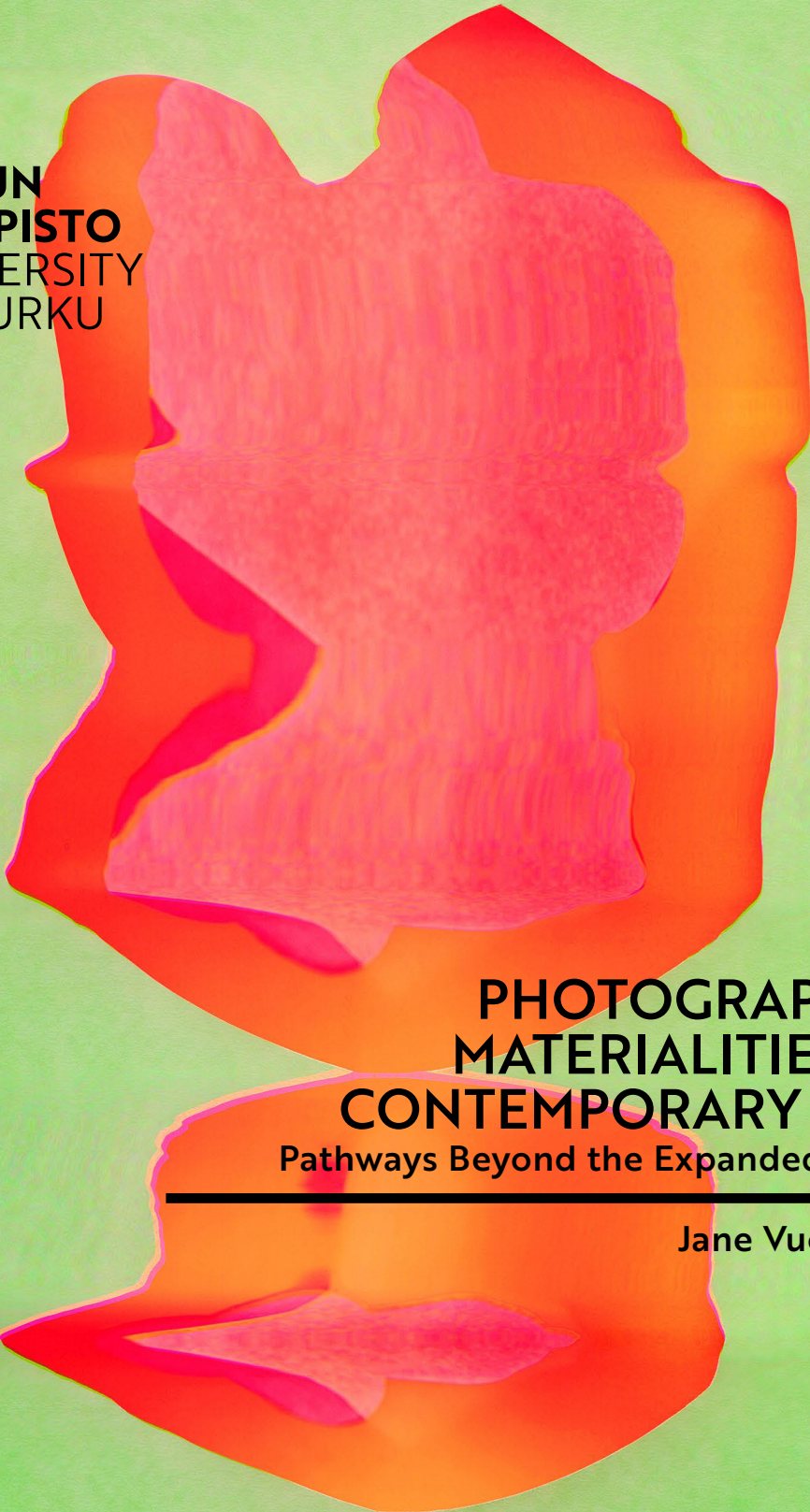




**TURUN
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PHOTOGRAPHIC MATERIALITIES IN CONTEMPORARY ART

Pathways Beyond the Expanded Field

Jane Vuorinen



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Pathways Beyond the Expanded Field

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ABSTRACT

In this article-based dissertation I problematize the concept of photographic materiality in contemporary art, which is currently evolving in two directions. On the one hand there has recently been a new interest in notably tactile methods of photographic image-making as photography is often used in collage, sculpture and mixed media. On the other hand, in the context of digitality, the materiality of the single photographic image seems to have become increasingly irrelevant. Photography in contemporary art is thus at the same time both extremely tactile and material, but also almost immaterial, a non-object. I investigate this materially twofold status through five case studies.

The international selection of artworks studied contest the ontological and conceptual limits of photography. In the works analyzed, photographic practices become intertwined with other material methods and environments: embroidery with needle and thread, exposure to geothermal forces, the agencies and workspaces of photography editing software, sculptural ways of working, the organic nonhuman agents and processes of bioart, and the sensitivities of scanography as an artistic process.

The main theoretical framework I use is new materialism, which I combine with art historical analysis and photography history and theory. The aim of my dissertation is to find new pathways of understanding the material aspects of photography, focusing on how materials and material environments factor in the creative process as well as in the interpretation of the artworks. Through a dialogical and multidisciplinary research stance, I aim to make a methodological contribution of reassessing the ways these phenomena can be studied.

Research on the materiality of photography has been gaining academic recognition since the 1990s, but until recently it has been mostly centered around social and cultural modes of employing photographs and photography. Photographic materialities have often been approached from a very practical point of view, such as how photographic archives and collections are managed and how analog/chemical photographs can be digitized for example. However, in connection to photography theory and philosophy, questions of materiality have until recently been seen as less significant. My study is situated in this meeting point between the philosophy of photography and the materiality of photography.

KEYWORDS: photography, photographic art, contemporary art, new materialism

TURUN YLIOPISTO

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TIIVISTELMÄ

Tutkin artikkelimuotoisessa väitöskirjassani valokuvan ja materiaalisuuden välisiä suhteita nykytaiteessa. Näiden suhteiden voidaan nähdä kehittyvän kahteen eri suuntaan. Yhtäältä on nähtävissä kiinnostusta valokuvaan esineellisenä, kolmiulotteisena objektina, kun valokuvaa käytetään usein kollaaseissa, veistoksissa ja installaatioissa. Toisaalta taas digitaalisuus vie valokuvaa suuntaan, jossa sen fyysisen esineellisyyden merkitys vähenee. Valokuva on nykytaiteessa siis samaan aikaan sekä korostetun materiaalista että yhä vähemmän esineellistä. Tarkastelen tätä valokuvan materiaalisuuden kaksijakoisuutta viidessä artikkelissa, joissa problematisoin materiaalisuuden käsitettä suhteessa valokuvaan ja valokuvaukseen.

Tutkimuksen aineisto koostuu kansainvälisestä otoksesta valokuvataidetta, joka haastaa valokuvan käsitteellisiä ja ontologisia rajoja. Analysoiduissa teoksissa valokuvalliset käytännöt kietoutuvat yhteen muiden materiaalistien metodien ja ympäristöjen, kuten neulalla ja langalla kirjailemisen, geotermisten prosessien, valokuvanmuokkausohjelmistojen, kuvanveiston, orgaanisten ei-inhimillisten toimijoiden ja biotaiteen prosessien sekä skanografian kanssa.

Tärkeimpänä teoreettisena viitekehystenä sovellan tutkimuksessa uusmaterialismia, jota yhdistän valokuvahistoriaan ja -teoriaan sekä taidehistorian lähestymistapoihin. Tutkimukseni tavoite on löytää uusia polkuja valokuvan materiaalisuuden ymmärtämiseen ja siirtää huomiota siihen, kuinka materiaalit ja materiaaliset ympäristöt vaikuttavat taiteilijoiden luovassa työssä sekä teosten tulkinnessa. Dialogisen ja monialaisen tutkimusotteen avulla pyrin tekemään metodologisen kontribuution tapoihin, joilla näitä ilmiöitä voidaan tutkia.

Valokuvan materiaalisuuden tutkimus on ollut nousussa 1990-luvulta lähtien. Siinä on kuitenkin pitkään keskitytty ennen muuta valokuvan sosiaaliin ja kulttuurisiin käyttötarkoituksiin. Valokuvan materiaalisuutta on tutkittu kovin käytännölliseltä kannalta, kuten esimerkiksi miten valokuva-arkistoja ja -kokoelmia hallitaan materiaalisina kokonaisuuksina ja kuinka analogisia valokuvia restauroidaan ja digitoidaan. Valokuvateorian ja -filosofian kontekstissa valokuvan materiaalisuus on viime aikoihin asti nähty vähemmän merkityksellisenä. Tutkimukseni asettuu tähän valokuvafilosofian ja valokuvan materiaalisuuden tutkimuksen risteyskohtaan.

ASIASANAT: valokuva, valokuvataide, nykytaide, uusmaterialismi

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Studying materiality requires fieldwork, both in the meaning of being in the field—meeting people and engaging with artworks in a physical way—and in the meaning of taking a stance to existing fields of theory and discipline—learning the extents and boundaries of fields of thought. Finding one's path through these terrains can be challenging, and I have many thanks to give for the help, guidance and support I have received along the way.

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November 22, 2024
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Table of Contents

Acknowledgements	5
List of Original Publications	8
1 Introduction	9
1.1 Background.....	9
1.2 Artworks Studied.....	12
1.3 Aims and Research Questions	13
2 Theoretical Background.....	16
2.1 Processual Materialities	16
2.2 Photographic Materialities.....	18
2.3 Synthesis: Processual Photographic Materialities	20
2.4 Multidisciplinarity.....	21
2.5 The Research Articles and their Main Concepts.....	23
3 Research Methods	30
3.1 Case Study: Pros and Cons.....	30
3.2 Diffractive Compositions	31
3.3 Methodological Evolution: Towards Participation	32
4 Results	34
4.1 Material Manifestations	34
4.2 Working with Materials.....	34
4.3 From Material Supports to Material Media.....	40
4.4 Hybrid Works, Hybrid Practices	43
4.5 Dialogical Encounters	47
5 Discussion.....	49
6 Conclusion	52
List of References.....	56
Original Publications	61

List of Original Publications

This dissertation is based on the following original publications, which are referred to in the text by their Roman numerals:

- I Vuorinen, Jane & Rebecca Najdowski, 2018. "Surface Tension: Material Intra-Actions within Photography." *RUUKKU – Studies in Artistic Research*, no. 9 (2018). <https://www.researchcatalogue.net/view/371917/371918>.
[In this co-written article, I am responsible for the section "2. Photo-embroideries" which analyzes the works of Maurizio Anzeri and Ulla Jokisalo, and Rebecca Najdowski is responsible for the section "3. 'Landscape Photography' - From the Perspective of Practice" which examines her artistic process. We co-authored the sections "1. Introduction" and "4. Concluding Discussion: Through the Surface."]
- II Vuorinen, Jane, 2020. "Soft Interventions: Collaborative Agencies Between Artists and Photography Editing Software." *TAHITI – Taidehistoria tieteenä [Art History as a Science]* 10, no. 4 (2020): 40–55.
<http://dx.doi.org/10.23995/tht.103180>
- III Vuorinen, Jane, 2022. "More-than Photography and Sculpture: A Diffractive Reading." *Photographies* 15, no. 3 (2022): 405–423.
<https://doi.org/10.1080/17540763.2022.2108885>
- IV Vuorinen, Jane, 2023. "Photography and the Organic Nonhuman: Photographic Art with Light, Chlorophyll, Yeasts, and Bacteria." *Konsthistorisk tidskrift/Journal of Art History* 92, no. 1 (2023): 1–17.
<https://doi.org/10.1080/00233609.2023.2194276>
- V Vuorinen, Jane, 2024. "Scanography: Photographic Art Between the Realms of Sight and Touch." *Journal of Aesthetics & Culture* 16, no.1 (2024): 1–11.
<https://doi.org/10.1080/20004214.2024.2427404>

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1 Introduction

1.1 Background

This article-based dissertation analyzes the relationship between photography and its materialities in contemporary art. These relationships are topical, as photography is going through an art historically crucial development concerning its material being. On the one hand there can be seen an interest towards photography as a very tactile and tangible, three-dimensional object as photographs and photographic methods are used in collages, installations and sculptures. On the other hand, digitality is driving photography towards a dimension where its physical objecthood becomes almost obsolete. Photography in contemporary art is thus simultaneously both tangible and non-tangible, physical and virtual. I delve into this dual nature of current photographic art practice in five articles that problematize the concept of materiality in relation to photography.

As an independent artform photography is a relatively young phenomenon. It has been exhibited in the Western art world as a part of the art institution since the 1960s when curators especially in American museums started to actively create a space for it as a part of the canon of art in exhibitions and collections.¹ In 1970, Peter C. Bunnell curated the exhibition *Photography into Sculpture*, which exhibited works by young artists who combined photographic methods with those of sculpture. This exhibition can be seen as a turning point in the relations between photography and materiality specifically within the field of fine art, since it emphasized photography's possibilities to overcome its traditional two-dimensionality as an object printed on paper.²

Photography historian Geoffrey Batchen notes the importance of this exhibition as an early predecessor for a movement that is called post-photography. In this

¹ Kriebel 2007, 15. For a comparative study on the history of photographs as part of collections and exhibitions in MoMA, V&A, Tate, Guggenheim and Centre Pompidou, see Moschovi 2020. On how photography came to be regarded by institutions as a fine art relatively late, see Troiano 2022, 313. She remarks: "For example, though the V&A [Victoria & Albert Museum, London] has been collecting photography since the 1850s, the Photographs Section was only established in 1977." (Ibid.)

² The Museum of Modern Art, New York, April 8–July 5, 1970. See Bunnell 1970.

movement photography was no longer primarily related to the subjects it visually depicted, but more so to its own functioning as an image-making medium.³ Batchen wrote in 2002 that "[...] we have already entered a 'post-photography,' that moment after, but not yet beyond photography."⁴ The results of my study suggest that today we have entered that *beyond*, a phase after post-photography, marked by an expansion of photographic methods and ways of coming into being, as well as a proliferation of terms and concepts: besides using the singular term 'photography,' we also speak of 'photographies,' in plural, or even of 'the photographic,' as a gesture.⁵

I borrow the word 'beyond' in my title from this thought of Batchen's. Besides its most evident meaning of being on the farther side of something, the word 'beyond' can also mean later than or past something, outside the range or limitations of something, greater than, more than,⁶ apart from or above something. Instead of looking backwards to form an idea of a post-something, the word 'beyond' suggests looking further.

'Photography in the expanded field' has become the prevailing expression when referring to photography's myriad ontological manifestations.⁷ In the title of this dissertation, the word 'beyond' marks a way of thinking, rather than a state of affairs. It refers to the methods of this study, not so much to the artworks studied, which can without a doubt be situated within the expanded field of photography—or, as I argue in article III of this study, a field marked by a continuous expansion, an *expanding* field, rather than an *expanded* one.⁸ This subtle shift from expanded to expanding denotes being on the move, being on the way, being on a path towards something.

I use anthropologist Tim Ingold's concept of pathways⁹ to look beyond (the idea of) the expanded field and seek new ways to think about photographic materialities and their meanings by dynamically engaging their processual nature, rather than

³ See Batchen 2002, 109–110. See also Mitchell 1992; Krauss 1999; Hand 2012, 17.

⁴ Batchen 2002, 109.

⁵ On the word 'photography' as a medium-specific and unrepresentative moniker for a wider set of practices, see Moschovi 2020, 256.

⁶ The term 'more-than' is frequently used in new materialist discourse to study relations that are beyond singularities and stable ontological categories. I use this term in article III of this study, to find ways to conceptualize works that combine methods of photography and sculpture. (See Vuorinen 2022a.) See also Najdowski 2020.

⁷ "The term echoes art historian Rosalind Krauss's article, 'Sculpture in the Expanded Field' (1979), which mapped the expansion of the theoretical category of sculpture in the 1960s and 1970s, in the aftermath of land art, minimalism and conceptualism." (Vuorinen 2022a, 407.) See also Krauss 1979.

⁸ Vuorinen 2022a, 407. It is to be noted that I am not the first or only one to use the word 'expanding' in relation to this term. (See *ibid.*)

⁹ See Ingold 2011, 12.

seeing them as states reached and as manufactured objects. Ingold describes the path, instead of the place, as the primary condition of being (or rather of becoming) and emphasizes the temporal and processual nature of being *along* pathways, rather than simply being *in* place.¹⁰

The idea for my dissertation originally started from visiting international photography exhibitions such as Paris Photo, Unseen Amsterdam, Photo London and Rencontres d'Arles, which I frequented as an art critic from the early 2010s on. I started to notice a tendency towards the tactile aspects of working with photography, and the photographic work as an object. At the same time, the digital was starting to become more pronounced as a new current of materiality rather than being seen as seemingly immaterial or opposite to material and tangible analog photography. Through my supervisor Katve-Kaisa Kontturi, I was also introduced to new materialism and took part in the research network COST Action IS1307, Working Group 3: New Materialisms Embracing the Creative Arts (2015–2018).

My dissertation work had already commenced when, during autumn 2020, I took a short break from it and took part in another project, mapping the history of Pictorialist photography in Finland at The Finnish Museum of Photography.¹¹ From September to November, I spent hours going through the collection of AFK,¹² and, together with the collections team, identified those photographs that could be considered Pictorialism, and catalogued the selected works. Based on this experience, I wrote an article on Pictorialist photographs as museum objects from the viewpoint of contemporary museum practice, which was published by the museum in the resulting book of the project.¹³ This experience deepened my understanding of the historical background for many developments present in contemporary art photography, and especially its materialities. My hands-on contact with the Pictorialist works enabled me to encounter them in ways similar to how I was encountering the contemporary works analyzed in this dissertation by being in physical proximity to them.

The unifying aspect in Pictorialist photography and contemporary photographic practices is curiosity towards the material aspects of photographic work, and most importantly, not seeing the material as opposed to or separated from the image or visual content. An article by Sandra Plummer, Harriet Riches and Duncan Wooldridge, "Photography's New Materiality?" published in 2011, identifies

¹⁰ Ibid.

¹¹ Pictorialism was the first international artistic movement in photography in the late 1800s and early 1900s, and in it the physical aspects of photographic practices were central. See Vuorinen 2022b.

¹² *Amatörfotografklubben i Helsingfors*, Swedish for *Club of Amateur Photographers in Helsinki*.

¹³ See Vuorinen 2022b.

photographic materiality as a defining feature of artistic practice in the early 2000s, and as a return to earlier currents in the history of photography, namely Pictorialism, Dada and Surrealist montage.¹⁴ In it they even posit: "It could be argued that a concern for materiality never really went away. An understanding of photography as a hand-dependent print-making process was central to the persistence of so-called 'alternative' methods that continued to be practised throughout the twentieth century as a parallel, if sometimes hidden, tributary of the silver-based mainstream."¹⁵ They identify the need for histories of photography that take into account photographic materialities, stating that "[w]e currently lack a history that aligns the technical advances of photography to specific material properties of the image; understood as decisions and not technologically determined limitations."¹⁶ Today, this challenge can be acknowledged as increasingly pertinent. The contemporaneity of questions on photographic materialities is further proved by recent symposia and conference panels centered around the question.¹⁷

1.2 Artworks Studied

The artworks studied comprise an international selection of contemporary photographic art, which opens new vistas into photographic materialities. In the works analyzed, photographic practices become enmeshed with other material methods and environments: embroidery with needle and thread, exposure to geothermal forces, the agencies and workspaces of photography editing software, sculptural ways of working, the organic nonhuman agents and processes of bioart, and the sensitivities of scanography as an artistic process. The artworks in my case

¹⁴ Plummer, Riches & Wooldridge 2011, np. It is to be noted that the article is about new manifestations of materialities in photographic artistic practice, not about new materialism as a theoretical framework.

¹⁵ Ibid. This contemporary, renewed interest in the materialities of photographic artistic practice is sometimes even described as 'neo-Pictorialism'. See Baetens & Peeters 2015, 8; Moschovi 2020, 241. On the relations between contemporary photographic practice and Pictorialist photography, see section "4.4 Hybrid Works, Hybrid Practices" of this study.

¹⁶ Plummer, Riches & Wooldridge 2011, np.

¹⁷ "Photographic Agencies and Materialities" Helsinki Photomedia conference, March 30–April 1, 2016; "The Material and the Virtual in Photographic Histories" online symposium October 7–9, 2021 jointly hosted by the Photography Network and Folkwang University of the Arts, Essen; "The Materials of Photography" online symposium September 13, 2023, organized by The National Archives and the V&A Museum; "Beyond the Shutter: The Art of Photographic Manipulations & Materialities" session at the 112th Annual CAA Conference in Chicago, February 14–17, 2024; "Les matérialités de la photographie" session at CIHA World Congress in Lyon June 23–28, 2024.

studies are often serial and ongoing, at times even ephemeral, which complicates the idea of an artwork as one physical object. All the artworks are united by their way of challenging the conceptual boundaries of photography, and they all spark the question: is this photography?

The wider societal framework behind my research is the digitalization of culture,¹⁸ which demands a re-evaluation of our understanding of photographic materialities. The works examined in my case studies span from 1997 to 2022. Thus, the concept of contemporary becomes framed in a time when digital methods have been present in photographic art. Digital photography has sometimes been seen as oppositional to analog photography, as its rival and contender.¹⁹ In my study, the analog and digital are not seen as characteristics of the artworks, but rather as two currents available; many artists use both, and navigate between them in the course of working.²⁰

It is also to be noted that the digital and virtual realms have significantly widened the ways we encounter photographs and artworks today. With the global COVID-19 pandemic starting in early 2020, a temporal proliferation of virtual exhibitions arose as art institutions tried to remain in contact with their audiences. The online environment, with its own characteristics and ways of working, can be seen as a natural area for digital works to exist in.²¹ Furthermore, social media has become a mediator for experiencing exhibitions, virtual and physical alike.²²

1.3 Aims and Research Questions

The aim of this study is to find new ways to understand photographic materialities and to explore how the materials and material environments factor in the making and interpretation of the works analyzed. In my case studies, photographic materialities are seen as transient, temporal states and conditions, and not so much as static physical characteristics. An important aim is to update the conceptual constituents of both photography and materiality within art history.

I investigate why issues related to photographic materialities have become central in photographic art once again. It has been proposed that digitality is the reason behind this newly awakened interest in tangible materialities and the

¹⁸ See Mitchell 1992; Manovich 2001; Hand 2012; Zylinska 2017.

¹⁹ For a critique of this dichotomization in relation to questions of materiality, see Hand 2012, 65.

²⁰ It is to be noted that there are circumstances where this dichotomy between analog and digital photography persists for good reason, for example in practical matters of acquisition, conservation, storage and access in a museum. (See Troiano 2022.)

²¹ See Vuorinen 2020, 52.

²² Social media as a site for encounter of artworks falls outside the scope of this study.

objecthood of the photographic artwork. Alexandra Moschovi identifies "a new critical questioning of and around photography's ontology" in the mid 2000s, brought on by the appearance of digital images.²³ Digitality has put photography into a situation where its position within the field of art is once again under consideration. Material themes were at the center of photographic art especially when it started to make its way into the institution of Western art in the 1960s and 1970s.²⁴ Within an art historical framework, I analyze how questions related to materiality have influenced photography's status as an independent medium of art.

My dissertation connects to topical themes of photography research, as academic study into photographic materialities has been gaining momentum only since the 1990s. However, it has been mostly centered on photography's social and cultural uses and modes of working, for example how photographic archives are managed as material undertakings, or how historical photographs can be restored and digitized.²⁵ In relation to photography theory and philosophy, photographic materialities have been analyzed to a lesser extent. To respond to this gap, my inquiry is situated at this junction of photography theory and philosophy and the study of photographic materialities.

The three main research questions (RQ) are:

- RQ1: What different kinds of material manifestations and practices can be distinguished in contemporary photographic art?
- RQ2: How do the materials and material environments affect the making of the photographic works?
- RQ3: How can the materials and material environments be approached as signifying factors in terms of the interpretation of the works?

In addition to the research questions, two methodological questions (MQ) emerged during my dissertation process:

- MQ1: What kind of research methods do hybrid photographic works require?
- MQ2: What ethical considerations does a dialogical research method entail?

²³ Moschovi 2020, 256. See also Van Gelder & Westgeest 2011, 7; Nissinen 2021, 201–202. On the material appropriation of the photographic image and object as a counter-movement to the networked image see Moschovi 2020, 215–217.

²⁴ See Kriebel 2007, 15; Bunnell 1970.

²⁵ See e.g. Edwards & Hart (eds.) 2004.

These methodological, or even meta-questions became more central as the project advanced, leading me to critically assess and reflect on my own working methods as an art historian.

2 Theoretical Background

2.1 Processual Materialities

As the main theoretical framework in my study I employ new materialism,²⁶ which I interweave with photography history and art historical analysis. New materialism sees materiality as signifying, and not only as a carrier of meaning;²⁷ its focus is on "active processes of materialization of which embodied humans are an integral part," as Diana Coole and Samantha Frost state in their introduction to the book *New Materialisms: Ontology, Agency and Politics* (2010).²⁸ In new materialist discourse, materiality is often seen as *materialization*, as something ongoing. It is not something acted upon but rather an agent in its own right in a co-constitutive process of which human and nonhuman agents can be parts, as Coole and Frost posit:

[...] materiality is always something more than "mere" matter: an excess, force, vitality, relationality, or difference that renders matter active, self-creative, productive, unpredictable. In sum, new materialists are rediscovering a materiality that materializes, evincing immanent modes of self-transformation that compel us to think of causation in far more complex terms; to recognize that phenomena are caught in a multitude of interlocking systems and forces and to consider anew the location and nature of capacities for agency.²⁹

This is to reconsider the conceptual base on which we build our ideas of the complex phenomena we have come to call matter. New materialism decenters the

²⁶ Not to be confused with 'neomateriality,' a term that calls for new ways of understanding digital objecthood. It comes originally from Christiane Paul and is described as "objecthood that 'incorporates networked digital technologies, and embeds, processes, and reflects back the data of humans and the environment'" (a conference paper by Christiane Paul quoted in Troiano 2022, 298). On the concept of neomateriality and recognizing the material aspects of digital and networked technologies in relation to photography, see also Moschovi 2020, 136.

²⁷ Barad 2007; Coole & Frost 2010; Kontturi 2012; Iovino & Oppermann 2014.

²⁸ Coole & Frost 2010, 8.

²⁹ Ibid., 9.

human as the sole creator and agent in different material configurations. Coole and Frost explain:

Conceiving matter as possessing its own modes of self-transformation, self-organization, and directedness, and thus no longer as simply passive or inert, disturbs the conventional sense that agents are exclusively humans who possess the cognitive abilities, intentionality, and freedom to make autonomous decisions and the corollary presumption that humans have the right or ability to master nature. Instead, the human species is being relocated within a natural environment whose material forces themselves manifest certain agentic capacities and in which the domain of unintended or unanticipated effects is considerably broadened.³⁰

New materialism is closely tied to posthumanism and it recognizes the possible agencies of nonhuman agents, be they organic beings or "perhaps certain machines, too," as intuited by Coole and Frost.³¹ To these nonhuman agents might be added the multiple and growing agencies of applications and software we use daily, residing somewhere between the machinic, intellectual, linguistic and visual realms.³² Bodies of knowledge and conceptualizations have agencies as well, and they need to be taken into account when addressing questions around material-discursive practices such as art.³³ Art historian Katve-Kaisa Kontturi argues that "[m]atter is not still, concrete, but always on the move, taking shape in relation to other matters in movement, human and non-human alike. Matter, rather, is an ever-elaborating, relational difference."³⁴ This relationality between the factors and agents present in my case studies gained momentum as the process advanced.

The accelerating climate crisis came to provide an increasingly prominent framework, especially towards the end of my dissertation project. Ecocriticism as a theoretical background came into focus especially in article IV, where I argue:

We are at a point in history where questions of materials and materiality have become nothing less than pivotal to the survival of our species – and many other species besides. Sustainability and ethical considerations of interspecies relations are vital not only in art but also in a wider context. An underlying eco-critical stance is what gives the works analyzed not only a forceful affective

³⁰ Ibid., 10.

³¹ Ibid., 20.

³² See Vuorinen 2020; Vuorinen 2024.

³³ See Bolt 2012, 7; Tiainen, Kontturi & Hongisto 2015, 15.

³⁴ Kontturi 2018, 192.

impact but also an urgency. They call us to consider and reconsider our relationship with our surroundings, both physical and philosophical, and the other beings inhabiting them.³⁵

The currently unfolding global environmental crisis gives urgency to all questions around materiality, not excluding art. The way this awareness with issues related to the material realm coincides with what has been called the material turn in photography theory gave my project a new poignancy.³⁶ Art historian Petra Lange-Berndt asks, how to be complicit with materials, evoking the political relations underlying all work involving materials, and posits that it is "a political decision to focus on the materials of art: it means to consider the processes of making and their associated power relations [...]."³⁷ The decentering of the artist in relation to other agents is central in all the case studies of my dissertation. Shifting power relations beyond the artist as sole author of the works opens up a space for coming together with the materials, a space for encounter.

2.2 Photographic Materialities

Within the field of photography theory and material culture studies, the writings of anthropologist Elizabeth Edwards and art historian Geoffrey Batchen have been the most central for my own work; Edwards's in their handling of photographs both as images and objects³⁸, and Batchen's for their mappings and cartographies of materiality as an alternative path for histories of photography.³⁹ Elizabeth Edwards's essay "Photographs as Objects of Memory," originally published in 1999, was seminal in mapping the multiple ways in which photographs can be considered as material objects, and not only as carriers of visual information.⁴⁰ The essay collection edited by Edwards and Janice Hart, *Photographs, Objects, Histories: On the Materiality of Images* (2004) was an important early source when starting my dissertation work. Art historian Costanza Caraffa emphasizes the importance of the multidisciplinary of this collection, as it brings together contributions by people from different academic disciplines, with not only scholarly but also archival and curatorial perspectives.⁴¹ Batchen's historical research has a strong theoretical stance, and Batchen has continuously advocated for the need for histories that take into

³⁵ Vuorinen 2023, 2.

³⁶ See *ibid.*

³⁷ Lange-Berndt 2015, 12.

³⁸ See Edwards 2009 [1999]; Edwards & Hart 2004; Edwards & Ravilious 2022.

³⁹ See Batchen 1997; Batchen 2002; Batchen 2004; Batchen 2016.

⁴⁰ Edwards 2009 [1999]; see also Caraffa 2020, 84 on the impact of this essay.

⁴¹ Caraffa 2020, 85; Edwards & Hart 2004.

account the myriad materialities of photographic practices.⁴² Batchen's ventures into marginal areas of photographic practices stress the importance of bringing these histories to the fore. Batchen's book *Emanations: The Art of the Cameraless Photograph* (2016)⁴³ became a central source on cameraless practices of photography in my case studies.⁴⁴

The writings of Edwards and Batchen are concurrent with, and have greatly shaped, what has been called the material turn in photography studies. In the 1990s academic research started to become increasingly interested in photographs as material objects through the discourse related to cataloguing and classification systems of archives, museums and libraries, and since then intersections between photographs and material culture studies have gained momentum in scholarly debate.⁴⁵ The historical roots tangled with colonialist practices within this field of inquiry should be taken into account, as Costanza Caraffa reminds us.⁴⁶ According to Caraffa, behind this new interest in the materiality, objecthood and physical qualities of photographs and the environments they are created and used in, is Actor-Network-Theory (ANT), which developed in the 1970s as a critique towards the separation of nature, culture and society, stemming from the Enlightenment. This theory steers interest towards networked agencies and relational results as opposed to entities.⁴⁷

Another important subsection in the study of photography's materialities that has informed my work is museology and archival practices.⁴⁸ Especially towards the end of my dissertation work, this field provided me with a practical strand to incorporate in my writing. Photographic materialities are an important question within this field, especially as digital practices keep developing and bringing forth both new opportunities and challenges⁴⁹ for museum work. Elizabeth Edwards's work continues to shape and inform this field. For example, the idea of a museum's photographic ecosystem is instigated in a collection of articles concerning museum practices at the Victoria and Albert Museum in London, co-edited in 2022 by Edwards with Ella Ravilious.⁵⁰ This volume titled *What Photographs Do: The Making and Remaking of Museum Cultures*, illuminates how photographs can work

⁴² See especially Batchen 2004; Batchen 2016.

⁴³ Batchen 2016.

⁴⁴ See Vuorinen 2023; Vuorinen 2024.

⁴⁵ Caraffa 2020, 80.

⁴⁶ Ibid. See *ibid.*, 88 for the subject of photo-restitution and visual repatriation practices.

⁴⁷ Caraffa 2020, 87.

⁴⁸ See Rastenberger & Sikking 2018; Moschovi 2020; Edwards & Ravilious 2022; Troiano 2022.

⁴⁹ On the material challenges posed by digital objects to museum practice, see Troiano 2022.

⁵⁰ Edwards & Ravilious 2022 (eds.).

not only as parts of the collection themselves, but also as ways of documentation, as vehicles for disseminating knowledge of the collection through postcards sold at the museum shop, as tools for transferring knowledge on conservational practices, etc.⁵¹ Seeing photography in this way puts it at the center of museum practice per se, or as curator Catherine Troiano encapsulates in her article in the abovementioned volume: "Considering photography as the basis of an ecosystem presents photography as a pan-institutional issue."⁵² Furthermore, Edwards's concept of the 'non-collection,' meaning photographic practices in a museum outside of photographs as museum objects themselves, is particularly interesting in regards to the materialities of photographic practices. These non-collectional photographic activities also give an intriguing view into how digitality has entered and altered the field.⁵³

2.3 Synthesis: Processual Photographic Materialities

My dissertation brings the abovementioned research areas, new materialism and the study of photographic materialities, together with what could be considered classic photography theory⁵⁴ and reads it anew from the viewpoint of materiality. My study is situated within the larger field of the study of materialities in art,⁵⁵ and especially its processualities. Kontturi draws attention to the importance of artistic research raising interest and bringing attention to this field of study by deepening awareness and understanding of art's processualities.⁵⁶ Research conducted by the artists whose work I write about has been an important source of both information and inspiration for my study.⁵⁷ Not only has it broadened my knowledge of the material practices at play, but often also of the historical background and predecessors of the practices, bringing to my knowledge other artists working with the same method or thematics.

Within all these overlapping and sometimes nested strands of theory, the small but growing field of inquiry into photographic materialities within art needs to be acknowledged. There is more and more academic interest in the artistic significance

⁵¹ Ibid., *passim*.

⁵² Troiano 2022, 295.

⁵³ See Edwards & Ravilious 2022, 4; Edwards 2020.

⁵⁴ Barthes 2010 [1980]; Benjamin 2008 [1931]; Benjamin 2008 [1935]; Flusser 2000 [1983]; Tagg 1988; Mitchell William J. 1992; Mitchell W.J.T. 2005; Szarkowski 2007 [1966].

⁵⁵ Wagner 2002; Buskirk 2003; Scheidemann 2005.

⁵⁶ Kontturi 2012, 36. See also Barrett & Bolt 2007.

⁵⁷ Rotko 2015; Leskinen 2016; Najdowski 2020; Rotko 2020; Sandgren 2020; Sandgren 2022; Sandell 2023.

of the physical qualities of photographic practices.⁵⁸ My dissertation contributes to this emerging area.

My co-writer in article I,⁵⁹ Rebecca Najdowski's doctoral dissertation *Inverted Landscapes: Photomedia and the More-than-Representational* (2020) delves into the themes of materiality in regard to photographic practices.⁶⁰ Najdowski examines the ways in which what she calls 'photomedia' come into being by combining theoretical writing and material experiments with photographic practices. Her work is situated within a new materialist theoretical framework which she combines with ecocritical, posthuman and media theories.⁶¹ She contends: "Ultimately, photography is not a fixed practice; we should be rethinking it in more liberated and radical ways, as a process of becoming, a congealing of agencies, a reterritorialising of the materials of the Earth (and the environmental and political implications that are carried with that movement), a contestation, a breaking open."⁶² Her thesis, which "proposes that unsettling representational constructs, enabling more-than-human agencies, and attending to the analog and digital material of photomedia are generative processes for creative practice"⁶³ comes close to my own.

In Finland artist and researcher Laura Nissinen has investigated the materialities of abstract photography. Her doctoral dissertation *Abstraktin aika. Epäesittävä suomalainen valokuvataide 1920–2020* (2021) takes materiality into account as a central factor in the artistic process as well as in the meaning of the works, as material experimentation is regarded pivotal to artistic expression throughout the history of abstraction in photography.⁶⁴ Importantly, in Nissinen's study, materiality is also regarded as an important facet of research work; for example, how it affects accessibility and availability in archives and collections, both public and private.⁶⁵

2.4 Multidisciplinarity

In multidisciplinary research, the theories of different fields need to be considered with criticism regarding several different aspects. Caraffa argues that "photography and materiality studies are by definition transdisciplinary, albeit rooted in material culture studies, and so they should be considered against a wider cultural

⁵⁸ See Najdowski 2020; Nissinen 2021; Robles de la Pava 2022.

⁵⁹ Vuorinen & Najdowski 2018.

⁶⁰ Najdowski 2020.

⁶¹ See *ibid.*, 9.

⁶² *Ibid.*, 96.

⁶³ *Ibid.*, i.

⁶⁴ Nissinen 2021.

⁶⁵ See *ibid.* Nissinen also analyzes works by Kira Leskinen (*ibid.*, 118–119) and Noora Sandgren (*ibid.*, 120–121).

backdrop."⁶⁶ For example, the writings of Elizabeth Edwards are situated within the field of anthropology, which inspects its subjects mainly from the viewpoint of humans and their behavior, whereas media theorist and artist Joanna Zylińska's seminal work on the nonhuman aspects of photography⁶⁷ for example is situated within the ontologies of photography and its technological advancements. Because of this, theories and views from different fields cannot be directly applied across disciplines and are not mutually interchangeable. Taking this into account, theories from different fields can, however, be used to gain multiple views on a subject at hand. Another important aspect to be regarded in terms of the theoretical background of my study is the advancement of photographic technologies, and how this always situates the theoretical writings within a specific timeframe.

This study is mainly framed within art history, and it is thus about the art historical meanings of materialities. By contrast, in museum practice, within a different theoretical and practical discourse, the concept of the 'material support' of a photograph for example has a different meaning, and it is pertinent within that context. So, when I propose that photographic materials need to be seen as not only functioning in a supportive role the statement needs to be regarded first and foremost within the framework of art history and its specific discourse, although it may have relevance within other fields as well.

Bringing together these diverse strands of theory suggests an intra-disciplinary⁶⁸ approach, one that is based on philosopher and physicist Karen Barad's idea of intra-action,⁶⁹ that the borders and boundaries of different disciplines are shaped in and through their encounters and empirical applications. In my inquiry, these encounters make manifest the inadequacy, for example, of art history by itself to produce knowledge of and meaning respecting material artistic processes. Together and combined these disciplines provide a multifaceted view into the subject at hand.

⁶⁶ Caraffa 2019: <https://mprl-series.mpg.de/studies/12/2/index.html#29>; see also Kriebel 2007, 23 on the diversification of photography theory from the 1980s onwards.

⁶⁷ Zylińska 2017.

⁶⁸ Not to be confused with the term 'intradisciplinary,' which means research within a single field. See: <https://www.merriam-webster.com/dictionary/intradisciplinary>

⁶⁹ See Barad 2007; and below.

2.5 The Research Articles and their Main Concepts

Article I

Surface Tension: Material Intra-Actions within Photography (2018)

In article I, written together with artist Rebecca Najdowski, we use Karen Barad's term 'intra-action' and explore how it could be used to gain new insights into making photographic art, or art with photographs. Barad explains the term:

The neologism 'intra-action' signifies the mutual constitution of entangled agencies. That is, in contrast to the usual 'interaction,' which assumes that there are separate individual agencies that precede their interaction, the notion of intra-action recognizes that distinct agencies do not precede, but rather emerge through, their intra-action.⁷⁰

In my section of the article, "2. Photo-embroideries," I examine works by Ulla Jokisalo and Maurizio Anzeri, two artists working with a similar method. They both repurpose existing photographs: Anzeri photographs of unknown people that he has found and bought from flea markets and Jokisalo her own family album photographs, reproduced by her in a darkroom. The repurposing is done by means of embroidery, using needle and thread directly on the photograph to create a new image layer on top of the photographic image.⁷¹ Their works create a voluminous three-dimensionality around the paper photograph, extending its perceived two-dimensionality and enhancing its presence and significance as an object. The works gain from being exhibited in a way that allows the reverse side with the stitches to be viewable as well as the front.

The temporalities of photography and embroidery are opened up through their intra-active encounters, which highlight the transience of photographs as objects while suggesting the durability of embroidery. The time invested in making an embroidery, visually readable through the twists and turns of the thread, is seen in stark contrast to the apparently smooth surface of a photograph, which compresses the time of its making into a single click of the shutter. "Photography arrests time,

⁷⁰ Barad 2007, 33.

⁷¹ Vuorinen & Najdowski 2018, section "2. Photo-embroideries." Najdowski's section of the article analyzes her artistic practice where she has exposed photographic papers to geothermal processes. She asks: "how creating an intra-action between photo-video-materials—and the forces and composition of the earth—can make visible the correspondences between them." (Vuorinen & Najdowski 2018, section "3. 'Landscape Photography' - From the Perspective of Practice.")

whereas the embroidery sets it in motion again. Speed becomes paired with stillness, and slowness with movement.⁷²

I use Elizabeth Edwards's writing on the dual nature of photographs as both images and objects as a way to look into the 'photo-embroideries,' a term derived and further developed from Edwards's 'photo-object.' I employ Edwards's writing on how we physically engage with photographs in relation to Jokisalo's photo-embroideries where family album photographs work as the starting point for the embroidery. This makes central the close relation of memory and therapeutic practices to our engagement with photographs as physical objects.⁷³

Article II

Soft Interventions: Collaborative Agencies Between Artists and Photography Editing Software (2020)

In article II, I look into how agencies can be shared between artists and photography editing software. Works by artists Liina Aalto-Setälä, Andrey Bogush (later Jessica Andrey Bogush) and Aaron Hegert are analyzed with respect to how they use photography editing software in creative ways to produce results that are often aleatory and un-anticipated. The digital renderings are often glitchy and they are left this way, scrappy and unpolished. This differs from the way digital manipulation is usually applied to improve and enhance photographic images by eliminating flaws and making the transitions appear seamless. I postulate that leaving the traces of digital manipulations visible in the works creates a whole new aesthetic, where the digital gestures need to be regarded as artistically significant. Rather than being a phase of post-production, the digital becomes a new realm of artistic creation, where the algorithm of the editing software plays an active part. All the artists use photographic images as their starting point, and add the results rendered by the software, choosing some outcomes over others and being open to different possibilities.⁷⁴

The fluidity of the terminology of constantly developing technological art forms is discussed along with the vocabulary that is needed to describe artworks belonging to this field.⁷⁵ I examine origins, iterations and editions of digitally produced photographic art in relation to photography theory, and the art market where authority and provenance are central questions. I explore the features of the

⁷² Ibid., np.

⁷³ Ibid.

⁷⁴ Vuorinen 2020.

⁷⁵ Ibid., 40.

photography editing software and its workspace through their artistically creative potentialities. I delve into the concept of glitch as a creative gesture, as the artists use the software against its designed usage, to produce what could be called intentional glitches.⁷⁶

I consider collaborative working methods as a phenomenon in the history of photography and assess the way the artists challenge the role of the photographer as a single author. I shed light on the automatic processes aiding in the making of art by referencing the adjacent fields of poetry and music, thus revealing how the processes of selecting from existing elements, makes composition central to the analysis of the works.⁷⁷ A newly negotiated subjectivity becomes formed, one that "could be thought of as latent, formed within and through the points of contact. It could be seen as an agency that is negotiated between human, hardware, software, interface, and image."⁷⁸

I review Vilém Flusser's concept of photographs as 'significant surfaces' through the haptic tactilities of touch screens, often used nowadays to view digital photographs⁷⁹ and examine the virtual as the 'natural habitat' to use Christiane Paul's wording, of the digital photographic image, presenting novel possibilities regarding exhibition practices.⁸⁰

Article III

More-than Photography and Sculpture: A Diffractive Reading (2022)

In article III, I survey the intermingled histories of photography and sculpture. I use the method of diffractive reading to see how photography and sculpture are both present as modes of working in contemporary works by Rachel de Joode and artist duo Nerhol (Yoshihisa Tanaka and Ryuta Iida). Rachel de Joode often first takes a moldable material, such as clay, and plays with it, the traces of her hands and fingers often very visible on the material's surface. She then photographs these material renderings, often at a very close range, showing fissures and crevices or droplets of moisture. She then works with these photographs digitally to make them into sculptural elements. The photographs are then mounted on wood or aluminum and cut to undulating shapes. These are then often stacked on top of each other, sometimes held together by support structures that are also part of the sculptural

⁷⁶ Ibid., 45.

⁷⁷ Ibid., 41.

⁷⁸ Ibid., 49.

⁷⁹ Ibid., 52.

⁸⁰ Ibid.

work. Artist duo Nerhol, formed by sculptor Ryuta Iida and graphic designer Yoshihisa Tanaka, also switches between photographic and sculptural methods. They first take multiple photographs of a sitter for a portrait, over a period of approximately three minutes. These photographs are then stacked and glued together to form a block, which is then sculpted to reveal layers of the slightly differing photographic exposures, resulting in an undulating, wave-like image of the person portrayed.⁸¹

Diffraction reading is a mode of analysis that looks at things through each other, like a double exposure where two images are present at the same time, forming a new composite image. A theoretical metaphor, diffraction brings out the unique features of both photography and sculpture and appreciates how they amalgamate in these hybrid works, which I describe through the concept of 'more-than,' a condition that does not presuppose unity or closure.⁸²

I examine working between 2D and 3D, physically and in a digital working space, as phases of an artwork coming into being, and discuss the temporalities of photography and sculpture in relation to cinema and chronophotography.⁸³ Exhibiting sculptures as three-dimensional objects often requires the use of pedestals, podiums and vitrines. I discuss these in relation to the frame as a characteristic of photography. I interpret the translations between photography and sculpture as diffraction patterns, bringing out the dualities these works embody. Photography and sculpture become viewed "as material gestures, flowing into and out of each other in a constant dialogic process."⁸⁴

I present an outline of the intermingled histories of photography and sculpture from the early beginnings of the photographic medium to the present day and examine the term 'photography in the expanded field,' which is used today to describe photography's multiplicities. I look into the historical roots of the term, which are revealed to be closely entwined with art historical writing concerning sculpture.⁸⁵ Instead of a static idea of an expanded field, I suggest a continuous expansion: "A diffractive reading of photography and sculpture allows for a dynamic analysis, of understanding differences through diffractions—being different *with* rather than being different *from*. This approach introduces a space for future developments and new diffractions, with the fields of photography and sculpture ever expanding."⁸⁶

⁸¹ Vuorinen 2022a.

⁸² See *ibid.*, 406.

⁸³ *Ibid.*, 412.

⁸⁴ *Ibid.*, 417.

⁸⁵ *Ibid.*, 407.

⁸⁶ *Ibid.*, 418.

Article IV

Photography and the Organic Nonhuman: Photographic Art with Light, Chlorophyll, Yeasts, and Bacteria (2023)

In article IV, I delve into the human and nonhuman relationships in artworks that combine methods of photography and bioart. I closely examine works by Jenni Eskola, Johanna Rotko, and Noora Sandgren, who all employ methods and/or instruments of photography and bioart. Jenni Eskola makes paints with organic materials derived from plants and flowers, and uses them to create photosensitive paintings, which are then left to fade as they are exposed to natural light. Johanna Rotko's works, which she calls 'yeastograms,' are made by exposing a culture of yeast in a petri dish to UV-light through a stencil with an image. The UV-light kills part of the yeast, and the remaining part starts to grow in the shape left by the stencil image. Noora Sandgren in turn uses expired photographic paper, and buries it in compost soil, exposing it to bacteria, moisture and warmth. She then scans or photographs the papers to produce prints of them.⁸⁷

The organic nonhuman is a realm that has for a long time been marginalized not only in photography theory, but also in the wider field of philosophy. I combine ecocriticism with posthuman and new materialist thought to analyze how the actual life of the images affects both their concrete and conceptual makings. I ask: "How does the life of the materials affect the production and interpretation of the images? Can there be such a thing as an organic image? In what ways do artistic and scientific methods meet in these works?"⁸⁸ I discuss the ethics concerning living organisms as material for art from multiple viewpoints. I use the concept of 'ornamental life forms,' as introduced by art theorist and curator Gunalan Nadarajan, to shed light on the different ethical questions related to the fields of science and art.⁸⁹

The artworks discussed fall into the category of cameraless photography, i.e. photographic images made without using a camera. However, Sandgren and Rotko do use photography as a way of documenting their work, which brings with it a sense of performativity. The ephemerality of Eskola's works is in turn enhanced by her tendency to not photographically document the works.⁹⁰ Ephemerality is central to the meaning making of the works analyzed and, drawing on recent writing by art historian Kate Palmer Albers on photographic ephemerality, I examine the

⁸⁷ Vuorinen 2023.

⁸⁸ Ibid., 2.

⁸⁹ Ibid., 8.

⁹⁰ Ibid.

problematics these kinds of works pose for art history and museum and gallery practices.⁹¹

I consider artistic research as way to situate oneself between the realms of art and science, along with the complications this dual position poses. Giving agency to the nonhuman agents involved in the work, the artist can be seen to dismantle the authority of the artist as maker of the works; the artists rather act as facilitators to allow the nonhuman processes to take place. I employ Donna Haraway's term 'sympoiesis' to describe the shared agencies between human and nonhuman agents.⁹²

Article V

Scanography: Photographic Art Between the Realms of Sight and Touch (2024)

Article V centers on scanographs, photographic works made using a scanner. I analyze works by artists Inari Sandell, Kira Leskinen, and Anna Skladmann, taking into account the senses of sight and touch. In the works analyzed in this article, Sandell uses fabrics as the subjects and material for their scanographs, Leskinen paper cuttings, and Skladmann plants and flowers. The composing of the images happens on the glass plate of the scanner, setting the objects there, and arranging them physically, sometimes even while the scanning is in process. The artists use flatbed scanners against their designed purpose (scanning documents), in a creative way, to purposefully glitch the resulting image.⁹³

The hegemony of vision is called into question as the scanographic works take place close to the tactile. A more intimate, haptic gaze is suggested in encountering the works, one that considers the knowledge produced by touch. I analyze the concepts of control and sensitivity in photography as culturally constructed prerequisites of our ideas about what photography is. The artists dismantle this centrality of control in their working processes, where chance and mistakes are central ways of producing aesthetic results. As cameraless images, scanographs lack the adjusting functions of a camera and its lens. Their visual impact is rather centered on the closeness of the subjects to the glass pane of the scanner, as they are laid upon it, touching it.⁹⁴

I use the theoretical writings of new media theorist Laura U. Marks and architect Juhani Pallasmaa to come to terms with the relations between visual and tactile, and

⁹¹ Ibid., 12.

⁹² Ibid., 11.

⁹³ Vuorinen 2024.

⁹⁴ Ibid.

haptic and optic in the works.⁹⁵ From the field of photography research, I analyze the works with reference to the writings of Margaret Olin, who identifies the importance of being physically present with photographs as an important part of their affect.⁹⁶ Elaborating on this, I focus on witnessing and presencing, as verbs, as two important ways by which we relate to photographic images and artworks.⁹⁷

Scanographs carry with them a durational time, extended through the sweeping movement of the scanner head under the subject. The movement of the scanner head gives space for glitches and aberrations, visual effects that might normally be seen as errors in photography. These errors and their unpredictability become central subjects for an art historical analysis.⁹⁸

⁹⁵ Ibid., *passim*.

⁹⁶ Ibid., 7.

⁹⁷ Ibid.

⁹⁸ Ibid., 8.

3 Research Methods

3.1 Case Study: Pros and Cons

This inquiry brings together theories from various fields and sees how they can be used to analyze a single work or series of works. This demands an agile approach towards research methods. The multidisciplinary nature of my work made it crucial that some clear boundaries were drawn. Case study was a self-evident choice as the method from the start. A defining characteristic of case-studies is intensiveness over extensiveness, and a tendency towards what Gary Thomas and Kevin Myers call 'analytical eclecticism.'⁹⁹

Case study as the research method gave me an opportunity to address one theme and one subset of research questions in each of the articles, although there are many interesting overlapping characteristics between the methods of work used by different artists. For example, Rachel de Joode's work, analyzed in article III concentrating on photography and sculpture,¹⁰⁰ could well have been approached from the viewpoint of collaborating with photography editing software, which is an integral part of her working methods. And on the other hand, Jessica Andrey Bogush's works, now examined through the main theme of shared agencies with photography editing software in article II,¹⁰¹ could have been explored through their sculpturality. As a third example, the concept of intra-action, the theoretical framework of article I,¹⁰² could have been entirely relevant in each of the succeeding articles as well, however, I aimed for a wider academic discussion rather than using the same theoretical concept again in all five articles.

This is to say that choices concerning which works and which theoretical questions to include in each article were made in order to achieve clarity and focus in the analysis. This is not to suggest that any such clear-cut definitions exist in the artworks themselves. Rather than making categorizations, the aim has been to study the collaborations and co-workings present in the artworks and their processualities:

⁹⁹ Thomas & Myers 2015, 6.

¹⁰⁰ Vuorinen 2022a.

¹⁰¹ Vuorinen 2020.

¹⁰² Vuorinen & Najdowski 2018.

material pathways grown out of visual ideas, and visual ideas stemming from the materials.

Thomas and Myers emphasize the need to look at the subject of a case study from "many and varied angles, to develop what Michel Foucault (1981) called 'a polyhedron of intelligibility,'" to achieve "a more rounded, richer picture of our subject."¹⁰³ Each case study in my dissertation presents a materially specific process or method of making an artwork or a series of works that unites the artists selected, and thus each case provides an answer to RQ1.

3.2 Diffractive Compositions

The abovementioned 'polyhedron of intelligibility,' a multidimensional view of the subject at hand, is achieved in my case studies through what might be described as a diffractive research attitude or stance. I use diffractive reading in article III to shed light on the relationships between photography and sculpture,¹⁰⁴ but diffraction also describes the *modus operandi* of my project overall.

Cultural theorist Leila Dawney describes diffracting as a research method similar to composing:

Against a logic of data 'collection' that assumes that data pre-exists its production through processes of investigation and research, 'diffracting' offers us a take on methodology that pays attention to the researcher as *composer*: as active participant in the making of worlds and objects.¹⁰⁵

Thus, the selection, or the composition of the research becomes relevant. The process is characterized by multiplicity; instead of a single narrative, letting the multiple and complex narratives speak for themselves is at the center of a diffractive research approach, and the role and participation of the researcher is not that of an objective observer, but of an active participant in knowledge production.¹⁰⁶

The word 'diffraction' derives from physics, specifically the phenomenon of waves changing direction after encountering an obstacle, often overlapping with other waves, creating diffraction patterns. The term as a metaphor for practices of scientific research was first used by Donna Haraway and later developed by Karen

¹⁰³ Thomas & Myers 2015, 8.

¹⁰⁴ Vuorinen 2022a.

¹⁰⁵ Dawney 2018, 108.

¹⁰⁶ See *ibid.*

Barad.¹⁰⁷ According to Dawney, the importance of experimentation and open-endedness is crucial to a diffractive research stance:

It is about experimentation: putting things together and seeing what happens; or putting ourselves in particular situations; or recovering histories and genealogies that became lost as objects were being made into objects. Diffracting involves thinking with disjuncture; thinking about where data rubs up against data and what that exposes about how subjects and objects of research are made through the research. As an approach to the study of philosophical and cultural texts, diffracting involves reading them against each other, without situating one as a fixed frame of reference, and seeing what happens. It unsettles and mixes, producing disturbances to watch how they pan out. It delves into forgotten material histories, making visible and asking what caused them to be forgotten: it exposes the world in its complexity and messiness.¹⁰⁸

The things that are diffracted in my dissertation, are thus not only the hybridities within the artworks, but also the theories and methods used. Consequently, my study develops hybrid ways to approach and analyze hybrid works. These are ways of approaching and analyzing that extend from encountering the works in exhibitions and at artists' studios to interviewing their makers, and broaden an art historical analysis of the works' visual subjects into including the meanings of their materials as well.

3.3 Methodological Evolution: Towards Participation

My research methods evolved during the process from a traditional art historical analytical reading with a new materialist stance towards a more participative, engaged process where the voices of the other agents involved (the artists, the artworks and the creative processes) became more and more central. The ways in which I have encountered the works I write about have varied throughout the project, from physical to virtual exhibitions, to visiting artists' studios, to dialogues with artists in person and through email, to even attending a workshop on yeastograms¹⁰⁹ and trying the process myself.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid., 110.

¹⁰⁹ August 25–27, 2020, in conjunction with Rotko's exhibition *Living Images* (Bioart Society's Solu Art Space in Helsinki August 13–September 13, 2020.) See Vuorinen 2023, 7.

My study is thus characterized by a variety of research methods that are similar to the methodology art historian Katve-Kaisa Kontturi has called 'following',¹¹⁰ which requires a contemporaneity between the follower and phenomenon followed. As opposed to 'tracing,' which always happens afterwards, following takes place in the here and now, *with* the followed.¹¹¹ This emphasis on ongoing processes rather than finished physical objects, which following entails, "welcomes an element of surprise and unpredictability to art historical inquiry," as Kontturi puts forth.¹¹²

My study is situated between an interest in processes *and* finished physical objects, although their finiteness is often under question. My case studies often take as their starting point an encounter with an artwork in an exhibition, and then extend this encounter to both a tracing of its material becomings, and a following of current and possible future trajectories. Sometimes this has entailed encountering the same works first in exhibitions and later in what could be called a latent state in storage and in artists' studios, in between phases of public exposure.

¹¹⁰ Kontturi describes the various ways of following as including not only exhibition visits, but also studio visits, observing processes of making, conversations with artists, and even modelling for some of them. (Kontturi 2012, 13; see also Tiainen, Kontturi & Hongisto 2015, 25; Kontturi 2018.)

¹¹¹ Kontturi 2012, 14.

¹¹² Ibid.

4 Results

4.1 Material Manifestations

In my case studies, I distinguished five areas of material manifestations in contemporary photographic art: photo-embroideries, art created in collaboration between artists and photography editing software, photographic sculptures/sculptural photographs, practices combining photography and bioart, and scanography. Each of my research articles centers around one of these specific methods or environments of making photographic art, and the artists and works have been chosen with this unifying background in mind.

Naturally, no project can identify all material manifestations of a field as vast and quickly developing as photography. Other interesting areas of photographic materialities in contemporary art falling outside the scope of this dissertation are, for example, photographic archives revisited as prompts for new artworks, photogrammetry as an artistic tool, and photography as a gesture in the virtual, for example in in-game photography/screenshots. It should thus be noted that distinguishing the five areas of material manifestations in contemporary photographic art in my case studies and articles is also a matter of selection.

4.2 Working with Materials

I singled out five main areas in terms of how the material comes to affect the making of the works: open-endedness, play, embracing chance, shared agencies with the materials and dialogue with the materials. These areas, as emergent and empirical, are closely co-related, and at times overlapping. They take effect across all the articles, which are discussed comparatively below.

The open-ended and non-teleological nature of the artworks leaves space for the materials to create possible avenues for the progression of the work, often not predictable by the artists beforehand. In her seminal book *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins* (2015) anthropologist Anna Tsing uses the concept of 'polyphony' to describe the coming together of different melody lines in assemblages, and to appreciate it, "one must listen both to the separate melody lines and their coming together in unexpected moments of

harmony or dissonance."¹¹³ She explains: "[...] in contrast to the predictability of a written piece of music that can be repeated over and over, the polyphony of the assemblage shifts as conditions change."¹¹⁴ It is this constant shifting of conditions, the combinations of moments of harmony and dissonance, that creates a frame for all the works analyzed in my case studies: their meanings are not fixed and stable but open-ended.

The works could be seen as breaks or disturbances in predictability in what we consider to be photography. According to Tsing: "Disturbance is a change in environmental conditions that causes a pronounced change in an ecosystem."¹¹⁵ Tsing emphasizes that "[a]s an analytic tool, disturbance requires awareness of the observer's perspective" and that "[d]eciding what counts as disturbance is always a matter of point of view."¹¹⁶ The works analyzed in my case studies could be considered disturbances and ruptures, from my art historian's point of view, where looking for continuities and patterns through time has been a prevalent way to structure knowledge.

Ephemeral materials pose the question of a work's ongoing nature: when can a work be considered finished? Seen from this angle, the works acquire a performative quality and can be analyzed within the context of time-based art, as I do in article IV. Should Jenni Eskola's luminograms, with fading natural colors for example, be considered as performative pieces rather than a series of objects? Here the documentary usage of photography becomes relevant; Eskola tends not to document the gradual fading of the colors in her works, whereas both Johanna Rotko and Noora Sandgren, whose works are analyzed in the same article, use photographic methods to document the ephemeral stages of their works.¹¹⁷

Ephemerality affects the digital realm as well. Digital ephemerality can be manifested through loss of data, from reasons relating to either hardware or software. A growing problem for museums is the continuing advancement of technology, which creates a need to continuously update systems and the knowhow of museum staff who take care of and manage collections. Emulators may be needed to make it possible to exhibit older work whose technology has become outdated and thus obsolete. A digital work is reliant on survival through multiplication, i.e. safety copies.

Being fixed into a stable image is characteristic to how we think about what photographs are. However, as Kate Palmer Albers has recently made clear,

¹¹³ Tsing 2015, 158.

¹¹⁴ Ibid.

¹¹⁵ Ibid., 160.

¹¹⁶ Ibid., 161.

¹¹⁷ See Vuorinen 2023.

unfixedness was much more characteristic to photography in the early stages of its history.¹¹⁸ In article I, we argue that the intra-active ways in which the photo-embroideries and Rebecca Najdowski's works are made produce an unfixing that posits the works in a renewed relationship to their supposed fixity. In the photo-embroideries the underlying photographs are appropriated in such a way that puts into question their temporal linearity. History comes under reconsideration through the overlaid embroidery as it changes not only the physical being of the photographs from a two-dimensional paper object into a more three-dimensional object, which could even be seen as sculptural, but also their visual content. In Anzeri's works the portraits of unknown people sourced from flea markets get a new, embroidered layer which takes the form of a mask over the faces of the photographed people. In Jokisalo's works, her own family album photographs get a commentary-like layer of red thread, and family history becomes seen anew from the "now" of the embroidery.¹¹⁹ In article III unfixedness is present especially in the works by artist duo Nerhol, whose work settles into an intriguing relation with Anzeri's embroidered portraits. Nerhol's long time-exposure sculpted portraits are similar to Anzeri's as they too portray people by the means of photography, but whereas the sitters in Anzeri's found photographs are revived by the embroidery, in Nerhol's portraits the unfixed nature of the human body manifests through the undulating wavelike surface of the artist duo's sculpted blocks of stacked photographs.¹²⁰

Several of the works in my case studies are characterized by a material unruliness, affecting also their image content. The uncontrollability of materials goes against the historical development of photographic materials and processes towards greater and greater stability, accuracy and control. Material ephemerality and unruliness present a challenge for the controlling and preserving of the works in a museum or gallery context. This aspect is clearly indicated in article IV, which deals with organic materials.¹²¹ Living organic materials can even pose a possible threat to other works in an exhibition space, for example with mold and microbes developing as part of the works. Lange-Berndt describes materials and materiality through the presupposed idea of change: "Material generally denotes substances that will be further processed, it points to the forces of production at the time. From a critical perspective, the term 'material' describes not prime matter but substances that are always subject to change, be it through handling, interaction with their surroundings, or the dynamic life of their chemical reactions."¹²² In my case studies, material

¹¹⁸ See Palmer Albers 2021; Vuorinen 2023.

¹¹⁹ See Vuorinen & Najdowski 2018.

¹²⁰ See Vuorinen 2022a; Vuorinen & Najdowski 2018.

¹²¹ See Vuorinen 2023, 12.

¹²² Lange-Berndt 2015, 12.

changes¹²³ often happen in an exchange between human and nonhuman agents, within a horizon of unpredictability, in a space opened up for play.

The theme of play¹²⁴ comes across in all the articles. In article I, play is manifested in how the past can be seen from the viewpoint of the present, in a reconsidered and altered way; the past, represented by the photographs, becomes a plaything as the embroidery separates its ties to historical events and pulls it into a new, subverted and enhanced reality in the works of Ulla Jokisalo and Maurizio Anzeri. In article II, play is demonstrated through the works of all the artists, but most evidently in Jessica Andrey Bogush's, who often names their works proposals, positing them somewhere between real and possible. The possibility the editing software gives to the artists to trace individual steps back and forth in choosing the desired effects on the image results in a curious play between what is and what could be. In article III, play is especially present in how Rachel de Joode switches between photographic and sculptural practices, following and listening to the possibilities and restrictions of the materials, and in article IV in how the artists give space for the agencies of chlorophyll, yeasts and bacteria in their processes of making photographic images in a way that accepts surprises and unintentional outcomes. In article V, the scanographs are often results of a process of playing and seeing how different fabrics, papers or plants appear in the scanned images.¹²⁵ The concept of play leaves room for alternative, simultaneous considerations, and for non-teleological materializations to emerge.

¹²³ The term 'morphology' is sometimes used to describe photography's physical properties and their transmutations. (See Batchen 2001, 59; Coleman 1996 [1981], 155.) Photographic morphology can even be used as a criterion for exhibition design in museum practice. (See Moschovi 2020, 215.)

¹²⁴ Roger Caillois states, in his seminal book *Man, Play, and Games* (1958), that play can be "defined as an activity which is essentially: 1. *Free*: in which playing is not obligatory; if it were, it would at once lose its attractive and joyous quality as diversion; 2. *Separate*: circumscribed within limits of space and time, defined and fixed in advance; 3. *Uncertain*: the course of which cannot be determined, nor the result attained beforehand, and some latitude for innovations being left to the player's initiative; 4. *Unproductive*: creating neither goods, nor wealth, nor new elements of any kind; and, except for the exchange of property among the players, ending in a situation identical to that prevailing at the beginning of the game; 5. *Governed by rules*: under conventions that suspend ordinary laws, and for the moment establish new legislation, which alone counts; 6. *Make-believe*: accompanied by a special awareness of a second reality or of a free unreality, as against real life." (Caillois 1961 [1958], 9–10.) The making of an artwork is thus not to be likened to play as a whole, as an important characteristic of play is that it does not produce anything, separating it from art and work. (See Caillois 1961 [1958], 5.) In my case studies, play is to be seen rather as a phase in the longer process of making an artwork.

¹²⁵ Vuorinen & Najdowski 2018; Vuorinen 2020; Vuorinen 2022a; Vuorinen 2023; Vuorinen 2024.

Media philosopher and photography theorist Vilém Flusser posited in his seminal book *Towards a Philosophy of Photography* (1983) that "[t]he camera is not a tool but a plaything, and a photographer is not a worker but a player: not *Homo faber* but *Homo ludens*. Yet photographers do not play with their plaything but against it."¹²⁶ This means that "the camera does not alter the physical world, but rather our conceptions of it, shifting power from the material to the symbolic."¹²⁷ The materials and material frameworks in my case studies can be seen as "played against" and shifted into the realm of information and significance, from tools into playthings, to channel Flusser's idea.

Closely related to the theme of play, the role of chance as an important part of creation is most pronouncedly present in articles II, V and IV. In article II, the cooperation between the artists and photography editing software often creates glitches, which are to some extent planned by the artists, but their exact visual outlook cannot be anticipated. Chance plays an important role in this exchange between human and software;¹²⁸ similarly, in article V, the scanographs are made using scanners against their designed purpose (scanning documents), and the visual results thus created can be considered as intentional glitches.¹²⁹ In article IV, the organic materials bring with them their concrete life, not only a liveliness. In Johanna Rotko's yeastograms the constant possibility of the process going wrong, and the image not becoming recognizable, is part of the method. Taking part in a workshop led by Rotko in 2020 I had the chance to experience this volatility of the yeastograms firsthand. The environmental conditions in which the yeastograms are made and exhibited, including moisture, temperature and light, affect the outcome of their image content. The same is true of Noora Sandgren's images developed through the workings of microbes in the compost, and Jenni Eskola's luminograms, continuously affected by the light conditions they are exposed to.¹³⁰

The unpredictability of the digital glitch becomes comparable to the unruliness of the organic materials and agents, and relinquishing control becomes a means of sharing agency. In article II, I argue that "[a] shift of focus follows, from human-machine interactions to co-creation and negotiated agencies, distributed through networks of human and nonhuman agents."¹³¹ Similarly, in article IV, the agencies between artists and the organic nonhuman (chlorophyll, yeasts and bacteria) are

¹²⁶ Flusser 2000 [1983], 27.

¹²⁷ Vuorinen 2020, 51.

¹²⁸ See Vuorinen 2020.

¹²⁹ See Vuorinen 2024.

¹³⁰ See Vuorinen 2023.

¹³¹ Vuorinen 2020, 53.

shared and the works are considered co-created, "with company."¹³² In this respect articles II and IV form a pair: they both give insights into human-nonhuman relationships, with the digital and the organic nonhuman, respectively. A facet that connects the nonhuman agents in these two articles, is also their marginalized presence in theory, as in photography history the independent role of the photographer has been emphasized. It has been used to legitimize the photographer's status as the artist and author of the medium—a medium whose automatic autonomy in image making was initially considered so high that debates abounded around whether photography could be considered an art in the first place.¹³³

New media theory and new materialism come captivatingly close in their relation to the question of shared agencies. Media theorist Sean Cubitt even argues that "[i]t is possible that media arts are distinguishable from contemporary art by their surrender of agency to non-human forces; and by their commitment to working within certain frames of materiality (film, video, network)."¹³⁴ New materialist discourse is likewise defined by a predisposition of highlighting the importance of nonhuman agents.¹³⁵

Furthermore, Flusser's idea of the 'photographic apparatus'¹³⁶ is comparable to the concept of 'assemblage'¹³⁷ central to new materialist thinking. Flusser describes apparatuses: "They are indubitably things that are produced, i.e. things that are produced (brought forward) out of the available natural world. The totality of such things can be referred to as *culture*."¹³⁸ An apparatus is comprised of all the things that make an action possible, they are the frame within which an action such as photography comes into being, and they are characterized by an expectancy towards the future, a readiness. Flusser describes the photographic apparatus as something that "lies in wait for photography; it sharpens its teeth in readiness. This readiness to spring into action on the part of apparatuses, their similarity to wild animals, is something to grasp hold of in the attempt to define the term ontologically."¹³⁹ The new materialist term 'assemblage,' is in turn described by Bennett: "Assemblages are

¹³² Vuorinen 2023. In this article I especially use the term 'sympoiesis,' from Donna Haraway. (Ibid., 11.)

¹³³ See e.g. Van Gelder & Westgeest 2011, 15. This is an interesting discussion regarding the current onslaught of AI in photography and society in general. The worry and unease caused by a new medium only controlled but not completely mastered by humans, with agency and potency of its own sounds similar to the discussion around photography when it was invented in the early 1800s. (See *ibid.*)

¹³⁴ Cubitt 2017, 16.

¹³⁵ See Barad 2007; Bennett 2010; Kontturi 2018.

¹³⁶ Flusser 2000 [1983], 21–32 .

¹³⁷ See e.g. Bennett 2010, *passim*.

¹³⁸ Flusser 2000 [1983], 22. Original emphasis.

¹³⁹ *Ibid.*, 21–22.

ad hoc groupings of diverse elements, of vibrant materials of all sorts. [...] The effects generated by an assemblage are, rather, emergent properties, emergent in that their ability to make something happen (a newly inflected materialism, a blackout, a hurricane, a war on terror) is distinct from the sum of the vital force of each materiality considered alone."¹⁴⁰ These two terms, Flusser's 'photographic apparatus' and the new materialist notion of an 'assemblage,' are united by a readiness, a vitality, a wildness; they are emergent and expectant of agencies to be shared.

In all my case studies, the artworks can be seen to develop through a dialogical process. A dialogue suggests that there is something that happens by turns, and this is manifested in the case studies in multiple ways, in how the process becomes a sustained and reciprocal temporal engagement with the materials. In article I, the embroidery on the photographs becomes a way to converse with the past, to reframe it from the viewpoint of the present.¹⁴¹ In articles II and IV, focusing on shared agencies in human-nonhuman configurations in the digital¹⁴² and organic¹⁴³ spheres, the reciprocity becomes apparent in the way the artists wait for the results to be rendered by the software or generated by the organic materials. In article III, on the intermingling of photography and sculpture, there is a dialogue between the modes of working with photography and sculpture, employed in turn and switched between.¹⁴⁴ In article V, on scanography, likewise there is a dialogical process between the artists and the equipment they use, the scanners generating results from which the artists select, further guiding their workflow.¹⁴⁵

Thus, the materials here should be considered in a wide sense, including the whole working process, hardware and software, props and cooperation with other agents (human and nonhuman). The artists being in dialogue with the materials means not only taking a raw material and shaping it to fulfill a pre-existing vision or idea but *listening* to the possibilities and limitations that come with it, the process shaped by the opportunities and restrictions inherent in and presented by the material. The process is more responsive and reactive, waiting and seeing before acting.

4.3 From Material Supports to Material Media

Materials have not been traditionally regarded as signifying in art historical analysis; they have been seen as simply existing to provide a medium for the image or the form to come into being. According to conservator Christian Scheidemann, matter

¹⁴⁰ Bennett 2010, 23–24.

¹⁴¹ Vuorinen & Najdowski 2018.

¹⁴² Vuorinen 2020.

¹⁴³ Vuorinen 2023.

¹⁴⁴ Vuorinen 2022a.

¹⁴⁵ Vuorinen 2024.

in art history has been seen as subordinate to form and the creative expression (the mind), "a necessary evil" and "the lowest part of a work," as he describes quoting Thomas Raff. "Historically, materials and substances of art have been chosen for longevity rather than meaning. [...] Matter—bronze, ceramic, stone—has traditionally been viewed as a category, a way of cataloguing a collection rather than as a means of interpreting the work. The essence, the artistry of an artwork, is the idea behind or above it, the *concetto* or *disegno*, rather than the material."¹⁴⁶ But, as Scheidemann reminds us, "[s]ince the beginnings of the Dada movement in Europe, material has become important for its own contextual significance."¹⁴⁷

Similarly to Scheidemann, Lange-Berndt contends that "to address processes of making, is still associated with formalism, while materials are thought of in terms of concrete, direct and inert physicality, carrying imprinted messages. Although objects and things have been much investigated, this field has not received the attention it needs."¹⁴⁸ Comparably, Scheidemann argues: "Much valuable information can be gained about the intention and the mind of an artist by investigating the contextual significance of the materials at hand and the fabrication or technique of the piece."¹⁴⁹ In the works I analyze in my case studies, these contextual significances reach out to include not only the materials and techniques used, but also the histories and theoretical discourses of those techniques, as photography comes into physical and contextual contact with other artistic techniques: embroidery, sculpture, software, bioart and scanography.

Scheidemann notes the importance of engaging in dialogue with the makers of a specific work in order to decipher the materialities at work behind it: "Talking to artists about the physical aspect of a specific object often helps to reveal the secret language of material in their work."¹⁵⁰ The reason why the language of materials often remains secret, is their absence from art historical discourse; the materials used in a work can be briefly outlined in an exhibition label, but talking to the artists reveals so much more happening behind the scenes. Scheidemann compares artworks to living beings in that they "are created, lead their own lives and develop a life of their own," and in how their physical existence is precious and needs care.¹⁵¹ Over time, they also start to collect markings of material deterioration.¹⁵²

¹⁴⁶ Scheidemann 2005, 76.

¹⁴⁷ Ibid., 77; see also Caraffa 2020, 79.

¹⁴⁸ Lange-Berndt 2015, 12.

¹⁴⁹ Scheidemann 2005, 76.

¹⁵⁰ Ibid.

¹⁵¹ Ibid.

¹⁵² Ibid., 82.

In photography theory, the term 'material support' has been prevalent when referring to the material constituents of a photographic work.¹⁵³ In article III, I argue against this idea of thinking about the material in photographic works as being a mere support:

Given that it is true that a photograph needs a support material to become viewable, the notion of the support as being less important or even void of meaning becomes contested in the works of de Joode and Nerhol. The supposed support materials are integral parts of the meaning making of their works. It could even be contended that the works are all *about* the support materials. The images in these works not only appear on such materials but also occupy the materials in a temporal-material entanglement.¹⁵⁴

Materiality in my case studies is not seen in a supportive role, but as an important way of making meaning. That "the material subtleties of art be accorded an equally nuanced attention as representations, contexts and textual contents in contemporary critical histories of art" is what Kontturi calls for as an ethical question in her research,¹⁵⁵ and it is the founding thought behind my study as well. Kontturi emphasizes that this does not mean a denial of the historical contexts and representations but seeing them in relation to the material processes through which they emerge.¹⁵⁶

In several of the works I address in my articles, artistic materials are used as self-referential, for example in how Rachel de Joode first works with clay, molding it, and then photographs it. In the resulting work we see the clay as a photographic trace. Through the photography, the clay becomes a visual symbol for sculpture as a practice. This relation is then further complicated by presenting the photographed clay in a sculptural form, the photograph mounted on aluminum or wood and cut in an undulating shape.¹⁵⁷ Another example is Inari Sandell's use of fabrics as a visual motif, creating associations to canvases as the underlying, overlooked material of art.¹⁵⁸

Lange-Berndt sees that materials in theoretical discussion have often been regarded as a springboard for meaning, not significant in themselves, that they "are only used *to think about* or *think with*, and again act as the indicator of something

¹⁵³ See e.g. Krauss 1999, *passim*; Mitchell 2005, xiii.

¹⁵⁴ Vuorinen 2022a, 417.

¹⁵⁵ Kontturi 2012, 17.

¹⁵⁶ *Ibid.*

¹⁵⁷ See Vuorinen 2022a.

¹⁵⁸ See Vuorinen 2024.

else."¹⁵⁹ Not only do I see the materials in my case studies as signifying, but I also take into consideration and analyze as significant the physical and virtual environments in which the works come into being and where they are exhibited. This calls for an ekphrasis that extends itself to include the materials used as well as the visual constituents of the image.¹⁶⁰ Here, temporality comes to play an important part, as the ways in which a work or series of works *has come to be* are crucial to its interpretation; for example, the intra-mingling narratives of both photography and sculpture as working practices in article III, or the dialogical manner of artists working with the editing software in article II. Importantly, in many cases in this study, if not in most, the visual and the material are not easily separated as image components. For example, in Jenni Eskola's plant paints and Johanna Rotko's yeastograms the way the image comes into being cannot be regarded as separate from a material support, but the image rather grows from and in the material itself.

4.4 Hybrid Works, Hybrid Practices

Many of the artworks I observe in my case studies could be described as hybrids between photography and other media. 'Hybrid' as a word suggests cross-breeding, it is a troubling of stability and preset boundaries. According to Sara Hillnhuetter, Stefanie Klamm and Friedrich Tietjen, editors of the book *Hybrid Photography: Intermedial Practices in Science and Humanities* (2021), 'hybridity' is a term that allows for multiplicities and follows the materializations rather than suggests preset ontological categories:

Being a curious term of discourse, the hybrid describes relationships between often contradictory pairs of terms and neither leads to a dialectic transfer of these terms onto a new unit nor does it let them stand alongside each other in a paradoxical and irreconcilable manner. In fact, the hybrid allows things to have more than one defined characteristic and, rather than have materializations comply with the definitions, requires the opposite—that the definitions comply with the materializations.¹⁶¹

¹⁵⁹ Lange-Berndt 2015, 13.

¹⁶⁰ The fact that the material cannot be excluded from the description of the works when conducting an art historical analysis poses a problem regarding information. Often the materials used are not very thoroughly described in exhibition labels for example, and much important information in this sense is left out. This can be seen due to the abovementioned tendency of art history to disregard material signification.

¹⁶¹ Hillnhuetter, Klamm & Tietjen 2021, 1.

Hillnhuetter, Klamm and Tietjen note that hybridity "is not an exceptional phenomenon in the treatment of photography and photographs, rather a constituent condition."¹⁶² That hybridity is inherent to photography was observed already in 1981 by photography critic A.D. Coleman, who points out that "[n]o sooner had our culture witnessed the first appearance of the photographic image, with its seamless illusionistic rendering of optical reality, than the impulse to expand the medium's physical possibilities was born."¹⁶³ Coleman notes that besides being a new way to make images, early photographs such as daguerreotypes, were also new types of physical objects.¹⁶⁴ The negative-positive process eliminated the uniqueness of the single photo-object and paved way for the application of other techniques to photography: collage, montage and hand-coloring for example.¹⁶⁵

Coleman critiques the absence of hybrid photographic techniques from established histories of the art, and attributes the academic scorn towards them to "biased historians who have insisted on a rigid territoriality based on specious issues of praxis," and "the pervasive corrosion of elitist art-appreciation strategies, under whose dictates no creative idea is considered to be worthy of note until it is employed by an establishment-certified artist."¹⁶⁶ Coleman's view converges with my own as he states that hybrid photographs "resemble only tangentially what we usually refer to as *photographs*; and quite a few should not be thought of or described simply as photographs, in the literal sense of the word—either because that's not *what* they are, or because that's not *all* that they are."¹⁶⁷

Alexandra Moschovi relates the recent interest in the material properties of the photographic object in contemporary art to the 19th century artistic movement Pictorialism, specifically on the grounds of their material hybridity: "Different autographic gestures involving painting, scratching, coloring or otherwise manipulating the surface of the print or the negative made claims over the artistic value of the hybrid photographic image."¹⁶⁸ Furthermore, art historian and curator Hanne Holm-Johnsen argues Pictorialism to have been seminal to the thought of seeing photography as material in itself, and not only as a means of documentation—a thought that according to Holm-Johnsen has mistakenly been regarded as having started with modernism. Holm-Johnsen asserts that stronger ties can be seen between Pictorialist photographers and modern artists than between Pictorialist

¹⁶² Ibid., 2.

¹⁶³ Coleman 1996 [1981], 153.

¹⁶⁴ Ibid., 153.

¹⁶⁵ Ibid., 154.

¹⁶⁶ Ibid., 155.

¹⁶⁷ Ibid., 157. Original emphasis.

¹⁶⁸ Moschovi 2020, 241. On the material qualities of Pictorialist photographs as museum objects from the viewpoint of contemporary museum practice see also Vuorinen 2022b.

photographers and other photographers, linking Pictorialist photographers more to the canon of modern artists like Man Ray and Alexander Rodchenko, than to the canon of photographic artists, in their methods and attitudes towards photographic materialities.¹⁶⁹

Hybridity has been theorized as a possible reverse side of photography's medium specificity, as it makes photography easily merge with other media,¹⁷⁰ but based on the evidence provided by my case studies, I would be more inclined to see it as *an integral part of photography's medium specificity*. Rather than a single characteristic of photography, hybridity could be regarded as a function and a tendency: a perpetual inclination to branching out into diverse configurations, both materially and ontologically.

'Vibrancy' is a term made well known in new materialist discourse by political theorist Jane Bennett in her book *Vibrant Matter: A Political Ecology of Things* (2010).¹⁷¹ Bennett resists the "habit of parsing the world into dull matter (it, things) and vibrant life (us, beings)."¹⁷² In Bennett's thinking, vibrancy incorporates the idea of vitality into the idea of matter, and matter is not regarded as something passive that life is inscribed upon. Hybridity could be seen as a *vibrancy* that photography has a continuous material propensity towards. Because a photograph can be transferred or printed on different materials, its size is changeable and it can be copied, it is apt for manipulations and interventions, prone to be altered, worked upon and appropriated, to become coalesced with other media and practices.¹⁷³ The fact that photography is visual information transferred through light combined with material sensitivity and receptivity, lends it many points of entry for transfigurations and transmutations. Combining the dual vulnerability, openness and exposure of its two material features, traveling through light and sensitized reception, photography *is* changeability, transferability and copiability; vibrancy in photographic practices is closely entangled with material volatility.

Hybridity makes apparent the challenge of differentiating art historical categories between different media. The need for classification in this inquiry between different media and categories (besides photography, also textile art, digital art, new media art, sculpture, bioart, multispecies art, scanography) should be considered as a shifting frame, a working proposition, a suggestion, and a condition. Anna Tsing remarks: "If categories are unstable, we must watch them emerge within encounters. To use category names should be a commitment to tracing the

¹⁶⁹ Holm-Johnsen 2010, 39.

¹⁷⁰ See Krauss 1999; Baetens & Peeters 2007.

¹⁷¹ Bennett 2010.

¹⁷² *Ibid.*, vii.

¹⁷³ See Coleman 1996 [1981].

assemblages in which these categories gain *a momentary hold*.¹⁷⁴ The temporal and emergent nature of the categories I use to describe the works is the key to understanding their hybridities. Tsing continues: "I need names to *give substance to noticing*, but I need them as *names in motion*."¹⁷⁵ Similarly, in my writing, the categories are not there to give substance to the works or to describe their ontological being, but in Tsing's words to *give substance to noticing* their hybridities.¹⁷⁶ Being hybrid in their disposition, there is an intermediality, or even intra-mediality, following Barad's idea of intra-action,¹⁷⁷ intrinsic in the works discussed in this study. Their medial categories are shaped in processual becomings: they emerge rather than are.

The absence of unified nomenclature and taxonomy for hybrid works poses a great challenge for analyzing them. Should names and categorizations be made, or would it be better to leave the matter open? I made both choices. For example, in article I, the term 'photo-embroidery' is derived from the term 'photo-object,' used by Elizabeth Edwards.¹⁷⁸ In article III, by contrast, I chose not to use terms such as 'photosculpture' or 'photo-sculpture,' because they have historical roots and have been used to describe works that date from an earlier period, a specific time. In this article, I especially wanted to bring forth and examine the open-endedness of the works' ontological base, being both photography and sculpture, and more than the sum of those parts.¹⁷⁹ In article II, the categorization or naming was especially difficult, as the work done in and with the software was integral to my analysis. Terms like 'digitally altered photographs' or 'digital manipulations' seemed inadequate and imprecise. Here, again I left the terms more open.¹⁸⁰ In article IV there was, between the three artists, no unified method of making the works, so there was no need to use a specific term for describing them all together. Moving between photography and bioart, and problematizing those two fields, is characteristic of the works and methods used.¹⁸¹ In article V, the terms 'scanography' and 'scanographs' came to my knowledge through Kira Leskinen's work and it was surprising to me that these terms were not familiar and used even among all the artists interviewed in this article.¹⁸²

¹⁷⁴ Tsing 2015, 29. My emphasis.

¹⁷⁵ Ibid., 293, note 4. My emphasis.

¹⁷⁶ Ibid.

¹⁷⁷ See Barad 2007, *passim*.

¹⁷⁸ Vuorinen & Najdowski 2018, np.

¹⁷⁹ See Vuorinen 2022a.

¹⁸⁰ See Vuorinen 2020.

¹⁸¹ See Vuorinen 2023.

¹⁸² See Vuorinen 2024.

The emergent nature of certain terms, such as 'cameraless photography,' still complicate inquiries into the historical background of such works, as it takes time for a term to become established and widely used. Furthermore, the diversity of theoretical thinking and disciplines around photographic materialities further complicates the challenge posed by non-unified nomenclature. An area where the challenge around nomenclature and taxonomy is clearly visible, besides academia, is cataloguing in museums. When specific terms are not used, but works are labeled and categorized in differing ways, it is impossible to search for specific kinds of techniques or materials. Sometimes even the whole medium of photography becomes obsolete when, for example, digitally altered photography becomes reduced under the category 'media art' or 'new media art' in museum collections, resulting in the medium of photography becoming invisible from the data attached to the work.

The use of photography in the process of making a work of art has served as a taxonomic principle in museum practices, sometimes *ad absurdum*. Alexandra Moschovi sheds light on this issue, and exposes how selections of acquisition, for example, have been based on the question of whether photography is merely a method used in the artwork alongside other artistic practices (often painting or sculpture), or if the artist is considered to be a photographer.¹⁸³ For hybrid works in which photography is only one tangent, but a central one, Coleman suggests simply the term 'photographic work',¹⁸⁴ which I have often chosen.

4.5 Dialogical Encounters

What makes dialogue different from an interview is continuity and reciprocity. In a dialogue the other participant is not only answering questions but can change the course of the conversation. This changes the dynamic of the exchange; one does not only wait to receive information but listens and reacts to it. There were two main ways in which dialogue manifested in my dissertation work. First, I started to notice it as a recurring pattern in how the artists described working with the materials they used. Second, the idea of dialogue started to guide my own stance towards the subjects of my case studies: I began to understand that being in a dialogue with the artists gave me a more profound understanding of their work than preparing a set of questions and getting them answered. By engaging in dialogue with the artists, there has been space to include topics that might not even have been anticipated by me.

Often this meant that I met with the artists and conducted an interview with some questions prepared beforehand, and then the dialogue continued by email. Some

¹⁸³ See Moschovi 2020, *passim* and especially 138–151.

¹⁸⁴ Coleman 1996 [1981], 157.

artists I was not able to meet with in person, and some I did not even reach by email personally but was in contact with assistants or gallery staff instead. The ones I was able to meet, or at least exchange emails with, gave me a more profound view into their work, as, in my analysis, the working methods and different stages of the process are equally as important as the artworks in which only traces of the whole process can be visible. Moreover, the material becomings of the works were often so intricate that without a description or even demonstration by the artists it would not have been possible for me to understand them sufficiently by only looking at the works, as in an exhibition for example.

Importantly, in article I, there was a third kind of dialogue present, one of collaborative writing with Rebecca Najdowski, an artist conducting artistic research. This dialogue was different from the dialogues with the other artists, because it was not only a starting point for my own writing but a collaboration towards a co-written article. We discussed, in the beginning, whether the article should be in the form of an interview but decided to include separate parts of writing from each of us, and then collaborate on the introduction and conclusion, as we felt that our subject matters were so unique and different that they demanded a lengthy description and analysis in their own right.

Often the discussions with the artists led me to other artists working with similar methods, and to theoretical sources I might not have found otherwise. It becomes an important question then, how to credit these unwritten exchanges. How to make visible this mutual sharing of resources with the artists? Oftentimes, the artists have conducted research and/or artistic research on their areas of expertise and published it. In these cases, it was easy to include these works as sources, and this has been invaluable in deepening my understanding about the methods used.

'Speaking nearby,' a term coined by filmmaker, writer and literary theorist Trinh T. Minh-Ha¹⁸⁵ appeals to me in its positioning of the speaker with and in proximity to the subject. This approach does not objectify its subject, but rather takes a space nearby; speaking *about* rather than *of*. This is how I consider my interpretations about the artworks having come into being: suggested by the works, spoken by me, nearby. This way, they are always propositional as opposed to being fixed or "correct". Through them, my positioning as an art historian has been—and continues to be—formed.

¹⁸⁵ See Chen 1992.

5 Discussion

My thesis considers photography beyond its dual image/object-qualities and rather sees it as a material-temporal continuum where the object or digital manifestation is only one part of its being. In my case studies, image and object are not thought of as separate, but as equally important and simultaneous; the photographic image is not something simply inscribed upon a receptive surface but emerges as a material-temporal entanglement. In the artworks under consideration, the transitory nature of their objecthood is a fundamental constituent of their meaning and impact. Materiality is then defined also by its possible opposites and liminal states: the immaterial, the non-material, the virtual, the absent, the not perceptible, the ghostly, the ephemeral, the destroyed, the latent, the not-yet material.

The thinking about materiality emerging through my writing has much in common with that of anthropologist Tim Ingold who, in his seminal book *Being Alive* (2011), seeks to overthrow what he describes as the Aristotelian hylomorphic model, according to which, in order to create anything, one must bring together form (*morphe*) and matter (*hyle*). Ingold considers this model to be deeply embedded in later Western thought, but describes a tendency in later thinking to separate form and matter: "Form came to be seen as imposed by an agent with a particular design in mind, while matter, thus rendered passive and inert, became that which was imposed upon."¹⁸⁶ Rather than accepting this idea, Ingold proposes an ontology that, following the thinking of philosophers Gilles Deleuze and Félix Guattari, "assigns primacy to the processes of formation as against their final products, and to the flows and transformations of materials as against states of matter."¹⁸⁷

Ingold contemplates skilled practice in general: "[...] it is a question not of imposing preconceived forms on inert matter but of intervening in the fields of force and currents of material wherein forms are generated."¹⁸⁸ Photography, in my case studies, can be seen as this type of field of force. Other such fields of force at play are embroidery, sculpture, software, processes of bioart, and scanography. Ingold

¹⁸⁶ Ingold 2011, 210.

¹⁸⁷ Ibid.

¹⁸⁸ Ibid., 211.

continues: "Practitioners, I contend, are wanderers, wayfarers whose skill lies in their ability to find the grain of the world's becoming and to follow its course while bending it to their own evolving purpose."¹⁸⁹ Following these different types of course, the artists in my case studies create crossing areas, where these various fields of force are brought to converge. This resonates with the concept of diffraction; of different disciplines or practices merging in an artwork and its production process.

Ingold stresses the inherent temporality of being, and this takes us from places to pathways: "To be, I would now say, is not to be *in* place, but to be *along* paths. The path and not the place, is the primary condition of being, or rather of becoming."¹⁹⁰ Art can be seen as a pathway, a type of line to follow, a way of engaging with materialities, which can be considered to divide into smaller paths, different disciplines or material-discursive practices, such as photography or sculpture for example. These pathways are material strategies, codes and modes of conduct, ways of working in material surroundings, which include not only raw materials but also tools and mental structures. The artists in my case studies are followers of multiple pathways, be they photography, embroidery, sculpture, bioart or the software of editing programs and scanners. They are *along* these pathways, from which they can also occasionally break, and follow others. It is my aim to seek out and reveal what kinds of works and modes of working these crossings and deviations of different pathways produce.

Another important pathway that crosses with the abovementioned ones is my own theoretical background and way of working through writing. Ingold introduces a term called 'the meshwork,' which he describes as "not a network of connected points, but a meshwork of interwoven lines,"¹⁹¹ and this in my view also defines an inherent quality of academic study. The idea of moving from a mental model of interconnected fixed points to one which resembles more a woven textile brings into play not only the properties of the things under discussion, but their temporalities as well. The things under consideration become enmeshed, and it is not so much a question of relations, but rather of intertextualities, or even intra-textualities, following Barad's concept of intra-action.¹⁹²

Looking back on my writing, I notice I tend to use the word 'realm' when referring to the material-discursive environment of, for example, the digital or the sculptural. This has not been a conscious choice, but the word is apt to describe a sphere of action that can be both physical and conceptual. It comes from the Latin *regimen*, government, which is fitting, because it denotes a sphere where certain laws

¹⁸⁹ Ibid.

¹⁹⁰ Ibid., 12.

¹⁹¹ Ibid., 63. See also Najdowski 2020, 22, 27, Edwards 2020, 69.

¹⁹² See Barad 2007, *passim*.

or regulations govern. This way, it also connects to the concept of play, where certain rules can either be followed, or played against. Compared to the idea and metaphor of a field, a realm suggests an openness, an ambiguity of borders.

In relation to open-endedness and indeterminacy, Jane Bennett's 'not-quite' becomes a compelling counterpart to 'more-than.' Bennett uses the word as in "not-quite human" in conjunction with the concept of nonhuman¹⁹³ and later she describes electricity as having "not-quite-bodies."¹⁹⁴ 'Not-quite' implies a state of being almost there, of something missing or out of place, resisting stasis and staying cognitively vibrant and resonant, not-quite known, unsettled. Both concepts are about mental boundaries, seeping beyond them or not completely reaching their full extent. In addition to being more-than photography, the works I analyze in my case studies are also not-quite photography; they trouble the conceptual boundaries of photography and refuse to settle, refuse to reach a destination, remaining on pathways.

Kontturi puts forward the idea that contemporary art has a compelling way of being oriented towards the future: "Whilst contemporary art might stem from current affairs, it does not follow them obediently: it always brings something new to the world—and hence calls forth the future."¹⁹⁵ Combining this with the metaphor of pathways, is to see these pathways as leading both to the future and to the past: making visible future vistas while at the same time bringing forth historical narratives, which might have been previously overlooked.

¹⁹³ Bennett 2010, ix.

¹⁹⁴ See *ibid.*, xiii and chapter 2: "The Agency of Assemblages," 20–38.

¹⁹⁵ Kontturi 2012, 38.

6 Conclusion

This dissertation is a set of multidisciplinary case studies providing new insights into material practices in contemporary photographic art. It combines a close re-reading of the canon of photographic theory and history from the viewpoint of materiality with a participative, dynamic empiricism, using contemporary new materialist methodology within an art historical framework.

My aim has been to look for more nuanced ways to analyze and theorize photographic art than merely regarding it as images on support materials. The focus of the dissertation was on art history and aesthetics, although it also has relevance regarding museum practices, for example in curating and conservation. Photography is understood in the broadest sense, in its expanded, and continuously expanding field. Oftentimes it even comes to question, whether the works can or should be called photography. Working with photographs as objects, or with photographic materials and processes, however, positions these hybrid works within the theoretical and analytical discourses of photographic art. This study is not only concerned with "raw materials," but with the manifold material environments of the works in their different phases. Materials are understood as including the technologies, both hardware and software, and all analog methods included and utilized in the artists' work processes, as well as the embodied knowledge and work of the artists and nonhuman agents involved.

The first research question was: "What different kinds of material manifestations and practices can be distinguished in contemporary photographic art?" I found and singled out five areas of material manifestations and practices in contemporary photographic art, each of the five articles of this study focusing on one: photo-embroideries, art created in collaboration between artists and photography editing software, photographic sculptures/sculptural photographs, art between photography and bioart, and scanography.

As an answer to the second research question, "How do the materials and material environments affect the making of the photographic works?" I distinguished five main areas: open-endedness, play, embracing chance, shared agencies with the materials, and dialogue with the materials. The findings related to these areas provide rich material for further study and are applicable also in fields beyond photographic

materiality studies, in other fields of art where praxis is oriented toward materials as a dialogic companion, rather than as a raw material basis and starting point.

The third research question, "How can the materials and material environments be approached as signifying factors in terms of the interpretation of the works?" opened up new pathways to consider how our conceptions of materials in the history of art have changed; rather than thinking of the materials as providing a basis for an image to come forth, the materials and material environments, both of production and exhibition, come into focus. The material is not considered something underlying and superfluous to the works' subjects, but rather a subject of the works itself; the works are not carried on the material but born from and through them.

In addition to my three research questions, two vital questions concerning the conducting of the research emerged in terms of methodology: "What kind of research methods do hybrid photographic works require?" and "What ethical considerations does a dialogical research method entail?"

The first of these questions shed light on practices of classification between different artistic media present in this study; besides photography, also textile art, digital art, new media art, sculpture, bioart, multispecies art, and scanography. A research stance became established, where these classifications between mediums came to be considered as a shifting framework, a working proposition, their boundaries shaped through their intra-medial contact: as emergent rather than as established.

A hybrid in biology is a mix of two species, one that cannot procreate further, an endpoint. This study embraces hybridity in structures and practices in a way that leaves space for open-endedness, for further configurations. Hybridity in this study is doing, rather than being; a vibrancy. The word 'vibrant' comes from the Latin verb *vibrare*, which means to move to and fro. This movement back and forth, also evoked by the concept of pathways—the ability to shift and change direction, unstableness, non-fixity, open-endedness—is at the core of my thesis. The idea of vibrancy evokes liveliness, material susceptible to changes in temporal and situational configurations. It follows that other metaphors besides hybridity, also borrowed from the biological and organic world—metaphors such as evolution, morphology, habitats and ecosystems—are emblematic in describing photography's ways of working and relating with its manifold material surroundings.

Hybridity suggests a horizontality, a sidestep on the way to somewhere, a new, alternative space. It seeps into the crevices of parallel structures, taking something from them and combining them into a new configuration. In this inquiry I am not so interested in the specificities of different media, but rather the liminal space opened up between them as they come together in hybrid assemblages. I turn my attention to the readiness of photographic materials and practices to take part in intra-active configurations. Hybridity, in this inquiry, is seen as a part of photography's medium

specificity, rather than as its reversal. It is regarded as an inherent readiness to splice into other media, one that has been present ever since the conception of photography. In this study I do not read hybridity against photography's medium specificity, but am interested in medium-adaptability: temporal and situational vibrancies and possibilities, rather than assigning static characteristics to different media.

The emergent and concurrent character of certain terms used, such as 'cameraless photography' and 'scanography' for example, posed a challenge concerning the histories of these methods and phenomena. Simultaneous versions of terms exist, which complicates the fields of theory around them. Moreover, the diversity of theoretical fields of study around photographic materialities further convolutes the challenge posed by non-unified nomenclature. In the absence of established and confirmed nomenclature and terminology for hybrid photographic works, a nimble ekphrasis comes to assist in providing a multifarious view of them, one which must embrace both visual and material aspects of the works.

The second methodological question, concerning the ethical requirements of a dialogical research stance, brought out two ways in which dialogue came to take place within this study. First, dialogue emerged as a repeated structure in terms of how the artists described their work with their materials. Second, dialogue came to steer my own position in relation to the subject of my study. An understanding of the importance of dialogue with the artists came to the fore as my research advanced. Through dialogic encounters with the artists, I soon realized that I was coming across information that a simple interview with premeditated questions could not give. The silences, pauses and sudden deviations from planned topics guided the discussion to new paths, often not anticipated by me. Oftentimes these dialogues took place in artists' studios, their places of work, where we could look at works while discussing them. The intimacy of these spaces and situations needs to be acknowledged, and I have deep gratitude for the way I was accepted and welcomed.

With my study, I aim to make a contribution to several fields: art history, photography theory and history of photography, media studies and media aesthetics, museum studies and studies in material culture. Because of the multidisciplinary of this dissertation, the results are widely applicable in diverse fields, where working with materials and material environments are central, even beyond the sphere of visual arts. Three main areas emerged as having great potential for further study: ethical considerations in human-nonhuman relations in art, dialogue as a research method, and the establishing of a unified nomenclature within the highly specialized but ambiguous area of photographic art in the expanded field and beyond.

The physical and material environments that could be called the infrastructure, architecture or ecosystem of photography, have undergone significant changes since the advent of the medium, and continue to evolve and take on new forms. In the history of photographic art, we are currently in a phase characterized by diversity in

materials, methods and manifestations, as can be seen in the outcomes of this study. As photographic art continues to develop new forms and open up further realms of material practices, research needs to not only follow but provide novel pathways along which to think and theorize these practices.

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