, cultural, social and technical entanglements that are constitutive of the networked culture, as argued throughout this thesis; second, it enabled the hardwiring of critical reflexivity into the networked architecture of the platform itself, through the performance of specific operations whose implementations reverberated at the level of 'code, policies, rhetoric and users culture' (Lovink 2011, p.70). As such, the actions performed as part of my strategic alliance with Cassini required injecting critical reflexivity onto the following planes of operation: the machinic performance of the platform (its code), its terms and conditions (policies), language (rhetoric) and the behaviours of its online community (user culture).

The parameters and visual language of my strategic alliance with Cassini were defined through the process of interacting with the platform's interface, from the choice of the listing's category to its full descriptive text and the images uploaded. The little-known eBay sub-category chosen for my auction – 'Specialty Services > eBay Auction Services > Appraisal & Authentication' – helped to highlight that the sale consisted in an unusual service that was closely related to the mechanisms of validation of the platform itself. This category of service only exists on the US website, so I had to sign a special international agreement as the account I was using was UK-based. Already, at this early stage, I was therefore confronted with the different national regulations that

⁴⁰ In the field of economic sociology, the concept of embeddedness can be traced back to Karl Polanyi's key work *The Great Transformation* (2001 [1944]). There, he posited that all economies are embedded in social relations and institutions and that exchange happens within and is regulated by society. Granovetter subsequently extended his argument and applied the concept of embeddedness to market societies in his seminal article 'Economic Action and Social Structure: The Problem of Embeddedness' (1985).

impact access and the use of the platform in distinct corners of the globe. My listing of the 'item specifics' described a mode of human and algorithmic curation that aimed to merge a quality usually associated with humans (reliability) with one generally attributed to machines (efficiency) through the common channel of creativity. The latter was framed and put forward as a property that cannot be located in either humans or machines alone, but 'is found in their interrelationships, in-between' (Goriunova 2007).

Although available to all eBay users, the service was specifically addressed to artists or curators interested in exploring the currency of their name and their listing in the liminal space between the commercial platform – the so-called 'eBay universe of happy transactions' (Hsiao 2017) – and the art world. As can be deduced by the main section of the text, the curatorial consultancy service placed particular emphasis on two key success markers – *visibility* and *criticality* – which measure the relevance of an artist or a work of art in both the art market and the institutional establishment. These success markers are usually hard to quantify and control since they depend upon highly subjective and volatile criteria, such as fame, chance, taste and market fluctuations.

Involving the calculating capacity of the Cassini algorithm in my strategic alliance performed a double mandate. On the one hand, I aimed to expose the arbitrary mechanisms of the art world and its market – the mechanisms of judgement, validation, inclusion and exclusion – and to trade them as assets in a commercial exchange. On the other hand, I wished to confront what has been referred to as 'a certain tyranny' of 'the curator's role' (Brand 2011) by testing a more open and transparent approach through the involvement of a non-human agent. Overall, I attempted to engage in an institutional critique of the system of art curating by recognising the influential role that the curator plays in shaping not only 'public tastes but the very value system of art' (Tyżlik-Carver 2016, p.51). The affordable price of the consultancy service – just \$15 – underlined the urgency of challenging conventional mechanisms of curatorial gatekeeping and redistributing agency more evenly across all agents involved in the process of curating – artists, curators, algorithms and online users.

A number of actual benefits were offered as part of the consultancy service, including unlimited Skype and telephone assistance towards the creation of a listing that the algorithm Cassini would rank well, the co-creation with Cassini of an eBay collection tailored to a buyer's listing and personal tastes, the fabrication of an electronic report summarising the key findings emerging from this experimental mode of human and

algorithmic curation and a special mention at a public event in a prestigious London Gallery which would extend the buyer's visibility from the platform to the art world.⁴¹

The visuals accompanying the listing drew together the language of astronomy, search optimisation and online curation (MS_CS3_03/04). They included satellite generated images produced by the Cassini space probe, a lithograph of the astronomer Giovanni Domenico Cassini and two screenshots taken from the platform featuring the error messages that appear when a given listing cannot be seen or accessed in a specific location or at a given time: 'this listing has been removed, or this item is not available' and 'this item isn't available in your location'. The rationale behind the inclusion of these visuals was to hint at the way in which a mode of human-algorithmic curation could help circumnavigate visibility problems on the platform and fashion new modes of visibility.

The images used were furtively downloaded from the web or from the platform itself and re-circulated within it. They were all set against a black background, they incorporated graphics, abstract patterns and text and they did not provide a faithful representation of the service on sale but only invoked it by means of conceptual associations. As such, therefore, the images did not conform to the platform's standards of what constitutes a good photograph, as examined in chapter two (2.3). Instead, this curated selection of images represented the whole spectrum of so-called photographs used on eBay, from computer-generated images to photographs actually taken by human beings, and images resulting from a mix of human actions and technical processes. In this way, my selection of images reflected the composite nature of the networked image itself, as an operational image that is imbricated with the online environment and widely circulates within it — an image whose various iterations are related to one another at a computational and semantic level.

The bespoke character of the service mirrored the business model of a vast number of e-commerce sites – something that was similarly appropriated by Garreth Lynch and Eva and Franco Mattes in their previous auctions. In this case, however, the bespoke service did not aim at manufacturing a final object or artwork, but at providing affordable labour and professional expertise as the main commodity of exchange.

⁴¹ This came as the result of me seizing an external opportunity – the invitation to contribute to the event 'Posthuman curating: curating authenticity or the question of content online' held at The Photographers' Gallery and organised by curator and scholar Magda Tyżlik-Carver. This opportunity was turned into a component of the service and, more broadly, of the practice, in line with my critically reflexive methodology.

In this way, the figure of the curator was posited as a 'paradigmatic contemporary worker' (Krysa 2013) who operates to simultaneously attest and contest the logic of the art market and of the broader immaterial economy that lies behind it (Krysa 2013).

It is worth noting that the way that the act of curating was presented by the service was also informed by the outcomes of the auctions I had commissioned in the previous case study. In fact, the curatorial function was conceptualised and presented as a commercial activity that could produce revenue (as drawn from the Mattes auction), a conceptual operation that could challenge the platform's existing protocols and definitions at the risk of remaining invisible (as the outcome of Princen's auction suggested) and as a mode of engaging with the resources and services of the networked environment it is embedded within (as experimented by Lynch's auction). As such, in its articulation of a mode of human-algorithmic curation, the service brought together commercial, cultural and socio-technical agendas that characterise the multiple facets of online curation as both a cultural practice located at the intersection between art, technology and the market, and as a method of 'engaging and participating in online cultures of mass participation' (Tyzlik-Carver 2016, p.280).

The listing went live on March 23, 2017 at 10am UK time and it was the artist Alessandro Sambini, registered on eBay as user 'Afaja', who purchased the service (MS CS3 05/07). As previously anticipated, the name of the buyer was publicly announced on April 6, 2017 at The Photographers' Gallery event. The event marked a critical point of transition in my engagement with the project #exstrange, as my role as guest curator evolved into the more experimental and hybrid role of curator/ researcher⁴² - a role that brought the very activity of curating and its value on a commercial platform under scrutiny. As part of the consultancy, I conferred with Sambini and guided him through the production of a brand new listing titled 'Portable Wildlife Image Instance' (MS_03_08/09). The latter played with the tropes of contemporary landscape photography and Dada ready-made and sold half of a shopping bag of the multinational retailer Tesco depicting the image of a generic countryside view. Sambini adopted the term 'instance' from the software Adobe Flash and used it as 'a metaphor for an image which has been manipulated and thus differs from the original although remaining "intimately" related to it (Sambini 2017). A 'Bugiardino' or information sheet accompanied the half-bag, 43 tracing the genealogy of other instances of the same image.

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⁴² In the conclusion in chapter four (4.5.) I will reflect upon the tension between the roles of the curator and researcher.

⁴³ The word Bugiardino' comes from Italian, where it refers to the information leaflet included in medicine packs.

Sambini's auction ranked at the top of the eBay search. This was due to its original title, its witty description and high-quality photographs – three features that the previous study of Cassini had revealed as key. After fierce competition and thirty-two different bids, the user 'Temporama' bought 'Portable Wildlife Image Instance' for the price of \$44, marking an increased market value of 40.5% (MS_CS3_10). My consultancy service officially ended on the April 19, 2017 after I delivered to Sambini a bespoke eBay collection and the electronic report titled 'Cassini: Mission for Afaja' (MS_CS3_11), which assembled the documentation of our creative and business transaction. That moment marked the end of my scripted performance with the algorithm and the beginning of my critical reflection upon the effects – material, affective and discursive – that it produced within two distinct systems: the system that it was a part of, that is the eBay platform and the project #exstrange, and the system it was helping to shape, that is, the broader discursive field of the theory and practice of online curation and of human and algorithmic curation more specifically.

3.3. EFFECTS AND AFFECTS

A close reading of the eBay user agreement reveals that the strategic alliance with Cassini was situated in a grey area between users' freedom of action and corporate control. For instance, whilst the user agreement discourages the commercialisation of 'any eBay application or any information or software associated with such application, except with the prior express permission of eBay', it also declares that 'eBay has no control over and does not guarantee the existence, quality, safety or legality of items advertised; the truth or accuracy of users' content or listings' (eBay User Agreement 2016). Although the service offered alluded to the commercialisation of information concerning the platform's software, it was neither 'true' nor 'accurate' in the strictest sense. This is because the possibility of understanding and working with the Cassini code remained firmly within the competencies of the platform's developers for whom the algorithm is the company's main asset. However, the ambiguity of the legal jargon used by eBay and the grey area of practice its user agreement enables, created the conditions for selling a service conceptually connected to its algorithm – the company's main asset.

As such, the kind of operation that my strategic alliance with Cassini produced can be first and foremost described as *conceptual*, in the sense that it worked on different levels of abstraction and imagination, and *critical*, in the sense that it solicited a reflection on the algorithm's concealed role within the platform. The polysemy of the

word Cassini on the Web was instrumental for these purposes, since it enabled me to put into relation different *concepts* (Cassini the astronomer, Cassini the space probe and Cassini the algorithm), *fields* (science, culture and technology) *practices* (art curating, business, hacking) and *regimes of visibility* (the human language of signs and symbols and the computational code of numbers and data). To provide a foundation for the strategic alliance, a new aesthetic and semantic coherence was created out of mixing of these different planes of information and imagination. Such a remix was enabled by the simple operations of cut and paste, which are available to online users and which allow the de-contextualisation and re-contextualisation of content (Paul 2006; Groys 2016). In this case, online curation served to forge a conceptual and cultural reading of the algorithm and to re-envision technical practice as a crucial aspect of culture from which poetic performance can be produced.⁴⁴

On the other hand, the strategic alliance with Cassini was characterised by a distinct material specificity since it operated as an actual service on the platform, producing economic gain for all the parties involved. In fact, both the 'Curatorial Consultancy Service with Cassini on #exstrange' and the auction created by Sambini were sold. In particular, the latter attained an incremental margin, demonstrating how on eBay visibility and commercial success are tightly linked: the higher the rank of a listing, the more impressions (the number of times in which a given listing is viewed in a search by a potential buyer) it receives and better are its interactions, engagement and sales.

However, the positive outcome of Sambini's auction may also be attributed to the convergence of two unforeseen factors which belong to an affective sphere – that of human interactions, knowledge and experiences – and could not have been anticipated by the metrics of the algorithm. This includes Sambini's insightful knowledge of the platform's user culture and the ability to interact with the algorithm's parameters, as disclosed as part of the consultancy service, and the fact that *Portable Wildlife Image Instance* was the last auction of the project #exstrange and, as such, acquired symbolic value. Its buyer, the user 'Temporama', was in fact the artist John Freyer, a participant in the project #exstrange and an eBay pioneer who sold all his belongings to the platform for his renowned project 'All my Life for Sale' (2000).

The fact that Freyer is a well-known eBay user implies that he is well acquainted with the mechanics of the platform and the work of its algorithm, its systems of bidding and curated recommendation. But, nevertheless, the fact that the buyer was also an insider

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⁴⁴ Goriunova (2017) similarly states that technical practice can be reimagined as not only embedded within culture, but as capable of poetic performance.

on the project #exstrange demonstrates that the project did indeed create an 'art filter bubble', as was discussed at the end of chapter two (2.6). In this sense, the 'Curatorial Consultancy Service with Cassini' suffered from the same problem of invisibility originally detected in the #exstrange auctions and was itself caught in a feedback loop. In other words, it ended up being 'very hard to find', passing unnoticed within the context of the eBay community and online audiences. More precisely, its impact on the platform, both at the level of audiences and sales, remained confined to the perimeter of the project #exstrange, even if its premise was to open up such confines by bringing to the fore the position of the reflexive user and challenging the conventional paradigm of art curating.

This points to an important paradox that characterises the state of artistic and curatorial interventions online: either they exist within predefined contours that link them back to specific systems of reference and fields – these being for instance the worlds of contemporary art and new media or the academia – perpetuating old institutional separations that the logic of the Web attempts to disrupt, or they risk dissolving within the plethora of content produced online or disappearing entirely from the Web. In the latter case, the issue is one of a technical nature since the visibility of artistic and curatorial interventions on commercial platforms and social media sites is subjected to algorithmic gatekeeping, as the next section further explores.

3.3.1. VISIBILITY GATEKEEPING

The role of algorithms as 'visibility gatekeepers' (Magalhães and Yu 2017) was particularly evident in the bespoke collection for Sambini I created with the Cassini algorithm as part of our joint curatorial service. The aim of the collection was to explore the possibility of inserting and contextualising 'Portable Wildlife Image Instance' into an array of other sellable items on eBay (MS_CS3_12/13). However, not all the items assembled in the collection turned out to be accessible in Sambini's location – Italy – prompting the appearance of the following message on his computer screen: 'this item isn't available in your location'. The repetition of the same message in various instances of this study reveals the pertinence of the problem under scrutiny – who/what determines the content users see online – and calls for further analysis. A similar issue occurred in the previous case study when a link to a test collection was sent to Ghidini, who is based in Bangalore, India, and who tried to access the link through eBay India.

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⁴⁵ To overcome this problem and clearly define the project *#exstrange* as an experimental media project, Ghidini and Modrak created a dedicated website, autonomously managed and 'all rights reserved'. This served the key purpose of documenting and archiving the project so as to prevent it from disappearing from the platform and the Web – a problem that affects many online endeavours, as the discussion of related examples later in this chapter will emphasise.

Ghidini was similarly unable to access some of the content and was confronted with the same error message. This short circuit served as a crude reality-check revealing an invisible side to the eBay universe of global online transactions: the custom restrictions and bans that block the free global circulation of material goods between countries. Crucially, it exposed the complicity of the algorithm in maintaining such boundaries, allowing the platform to customise content to local markets or national webs and to profile users more accurately for digital advertisement companies. In other words, this error message revealed how the Cassini algorithm was also performing a form of 'visibility gatekeeping' (Magalhães and Yu 2017) or 'censorship' (Finn 2017a, p.111), impacting what data – images, information and material goods – is available and to whom.

The reality of such gatekeeping complicated the premises behind my strategic alliance with Cassini, which were based upon the complementarity of aims and actions between the algorithm and myself. This is because I discovered that the curatorial capacity of the algorithm is inextricably linked to the wider dynamics of control over user data and the behaviours that eBay implements as a commercial platform. My analysis of the visibility ruptures that were revealed in the course of my strategic alliance with Cassini points to the relationship between online curation, the operation of filtering and visibility gatekeeping. If the function of online curation can be compared to that of a 'filter' (Paul 2006) or a 'filter feeder' (Schleiner 2003), in the sense that it distils content and creates meaning by differentiating information, this same function must be complemented with a critical awareness of the mechanisms of exclusion inherent to the very act of filtering. Whether the act of filtering is engrained in the processuality of art curating and its system or in the specificity of the technology that the online curator enters into an alliance with, its effect is that of influencing the circulation of and access to cultural content amongst different audiences and in distinct areas of the world.

This state of affairs calls for a more nuanced approach in regard to the kind of relationship the online curator can create with the algorithm, as I will explore later in the chapter. For now, it is important to note that the further development of strategic alliances between curators and algorithms should incorporate a critical reading of both the algorithm and the curatorial process involved, their potential biases and filtering mechanisms. The parameters of such alliances would need to be negotiated case by case and their outcomes would depend on the kinds of values that are encoded in the algorithmic system and which the alliances aim to produce and co-create.

In other words, in order to understand what strategic alliances can achieve, it is important to first recognise that the social and cultural role of both the algorithm and the curator are still very much up for debate and contestation. ⁴⁶ In this light, experiments in the field of human and algorithmic curation can offer the opportunity to bring to public attention urgent debates concerning the wider effects algorithms have on society and the increasing interdependence between humans and machines in everyday life. The circulation of my curatorial experiment in the online environment and the physical world contributed to addressing these debates, while at the same highlighting the difficulty of truly calibrating the invisible impact that online curation can have in today's over-visualised culture.

3.3.2. SMALL BRACKETS OF INTERVENTION

The urgency of the topic of human and algorithmic curation was signalled by the vivid debate that my presentation of the eBay case studies generated on the occasion of the event 'Posthuman curating: curating authenticity or the question of content online', held at The Photographers' Gallery on April 6, 2017. The evening offered me a public platform from which to share my findings and address the impact that algorithms have on processes of online curation. The resulting conversation with other panellists – the artist Michäel Borras, A.K.A Systaime, and the curator and media theorist Anne-Marie Schleiner, was recorded and shared on YouTube by team from The Photographers' Gallery, who also offered a live commentary on the presentations on social media (MS_CS3_14). A review of the event on the blog www.medium.com written by Cristina Sousa Martínez (MS_Folder 7_Subfolder A_08) followed shortly after, where the question 'What is left to curate?' (MS_CS3_15) – a question prompted by my own contribution to the event – was brought to the attention of online readers.

Within the context of the project #exstrange, the online circulation and critical presentation of my curatorial experiment was conducted by Ghidini and Modrak. While Ghidini emphasised on social media the novelty of a bespoke curatorial consultancy service developed in partnership with an algorithm (MS_CS3_16), Modrak offered her own critical perspective on the networked image, by announcing the auction 'Portable Wildlife Image Instance' which Sambini created as a result of my consultancy service (MS_CS3_17). According to Modrak, the auction was to be approached as 'a perfect metaphor for this political and image-based moment of emptiness without reprieve' (Modrak 2017), and as a warning about the future of image capitalism.

⁴⁶ Here I am extending to the role of the curator the argument Bucher (2018, p.122) makes about algorithms, whose purpose is the object of much current debate and contestation.

As she explains: 'In the future, when we have evolved into pure image,⁴⁷ we will shop 2-dimensionally and consume other image instances' (Modrak 2017). The injection of these moments of critical reflection on social media – what curator Lauren Cornell refers to as 'the moderation of intelligent and nuanced conversations online' (Cornell 2017) – can be understood as the most significant cultural value produced by the project #exstrange. It is also an indicator of how social media can be employed as a site for the production of critical discourse and creative disruption, rather than simply as a tool for self-promotion.

Overall, the experience of forging a strategic alliance with Cassini in the context of this case study served the purpose of understanding that online curation is a subtle operation whose force lies in opening up small brackets of intervention under conditions of so-called 'Platform Capitalism' (Srnicek 2017) — the present-day environment of Internet business models based upon the ownership of algorithms, hardware and digital infrastructures that foster the extraction and control of data and are centred around 'the intensive techno-creative labour of users' (McQuire 2013). Under these conditions, online curation cannot be reduced to the activity of 'cutting down complexity' (Bashkar 2016) or editing content and information for easier fruition; rather it is here posited as a critically reflexive method of close reading, interpreting and questioning the socio-technical transformations brought about by the algorithmic world.

As such, the cultural value produced by online curation consists of developing a critical awareness of the distinct algorithmic infrastructure, set of agents and power relationships that define the contexts of commercial platforms, not simply as commercial spaces but also as social ones, where users interact, taste is co-produced and aesthetic germination arises. This type of cultural value is neither overtly visible nor strictly measurable in terms of impact but is embedded in everyday experiences and online actions that are negotiated *with* and *against* algorithms, as the next section further investigates. In this sense, online curation diverges from the logic of conventional art curating because of its socio-technical specificity and because it shifts the focus of its attention from artists and artworks to processes and systems, recasting the function of the curator within a complex network of human and technical agents, networked images, digital objects and machines.

⁴⁷ As she observed in a subsequent email conversation, with her use of the term 'pure image' Modrak playfully alludes to a future in which images would slip away from their referents and would no longer be beholden to any physical or tangible subject (Modrak 2019). The 'pure image', she continues, would exist quite happily in the realm of the networked image which is an image that slips through the time and space of the digital sphere, as observed throughout this thesis.

3.4. CURATING WITH OR AGAINST THE ALGORITHM?

Understanding the figure of the algorithm is the first step to becoming true collaborators—and not just with machines, but with one another through the vast collectives that algorithmic systems make possible.

(Finn 2017a, p.56)

In what follows, I situate my 'Curatorial Consultancy Service with Cassini on #exstrange' in the context of related sets of practices that similarly address the problem of human and algorithmic curation, by either working with or against the algorithm. The first example, Angie Waller's artistic project eBay Longing (2003), puts the platform's search algorithm and database under critical scrutiny, foregrounding the social dimension of the platform as shaped by its user culture. The second example is Cosmos Carl (2014–), a platform 'parasite' which fosters the creation of artistic interventions on social media sites and existing commercial platforms and hosts their links online, analogously adopting a method of embedded practice. The third practice I consider is the curatorial approach put forward by the Museum of Digital Art (MuDA) in Zurich, which involves the participation of the algorithm 'HAL 101' in the process of curating, challenging mechanisms of cultural gatekeeping proper to the art system and extending agency to a non-human actor.

My comparative analysis of these examples paves the way for a consideration of the notion of 'network co-curation' – a central concept of this thesis that develops in response to the main concerns of my research: how the networked culture is changing the role of the curator (with specific reference to the function of networked images) and what kind of curatorial methods can be envisioned to expose the modes of production, organisation and structure of the networks.

3.4.1. EBAY LONGING (2003)

Working with technology in a way that goes against its own grain has been a preoccupation of cultural practitioners and net artists since the early 1990s, when the space of the Web was still an uncharted territory characterised by 'the endless joy of serendipity and strong feeling of responsibility' (Lialina cited in Andrew 2018). With the development of the commercial Web in the early 2000s, artists and curators began to shift their attention towards online platforms as sites for sociological and anthropological investigation on the one hand, and for emancipatory and political practices on the other. Among the several projects that have purposely addressed the

context of eBay, 48 Waller's EBay Longing (2003) is the only one I have been able to identify that specifically deals with the platform's search algorithm. Waller's intervention, realised ten years before the Cassini algorithm was introduced, consisted of scraping the eBay database during the years of the so-called 'war on terrorism' using the word 'Afghanistan' as the search query. The aim of this quasi-anthropological study was to explore the shift in the sale of objects in countries such as Syria, Afghanistan and Iraq through the collection of a few hundred images. The images depicted objects spanning from memorabilia and souvenirs to American-made T-shirts bearing slogans in support of the war, alongside bumper stickers and miscellaneous items that the troops were sending back home. Waller's intention with this project was to critically reflect upon the relationship between users' activity and the performance of the algorithm as influenced by specific cultural trends and contingent political biases. In the artist's own words, the project was intended to track 'how the consumer goods of an online bartering database reflect the sentiment of its active online community' (Waller 2016, p.223). The outcome of her intervention reiterated the central argument developed in the previous case study: that commercial platforms are not only sites for the production of economic value, but that they also generate social value through the affective interplay between user behaviours, networked architecture and algorithmic systems.

In the context of this case study, Waller's project is particularly relevant because of its focus on the behaviours of users and their influence in shaping the cultural landscape of the platform. However, both the motive and implementation of *eBay Longing* (2003) diverge from the premises of the 'Curatorial Consultancy with Cassini on #exstrange' for two reasons. The first is that Waller's project operated against the algorithm; the second is that it more overtly pursued a hacking strategy, consisting in the actual manipulation of the data generated on the platform. In contrast to this, my own intervention operated with the algorithm to produce a moment of dissonance, ambiguity and critical reflection. But despite this difference, Waller's project also pointed to the problem of human and algorithmic curation and its entanglement with broader questions of power and control associated with the use and implementation of technology. This is a topic that Waller continued to explore in her subsequent works, such as for instance *Data Mining with Amazon* (2003) and *How to Look at Artist Networks* (2015) — works concerned with the algorithms of Amazon Database and Google Knowledge Graph. Additionally, much alike my intervention with Cassini,

⁴⁸ For a list of previous projects which have addressed the context of eBay, please refer to the 'relatives' section of the project *#exstrange* website. Waller's intervention, however, does not feature there. This was probably due to the project's complex formalisation and documentation.

Waller's early project suffered from the same problems of visibility, formalisation and documentation that characterise the majority of interventions 49 that are embedded within commercial platforms and social media sites. These issues are a direct consequence of the process-based, computational and immaterial nature of the networked culture and the resulting transformation of the work of art into a networked image, which exists and circulates beyond the physicality of the art object yet is subjected to the volatility of digital content. In the face of such radical shifts, the challenge for the online curator becomes that of how to envision and employ alternative methods and operational strategies for contributing to the production, circulation and fruition of art and creativity online.

3.4.2. COSMOS CARL (2014-)

The projects carried out within the context of Cosmos Carl (2014-) exemplify the increasing interdependence of online artworks and interventions with the technical architecture and material substrate of commercial platforms. Cosmos Carl (2014–) is an initiative launched in 2014 by artists Frederique Pisuisse and Saemundur Thor Helgason and consists of an online repository that hosts links to embedded projects occurring on external platforms such as Google Drive, Torrent, Pinterest, YouTube, Etsy, Instagram and eBay itself. 50 By clicking on the links featured on the Cosmos Carl site, visitors are re-directed to artists' projects that are active or that might be 'no longer available' on the Internet. The interventionist character of the project is reflected in its underlining politics, which follows the legacy of 1960s cultural jamming practices, concerned with 'the targeted application of the very method one intends to critique' (Elbaor 2017), and of early net art that staged a resistance towards privately owned art. As Pisuisse and Thor Helgason observe:

Cosmos Carl artworks are not necessarily political, but by utilizing platforms for the display of art, the contributions disrupt the platforms' usual traffic. In that way, the works potentially protest global platforms like Google and Facebook, even though they simultaneously accept their terms and conditions.

(Pisuisse and Saemundur Thor Helgason 2017)

As the above statement reveals, Cosmos Carl shares a key tension with the 'Curatorial Consultancy Service with Cassini on #exstrange' between the automatic habit of accepting a platform's terms of service and the reflexive choice of breaching these

⁴⁹ Examples of artistic projects that have explored the link between the performance of bots, audience reception and market value are: Constant Dullaart's High Retention, Slow Delivery Bots (2014) and Erica Scourti's Empathy Deck (2016). Other artists have taken an activist stance towards these issues. See for the instance the work of UBERMORGEN Vote-Auction, an online auction platform created during the 2000 US presidential election that claimed to allow Americans to sell their vote online.

See, for instance, works by Leifur Ýmir Eyjólfsson and Saemundur Thor Helgason: http://www.cosmoscarl.co.uk.

terms to make its procedures more visible. Moreover, because of the embedded nature of the artistic and curatorial interventions it activates and hosts, Cosmos Carl also operates in a grey area between 'not-just-art' (Fuller 1997) and 'not-just-art-curating' (Tyzlik-Carver 2016; 2017a; 2017b), resonating not only with the methodological approach of this case study, but also with a key premise of the first case study we looked at, which took an H&M t-shirt/image as its object of investigation. Nevertheless, the Cosmos Carl project is distinct from my case studies in that it brings to the fore the agential dimension of the technology underpinning multiple platforms and social media sites. This forges the kinds of creative interventions that are possible under specific condition of online embeddedness. For instance, an intervention on Pinterest poses a diverse set of challenges and opportunities to one on Tumblr or Instagram in terms of interface, image display and audience experience. In this respect, Cosmos Carl expands Waller's agenda, foregrounding a more complex understanding of the platform not simply as a 'networked repository or connective archive', but crucially as an 'apparatus that observes the world and generates ordering statements' (McKenzie 2018).

Related to this is the project's distributed and collective dimension, which is the ability to coordinate different interventions in different platforms. This aspect of the project significantly increases the impact of the overall operation, which spreads like a 'slow virus' (Pisuisse and Thor Helgason 2017), providing a connecting tissue for all the various interventions and overcoming the narrow focus that characterised my own curatorial experiment with Cassini. What *Cosmos Carl* suggests is that the effects of such modes of practice cannot be judged in isolation or within a short timeframe but must be valued in the long term and in concert with other similar operations. In other words, Pisuisse and Thor Helgason's project shows that the force of such practices lies in their ability to form and be part of a *network of relations* that creates connections and exchange amongst different creative practitioners on the basis of both shared and differential values, intents and agendas. In the case of *Cosmos Carl*, the aim is to produce a creative rupture in the system of 'Platform Capitalism' (Srnicek 2017) and to invest online users with a renewed sense of agency and the possibility for resisting the corporate control of the Web.

These two examples, both of which work *against* the algorithm or the apparatuses of commercial platforms, show how the motives behind current modes of human and algorithmic curation can be of a political and emancipatory nature, in the sense of being intended to denounce and critique the system of 'Platform Capitalism' (Srnicek

2017). The third example I will consider here, that of the MuDA, adopts the strategy of working *with* the algorithm within the context of institutional practice and therefore points to a different kind of politics – one that is more closely concerned with the dynamics of the art world as a field of work.⁵¹

3.4.3. 'HAL 101' (2017-)

No other place than the contemporary museum can be more apt for observing the dynamics of art at work. The recently funded Museum of Digital Art (MuDA) in Zurich represents a case in point, constituting a small and flexible institution that is currently experimenting with a mode of human and algorithmic curation. The team at the museum has decided to open its curatorial process to the participation of 'HAL 101', a web crawler that searches the Web in order to index and select potential artists to exhibit. In this way, the museum does not only create a strategic alliance with the algorithm, but it also takes this interaction a step further through the actual programming of 'HAL 101'. The premises behind this project are therefore different from my own intervention, which operated at a conceptual, imaginative and critical level. The MuDA project also diverges from the other two examples discussed above in which algorithms where pushed to work against the grain to create fissures in the systems of commercial platforms. The fact that MuDA is a non-profit cultural organisation whose mission is that of 'untangling the digital fabric connecting data, algorithms and society' (MuDA website), frees this mode of human and algorithmic curation from the logic of profit, offering the opportunity to test the pursuit of a cultural agenda. However, the parameters that are used to encode the algorithm and the specific kinds of actions it executes under this allegedly transparent agenda remain opaque.

As can be learned from the museum's website, 'HAL 101' has been instructed to look for artists whose data traces correspond with those initially chosen by the curatorial team for the museum's inaugural set of exhibitions (Hendricks 2017; MuDA website). Therefore, the working of the algorithm mirrors and executes decisions previously made by the curatorial team. The parameters upon which the algorithm has been programmed are not publicly disclosed and the information available is limited to the claim that the algorithm's search ensures that 'nationality, age, gender or financial factors don't override the decision making process' (MuDA website). In the framing of

⁵¹ In this respect, it is useful to refer to Steyerl's articulation of the relationship between politics and art as one that can be observed in how the field of art operates as a place of work. As she states: 'Simply look at what (art) does – not what it shows' (Steyerl 2010).

'HAL 101' as a curatorial agent, the MuDA team thus emphasises how the scope and reach of the algorithm prevents the perpetration of biases that might affect the selection process – biases based, for instance, on an artist's previous participation in a particular Biennale or an exhibition in an established gallery. The algorithm is indeed presented as ensuring visibility for artists who are not already in the public eye. The fact that the algorithm creates a scoring system that is not personal and does not differentiate between and judge different information sources is presented as evidence of the algorithm's democratic approach. But what such an argument disregards is that technology can in fact never be neutral or democratic (Chun 2009; Hendricks 2017; Bucher 2018) and that considerations of the context and provenance of any information form part of a process of critical evaluation and analysis.⁵²

In its attempt to overcome the curatorial biases associated with the activities of search, selection and evaluation, 'HAL 101' inevitably amplifies biases that are already built-in on the Internet itself, and potentially also creates new ones. Its logic of objectivity and transparency is undermined by the fact that its choices are precisely based on information that is already visible online - information such as an artist's name, and the titles and specifications of artworks represented online and have already been indexed by search engines. As such its attempt to critically reflect on the mechanisms of inclusion and exclusion that the very process of curating articulates, is not substantiated by an equally necessary awareness of the biases the algorithm itself generates and reproduces. In its work as a curator, the algorithm primarily serves here as a tool that simplifies the operations of searching and selecting, reduces complexity in the decision-making process and absolves human curators from the difficult task of operating 'cautious differentiation' (Goriunova 2012, p.45) from within the aesthetic complexity of the networked culture. Such differentiation involves attentiveness to the nuances between cultural appropriation and plagiarism, user creativity and savvy marketing strategies, Web parody and defamation – all differentiations that rely upon the use of human cognitive faculties such as critical reflexivity and knowledge. What such a shortcoming points to, is the need for online curatorial practices to encompass not only a sophisticated knowledge of algorithms but also their very own critique understood not as some automatic dismissal of the potential of algorithms to transform the practice of curation, but as an opportunity to explore more thoroughly their wider socio-cultural impact.

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⁵² This mode of critical analysis finds its roots in the tradition of cultural and media studies that focus on the intersection between society and technology (McLuhan (1994[1964]); Manovich (2001)). It is currently being extended by the emergent disciplines of critical algorithmic studies and the experimental humanities (Finn 2017a; Bucher 2018).

As Bucher lucidly puts it:

Algorithms matter in a variety of ways: in their capacity to govern participation on platforms, distribute information flow, embed values in design, reflect existing societal biases and help reinforce them by means of automation and feedback loops, and in their power to make people feel and act in specific ways.

(Bucher 2018, p.120)

Consequently, she further observes, 'knowing algorithms might involve other kinds of registers than code' (Bucher 2018, p.113), such as the register of critical analysis, speculative inquiry and poetic imagination.

My 'Curatorial Consultancy Service with Cassini on #exstrange' played precisely with these other registers – the critical, conceptual and imaginative – and as such sits at the intersection of these different examples. While my project acknowledged the potential for a mode of human and algorithmic curation to open up the curatorial process to a new set of non-human agencies, it purposefully did so within the context of the network, where there is currently a conflation of different interests at stake, from the economic to the cultural and socio-political. Only from within such a position of embeddedness can the curator perform 'cautious differentiation' and work simultaneously with and against the algorithm to unearth the intricate networks of production and consumption that characterise the current state of the Web and mobilise new forms of resistance and critique. In the context of the eBay case studies, this entailed scrutinizing and apprehending the mechanics of the platform's technical infrastructure, emphasising the key role online users play in shaping its culture (especially in regard to image production) and acknowledging how commercial gain is entrenched with algorithmic systems of recommendation and curation. It involved carving an autonomous space on the commercial platform where humour, poetry and play could be intertwined and sharing and discussing these interventions in the online environment and the public arena.

Following on from this experiment, this thesis argues for the importance of overcoming the 'false dichotomy of being either for or against the algorithm' (Bucher 2018, p.122). Instead, it suggests that when acting as a reflexive user the online curator operates as a 'node' (Cook and Graham 2010, p.158) within a complex socio-technical assemblage of human and non-human agents and through the formation of strategic alliances with algorithmic agents and online users participates in processes of 'network co-curation'. This idea of co-curation is to be understood here as both a theoretical concept and an operational strategy for forging a critically reflexive mode of online curation.

3.5. TOWARDS NETWORK CO-CURATION

Network co-curation is a process which first and foremost occurs within the network, understood as 'the primary and mass-produced media of human culture' (Nagler and del Pesco 2011) whose knowledge and information flows are inextricably linked to the dynamics of computational capitalism (Beller 2016a), as argued throughout this dissertation. In this context, network co-curation opens the curatorial activity to participation from human and non-human agents and largely relies on digital tools and network infrastructures. As a practice in/of the network, network co-curation is here proposed as a space of operationality and performativity, which creates 'the possibility for a complex dance of intention, anticipation, creativity and emergence based on individual people, algorithms, and the social and technical structures that bracket them all' (Finn 2017b). This dance brings together a constellation of concepts, agents and practices, and signals a shift of curatorial attention from object and project to process and intervention, and from art and curating to 'not-just-art' (Fuller 1997) and 'not-justart-curating' (Tyzlik-Carver 2016; 2017a; 2017b). It is in this space of hybridity, where culture, commerce and computation overlap, that the forging of strategic alliances can create different constellations of relationships amongst users, algorithms, concepts and practices from which new forms of social meaning and cultural value can be produced. As Dewdney perceptively observes:

The alliance of marketing and algorithmic metrics now seriously entailed in creating the links and chains in cultural communication, meaning and value, reinforces the recognition of the argument that technology is cultural and culture is technical and hence the urgency of developing new forms of co-curating and co-operation between humans and computers in network cultures.

(Dewdney 2019)

Drawing on the findings of this case study, network co-curation is also proposed as an operational strategy, which works in tandem with the formation of strategic alliances between humans (for example artists, curators and online users) and machines (in this case the Cassini algorithm, the commercial platform of eBay and the art platform of #exstrange). The participation of the curator in this human and machinic network decentralises dynamics of power, authority and cultural gatekeeping and allows for the development of the critical awareness and strategic operationality necessary to navigate the complex forces and entanglements that characterise the networked culture. As such, network co-curation is offered as a de-centralised and collaborative alternative to the dynamics of hyperindividualism and cultural gatekeeping that characterise both the art system and the world of social media platforms.

By participating in processes of network co-curation, the online curator helps to forge a new relationship between aesthetics and politics, one that acknowledges the increasing influence of algorithms and technology on both areas – one that considers their key role as visibility gatekeepers and acknowledges the effects they produce on the structures of power both at the level of everyday practices and governance. The online curator endorses a sociotechnical constitution of aesthetics that is political insofar as it challenges dominant systems of power – the Web's current state of privatisation, corporisation and commodification – by confronting existing modes of visibility and corporate control and by creating new ways of negotiating the relationship between humans and machines.⁵³ By engaging in a process of network co-curation, the online curator supports a critically reflexive approach to technology that does not treat it as a mere medium or a tool, but that recognises its agency in shaping the very texture of the networked culture and the creative processes that emerge from it.

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⁵³ This argument concurs with that of Goriunova who supports a new politics of aesthetics that creates ruptures with 'the dominant machinic coherence' (Goriunova 2012, p.96).

4. CONCLUSION

The 'Curatorial Consultancy Service with Cassini on *exstrange*' marked the end of this research's fieldwork which undertook three case studies, each tackling a specific aspect involved in the problem of curating the networked image under the key identified conditions of *circulation*, *commodification* and *computation*. These conditions have created a shift in the *object* of curating (no longer an art object but a networked image), the *context* of curating (the environment of the commercial Web and of online platforms where the logics of profit and creativity coalesce) and in the *agents* participating in the process of curating (both human and machinic agents). Responding to these shifts, my interrogation of the renewed procedures of curating as enmeshed with the commercial logic of the Web was paralleled by an analysis of the changing status and value of the networked image as a mode of representation and computation – a 'rich' image that is part of wider processes of valorisation and commodification enabled by socio-technical dynamics of circulation.

This concluding chapter summarises the key issues that arise from my analysis of the case studies and builds upon them to address the two central questions posed at the beginning of this thesis: 1. How is the networked culture changing the role and activity of the curator with particular reference to the function and value of networked images? 2. What types of curatorial methods can expose and challenge the modes of production, organisation and structure of the networked culture? I begin by offering a brief summary of the findings from the case studies from which the answers to these research questions emerge. My response to the first question takes the form of a series of prepositions that trace the way that the networked image transforms itself into a rich image online, look at how a critical perspective on circulation can be transformed into a quest for differentiation (whereby differentiation, coupled with critical reflexivity, is the engine for the construction of cultural value online) and tracks the way that online curation has developed into processes of network co-curation. The latter preposition is articulated in more detail through an account of the curatorial methods which have emerged during the case studies and that provide an answer to the second research question. Finally, I offer a critical evaluation of my own position as a curatorresearcher, with the aim of highlighting the main challenge faced during this study: how to balance the relationship between practice and theory, immersion and reflection, creative work and critical analysis. In doing so, I emphasise the contribution that this research makes to the theory and practice of online curating with specific reference to the circulation of the networked image.

4.1. SUMMARY OF THE CASE STUDIES' FINDINGS

The first case study, 'Not Just-Art-Curating', focused on a perceived shift in the *object* of curatorial practice, showing how the activity of online curation passes through the interfaces of networked images and how these are entangled in processes of branding and commodification that are sustained by the socio-technical dynamics of online reproduction and circulation. The case study traced the circulation of one particular networked image – a mass produced fashion item – online. In doing so, it investigated how the Web is an environment dominated by a commercial logic, where the language and practice of both art curating and visuality are put at the service of marketing strategies and customised selling procedures. More specifically, my analysis of the findings revealed that within the context of the commercial Web there is a hybrid understanding of the curatorial function that goes beyond the field of art and which is being carried out by various agents, such as online users, commercial businesses and software.

The second case study, 'Online Curation on a Commercial Platform', turned its attention to the *context* of curating, moving from the generic environment of the commercial Web into the specific networked architecture of a commercial platform. My curatorial experiment was situated in an 'overly and overtly curated environment' – that of the commercial platform of eBay, the art platform of the project #exstrange and the wider context of commercial platforms and social media sites. My findings exposed the ways in which networked images participate in processes of valorisation and commodification by virtue of being simultaneously modes of representation and computation. They also revealed that eBay is an interesting example of the convergence of different online curatorial paradigms, such as, for instance, art curating and content curation that are, in this case, enabled by the working of a specific algorithm, the Cassini search engine.

This outcome informed the development of my third and final case study. In my analysis of the intervention 'Curatorial Consultancy with Cassini on #exstrange', I tackled the problem of who/what is behind the process of online curation. By forging a strategic alliance with the eBay algorithm Cassini, I performed a critique of the system of art curating, challenging its mechanisms of gatekeeping and extending agency to a technical agent. Through the course of the experiment, I discovered that the operations of the algorithm were tightly connected with the commercial agenda of the platform, and as such needed to be critically examined and countered. From this followed the

argument that a critically reflexive attitude towards both the role of the curator and that of the algorithm – one that interrogates the possible biases and gatekeeping mechanisms of both – is necessary to forge strategic alliances between humans and machines and to expand the scope of online curation into collaborative and distributed processes of *network co-curation*.

Whilst each of the case studies produced a distinct set of outcomes they were also intimately connected to one another, with the findings from each case study directly informing how I approached the next. With this method of research that feeds back onto itself, I was able to ensure that the key problem of this research – that of how the networked culture is changing the role and activity of the curator with particular reference to the function and value of the networked image – remained at the heart of the study and acquired more depth as each case study unfolded. Another constant throughout the research process was my preoccupation with the threshold between the *visible* and the *invisible*, the *representable* and the *unrepresented*, and the power structures and apparatuses that control this. While in the first case study it was through the workings of a corporate – H&M – that the wider dynamics of the online circulation of goods and images were disclosed, in the second and third case studies this were observed from the vantage point of a commercial platform – eBay – and the performance of its specific algorithmic system.

Taken together, the findings from the three case studies have contributed to frame the problem of curating in light of broader issues of global information capitalism and have enabled me to identify a number of important shifts that define the conditions of curating the networked image: shifts in the construction of *value* and in the constitution of *agency*, two fundamental aspects that affect the role and function of the curator and the status of the networked image in computational culture.

4.2. THE NETWORKED IMAGE AS A RICH IMAGE

Much has been said in this dissertation about the ways in which value can be described in the context of the networked culture: as a process that cuts through the aesthetic, social, technical and economic dimension; as a process of exchange that is enabled by socio-technical conditions of online circulation; as a process enabled by the same computational tools that sustain processes of commodification. In all its various facets, this study has showed that the construction of value is a process that is interlinked with the operations of networked images by virtue of their dual nature as

modes of *representation* and *computation*. While through my analysis of the first case study I identified that the networked image carries different *regimes of values* – aesthetic, social, economic, technical – as it circulates across various contexts of reception, in my examination of the eBay case studies I recognised that the networked image is the interface through which all *processes of exchange* among the platform's users occur.

As argued in chapter two, on commercial platforms such as eBay, the networked image operates as a node that brings together various types of information currents and exchanges (of objects, ideas, money and data). While it works as a *representation* of actual and potential goods, performing the function of an image-commodity, it also simultaneously operates as the *non-representational* utterance of invisible, yet monetisable, computational processes. Processes of valorisation and commodification thus conflate in the networked image in its dual function as a mode of representation and computation – a 'rich' image consisting of packets of extractable and monetisable data that generate *economic value* under conditions of 'Platform Capitalism' (Srnicek 2017).

However, this chapter also highlighted how the networked image simultaneously produces *social* value, insofar as it captures the specificities of the networks it is embedded within, reflecting the public composition of commercial platforms as sites for contemporary image production. In other words, as I have argued, the networked image reveals more about the users who shares it than the object it depicts; it reflects the conditions of the community of users who upload it, their cravings, personal histories and idiosyncratic aesthetic sensibilities. In this sense, the richness of the networked image is not purely related to economic value, or to its 'succulent visuality' (Rubinstein and Sluis 2013a, p.34), but, crucially, to its ability to capture the multiplicities and differences of the networks.

This ability, as I have underlined in chapter one, also relates to the ways in which the networked image operates as language in the broadest sense of the term: as a mode of visual communication, as an aggregate of data and meta-data and as an interface between human and computational code. The analysis of the case studies also revealed that the interaction between the human language of signs and symbols and the computational code of numbers and data is not met without frictions and contradictions at the interface of the networked image. Rather, it is punctuated by misunderstandings and faults, exemplified by automated error messages such as 'This

Image is Not Available in Your Country'. These darkly ironic messages, which signal the presence of short circuits in the circulation of networked images, have recurred throughout the course of this research, particularly in those instances when my curatorial experiments challenged the pre-set boundaries and protocols of specific commercial and socio-technical systems.⁵⁴

My attentiveness to the semantic richness of the networked image developed as a response to two distinct problems I had identified in the introduction (0.1.): the first concerned the need to explore the networked image's relationship to meaning and its political power, as defined by the image's ability to capture the modes of production, the organisation and the structure of the network. The second issue pertained to the urgency of challenging and revising the outdated project of semiotics, in light of the transformations brought about by networked technologies and computational language. While the first issue was explored more closely during the first case study, as I traced the circulatory patterns of a particular networked image, the second aspect was investigated in more detail in the second and third case studies, as I deliberately engaged with the polysemy of the word Cassini on the Web in order to remix different planes of information and imaginaries (3.3.) and to articulate a mode of human and machinic curation.

Thus, my curatorial experiments contribute to recognise that the networked image is a 'rich' image not only because it consists of packets of extractable and monetisable data, but also because it operates as a key semantic vector between human and machinic modes of communication. Being an expression of the lively social texture of computational culture, this 'rich' image serves as the main interface for processes of network co-curation.

4.3. THE QUEST FOR DIFFERENTIATION

At the beginning of this study I offered an integrated perspective on the notion of circulation and set out to discover what were the implications of this for curatorial practice. The analysis of the three case studies has shown that online conditions of socio-technical, cultural and economic circulation call for a 'cautious differentiation' (Goriunova 2012, p.45) on the side of the online curator. Differentiation then emerges

⁵⁴ For instance, when testing out through the online curation of networked images the function of collection creation on eBay for purposes other than commercial ones (2.5.1). In line with my critically reflexive methodology, these error messages informed much of the visual and conceptual choices of the curatorial practice itself, starting from the types of networked images I focused on, such as for instance the H&M t-shirt/image, and extending to the ironic titles of my curatorial interventions, including for example 'This Image is Not Available in Your Country' or 'Very Hard to Find'.

as a response to the collision of different agendas at play on the commercial Web that enables one to distinguish between them, performing a distinction, for instance, between the aesthetic liveness of computational culture and the marketing logic of corporates. Differentiation does not aim to disavow cultural hybridisation, but rather develops in response to a critical perspective on circulation, commodification and computation. As I argued in chapter one, the type of differentiation the networked image calls upon itself does not only concern its aesthetic dimension, but crucially entails a recognition of the different value regimes – technical, economic, social – that it carries within the context of the commercial Web.

In regard to the online curator's relationship to computation, differentiation has enabled me to put into focus that the operations of algorithms are bound to the specific sets of values that are encoded in their systems by human agents. As I showed in chapters two and three, in the context of commercial platforms these operations are inextricably linked to the logic of profit. This highlights the need for a critical reflection on the ways in which algorithms can be programmed differently to allow for other kinds of logic to be pursued – the logic of culture, of ethics and co-operation. In this sense, the quest for differentiation is intimately connected with the cultural value that online curation might produce in the context of the networked culture.

This a complex issue which requires a new set of parameters to be measured and evaluated and that calls for future research. As I argued in chapter two, in today's overvisualised culture the impact of online curation does lie on the side of invisibility. The implications of this are considered in chapter three, where I attempt to locate the site of cultural value in the subtle operations embedded in everyday experiences and online actions that are negotiated *with* and *against* algorithms. In doing so, I argue that the cultural value of online curation lies in its ability to develop a critically reflexive attitude towards the distinct algorithmic infrastructure, the set of agents and the power relationships that define the contexts of commercial platforms not simply as commercial spaces but also as social ones – as spaces where users interact, taste is co-produced and aesthetic germination arises.

Thus, I suggest that the cultural value of online curation is rooted in the development and dissemination of a critically reflexive attitude – a blend of critical awareness, reflection and embedded actions – towards the role of technology and its cultural implications. As such, I identify critical reflexivity as the *differentiator* for the production of cultural value in a time when online users partake in the activity of curating and

search engines and algorithms are generators of meaning and aesthetic patterns. In this sense, critical reflexivity can enable the online curator to differentiate between the different value regimes and agential dimensions that coexist in the networks and to explore the ways in which these relate and interact with one another.

4.4. FROM ONLINE CURATION TO NETWORK CO-CURATION

In the course of this research, my interrogation of agency progressed from a consideration of the image, to an analysis of the reflexive role adopted by the curator when acting as an online user, and to the recognition that online curation is not exclusively shaped by human agency but by a mix of human and machinic processes. By forging a strategic alliance with the Cassini algorithm in the last case study, I was able to articulate a shift from online curation to network co-curation, understood as a performative and operational process that puts various practices and agents into relation with one another, such as curators, artists, online users, networked images, algorithms and machines. As argued in chapter three, network co-curation is offered as a de-centralised and collaborative alternative to the dynamics of hyperindividualism and cultural gatekeeping that characterise both the art system and the world of social media platforms.

While this process entails giving up a certain degree of curatorial control and authorship, it nevertheless produces a redistribution of agency among all parties involved and even expands the agency of the online curator. This is because, as argued in chapter two, the curator becomes invested with the social remit of exposing and differentiating the various kinds of relationships that are assembled and disassembled within such a network – relationships of power, control, alliance and cooperation. As such, network co-curation allows for a reframing of the role and activity of the curator in relation to a wider system of other agents with conflicting interests and agendas – economic, cultural and political – and it relies upon the input of critical reflexivity as the differential value that the online curator can bring into such a network.

In this research, the shift from online curation to network co-curation has been detected not only in theory, but also in practice by means of the specific *curatorial methods* that have emerged in the case studies. These curatorial methods respond to both the 'surprising sets of agencies' (Latour 2005, p.44) I encountered in this research process and the application of the core method of critical reflexivity to the particular parameters of curatorial practice that each case study tackled. Although these methods are

connected to the trajectory of the specific curatorial practice examined in this thesis, their sequence follows a logic that can potentially be applied by future creative practitioners (curators, artists and reflexive users) and further elaborated on theoretically to support the development of a critically reflexive mode of practice, one that performs research and critiques the networked culture from within.

Online Critical Tracing

Online Critical Tracing was the first curatorial method I identified and developed to address the change in the object of curating – no longer a work of art but a networked image. This method responded to conditions of online reproduction and circulation that multiply the contexts in which a networked image can be found online and suggested that the meaning and value of the image can emerge from the critical tracing and analysis of these various contexts of reception. As the first case study showed, the tracing of the H&M t-shirt/image across different online contexts revealed the pivotal role that online users play in the construction of patterns of aesthetics and meaning. Crucially, it also illuminated how the Web is far from being a neutral arena, but is a space largely subdued to private and corporate interests that influence the behaviour of images, objects and users alike. As such, this curatorial method was instrumental in bringing to the fore the centrality of the notion of circulation and its entanglements with processes of branding and commodification. I made a first attempt at theorising this method in an article titled 'Tracing Networked Images: An emerging method for Online Curation' (2017) published in the Journal of Media Practice.

Cautious Differentiation

In the second case study, there was no longer a specific visual object or networked image to be traced, but rather a constellation of relationships produced by several agents (the #exstrange curators and artists, external guest curators, eBay users and art audiences) and conducted through various operations occurring at a conceptual/cultural level as well as a socio-technical one. As such, Goriunova's concept of cautious differentiation (Goriunova 2012, p.45) was employed as 'a nuanced gradient' (Goriunova 2012, p.13) to remain attentive to the different aesthetic registers and regimes of value at play within the online platform of eBay. In other words, this curatorial method was applied to make sense of the aesthetic density of eBay as a specific socio-technical assemblage and to dissect the similarities and differences emerging from within the context of the commercial platform. It enabled me

to put into focus the clash between the richness of its user culture and the standard operational protocols promoted by the corporate, while also remaining attentive to the entanglements between social, cultural and economic agendas on the platform. As such, it served the key purpose of seeing, recognising and dissecting aesthetic value and meaning outside and before corporate appropriation and of articulating a form of resistance towards consumerist forces and capitalist behaviours.

Embedded Practice

Once the complex media ecology of eBay was put into focus, in the third case study I chose to adopt an embedded position within the platform and to insert critical reflexivity at the level of 'code, policies, rhetoric and users culture' (Lovink 2011, p. 70). In this sense, I let the platform's economic and technical protocols shape the pursuit of my cultural agenda whilst also simultaneously shaping them. I also identified in the method of embedded practice the necessity of operating at the same level as the Cassini algorithm and forging a strategic alliance with it. However, as a consequence of this methodological choice, my curatorial intervention on eBay was no longer recognisable at such and disappeared into the platform. This is the kind of scenario that media theorist Marina Vishmidt anticipates when she warns of the potential dissolution of online curation into the very forms it is embracing and when she challenges the scope and horizon for experimental practice 'within the axiomatic of capital which culture reproduces and counteracts' (Vishmidt 2006, p.42). In chapter three, through the comparative analysis of my own case studies with other examples of such practices, such as Cosmos Carl (2014-) and Angie Waller's eBay Longing (2003), I showed that this is indeed the risk of such an intervention. An important implication of this, however, is that it forces the online curator to confront key issues of visibility, formalisation and documentation that characterise the current state of art and curatorial practice within the context of the commercial Web and to keep testing alternative methods for producing, circulating and accessing art and creativity online.

Forging Strategic Alliances

In the final case study, the forging of a *strategic alliance* with the eBay search algorithm was intended to create a form of cooperation between human and machinic agents from within an embedded position and to merge different kinds of intelligences – human language, signs and symbols, with the computational code of numbers and data. This strategic alliance was approached as an opportunity to generate more value

on the platform and its parameters and visual language were defined through the process of interacting with the platform's interface. However, what this curatorial method crucially pointed to was the importance of developing a sense of critical awareness both towards the role of the curator and that of the algorithm, their potential biases and gatekeeping mechanisms. In doing so, it brought to attention the need to approach the curatorial method of strategic alliances with a clarity of intent and purpose if a logic of inclusivity and cooperation is to be pursued.

Circulation

Finally, while analysing all the case studies during the process of writing this thesis, I identified in the notion of circulation a key conceptual umbrella under which the work of networked images and the process of online curation intersect and come together. *Circulation* was also recognised as an additional curatorial method that had informed the dissemination of my research outputs. In the course of this study, while, for instance, some elements or traces of the case studies were deliberately circulated online, others had been circulated outside of my control as part of the Web's idiosyncratic logic of appropriation (1.1) and of the discontinuous and performative nature of circulation (0.4.3.). Additionally, the research findings were deliberately disseminated by myself across multiple channels, from conferences and publications, to collaborative projects and even T-shirts, demonstrating that circulation as a curatorial method not only concerns the online environment, but crucially shapes the materiality of one's practice, enabling the movement of concepts across various contexts of reception. For these reasons this method was used to inform the conceptualisation of the portfolio of practice for the submission of this research.

Overall, the case studies and their subsequent analysis provided a number of concrete suggestions for curatorial methods — online critical tracing, cautious differentiation, embedded practice, the forging of strategic alliances and circulation — that can be employed to expose and challenge the modes of production, organisation and structure of the networks. Summed up all together these curatorial methods mark the shift from online curation to network co-curation, understood as a critically reflexive process for creating cultural differentiation and valorisation under the current state of privatisation, corporisation and commodification of the Web. In this sense, these curatorial methods reveal the potential for network co-curation to intervene in the contingent, distributed messiness of contemporary networked culture, moulding its politics and aesthetics.

4.5. REFLECTION ON MY CONTRIBUTION AS A CURATOR-RESEARCHER

The fundamental challenge I faced in this study concerned my own position as both a curator/practitioner and a researcher/analyst. While in the course of the practice the role of researcher aided that of curator in adding depth and critical insight to the actions undertaken, during the writing process these two roles became more difficult to balance, as the researcher/analyst had to mitigate the more creative and intuitive character of the curator so that a critical voice could emerge to account for this practice. This task required that I examine the whole practice retrospectively, to trace the evolution of key findings from one case study to the next, and embrace the counter-intuitive process of disembodying myself from the actions undertaken.

This proved particularly challenging as my practice was a reflection of the methodological choices I made at the start of this study (0.5.1.) – action research and critical reflexivity – and was very much entangled with my own actions, thoughts and considerations. In other words, my practice was characterised by a high level of embodiment. This was formally embraced during my presentation of the case studies at conferences and workshops, on the occasion of which I often wore specifically-tailored H&M T-shirts (MS_CS1_19; MS_CS3_18) to illustrate how 'circulation-based capitalism' (Lee and Lipuma 2002, p.210) can indeed play 'close to the skin' (Thirft 2008, p.32).

As a consequence of this high level of embodiment, I faced a common problem for the creative arts practitioner who struggles to recognise and map the effects of transformations that have just occurred in practice (Bolt 2009). In spite of such a challenge, the application of the core research method of critical reflexivity assisted me in becoming more aware of the processes of online curation. More broadly, this research method proved successful in two important respects. First, by assisting me in keeping track of the evolution of the practice and in gaining a deeper understanding of each step of the action-research during the three reflexive cycles. Secondly, in adapting itself to the specific curatorial challenges posed by each case study. In other words, the application of the core research method of critical reflexivity to the specific curatorial challenges posed by the individual case studies produced the set of curatorial methods detailed in the above section and thus served the purpose of answering the second research question. As a result of this process, critical reflexivity was identified as a valuable operational strategy that can potentially guide future practitioners in the development of more effective processes of online curation.

The delicate integration of practice and theory in the analysis was another key challenge that I faced during this study, particularly as far as curatorial methods were concerned. This integration proved more arduous than anticipated: while I wanted to let the practice and the research methods 'speak for' themselves (Latour 2005, p.31), I often ended up theorising about them. The result of this struggle can be detected in this thesis, which has produced some hybrid formulations of concepts-methods: terms, such as for instance, differentiation, circulation, critical reflexivity and network cocuration, which are discussed both in terms of theoretical concepts, curatorial methods and/or operational strategies.

However, the fluidity of such formulations is also related to the distinctive character of this practice-based research, which has deliberately articulated an hybrid position at the crossover of different theoretical paradigms (media studies, art curating and digital curation) and practices (curatorial work, commercial endeavours and online cultures of mass participation).

With regard to theory, this hybrid position has enabled to open up the disciplinary confines of art curating to the contributions of other disciplines such as new media curating, software studies, experimental humanities (Finn 2017a) and critical algorithmic studies (Kitchin 2017; Magalhães and Yu 2017; Bucher 2018), advancing a deeper analysis of the relationship between culture and computation that needs to be integrated in future curatorial theory and training. Although this research has not offered a firm reconciliation of the divide between the paradigms of contemporary art and new media curating (0.3.), it has redirected the focus of the debate to more urgent considerations of context, by locating the practice of curating within commercial platforms and in the body of the network. Hence, with regard to practice, this study has contributed to expanding the practical field of operating of art and new media curating through the undertaking of embedded work within the online environment and has produced a number of curatorial methods which, summed up all together, mark the development of online curation into distributed processes of *network co-curation*.

Thus, this research has produced original knowledge by expanding the definition and scope of curating into processes of network co-curation that critically engage with the context of the commercial Web and its algorithms and by developing a more nuanced understanding of the operations of the networked image, specifically of its circulation. This novel knowledge has been the result of a double movement between practice and theory, curation and research, writing and critical analysis, empirical engagement and

methodological reflection. In so doing, this research has demonstrated that a 'processual criticism that is both reflexive and playful' (Finn 2017a, p.13) is not only possible but also necessary if art curating is to renew itself as a collaborative and critical practice within the context of the networked culture.

By framing online curation as a mode of 'criticism in action' (Lovink 2011, p.74), my research has highlighted the importance of understanding the impact of technology on everyday culture and situated practices and draws attention to a necessary paradigmatic shift to 'account for the strange new world of computer systems in terms that are meaningful to the world of social relations' (Dewdney 2013). Curating the networked image means stepping outside of the 'art filter bubble' in order to develop a sophisticated knowledge and critique of the aesthetic, economic and socio-technical conditions that shape the current state of art and culture on the Web – conditions of circulation, commodification and computation.

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APPENDIX 1. PORTFOLIO OF PRACTICE

This appendix presents a detailed account of the structure and rationale of the portfolio of practice, as featured in the introductory folder (Folder 0.) of the memory stick accompanying this thesis. Starting with the 'Read Me' file (A.1.1.), an index of the content listed in the USB drive (A.1.2.) is provided. Moreover, a detailed description of the content of each folder is included (A.1.3.) in order to clearly link the portfolio of practice with the written thesis. This is followed by a last document (A.1.4.) dedicated to the elaboration of the distinction between the folders Case Study 1., Case Study 2., Case Study 3., and the folders Case Study 1.0., Case Study 2.0. and Case Study 3.0.

A.1.1. 'READ ME' FILE



The Centre for the Study of the Networked Image

> London South Bank University

CURATING THE NETWORKED IMAGE: CIRCULATION, COMMODIFICATION, COMPUTATION

GAIA TEDONE

A PORTFOLIO OF PRACTICE SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF LONDON SOUTH BANK UNIVERSITY FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

INSTRUCTIONS AND RATIONALE

This memory stick contains visual documentation from the three curatorial experiments undertaken as part of the practical component of this research. Hence, it should be used in parallel with the reading of the thesis. Particularly, the images contained in the folders titled Case Study 1., Case Study 2. and Case Study 3., are the practical components of the research and thus work in direct dialogue with the thesis. A coding system has been created so as to allow for the images to be clearly referenced in the dissertation: Memory Stick; Folder Name (such as for instance 'Case Study 1'); Image Number (Example: MS_CS1_01).

In the process of writing this dissertation, I identified in the notion of circulation a key theoretical concept as well as a curatorial method. From here came the idea of recirculating elements of the case studies undertaken during the fieldwork in order to link the practice and theory together and illustrate the recursive and processual character of my curatorial practice. I thus envisioned specific ways in which some aspect of each case study could be re-circulated across various formats and channels of distribution. Hence, the content of the folders Case Study 1.0., Case Study 2.0. and Case Study 3.0. is to be approached as an extension, recirculation or anticipation of the curatorial practice analysed in this thesis.

The content of these folders expands the notion of curating the networked image by encompassing 'a set of contemporary practices, platforms, software and computer programmes which are reconfiguring the visual and sonic in culture and shifting settled notions of temporality, movement and space' (http://www.centreforthestudyof.net). It does so by playing with a variety of formats (image sequence and GIF, desktop performance, video remix, algorave) and channels of distribution (informal networks, private settings, independent festivals). It further develops issues that emerged during the case studies, such as questions of Internet censorship, performativity and human and machinic curation.

The memory stick that was chosen to be used as the hardware support for this portfolio of practice is itself re-circulated from Case Study 2., the curatorial experiment undertaken on eBay within the context of the project #exstrange (http://exstrange.com). Artist Elisa Giardina Papa sold this spiral shaped pink thumb drive on eBay containing the last two months of her browser history as part of the work 'Archive Fever Vol.37: My browser history [Feb 2017]'. Further to previous consultation with the artist, I obtained a second edition of the work, in both its hardware and data component (Case Study 2.0.), and used the memory stick not only to organise the content of the fieldwork, but to also turn the submission of this portfolio into an opportunity to critically reflect on the link between practice and theory within the overall process of this research.

A final folder includes additional documentation of both the curatorial practice and the research process, aiming to assist future researchers in the understanding of how the whole research project circulated in the public arena. It also serves the purpose of clarifying for the reader what I did as a curator-practitioner, on the one hand, and how I reflected upon my own doings as a researcher, on the other hand.

A.1.2. LIST OF CONTENT IN THE MEMORY STICK

0. 'READ ME' FOLDER

- X 1 PDF: Read Me File (Instructions and Rationale)
- X 1 PDF: List of Content in the Memory Stick
- X 1 PDF: Description of Each Folder and Relationship with the Written Work
- X 1 PDF: Distinction between the Case Studies Folders
- X 1 Folder: This is How I Should Look Screenshots of Memory Stick Formatting

1. CASE STUDY 1.

- MS_CS1_01 H&M T-shirt printed with the text 'This Image is Not Available in Your Country'.
- MS_CS1_02 YouTube screenshot 'This Video is not Available in Your Country'.
- MS_CS1_03 My Facebook Timeline, 11 January 2016.
- MS_CS1_04 Tracing the t-shirt/image #1 (social media platforms).
- MS_CS1_05 Tracing the t-shirt/image #2 (social media platforms).
- MS_CS1_06 Fashion Blogger Ashley Ballard, in closetvomit.com, photograph by Kat Davis.
- MS_CS1_07 Tracing the t-shirt/image #3 (social media platforms).
- MS CS1 08 Tracing the t-shirt/image #4 (themetapicture.com).
- MS_CS1_09 'Right to protest', Flyer of Amnesty International Campaign adsoftheworld.com.
- MS CS1 10 Made to Order Items of Merchandising, Type & Junk, in society6.com.
- MS CS1 11 The FashPack, H&M store Oxford Circus, London.
- MS CS1 12 Photostrips from The FashPack, H&M store Oxford Circus, London.
- MS CS1 13 Touch-screen of The FashPack, H&M store Oxford Circus, London.
- MS CS1 14 Photostrip from The FashPack, H&M store Oxford Circus, London.
- MS_CS1_15 Instantaneous Sharing, The FashPack, H&M store Oxford Circus, London.
- MS_CS1_16 My Facebook Timeline, 4 May 2016.
- MS_CS1_17 My Twitter Feed, 4 May 2016.
- MS_CS1_18 My Image Is Not Available in Your Country. Produced in June 2016, London.
- MS_CS1_19 Presentation at Conference 'Post-Screen Cultures/Practices', LSBU, London, June 2016.

2. CASE STUDY 2.

- MS CS2 01 eBay's date of birth, screenshot, ebay.com website.
- MS_CS2_02 eBay Collections, Office of the Chief Curator, screenshot, ebay.com website.
- MS CS2 03 Curating/Curation, selection of curatorial literature purchasable on eBay.
- MS_CS2_04 Who is a curator on eBay? Selection of story-worthy items, eBay.com website.
- MS_CS2_05 Very Hard To Find, screenshots from my social media accounts.
- MS_CS2_06 Eva and Franco Mattes: Image search result for 'Trolling' printed on various objects.
- MS CS2 07 Niko Princen: IMG 4320.jpeg 2017.
- MS_CS2_08 Garett Lynch: Auction action commission an artwork.
- MS_CS2_09 Show More, Sell More. Top tips for taking great photographs.
- Photo Center Guide. ebay.com website.
- MS_CS2_10 Giovanni Domenico Cassini, lithograph on sale on eBay.
- MS CS2 11 Cassini Google Doodle. Screenshot of Google Homepage, 27 April 2017.
- MS CS2 12 The Great and Powerful Cassini, screenshots of YouTube Tutorials.

MS_CS2_13 eBay Poem. Leaflet of curatorial intervention #veryhardtofind for #exstrange.

3. CASE STUDY 3.

MS_CS3_01 Curatorial Consultancy with Cassini on #exstrange, auction's screenshot.

MS_CS3_02 Curatorial Consultancy with Cassini on #exstrange, auction's description.

MS_CS3_03 Curatorial Consultancy with Cassini on #exstrange, image selection.

MS_CS3_04 Curatorial Consultancy with Cassini on #exstrange, image selection.

MS CS3 05 Curatorial Consultancy with Cassini on #exstrange, awaiting payment.

MS_CS3_06 Curatorial Consultancy with Cassini on #exstrange, correspondence with Afaja.

MS_CS3_07 Curatorial Consultancy with Cassini on #exstrange, correspondence with Afaja.

MS_CS1_08 Alessandro Sambini: Portable Wildlife Image Instance on #exstrange,

MS_CS1_09 Portable Wildlife Image Instance on #exstrange, auction's description.

MS_CS1_10 Portable Wildlife Image Instance on #exstrange, incremental margin.

MS_CS1_11 Cassini–Mission for Afaja, Electronic Report.

MS_CS1_12 #CassiniforAfaja#BespokeOnlineCollection. Collection by Gaia Tedone and Cassini Algorithm, 2017.

MS_CS1_13 #CassiniforAfaja#BespokeOnlineCollection. Collection by Gaia Tedone and Cassini Algorithm, 2017.

MS_CS1_14 Brett Rogers, Twitter Feed, 6 April 2017.

MS_CS1_15 Presentation at the event 'Post-human curating: curating authenticity or the question of content online', The Photographers, London, April 6 2017.

MS_CS1_16 Marialaura Ghidini on Curatorial Consultancy with Cassini on #exstrange, Facebook screenshot.

MS_CS1_17 Rebekah Modrak on Portable Wildlife Image Instance on #exstrange, Facebook screenshot.

MS_CS1_18 Presentation at Workshop 'Ways of Machine Seeing', CoDE, Cambridge, June 2017.

4. CASE STUDY 1.0.

A. Context: X 1 Jpeg and X 2 PDFs on 'The Weekly Package', Cuba

B. Contribution: Which Image is Not Available in Your Country?

X 1 Image Folder: 19 jpegs and 1 GIF

X 1 PDF with Project's Description and Instructions

5. CASE STUDY 2.0.

Archive Fever Vol.37 My browser history [Nov 2018] by Elisa Giardina Papa

6. CASE STUDY 3.0.

A. Event at Short Theatre Festival, Rome: Cassini, A Tale of Space Curation

A. Context: X 1 PDF and X 1 screenshot

B. Contribution: X 1 mp4. File

C. Documentation: X 7 jpegs

B. Proposal for an Algorave: The Sound of Cassini

X 1 Folder: First Failed Attempt

7. ADDITIONAL DOCUMENTATION

A. Documentation of the Curatorial Practice

01. Automated email by H&M and The Flash Pack, PDF

- 02. Trace of my intervention on Instagram 'thisimageisnotavailableinyourcountry', PDF
- 03. Project #exstrange Tweet about 'Curatorial Consultancy Service with Cassini', jpeg
- 04. Open Call for 'Curatorial Consultancy Service with Cassini' on Wooloo.org, jpeg
- 05. Rebakah Modrak's Facebook Post about 'Portable Wildlife Image Instance', jpeg
- 06. Presentation at the event #posthuman curating at The Photographers Gallery, jpeg
- 07. Tweet by The Photographers Gallery about the event #posthuman curating, PDF
- 08. Review of the event #posthuman curating by Cristina Sousa Martínez on medium.com, PDF
- 09. Rebekah Modrak's Facebook Post about the review by Cristina Sousa Martínez on medium.com, jpeg
- 10. Catalogue essay for the project #exstrange, 'Co-curating with Cassini: from the abyss of Commodification to the exploration of Space Curation', PDF
- B. Documentation of the Research Process

X 1 PDF: 'Tracing networked images: an emerging method for online curation', Journal of Media Practice, 2017

A.1.3. DESCRIPTION OF EACH FOLDER AND RELATIONSHIP WITH THE WRITTEN WORK

0. 'READ ME' FOLDER

The introductory folder presents the rationale and instructions of the memory stick, which are explained in this thesis in the Introduction (0.6.3). It also includes the material featured in this Appendix: the 'Read Me' file (A.1.1.); the list of content featured in each folder of the memory stick (A.1.2.); the description of each folder and the relationship with the written work (A.1.3.); the distinction between the folders in the memory stick (A.1.4.). Finally, it includes a subfolder with screenshots of the memory stick's formatting, to document how the icons of each folder have been designed to reference the content of each case study and the overall research project.

1. CASE STUDY 1.

The images included in this folder provide the visual documentation of the first case study, which is analysed in chapter one. The documentation encompasses nineteen jpegs that recount my experiment at tracing the circulatory patterns of an H&M t-shirt that displays the text 'This Image is Not Available in Your Country'. As explained in the methodological premises in the Introduction (0.5.3.), each image is labelled in order to allow cross-referencing between the written thesis and the portfolio of practice.

2. CASE STUDY 2.

The images included in this folder present the visual documentation of the second case study, which is analysed in chapter two. Thirteen jpegs offer visual evidence of my exploration of eBay as part of my participation as a guest curator to the project #exstrange. Moreover, the folder includes screenshots of the auctions-as-artworks (2.2.2) I commissioned to artists Niko Princen, Eva and Franco Mattes and Garrett Lynch, which formed part of my curated intervention 'Very Hard To Find'. As explained in the methodological premises in the Introduction (0.5.3.), each image is labelled in order to allow cross-referencing between the written thesis and the portfolio of practice.

3. CASE STUDY 3.

The images included in this folder provide the visual documentation of the third case study, which is analysed in chapter three. Eighteen jpegs illustrate my experiment of co-curating in partnership with the eBay algorithm Cassini and the specific steps I undertook when selling a service of human-algorithmic curation on eBay. As explained in the methodological premises in the Introduction (0.5.3.), each image is labelled in order to allow cross-referencing between the written thesis and the portfolio of practice.

4. CASE STUDY 1.0.

The material included in this folder provides the visual documentation of a curatorial intervention inside *The Cuban Weekly Package*, which is related to the first case study. This project is not discussed in the thesis since it does not form part of this research's fieldwork. However, the rationale behind its inclusion in the portfolio of practice is motivated in the 'Read Me' file above and in the last section of the Introduction (0.6.3.).

5. CASE STUDY 2.0.

This folder presents the artwork by Elisa Giardina Papa *Archive Fever Vol.37 My browser history* [Nov 2018] conceived by the artist as part of her participation to the project #exstrange. The latter project is discussed at length in Chapter Two and its visual documentation is included in the folder 'Case Study 2'. The rationale behind the inclusion of this folder in the portfolio of practice is motivated in the 'Read Me' file above and in the last section of the Introduction (0.6.3.).

6. CASE STUDY 3.0.

The material included in this folder presents the visual documentation of two curatorial projects related to the third case study. Although these projects are not discussed in the thesis since they do not form part of this research's fieldwork, the rationale behind their inclusion in the portfolio of practice is motivated in the 'Read Me' file above and in the last section of the Introduction (0.6.3.).

7. ADDITIONAL DOCUMENTATION

The material included in this folder provides additional documentation of the curatorial practice (A.) and of the research process (B.) discussed throughout the thesis with the purpose of highlighting my involvement within both the curatorial and academic fields. The subfolder A contains:

- Additional screenshots illustrating the circulation of the case studies in social media and online platforms;
- Further documentation about the event 'Posthuman Curating: curating authenticity or the question of content online' held at The Photographers Gallery on April 6th 2017;
- A review of the above event written by Cristina Sousa Martínez on medium.com and its circulation;
- The catalogue essay I wrote for the project #exstrange entitled 'Co-curating with Cassini: from the abyss of Commodification to the exploration of Space Curation' and published by The University of Michigan Press.

The subfolder B contains:

• The article I published in 2017 for the Journal of Media Practice entitled 'Tracing Networked Images: an emerging method for Online Curation'.

The material included in this folder assists the reader in understanding how the whole research project circulated in the public arena. The distinction between the documentation of the curatorial practice and the documentation of the research process aims to clarify for future researchers what I did as a curator-practitioner, on the one hand, and how I reflected upon my own doings as a researcher, on the other hand.

A.1.4. DISTINCTION BETWEEN THE CASE STUDIES FOLDERS

Case Study 1. and Case Study 1.0.

The folder Case Study 1. contains the visual documentation of the first curatorial experiment analysed in chapter one. The folder Case Study 1.0. includes the documentation of the recirculation of this curatorial experiment within an informal network of distribution: The Cuban Weekly Package. This is a hard disk of one terabyte of media content which circulates weekly amongst the Cuban population - a grassroots response to governmental restrictions concerning Internet access and censorship. The ART section of The Cuban Weekly Package is curated by artist Nestor Siré and showcases artistic and curatorial projects which critically reflect on issues of circulation, copyright and censorship. Information on Siré's broader project is provided in the subfolder entitled 'Context', while details of my participation can be found in the subfolder entitled 'Contribution'. My contribution consists of a written text, which is presented alongside an image sequence and an animated GIF that assembles visuals from the folder 'Case Study 1'. The text reflects upon my experience of traveling to Cuba in January 2018 and includes a call out for participation to an ongoing project that seeks to investigate what images 'are not available' there. This project was showcased in occasion of the 2019 Havana Biennale, alongside with other projects featured in the ART Section of The Cuban Weekly Package.

Case Study 2. and Case Study 2.0.

The folder Case Study 2. contains the visual documentation of the second curatorial experiment analysed in chapter two. The folder Case Study 2.0. contains an edition of the artwork 'Archive Fever Vol.37: My browser history [Feb 2017]' by artist Elisa Giardina Papa, which was sold within the context of the project #exstrange. The artwork is a desktop performance that allows the viewer to open and review the artist's personal browsing history and preferences. Since the browser's history is synchronised with Giardina Papa's computer privacy settings and passwords, when the memory stick is plugged into someone's else computer, some of the pages and links turn out to be not accessible for the viewer, prompting error messages such as 'this content is no longer available'. Hence, the content of this folder reiterates, through Giardina Papa's artwork, the darkly ironic nature of the error messages of the network, as discussed in the conclusion (4.2.).

Case Study 3. and Case Study 3.0.

The folder Case Study 3. contains the visual documentation of the third curatorial experiment analysed in chapter three. The Case Study 3.0. presents the visual documentation of the recirculation, both actual and potential, of elements of this case study in two different contexts. The first context was an independent theatre festival in Rome in September 2018. Details of my participation are contained in the Subfolder A, which is entitled 'Event at Short Theatre Festival, Rome'. For the occasion, I curated a video remix of YouTube clips that played with the polysemy of the word Cassini on the Web. The second context was that of an open call for projects launched by the Science Gallery in London in the Spring 2018. The Subfolder B features the proposal I put together in response to this call. 'Proposal for an Algorave_The Sound of Cassini' was intended to experiment with the format of a live coding performance and with the coming together of human and machinic languages through music in occasion of an algorave dedicated to Cassini (the algorithm, the astronomer and the NASA space probe).