

BioArt as Archive and Dissemination of an Archival Exhibition

*A case study on the exhibition **FOOD PHREAKS!:**
Biodiversity of the Kitchen by the Center for Genomic
Gastronomy*

Maryam Abtahi

Kandidatnummer: 562

**Master i estetiske fag, studieretning Kunst i
samfunnet, heltid**

**Institutt for estetiske fag,
Fakultet for teknologi, kunst og design
OsloMet – storbyuniversitetet | 2022**



BioArt as Archive and Dissemination of an Archival Exhibition

A case study on the exhibition *FOOD PHREAKS!:
Biodiversity of the Kitchen* by the Center for Genomic
Gastronomy

Maryam Abtahi

Kandidatnummer: 562

Master i estetiske fag, studieretning Kunst i
samfunnet, heltid

Institutt for estetiske fag,
Fakultet for teknologi, kunst og design
OsloMet – storbyuniversitetet | 2022



Thanks

I want to thank my supervisors, Kristin Bergaust and Sissel Gunnerød, for constructive feedback, inspiring discussions, and excellent advice throughout the process.

Thank you to Javid and Sara for supporting and helping me through the process of this master's thesis and a special thanks to Ami Kyle for proofreading and valuable feedback.

I want to thank my mom, Mehrnoush, who supported and encouraged me and showed great interest in this study. It is a great misfortune that she cannot see me graduate.

Abstract

This master's thesis is a case study on the exhibition FOOD PHREAKS!: Biodiversity of the Kitchen created by the Center for Genomic Gastronomy and hosted by Norwegian BioArt (NOBA) in the city of Ås, Norway, 2021–2022.

In this research, I examine the transformation process of the Center's activities into the archive. The activities, which are often event-based, address the issues of food, technology, environment, and sustainable development. I also investigate their mode of presentation as an archival exhibition. Therefore, this thesis is an attempt to provide answers to the following research question:

How has a contemporary art practice that addresses the interplay of biotechnologies and biodiversity of human food systems, been transformed into an archival exhibition, and how did its mode of dissemination add qualities to the experience of the audience?

My method for examining this exhibition used theoretical concepts and perspectives. In this regard, I collected related theories about the issues of archive, mediation, art documenting, and the art experience. In light of each of the chosen theoretical perspectives, I have either received individual answers or suggested new questions that shed light on the research question of this thesis. In examining the mode of presentation of this event, I extracted the similarities, aesthetic choices, and effects achieved, as well as examined how all of these strategies make this multi-layered exhibition a unique experience for the audience. At the same time, this paper discusses how a complex art project can engage with audiences to confront one of the most difficult issues facing our society today: environmental sustainability.

CONTENTS

1	Introduction	10
	Background of the Research Question	12
	Research Question	13
	The Center for Genomic Gastronomy	14
	Norwegian BioArt Arena	15
	What is Bio Art	16
	Food in Art	20
2	Method	26
	Background	28
	Case study	28
	Collecting Data	29
	Research strategies	30
	Curating and Organizing	34
	Examination of Materiality of the Objects	35
3	Theoretical perspectives	36
	Start	38
	Archive and Art	38
	The Atlas Group (1989–2004)	41
	Medium, Mediation and Remediation	42
	Biomediality	44
	Documenting Live Performance	46
Art Experience - A Meaningful Situation	48	

4

Examination 52

Beginning	54
Entry to the Exhibition	56
We Have Always Been Bio-hackers (2010)	60
Glowing Sushi Cooking Show (2010)	62
To Flavour Our Tears (2016–2020)	64
Vegan Ortolan (2012)	68
Cobalt 60 Sauce (2013)	70
Smog Tasting (2011-ongoing)	73
Food Phreaking (2013-ongoing)	76
Food Phreaking: Seeds Triptych Print	79
De-extinction Deli (2013–2018)	82
Genomic Gastronomy Recipe Box	85

5

Analysis and Discussion 88

Title of the Exhibition	90
Exhibition Guide	91
Target Group	91
Participation in Food Phreaks!	92
Status of the Spectator in Food Phreaks!	92
Arrangement of the Objects	95
Introduction of the Center as a Goal	95
Aesthetic Choices in Food Phreaks!	97
Contradiction and Irony	98
The Archiving of the Center for Genomic Gastronomy's Activities	100
Food Phreaks! and Archive	102
Social Reflection of the Exhibition Food Phreaks!	105
Food Phreaks! as a Practice in BioArt	107
Ethical Issues	109
Effects and Limitations of Food Phreaks!	111
Findings and Reflections	112

References 116

1

INTRODUCTION

Background of the Research Question

In the fall of 2020, it came to my attention that Norwegian BioArt Arena (NOBA) planned to exhibit the Center for Genomic Gastronomy works the following year. The exhibition was entitled *FOOD PHREAKS!: Biodiversity of the Kitchen* and opened in September 2021, at Vitenparken in Ås, Norway. My acquaintance with and interest in BioArt, which can be defined as artistic practices that work within the framework of art and science and the use of biotechnology, arose during my studies and led me to focus on this domain for my master's thesis.

The works of BioArt reflect issues connected to the relationship between humans and nature. As Hege Tapio, the curator of NOBA, states, "The exhibition *FOOD PHREAKS!: Biodiversity of the Kitchen* features the interdisciplinary achievements of artists on the theme of food, which is closely linked to larger issues such as climate change, technology, innovation and migratory patterns" (Tapio, 2021, para. 8).

BioArt is a relatively new field which has developed rapidly over the last two decades. The presence of such events in Norway is a rare and great opportunity that is not always accessible. Therefore, I welcomed the chance to examine this exhibition as a case study for my thesis.

This event is hosted by Norwegian BioArt (NOBA) and addresses "the ways that taste, place, technology and food shape our planet and our lives" (NOBA, 2021). Initially, the exhibition was scheduled to run from September 24 until December 31, 2021. However, after temporary closures due to the coronavirus pandemic, it was extended to June 30, 2022.

The exhibition *Food Phreaks!* is the first show of the Center for Genomic Gastronomy in Norway. However, when the exhibition opened, it became apparent that it would not be a presentation of the Center's

original works, which are often in the form of performances and events, but that I was viewing an archival exhibition that displayed its objects through media such as publications, images, videos, etc. The exhibition *Food Phreaks!* seemed complicated because it contained many aspects to be studied. A profusion of questions about this event formed in my mind both before it began and after such as what art practice am I now confronted with and what will it reflect? How will this practice highlight the activities of the Center for Genomic Gastronomy? What does an „archival exhibition“ mean as the organizers have called it? What art practices are built upon previous practices and what qualities have been added to what has already been produced? The nature of these questions point to the issue of the exhibition’s dissemination as an important part of my query. However, I cannot separate it from an examination of its content at the same time.

Research Question

I have summarized all of the concerns into the following thesis question:

*How has a contemporary art practice that addresses the interplay of biotechnologies and biodiversity of human food systems, been transformed into an archival exhibition, and how did its mode of dissemination add qualities to the experience of the audience?
A case study on the exhibition FOOD PHREAKS!: Biodiversity of the Kitchen by the Center for Genomic Gastronomy*

It should be noted that the term “audience” refers to myself in this research and not an investigation of a broad audience as a whole.



Figure 1. Poster of the Exhibition *FOOD PHREAKS!: Biodiversity of the Kitchen*, 2021

The Center for Genomic Gastronomy

The Center for Genomic Gastronomy presents itself as an artist-led think tank that examines the biotechnologies and biodiversity of human food systems.

The artist duo, Cathrine Kramer from Norway and Zack Denfeld from the USA, have been assembling an international team of designers, manufacturers, chemists, researchers, and microbiologists to develop projects since 2010. They collaborate with scientists, biohackers, and farmers to grow a diverse practice of artistic research (Tapio, 2021).

The Center for Genomic Gastronomy focuses on expanding knowledge at the intersection of food, culture, ecology, and technology, and frames its mission as documenting food controversies, designing alternative culinary futures, and envisioning a just, biodiverse, and beautiful food system.

In his 2015 book, *BioArt and Altered Realities*, William Myers describes the culinary methods and food the Center for Genomic Gastronomy uses in its projects as being a platform that can be used to address a multitude of issues in an engaging and accessible way. Central to the topics they address in their work is the concept of the Anthropocene” (Myers, 2015, p.44). He believes they approach the subject critically, while employing a sense of humor and looking towards a hopeful future.

The Center presents its artistic research and activities mostly as performances through public lectures, experimental restaurants, exhibitions, and workshops. The archival exhibition I examined in this thesis presents 10 years of the Center’s activities, which initially have been event-based.

Norwegian BioArt Arena

Norwegian BioArt Arena (NOBA) considers itself as the first permanent arena for BioArt in Norway.

In 2018, Vitenparken Campus, which is a science center dedicated to environmental and sustainability research located at the Norwegian University of Life Sciences (NMBU) in Ås, Norway, founded the NOBA project. As a platform for art that involves itself with the living world, NOBA supports the development of BioArt and provides facilities for collaboration between artists and researchers. This happens through the organizing of art exhibitions, events, and workshops with a focus on sustainable development, the environment, climate change, and life science (NOBA, 2018).

NOBA believes that interdisciplinary and critical thinking between bioscience, art, and environmental humanities will foster sustainable cultural and social development. To make this possible, NOBA suggests that an arena be created in which the three sectors can come together to inspire each other, share knowledge, and offer critiques on each other's works. The resulting connections and collaborations offer pupils a new source of inspiration for their future education and commitment to a sustainable society.

NOBA engages with the living world through posing questions and drawing on methods from the sciences. According to its own statements, at the heart of the NOBA approach is a critical attitude accompanied by friendly and sensory exploration. As the first permanent arena for BioArt in Norway, NOBA states its goal is to provide artists with a platform and the tools for their professional development in order to support the development of BioArt. Thus, NOBA seeks to promote interdisciplinary collaboration between artists and researchers in Norway and throughout the global community (NOBA, 2018).

The exhibition *FOOD PHREAKS! Biodiversity of the Kitchen* is hosted by NOBA on the VitenParken campus.

What is BioArt?

The exhibition *Food Phreaks!* is an archival exhibition of contemporary art practices that are categorized as works of BioArt. In this section, I present various examples of what can be considered BioArt and what motivates artists to create their works in this field. I will further expand on the concept of media in BioArt and highlight examples in the Theory and Discussion chapters of this thesis.

BioArt is not easy to define, as it encompasses a wide range of scopes,

techniques and intentions (Anker, 2015, p. 6). William Myers states that “BioArt is a practice that utilizes living biology as an artistic medium, or addresses the changing nature of biology’s meaning through its output” (Myers, 2015, p. 7). BioArt as a contemporary art form adapts scientific methods and biotechnology to explore living systems as artistic subjects (Yetisen, 2015, p.724). As such, bioartists work with live tissue, bacteria, living organisms, life processes and use technologies such as tissue culture, genetic engineering or cloning in their project creation.

The influence of the biological sciences on visual art is nothing new. There are many aesthetic manipulations of the biological world in history. For example, the ancient Greeks’ observation of homologies in the geometry of human physiology and other forms in nature. Their Golden Age of art, architecture and mathematics reflected principles taken from biology. These concepts shaped the groundwork for the arts and sciences of the European Renaissance (Yetisen, 2015, p.724). However, the rapid rate of growth in biotechnology and new discoveries in biology have changed our understanding of the nature and relationship between humans, animals, and plants. Artists have reacted to these new achievements in biology by adopting new frameworks, tools and research findings to create works with concepts based in science and technology that enable artistic expression (Silvestrin, 2012). What emerges from this implementation are works of BioArt that emphasize philosophical, social, environmental and ethical issues (Yetisen, 2015, p.724).

NOBA, the host of the *Food Phreaks!* and the first permanent arena for this field in Norway, offers a broad definition for BioArt. NOBA defines BioArt as an umbrella term for a variety of art forms that deal with biology and scientific research. By combining artistic processes and scientific methods, bioartists engage in social and political critique of the use of science in society and question the relationship between humans and their environment.

The works of bioartists express the position that Myers considers the most pressing issues of our time; the age of the Anthropocene (Myers,

2015, p. 7). Anthropocene describes a new age in the history of the Earth. The core idea of this new age is the massive impact humans have had on the environment since industrialization, where human activities have left enormous footprints. The term was coined by the Dutch chemist, atmospheric scientist, and Nobel Prize winner Paul J. Crutzen (1933–2021). He believes that the impact of humans on the Earth can no longer be overlooked and is long-term. Humans have thus become a geological factor (Stapel, 2022).

Suzanne Anker, the American visual artist, theorist, and pioneer in BioArt, believes that today, in a time of change and unknown, it is BioArt that responds to the need of cultural expression and has begun a growing momentum as an international art movement. She states: “BioArt may be the latest in a long line of artistic movements exploring the relationship between humans and nature, but this time our relationship to our environment has changed gear” (Anker, 2015. p. 6).

Some of the most interesting forms of BioArt are based on the concept that people are the driving force behind perverse technological applications (Myers, 2015, p. 22). However, we must not forget that technology is not dangerous in itself and provides a multitude of benefits such as pharmaceuticals and feeding billions of people. Yet we need to consider the environmental abuse that occurs due to the greed for economic gain. This pursuit of wealth comes at great cost to the planet by causing vast damage to the environment which will have dire consequences for us and threatens the mass extinction of species on a scale not seen in millions of years. What role can bioartists have in influencing a more positive future outcome? Myers states:

“Bio-artists play a crucial role here in illustrating these realities for which we currently have limited language and understanding. As new technology throws open many doors, each of them to darkened rooms representing possible futures, bioartists can use their gift to carve out windows to illuminate consequences, and to help people discover and stake out their own positions” (Myers, 2015, p. 23)

BioArt is sometimes associated with biohacking or DIY biology. From culturing specialized yeasts strains for home brewed beer to DNA sequencing in the kitchen, biohacking consists of a variety of experimental activities which also includes transhuman experimentation to augment human biology and experience (Myer, 2015, p.216).

Raphael Kim is an artist-researcher who creates his works in this area. He introduces himself as a biohacker-designer. Regarding using this title, he explains in an interview with Myer that he sees himself as an active participant and contributor to the biohacking movement. He practices biology outside of conventional labs and manipulates the components of life such as DNA and cells to explore and draw humanity's possible future (Myer, 2015, p.245).

In her article *Error/Glitch/Noise: Observation on Aesthetic Forms of Failure*, Charu Maithani defines biohackers as those that manipulate faults and change the intended use of technology to achieve their goals (Maithani, 2013, p.104). She points out that failure is endemic in the process of transferring information. Failures attributed to so-called errors or glitches operate as a break that provides a space for presenting different kinds of expressions and destroys the systems of power and control behind the medium (Maithani, 2013, p.105). Maithani believes that the errors expand the ways of seeing and that the event created out of them leads to re-evaluation of existing values.

Since the exhibition I have examined in this thesis is concerned about the human food system, I would like to refer to Lindsay Kelley who dedicated a chapter about do-it-yourself formats in her 2016 book *Bioart Kitchen: Art, Feminism and Technoscience*. She references the history of artistic engagement with food production through various projects and through the adoption of do-it-yourself kits and cooking recipes, bringing manufacturing processes and protocols from the lab and factory to the kitchen for critical analysis. Kelley points to the *Fluxkits* as a historical example of such formats (Kelley, 2016, p.67). FLUXUS was a group of artists in the 1960s that used a wide range of media and adopted a do-it-yourself attitude in their performances

and creative activities (Tate, 2022, para.5). They produced *Fluxkits* as a collection of objects, games, interactive boxes, etc. that were presented in the marketplace. Kelley believes that bioartists who adopt kits and recipe formats inherit the possibilities of them from the practice of FLUXUS. Kits are reminiscent of childhood DIY projects and are therefore a familiar and recognizable artistic format that can facilitate the complexity and unpredictability of what it contains. Kits and recipe formats can link industrial kitchens and citizen food science, encourage amateur science, and create activities that help develop public understanding of how food is produced (Kelley, 2016, P.74).

Food in Art

In terms of the food we eat, we are closely intertwined with other organisms, technology, industry, economy, and politics (Kelley, 2016, p. 2).

Many artists throughout history have dealt with the topic of food in different ways. One example is Giuseppe Arcimboldo (1526 or 1527–11 July 1593). He was a Milanese painter of the late Renaissance, especially of Mannerism, and a court painter to the German emperors. He is particularly known for his portraits, which are created from the shapes of various fruits, vegetables, plants or animals. Ignored by his contemporary art historians, he was later discovered by the Surrealists in the 20th century. One of his most famous paintings is the portrait of Emperor Rudolf II as Vertumnus. The portrait is entirely represented by an extensive list of plants, flowers and fruits from all seasons such as pumpkins, pears, apples, grapes, wheat, artichokes, beans, peas, corn, onions, cabbage foils, figs, mulberries, plums, pomegranates, and olives (Von Carmela, 2018).

Still life began to develop as an independent genre in Europe at the end of the 16th and beginning of the 17th centuries. Paintings in which the depiction of inanimate objects exclusively determined the pictorial



Figure 2. Vertumnus, 1591, by Giuseppe Arcimboldo.

https://commons.wikimedia.org/wiki/File:Vertumnus_%C3%A5rstidernas_gud_m%C3%A5lad_av_Giuseppe_Arcimboldo_1591_-_Skoklosters_slott_-_91503.tiff



Figure 3. Still Life with Fruit, 1601–1610, by Caravaggio.

[https://en.wikipedia.org/wiki/Still_Life_with_Fruit_\(Caravaggio\)#/media/File:Caravaggio_-_Still_Life_with_Fruit_\(circa_1603\).png](https://en.wikipedia.org/wiki/Still_Life_with_Fruit_(Caravaggio)#/media/File:Caravaggio_-_Still_Life_with_Fruit_(circa_1603).png)

theme first appeared around 1600 in the Netherlands, Germany, Spain, and Italy. Art history knows the earliest vanitas and meal still lifes from the Netherlands and the earliest known fruit still lifes from Italy (van Gastel, 2016). There, Neapolitan painters were concerned with still lifes of food motifs, including Carravaggio, Giovanni Battista Recco, Luca Forte, and Filippo Napoletano. Their still life paintings mainly depict fresh and ripe fruits from different seasons, freshly slaughtered animals, fish, and seafood. Caravaggio, the pioneer of this genre in the 17th century, created the painting still life with fruit (painted around 1601-1610). The painting shows various fresh fruits such as figs lying on their own leaves on a table. Also depicted is a basket of peaches, plums, and freshly picked grapes laid among their vine leaves. Ripe pomegranates and a cut-out watermelon frame the composition, while several green-colored pumpkins, one of which has been cut open to expose its pale yellow flesh and seeds, are displayed. The natural location of Naples, with its fertile fields and mild climate, allowed the artists to choose from a wide variety of foods to use as motifs for their works. They attempted to immortalize the scent, taste and beauty of this natural bounty through their painting techniques (Ebert- Schifferer, 1998, p. 75).

In our time, the dimensions of the topic of food have become more complex and multi-layered. Many artists today have engaged with this concept using contemporary media. Among these artists are those who work with biotechnology and living materials. Their work reflects this complexity in relation to food. Often their goal is to seek to promote research on agriculture, eating habits, and social justice through their projects (Kelley, 2016, p. 2).

These issues have drawn the attention of artists, curators, and organizers and have resulted in many exhibitions and events which continue to grow in number due to the importance and urgency of the topic. The NOBA project in Norway and the Center for Genomic Gastronomy are among the platforms and groups founded by artists and researchers that address topics of food and the related issues of climate change, sustainable development and food crises. The Center tackles the serious issue of health and sustainability with a lighthearted



Figure 4. *Lycopersicum III*, 2013, by Uli Westphal

<https://www.uliwestphal.de/the-cultivar-series/>



Figure 5. *The Farm*, 2000, by Alexis Rockman

https://www.artspace.com/alexis_rockman/the_farm

warping of nature through the medium of cuisine. The Center highlights the semi-covert industrial agricultural practice of seed irradiation to create novel plants that have become ever present in our modern diets, yet most are unaware that they consume these plants regularly (Myers, 2015, p. 22).

One example of a critical perspective taken by an artist is the works of Uli Westphal, a contemporary artist who explores agricultural products and the human role in manipulating them. His work points out the absurdity of our understanding of nature and agriculture. In his works, he focuses on how mechanized agriculture has led to the standardization of roots, fruits, and vegetables according to our ideal (Myers, 2015, p. 83). The work *Lycopersicum III* (2013) describes many tomato varieties that, although ignored by modern agriculture, continue to survive and offer diverse flavors and colors. As these varieties are not considered “suitable” for presentation in supermarkets, consumers rarely if ever encounter them. In connection with this work, Westphal provides on his website a list of 18,961 varietal names of tomato that can still be found in seed stores and private farms around the world (Westphal, 2013).

With his work *The Farm* (2000), Alexis Rockman points to the future of food produced by humans. Myers mentions that “Rockman’s work speaks with clarity to a wide audience, presenting instantly understandable and vivid imagery addressing urgent topics” (Myers, 2015, p.124). The use of a familiar medium may be one reason this work communicates easily with a wide audience. This work is painted with lively colors using oil and acrylic paint on a wooden panel and depicts strange and unusual creatures on a farm. Rockman has outlined the potential use of genetic engineering in creating fanciful and idealistic plants and animals for consumers in this painting (Mitchell, 2010 p. 16). However, Rockman’s works suggest an uncertain and dark future by depicting the bizarre twists and turns of evolution, ecological ruin, and the absence of man (Myers, 2015, p. 124). By displaying a worrisome future in his works, he invites us to think deeper about today’s environment.

Astroculture (Shelf Life) 2010, by Suzanne Anker, is another example of a contemporary practice on the theme of food. Anker is a BioArt pioneer, theorist, and visual artist whose work is situated in the intersection of art and the life sciences. As a theorist, she addresses issues of the genetics of climate change, species extinction, and environmental degradation (Anker, 2022). In creating *Astroculture (Shelf Life)*, Anker was inspired by a 2001 NASA study in which vegetables are grown inside luminous purple light boxes on the International Space Station. Anker has used blue and red LED lights as an artistic object, a technology that provides the spectrum necessary for photosynthesis. This work explores the possibilities of urban farming and sustainable agriculture solutions (Wist, 2016).

Among the artists who deal with food through their art is Rirkrit Tiravanija. He does not explore the issue of food, but uses cooking and serving meals as a means to connect with the audience in his practices. This is how Tiravanija makes the audience a central part of his art through the interaction with the courses and exchanges between them (Keller, 2021).

2

METHOD

Background

This master's thesis is intended to shed light on how a contemporary art practice has been presented as an archival exhibition and how it adds qualities to the audience's experience. I have conducted a case study on a specific exhibition, *FOOD PHREAKS!: Biodiversity of the Kitchen*, which is an archival BioArt exhibition with a central theme showcasing the human food system.

I have employed the use of concepts and theoretical perspective as well to further elucidate this topic. These methods have provided me with an understanding of the elements that make up the exhibition, how they were created, and how they function as artistic remediations of projects of the Center for Genomic Gastronomy. I used observation and photo-documentation as part of the research method.

Case study

A case study is a research approach involving an in-depth examination of one or several instances of a particular phenomenon (Blatter, 2008, p 68). As with all case studies, the focus is on one specific unit (Jacobsen, 2015, p. 97). In this thesis, the *Food Phreaks!* exhibit and its supporting materials, which include sources from the Project Norwegian BioArt Arena and the Center for Genomic Gastronomy form the unit of analysis of this work.

A frequent criticism is that a qualitative case study may be considered weak as it generalizes all other cases. However, we should clarify how generalization can be meaningful. If the findings have not been gained by superficial investigation, they can be valid for many different situations (Alvesson & Skoldberg, 2000, p. 27).

Qualitative analysis can reveal exceptions and peculiarities of a case. Hence, it is not expected that these findings will overlap every contemporary artistic practice, but they can prove beneficial to those who are particularly interested in working with the topic of BioArt either as artists or as organizers. This can also include those concerned with the dissemination and educational aspects of art.

Collecting Data

Some of the data I collected concerned the activities of the Center for Genomic Gastronomy. Documents and online records were obtained from various sources, most of which were found on the Center's website. Books and magazines are also available that contributed some information about the Center's projects. A selection of these publications were presented on a shelf at the exhibition *Food Phreaks!*. I have used observation as a way to collect my data.

Observation is considered one of the oldest and most basic forms of research method. Using all the senses, especially sight and hearing, the researcher systematically and purposefully gathers impressions of an interesting phenomenon (McKechnie, 2008, p. 573).

I visited *Food Phreaks!* several times from September 2021 until June 2022 to collect relevant data or information for my research. As it was not possible to describe all of the details through note taking, I employed photo-documentation as another method to collect data.

Photo-documentation assumes that photographs are accurate records of material reality of what was in front of the camera at the moment the shutter was released. In this method, photographs are taken in a systematic way to supply data for the researcher's analysis (Rose, 2012, p.301). The photography of all the objects presented in the exhibition and of the gallery space provided me with data for this analysis.

However, it was not possible to record all the details of the materials presented in this exhibition by photography because media such as videos or long texts in existing publications were used. In addition to the displayed objects in the exhibition, photo- documentation also provided data about the area surrounding the exhibit. I photographed the campus of Vitenparken, the café, and the outdoor areas of the gallery to be used in my analysis. The photos were taken to record my observations and to be relevant to the research question. At the same time, they showed additional points that I had not taken into account during the recording. These photographs have the role of documents. They are used only as descriptive tools in such a review, and their meaning must be determined by the researcher (Rose, 2012, p.303).

Research strategies

Briefly, *Food Phreaks!* is an exhibition hosted by NOBA and presents a selection out of the archive of the Center, which spans a decade. This “archive” is offered in the form of a number of different types of objects such as videos, booklets, photos, posters, fliers, etc.. These objects are produced from the original projects of the Center. Discovering how the organizers, NOBA and the Center, coordinated the presentation of this archive as an exhibition has been the first step into this investigation. In creating the exhibition *Food Phreaks!* as a contemporary art practice, a variety of disciplines are employed and the exhibition addresses broad political and social issues such as the food industry, sustainability, and the environment.

Since the exhibition project used in this case study has the potential to be considered from many angles, a variety of related concepts and theoretical perspectives were selected for study in order to develop the thesis. They have been described in a separate chapter titled “Theoretical Perspectives”. Using different perspectives may activate different aspects of the exhibition *Food Phreaks!*.

In chapter 4, "Examination", I have selected a number of projects presented in *Food Phreaks!* to be examined and reflected on from different aspects. Some projects were clearly examples of the organizer's aesthetic choices while others better represented the main issues the Center focuses on. In these selections, I also took into account media diversity among the displayed objects. I compared several of them to previous projects of the Center for Genomic Gastronomy that were implemented in different ways, both in terms of their inherent messages and the media used. I also extracted the aesthetic choices made in the projects and the associations I found between them. I have tried to give the reader, who has not seen the exhibition, a general understanding of the event and of the objects on display. I, as a spectator, was the subject of my own research by allowing my interpretations of the exhibition to be used in analyzing this investigation.

In the chapter "Analysis and Discussion", I explore the different aspects of this art practice based on the concepts presented in the "Theoretical Perspectives" chapter to clarify the research question and suggest answers to it. Each of these points of view offers a separate outcome that does not necessarily agree with one another. However, this has the benefit of providing a multi-faceted understanding of the issue.

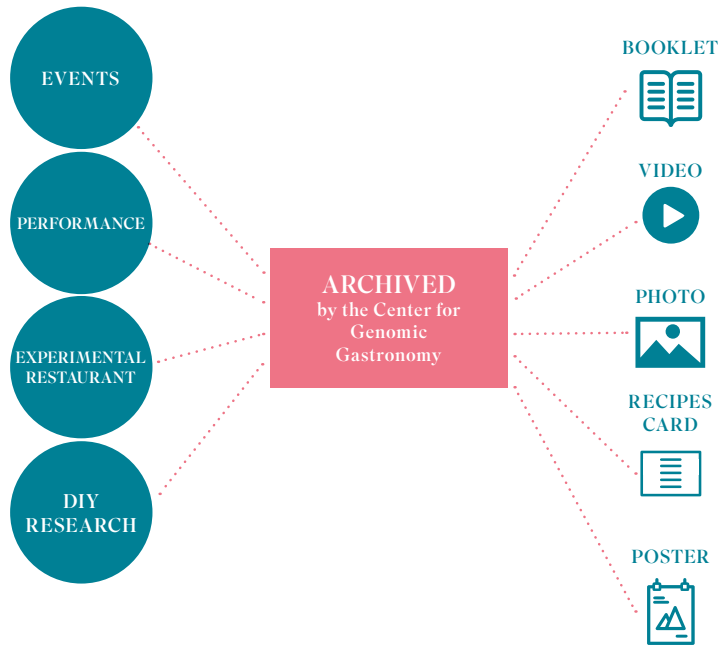


Figure 6. Own illustration, Process of research 1

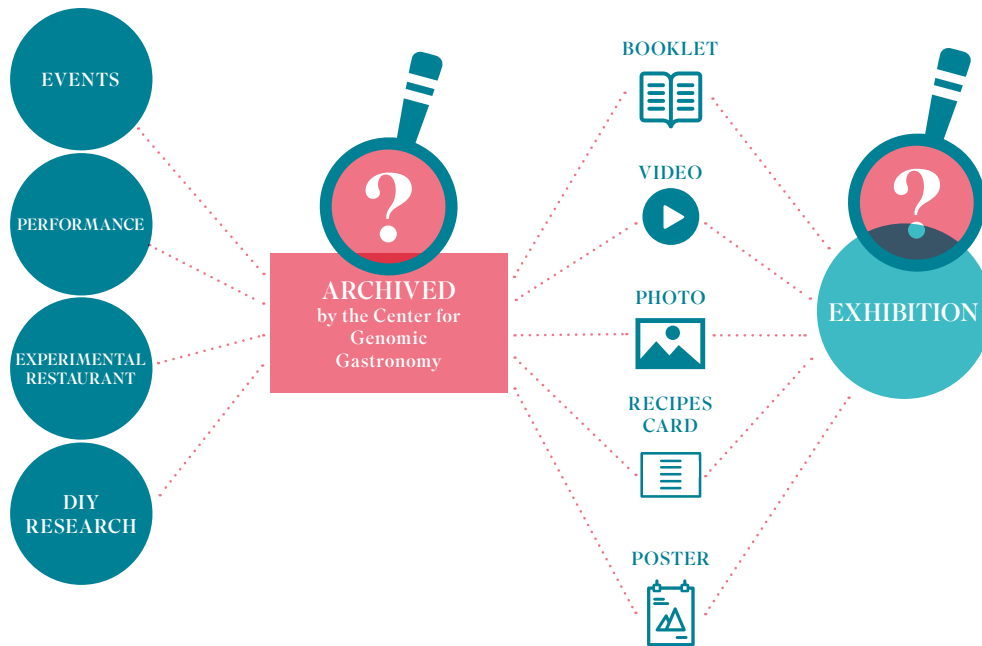


Figure 7. Own illustration, Process of research 2

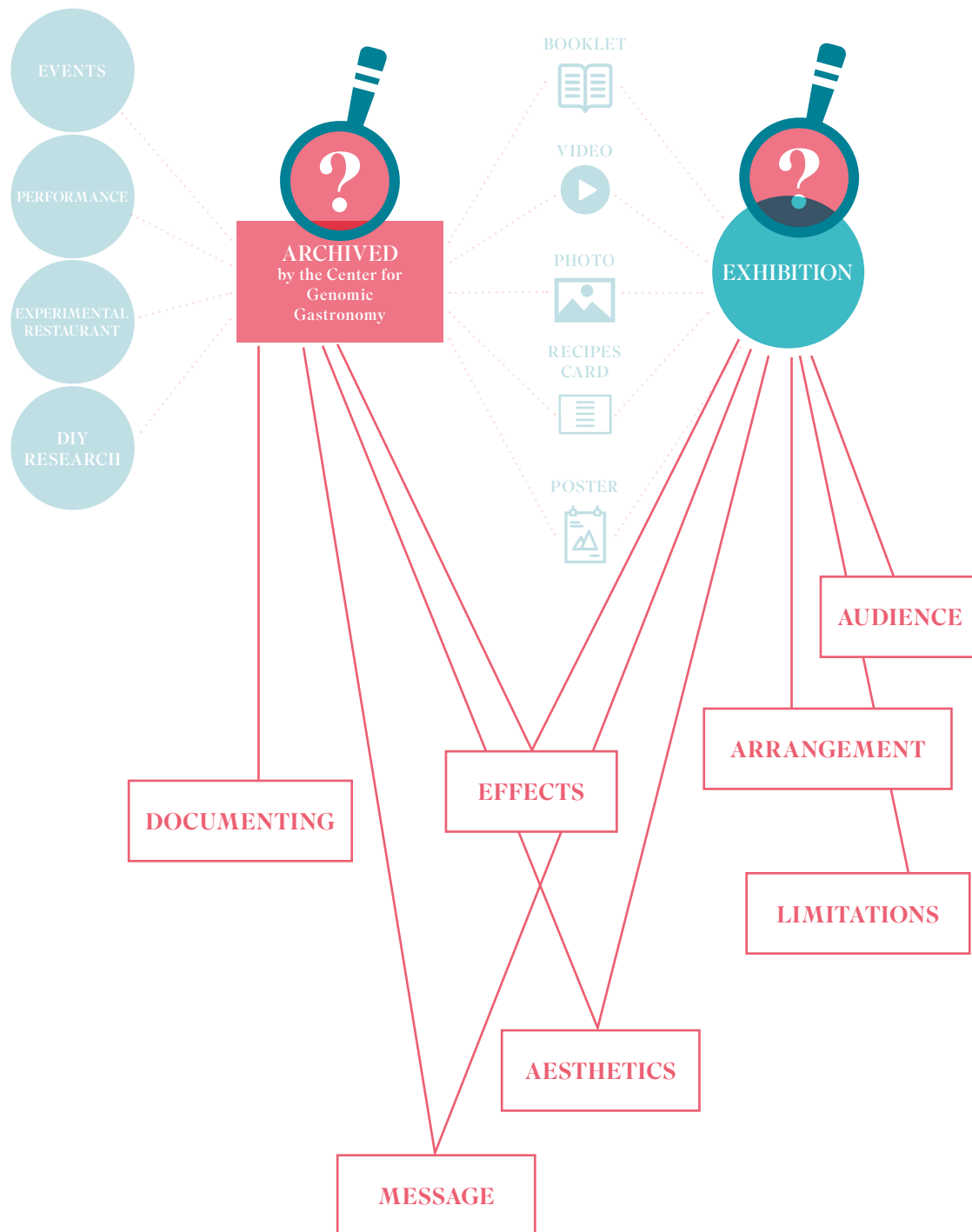


Figure 8. Own illustration, Process of research 3

Curating and Organizing

In this thesis, I examine the way in which the exhibition *Food Phreaks!* is presented as part of my research. The motivations, backgrounds, and goals of the organizers of an exhibition play a role in how an event is designed or curated. Therefore, the question of the authorship of this exhibition arises as to who made the final decision about the dissemination strategies employed.

On October 15, 2021 at 6 pm, I attended a vernissage with the opportunity to meet with the artists and founders of the Center, Zack Denfeld and Catherine Kremer, and to hear their description of the exhibition. Before that, at the beginning of my research on October 6th, 2021, I had the opportunity to meet online with artist and NOBA guest curator Hege Tapio and Eli Skatvedt, NOBA's Curator and Project Manager. The conversation with Tapio, bioartist and organizer of the exhibition, gave me a clearer picture of the event. However, since it was not an official interview but a way to familiarize myself with the event, I did not use any of the information I gained in speaking with Tapio and Skatvedt as material for my research. My interpretation of the conversation with them and the explanations of the Center's artists at the vernissage gave me the understanding that the intention of the exhibition was realized in close cooperation between NOBA and the Center. At the vernissage, examination of the exhibition also revealed the role of NOBA and the Center in transforming this archive into an art practice in the form of *Food Phreaks!* which otherwise is not readily distinguishable. Despite the importance of the exhibition's dissemination in my research, I have not attempted to identify who played the primary role in selecting strategies for this exhibition. Instead, whenever referring to dissemination, I will use the word „organizers,“ which includes both the Center and NOBA.

Examination of Materiality of the Objects

While my research aims to show how this contemporary art practice has been presented as an archival exhibition, it can also suggest how BioArt practices can be archived.

It is mentioned in the curator essay that “this exhibition is presenting a selection from a rich archive” that showcases many of the projects that the Center for Genomic Gastronomy has created over the past ten years. This archive is produced by the artists of the Center. In addition to examining the dissemination strategies of this exhibition, I investigated the objects presented. I proposed to explore the idea of these objects being considered as documentation of the original event. Are they chosen or remade out of previous material? Do they carry the same message as the original events? Why did I choose to examine these particular objects? The answer is there should be a connection between the dissemination of the exhibition *Food Phreaks!* and the message the organizers would like to send. The organizers have decidedly adopted her strategies to present this exhibition in such a way. I examined the materiality of the objects to discover how works of BioArt have been archived, what messages they have, and how the curator approaches the exhibition design. It helped me to discover more about how this event can be experienced.

3

THEORETICAL PERSPECTIVES

Start

This chapter presents a number of theoretical perspectives related to my investigation of the exhibition *FOOD PHREAKS!: Biodiversity of the Kitchen* by the Center for Genomic Gastronomy. Later in the discussion, I will refer to each of the related concepts in order to clarify the research question. Here, illustrations of certain concepts will also be expanded upon in the “Discussion” chapter, so the reader can better follow them, including the complicated topic of media in BioArt, which is closely related to my investigation.

Archive and Art

Recognition of the “archive” is one of the most important features of the modern era, which is defined as something through which historical knowledge and memories are collected, stored, and retrieved. Archives constitute a repository or ordered system of documents and records that are created by individuals and groups as well as by organizations and institutions (Merewether, 2006, p. 10).

In the 2010 book *The Archive in Motion: New Conceptions of the Archive in Contemporary Thought and New Media Practices*, Eivind Røssaak explores the transformation of archival concepts and practices over the past century, which occurred under the influence of rapid technological change (Røssaak, 2010, p. 11). Today, the concept of archive has expanded into new zones of art and philosophy. The common concept of a classical archive is a place where fragments of knowledge are accumulated and stored away from the element of time. Some archives existed to be forgotten, as no one could access them or didn't care to do so. Røssland explains in his book that today, new technologies constantly change the notion of archiving in a similar way

to how phonography, photography and cinematography introduced new concepts of storage toward the end of the 19th century. These media stored the “physical effects of the real” in the form of sound waves and light. In other words, these kinds of archival documents, unlike books, are stored data representing a physical portrayal. They must be transformed back to their earlier form that can be understood.

In recent decades, there has been a turn in conceptualizing what the function of an archive is within humanistic disciplines. Jacques Derrida, the French postmodern philosopher, has played a role in this with his short book *Mal d'archive* in 1995. In this book, Derrida refers to Freud and his notion of psyche as an unreliable and dual system that simultaneously protects, yet hides and collects and also forgets. He states that archives always act with such a double limitation (Røssaak, 2010, p. 15).

The archive has been a repeated subject in artistic practice throughout the 20th century, and this tendency has developed among artists especially in the last few decades. Hal Foster, the American art critic and historian, focuses on the phenomenon of archival art and the “artist as archivist” in contemporary art in his article *An Archival Impulse*. He sees artists like Thomas Hirschholm, Sam Durant, and Tacita Dean as having played important roles in sharing a new notion of artistic practice of the archive in contemporary art. He states that the archival artists often seek to present lost historical information by their practice in an attempt “to connect what can not be connected”(Foster, 2004, p. 145).

According to Foster, art archives are not databases but contain tangible, fragmentary materials whose embedded “actual meaning” are to be interpreted by the viewer. He believes that the contents of this type of art remain undefined, vague, and are concerned less with absolute origins. These artists obtain their material from uncompleted projects in art and history, and offer a new direction by leaving obscure traces in their practices. Therefore, archival art is “as much pre-production as it is post-production” (Foster, 2004, p. 144).

While Foster is interested in how archival works produce a “Foucauldian

counter-memory” via archival art, Susanne Sæther’s, focus is on the role of media as memory technologies in her article *Archival Art: Negotiating the Role of New Media* (2010). She discusses works that explore how different technologies of storage and communication impact how we experience information and our environment (Sæther, 2010, p.82). Sæther outlines three archival models in contemporary art: The immersive archive, the unreliable archive, and the database archive.

The term “immersive archive” indicates there is an invitation to the viewer, to immerse themselves in the archival material while at the same time being encouraged to think about it in a way that is relevant to archival research. Unreliable archives refer to a version in which the integrity or origin of the material presented as an archive is in question. In fact, they are often produced by the artist themselves. While an immersive archive focuses on the spectator’s position as a user, an unreliable archive emphasizes the role of the artist/producer. The video installation of *Slater Bradley; Doppelganger Trilogy* (2001–04) uses unreliable archival material to conjure up three dead or lost status pop and rock icons from the 1980 and 1990s. In this work, he has produced fake film and video recordings from their live performances, while all the famous figures are played by one actor. For ignorant viewers, these materials are not immediately revealed as fake (Sæther, 2010, p.92).

The third model, or database archive, refers to the transformation from archive to database so that the individual can combine information in new ways. Database archiving emphasizes changing the form and structure of stored information. For this model, Sæther supplies a contemporary example with *Dial H-I-S-T-O-R-Y* (1997) by Johan Grimont. This 68-minute film is a montage of amateur recordings, TV news, fiction, commercial films, and self-produced material that examines the history of airplane hijacking in no particular chronological order (Sæther, 2010, p. 97).

By considering what has been published about the concepts of archiving and their relationships to contemporary art practices, I will look for examples in the exhibition *Food Phreaks!* by pursuing the

question of how the organizers of the exhibition approached creating the archive of the Center for Genomic Gastronomy and what archival procedures did they undertake as a result of this artistic practice.

The Atlas Group (1989–2004)

For a better understanding of the event *Food Phreaks!* as an archival exhibition, I look to the eponymously named project *The Atlas Group*, an archival art practice, undertaken by the contemporary media artist Walid Raad. This project was created between 1989 and 2004 by using an archive or collection regarding the Lebanon Civil war between 1975 to 1990. The objects of this collection were found or produced by Raad for the purpose of shedding light on the history of the war (The Atlas Group, n.d.). The concept of this project is to blur the lines between what is real and what is fiction. As the Atlas Group states, they were interested in examining how certain situations got the viewer’s attention and beliefs. Raad accomplishes this investigation of the history of this period in Lebanon without concern to facts as “self-evident” objects (The Atlas Group, 2003, p. 179). He states:

We are trying to find those stories that people tend to believe, [that] acquire their attention in a fundamental way, even if they have nothing to do with what really happened. Traditional history tends to concentrate on what really happened, as if it’s out there in the world, and it tends to be the history of conscious events (Raad, 2004).

Therefore, the Atlas Group is unconcerned about the factual accuracy of their documents. They criticize putting a decisive distinction between fiction and non-fiction regarding the examination of the documents, objects, and stories tied to facts. While the Atlas Group states that “facts have to be treated as processes”, they also emphasize that they

are not a “fictional foundation” unless the definition of “fictional” is connected with “forming” and not with “arbitrary invention” (The Atlas Group, 2003, p. 180).

Raad displays not only the history of the Lebanese civil war through his collection as a certain phenomenon, but finds something beyond it. The content of this archive is far from what we see in the exhibition *Food Phreaks!*. However, I think there are commonalities in both art practices, which I will discuss later.

Medium, Mediation and Remediation

The objects of the exhibition *Food Phreaks!* are presented through the use of media that are often not the same as those used in the Center for Genomic Gastronomy’s event-based projects. Experimental restaurants, performances, and workshops have now become paper, video, and photographic materials. One confronts many objects that are presented in different digital media formats. Videos of performances are displayed on the venue’s walls by projectors, and digital texts are available on laptops placed on a central platform in the room. Many other objects are also laid out for examination. As a viewer at this exhibit, I felt the need to use my smartphone to conduct internet searches to obtain more information about these projects. The URL for the Center for Genomic Gastronomy’s website came into view everywhere. Considering this exhibition represents previous ideas in new formats, I would like to study the notion of “media” and the act of mediation.

In their book *Remediation* (2000), J. David Bolter and Richard A. Grusin present a theory of media in our digital time. They define “medium” as something that is remEDIATE: “It is that which appropriates the techniques, forms, and social significance of other media and attempts

to rival or refashion them in the name of the real” (Bolter, 2000, p. 64). New media do not always replace the old, but the process of reform is mutual. Therefore, the old media can also refashion newer media (p. 59). They explain how new media transform older media while keeping some of the previous features and rejecting others. They argue that the act of remediation can work in both directions, what Bolter and Grusin call “the double logic of remediation; immediacy and hypermediacy”. According to Bolter and Grusin, immediacy is a representation with the goal of the medium being invisible to the viewer who believes that he is in the presence of the objects of representation. Hypermediacy can be described as the awareness of both the media and of the interface on which media is seen. In other words, while hypermediality admits the act of representation and makes it visible, immediacy seeks to hide it.

Today, all previously existing media are joined to the domain of digitalization. In his article *Trancemedias: from Simulation to Emulation* (1999), media theorist Arjen Mulder states the entire digital world consists of ones and zeros that can be stored on a single computer. He defines the computer not as a multimediu, but as a metamediu collection that contains all other collections except itself. Mulder addresses an important feature of the digital world and its role in the development of new media: “Every new medium wants to be transparent, invisible, and everything else is opaque. With new media, you look through them to see reality; with old media, you see only their mediality, their technological limitations” (Mulder, 1999, para. 3).

Bolter and Grusin state that the remediation of reality for hundreds of years has been made using our technologies of representation and digital media follow the same tradition. They believe that virtual reality reforms reality by offering us an alternative visual world so that we are convinced to accept it as the place of our presence and meaning (Bolter, 2000, p. 61).

Biomediality

Before proceeding with the examination of how the content of this exhibition is (re)mediated, it is necessary to discover what previously happened regarding the media of original works. The Center for Genomic Gastronomy examines the biotechnology of human foods through its activities. As these art practices employ the principles of biotechnology, they are considered works of BioArt. Hence, one area of focus in this thesis is the media used in these works.

Jens Hauser, a Paris and Copenhagen based art curator and writer, pinpoints the need to formulate a theory of biomediality in a time that the concept of media is expanding more and more. In his 2016 article *Biomediality and Art*, he states that we should consider that media are something beyond a communicative form only used for the storage, transmission, and processing of information:

This kind of art shows how, under the influence of the natural scientific disciplines, the focus of the concept of mediality of the humanities themselves is expanded. For when the technology of media changes, so too changes our concept of what a medium is”
(Hauser, 2016, p. 203).

In order to place biotechnological art in a space between “life” and “media”, Hauser suggests the concept of Biomediality. He distinguishes this concept in three strategies in the art practice: “biological media”, “biomedia”, and “media of biology“ (p. 210).

Biological media can be understood in the sense of milieu; a media that turns the biological system into something else. These existential media can be water, light, pressure, blood, urine, cell plasma, laboratory cultures, culture vessels, etc.

Biomedia are media, whereby the function of biological systems

operate outside of their original organic purpose. Hauser considers them as “Processing bodies”, whereby the “bodies” can be molecules or organisms. We can name examples such as subcloning DNA into engineered viral vectors, cell line creation, the production of laboratory organisms such as transgenic animals or clones, bioinformatics, and biocomputing.

Media of biology are organic systems that reveal something about other organic systems. Hauser compares it to what microscopy or micro-cinematography was used for in the past. Today, however, biological systems themselves can become representational units created by the use of technology instead of the physical-optical apparatus applied in the past. Examples of such media are fluorescent biomarkers, biosensors, DNA chips or the size/charge separation of molecules in so-called gel electrophoresis (p. 211).

Hauser states in an interview (2012) conducted by curator and cultural researcher Daniela Silvestrin that:

“The thing that interests me especially about biomediality is how biotechnological art demonstrates the transition from physics to biology in the notion and concept of media, as well as the resulting changes in our understanding of aesthetics, philosophy, and the world in general” (Hauser, 2012, para. 23).

What is remarkable about the concept of “Biomediality” and its connection to my research is that this medium is not able to be sustainably archived. Biomediality assumes that a biological medium is first a way to “enable something to be formed, without itself having a form” (Hauser, 2012, para. 13). The question arises of how one can document or archive a medium without form. The living organisms and tissues, which are tangible media in works of BioArt, cannot live forever. Yet, the question is raised on how it is possible to collect what is perishable. In this way, Biomediality can be comparable with theater or performances. In the next section, I would like to examine how the ephemeral nature of performance may be documented.

Documenting Live Performance

Many projects of the Center for Genomic Gastronomy are in the form of performance, experimental restaurants and events; art forms which are not tangible objects like sculptures or paintings. These physical events have been documented in different ways as we can see in this exhibition.

Here, I would like to examine documentation in art. Looking back at the history of documentation helps us to know what a document exactly is. For Paul Otlet, the Belgian lawyer and bibliographer who for the first time theorized the concept of the document at the turn of the 20th century, the “document” is a self-evident object, implying a fact (Gorichanaz,2017, para. 6). Suzanne Briet, the French librarian, author, and historian, challenged Otlet’s view later. For Briet, a document wasn’t necessarily objective proof and documentation was not “self-matter”. She believed that to understand any document you need to understand the process of documentation. Therefore, to grasp the meaning of a document, it is essential to consider the context it arises from (Gorichanaz,2017, para. 7).

In a pre-published version of his 2017 paper *Understanding Art-Making as Documentation*, Tim Gorichanaz, a professor of Information Science at Drexel University, explores how art-making itself can be considered a form of documentation. Conversely, this paper invites the consideration of the process itself as a kind of artmaking.

Glenn Phillips, the consulting curator of the Department of Architecture and Contemporary Art at the Getty Research Institute (Los Angeles, CA), believes that many performance artists are concerned about what forms their works should be documented in and they continue to be creative in this respect. In other words, the documentation is part of their artistic process (Phillips, 2012, para. 11).

The journalist and freelance writer, Jen Ortiz, turned to a group of performance artists to clarify this question: “Can performance art be collected or reproduced and still maintain its original message and ephemerality?” (Ortiz, 2012). Joseph Ravens is the executive director of DEFIBRILLATOR performance art gallery in Chicago. He prefers to use the word “impact” instead of “message” in this regard. He considers videos and photos as standard ways of documenting a performance, but his gallery is intrigued by the other ways a performance can have a “second life”. He is interested in the memory that an object holds especially when these objects are presented alongside other forms of documentation. These new works refer to another version of the original that doesn’t reduce the original’s value. Ravens mentions that a weak performance can have good documentation or vice versa (Ravens, 2012, para. 33). Hector Canonge, artist and founder of the Itinerant Performance Art Festival (New York, NY), argues that what is documented of a live performance doesn’t have the same “value” as the original experience:

In terms of “collecting” performances, Performance Art cannot be treated as an object. However, ephemera from performances could be collected. The objects left by the artists serve as mementos of what happened live, but they are only pieces and those pieces cannot reflect the entire performative act (Canonge, 2012, para. 20).

The performance artist Marylin Arsen declares that all art is, in fact, a document of an action. A painting can be considered a document of an artist’s action. In the end, the viewer of a painting determines its meaning no matter what the artist may have intended by the work. She states:

In each case, these documents operate as triggers to memory and imagination. No one experienced the action in the same way and no memory of the event is complete. Each rethinking and retelling of the experience reconstructs it. The meaning changes over time, as the work is considered within different contexts (Arsen, 2012, para. 48).

The original projects of the Center for Genomic Gastronomy are mostly event based in the form of performances, which are ephemeral, or with the presence and participation of audiences. In addition, the media applied in the projects with artisticbiotechnological practices, as it is outlined in the previous section, are easily spoiled, or are even intangible and without any form. Therefore, in documenting these art forms, one will face the same challenges that one has in documenting performance art. We see that the documentation of live performances can be considered as part of the original work or the next step of the art process, although what is left afterward may not have the same “message”, “impact”, or “value”. There is even the potential to create something completely new.

Art Experience - A Meaningful Situation

In the decades of the past, the view was that objects in museums or art exhibitions speak for themselves and a curator should only present them to visitors in a neutral way. It was thought that the objects communicate perfectly by their inherent, unchanging meaning and by being exactly what they are. Therefore, the visitors’ ideal gaze was the same as that of the curator (Hooper-Greenhill 2000). Today, many changes have occurred with the thoughts of dissemination in contemporary museums and art institutes, who are constantly seeking new ways to reach beyond the old model of the audience playing the passive role of a container where knowledge is transferred from a mediator (Christensen-Scheel, 2019, p. 22). In their 2019 book *Kunstformidling Fra verk til betrakter*, Myrvold and Mørland discuss the dissemination strategies that museums and art institutes use to present art today. They describe how the new task of museums is to involve the public and subsequently change the role of the audience:

The museum today will not only accommodate objects, but also include what the public brings with them of knowledge, preunderstanding and social relations -- in short themselves. The audience's experience, intangible and subjective as it is, is no longer just a private event in the face of an exhibition or a work of art, it is increasingly a goal in itself and even a size that the institutions include and make visible (Myrvold & Mørland, 2019, p. 13).

The authors go on to illustrate the process of how the attention of the mediator is turned from object to situation. From 1960, art began to employ objects to create experience, rather than offering them as something that produced meaning, and from that time onward, experience became an important part of the conception of artwork (von Hantelmann, 2014 p. 2). According to Myrvold and Mørland, as art is an experience, the situation experienced by the viewer is part of the production of meaning. They believe that it will be the task of disseminating art that creates a space which allows the artwork to be revealed as a „meaningful situation” upon meeting the viewer (Myrvold & Mørland, 2019, p. 15).

An example of the effort to create this „meaningful situation” in an event is *documenta 13*, which Mathias and Mørland explore in their article *Formidlingens Dilemma* (2019). This article, whose title means „The Dilemma of Dissemination”, refers to „*documenta 13*” in 2012 as an example of how the focus of the artwork has turned to the viewer. *documenta 13* is one of the most important exhibitions of contemporary art, and takes place in Kassel every five years (Mathias & Mørland, 2019, p. 85). Carolyn Christov-Bakargiev, the artistic director of *documenta 13*, writes in her exhibition statement:

dOCUMENTA (13) is dedicated to artistic research and forms of imagination that explore commitment, matter, things, embodiment, and active living in connection with, yet not subordinated to, theory... This vision is shared with, and recognizes, the shapes and practices of knowing of all the animate and inanimate makers of the world, including people... (Christov-Bakargiev. 2012)

This statement of Christov-Barkargiev was most unusual as was her refusal to offer a predetermined curatorial concept (Schoene, 2012, p. 36). A fact to consider about *documenta 13* is that unlike the other exhibitions of “documenta,” which were held in Kassel, this exhibition took place simultaneously in four different locations around the world (Documenta, 2012). Christov-Bakargiev invited a number of people from various disciplines, in addition to the artists, to participate in this event in order to include presentations and interactions in the fields of art, literature, politics, philosophy and science (Schoene, 2012, p. 36).

In her 2012 book *Letter to a friend / Brief an einen Freund* where she describes some key issues about *documenta 13*, Christov-Barkargiev states: “I believe that procedural questions are as meaningful as, if not more than, the so-called thematic content or subject matter of an art project” (Christov-Barkargiev, 2011, p. 6). In this way, Christov-Bakargiev asked for an examination rather than offering a fixed statement. She wants us to re-evaluate not only the art but our environment (Schoene, 2012, p. 36).

In *documenta 13*, the viewer confronts, among other things, a collection of “non-art,” such as research and documentation (Mathias & Mørland, 2019, p. 85). The existence of non-art in an art exhibition is not something new in history, when we look back at the term “readymade” from the 20th century. In this case, the artist selects an everyday object and designates it as a work of art; however, the exhibition *documenta 13* did not try to stage non-art as art. Here, it was irrelevant whether objects were predetermined to be art or not. *documenta 13* showed that it no longer has to be the “work of art” at the center of an art experience.

The art institution’s foremost task is the production of knowledge, and what exactly triggers that production is less important than the fact that it is triggered. *documenta 13* is concerned about what triggers it, and in many cases it is “non-art” (Mathias & Mørland, 2019, p. 87).

Keeping in mind the perspectives found in documenta13 that make it a meaningful situation for the viewer can be of assistance while exploring the exhibition *Food Phreaks!*, which I will refer to later in the discussion section.

4

EXAMINATION

Beginning

“We hope this exhibition may find you inspired to how artists can engage enriching collaborations and topics with a transdisciplinary approach, and invite you to reflect on how the food on our plates and in our guts is tightly connected with bigger issues...”
(Hege Tapio, the curator of NOBA)

The exhibition *FOOD PHREAKS!: Biodiversity of the Kitchen*, opened in Vitenparken in the city Ås, Norway, started in September 2021. To begin my examination of this event, I first illustrate the structure and location of the exhibition. Of the 21 projects indicated in the guide, I have chosen a select few based on the criteria that highlight The Center for Genomic Gastronomy’s concepts the most clearly and those strategies of presentation that are more evident. To avoid repetition, I have therefore refrained from describing the projects that I do not believe play a substantial role in clarifying my questions.

Further in the review, by referencing the concepts presented in the theory section and the findings from the exhibition review, I lead a discussion that helps clarify the main question of my research.

Exhibition *Food Phreaks!* is “an exhibition about the ways that taste, place, technology and food shape our planet and our lives” (NOBA, 2021). By visiting this exhibition several times, it is possible to come across elements of the project from several different aspects. The exhibition is complex in content and presents many materials that can be viewed from different perspectives. This complexity has inevitably been reflected in my examination.

Many of the Center’s projects are ongoing events that take place at different venues. At each new location, the projects will usually contain minor changes to the iterations of the same works. This may be because the events are based on practical research that expand with each performance. Therefore, they can be considered works in progress.



Figure 9. The Exhibition *FOOD PHREAKS!: Biodiversity of the Kitchen*, 2022, Photo: Maryam Abtahi

This may include the documented projects displayed in this exhibition. For this reason, I have chosen to write about the exhibition *Food Phreaks!* in the present tense to bring the event closer to the readers as something alive rather than as a past and forgotten event. Writing in the present tense allows the reader to better imagine themselves at the exhibition.

In writing this paper, I have made comments from my perspective as a viewer of *Food Phreaks!*. Since my analysis is drawn from my experience of the event, I cannot make generalized assumptions about the experiences of all visitors to the exhibition. Therefore, I have chosen to use first person pronouns in many places.

Entry to the Exhibition

The exhibition space is not like an ordinary gallery. To access the exhibit, you must first enter the VitenParken café. There are no signs for orientation and one must purchase a ticket from the café's cashier. At the end of the café there is an entrance with a sign above it. The sign says "Vitenverden", which means "The Scientific World". This is the title of this permanent exhibition room. Once at the entrance, a flight of stairs leads to a large room absent of windows and little light. The entire room is painted black. On my first visit, a portion of this space was reserved for another exhibit of Vitenparken that was geared toward children and was about food and nature. For a time, it was confusing for me and I was unsure if I was at the exhibition *Food Phreaks!*.

The room is divided by a diagonal black wall, behind which the exhibition is located. On this wall, one can read the title of the exhibition; *FOOD PHREAKS!* by The Center for Genomic Gastronomy. A mention that this event is presented by NOBA is also there.

On the wall, a TV screen is installed showing clips from various videos and the artists of The Center for Genomic Gastronomy that describe the Center's activities. This video is a good introduction for an initial understanding of the exhibit. In the middle of the exhibition stands a platform with a wooden surface painted in pink. The platform has pedestals in bright red and shiny pink pleated fabric is installed around it. At first glance, I recognized the colors of pop art in the design of this platform. One can associate the colors and shapes with a theater stage, so it will be referred to as the "pink stage" in this text.

A wooden wall-mounted stand in bright red holds the printed guides to this exhibition. The guide is a folded leaflet that includes the names of projects and a short description about each of them. Next to the title of each project, numbers are printed indicating which presented objects belong to which project. An illustration shows the positions

of the objects located on the pink stage in order for them to be easily found. The guide I received on my first visit was not as complete as the one I later obtained on my second visit. In the later variation, information about the videos on the wall are added, which previously had no number. A new illustration is also added, marking the location of the objects on the walls with letters. This guide plays an important role in enabling a cohesive understanding of the exhibit when used in conjunction with the object descriptions.

This archival exhibition displays objects number 1–52 in two rows on the pink stage (except objects 9 and 29 which are on the walls) and eleven objects on the walls marked with letters in the guide. Objects 9 and 29 are marked both with number and letter in the guide.



Figure 10. The Exhibition *FOOD PHREAKS!: Biodiversity of the Kitchen*, 2022, Photo: Maryam Abtahi



Figure 11. Front page of the exhibition guide, 2021

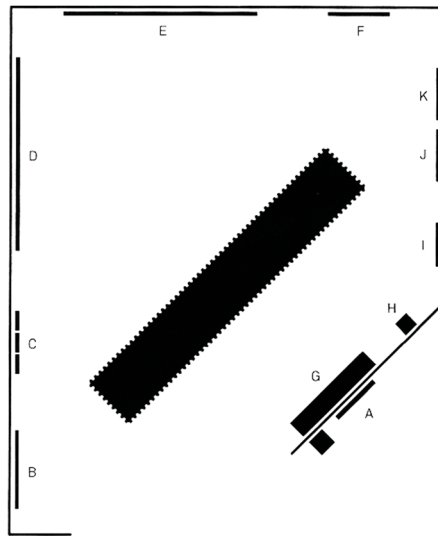
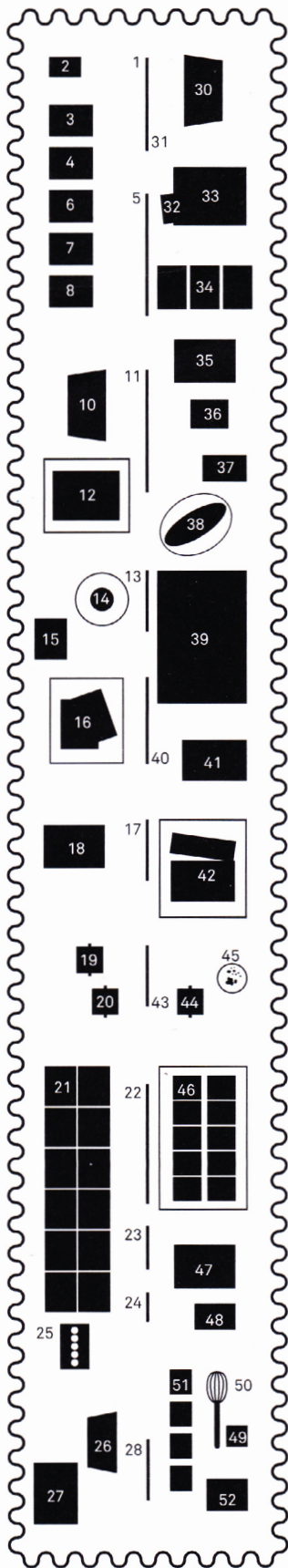


Figure 13. Back of Exhibition Guide, Plan of the room, 2021

Figure 12. Inner page, The Exhibition Guide, plan of the pink stage, 2021

We Have Always Been Bio-hackers (2010)

Object 1 is a lithographic poster installed on a stand on the pink stage. It is printed with an all black background and a regular dotted texture. Gold tinted text is formed in large letters by connecting the textured dots together. This poster, as the first presented object on the stage, conveys a clear message to the viewer that introduces the concept: “WE HAVE ALWAYS BEEN BIO-HACKERS”. This message strongly points to the power of humans over their environment; Nature is under our control. The poster uses large lettering that nearly fills its entire space, and yet is so empty of emotional visual elements that the viewer may doubt the style is implying good news. The exhibition guide helps the viewer with an explanation: “Since the dawn of agriculture, humans have developed tools for manipulating organisms and environments to suit their needs and desires. Can our collective wisdom match the increasing precision and power of our tools?”.

The guide explains clearly what it means to be a biohacker. It has considered a broader definition of biohacking in comparison to what is defined in our time by implying ancient techniques as well as novel ones. The text reminds us that humans have always manipulated nature in some way.

While the poster emphasizes the power of humans over nature, the guide’s text suggests doubt that humans will be able to properly use the advancing technology without risk. It seems that the organizers decided to temper their powerful message on the poster with this commentary.

In previous displays of this poster, however, The Center for Genomic Gastronomy took a different approach with another version of it. They have pointed out on their website that “the name says it all” without

adding a helpful explanation (Biohacker, 2011). Other remixes of this poster have been presented in various places around the world as mentioned in the exhibition guide. In the following examination and comparison with the Center's earlier works, we will see that this strategy of remixing is used many times throughout the exhibition.



Figure 14. *We Have Always Been Bio-hackers*, 2022, Photo: Maryam Abtahi

Glowing Sushi Cooking Show (2010)

This project is presented by objects number 30 and 31. As mentioned in the exhibition's guide, this is "a cooking show that finds an unexpected use for the first genetically engineered animal you can buy". There is a poster installed in a plexiglass stand on the pink stage that includes information about the project.

There is also a tablet with headphones presented on the stage that displays a cooking show by Cat and Zack. This 2-minute video shows how the artists make glowing sushi by using GloFish®, which are genetically modified (GM) by the insertion of green fluorescent protein to produce decorative fluorescent fish for the aquarium market. In this video, Cat and Zack talk about how beautiful the glowing pieces of sushi are and how good they taste. In the last seconds of the video, Zack examines Cat's mouth with a flashlight and points out the glowing spots on her teeth while laughing.

This project aims to highlight the presence of GM organisms in the food industry. An underlying nuance of this work is the association between how conventional food sources are concealed from the public view and the tendency of people to deny perceived abhorrent food production methods (Myers, 2015, p. 44).

The poster is formatted much like a scientific poster, with a classic layout of two colors and three columns. A fluorescent orange is used, which one can associate easily with the bright fluorescent fish used in the glowing sushi. The poster describes in great detail about the project's idea. By watching the video and reading the information, one can get a nearly complete understanding of the project.

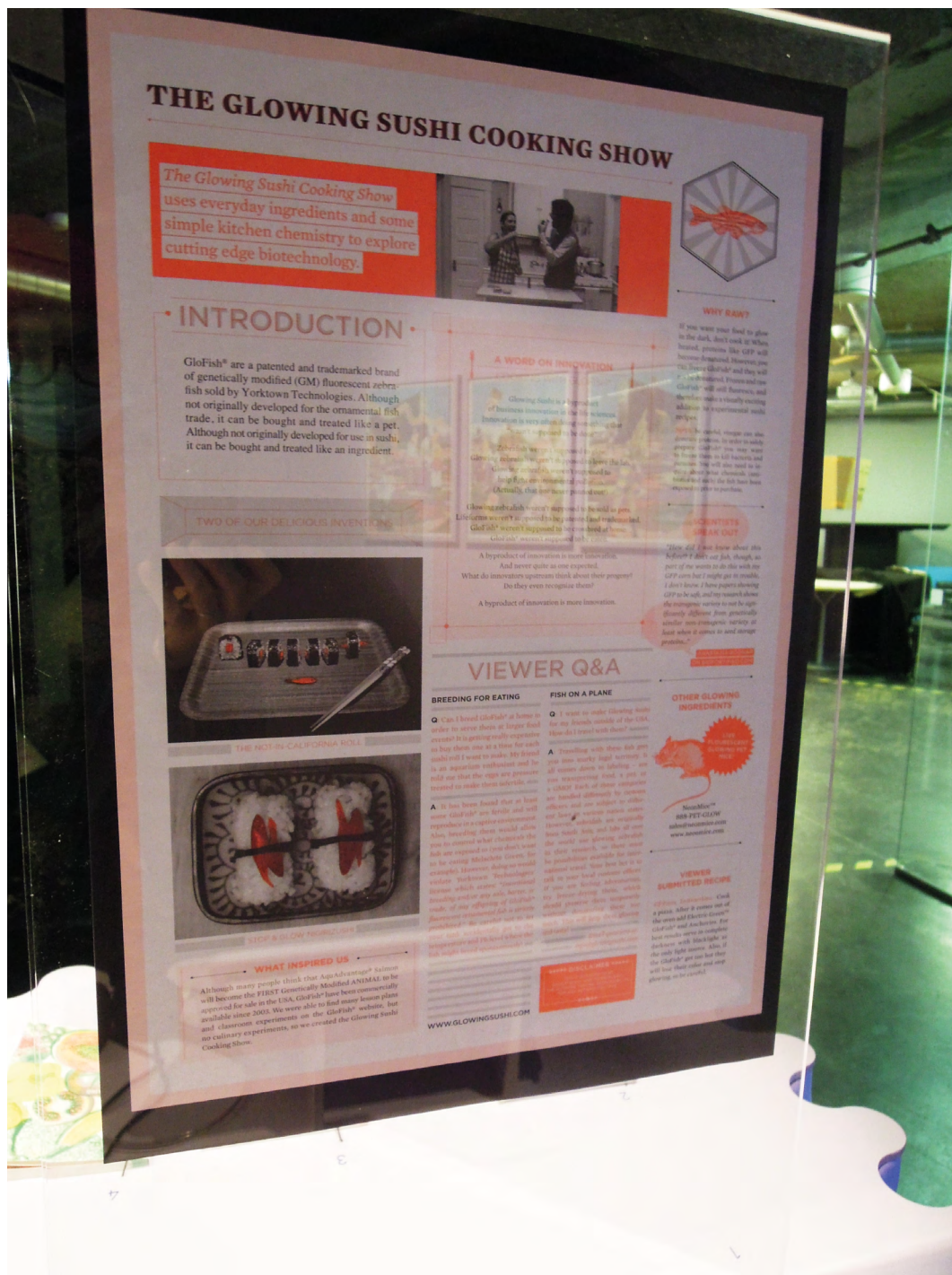


Figure 15. The Glowing sushi Cooking show, 2022, Photo: Maryam Abtahi

To Flavour Our Tears (2016–2020)

This project is presented through a booklet, a picture, and a poster which were displayed on the pink stage. A video played on a wall and a picture under plexiglass was installed on the wall next to it. In the exhibition's guide, it is mentioned that this project is: "An experimental restaurant that places humans back into the food chain by investigating the human body as a food source for other species". Although this explanation seems brief for describing this complex and detailed project, it gives the audience a hint of what they are encountering. Object number 27, the booklet with title of the project, is created as a recipe booklet which offers some ideas about how human tears can be a food source for other plant and animal species. This booklet includes 16 recipes.

Object number 26 is an illustration in a black frame, standing on the stage. This line drawn illustration depicts an empty bar or restaurant. The phrase "TO FLAVOUR OUR TEARS" (TFOT) is written under the image. The viewer may find an association with the words "bar" and "to flavour" and can learn more about the idea of this "bar" in the recipe booklet (object 27) along with other recipes.

"To Flavour Our Tears Moth Bar" is an eatery designed for lachryphagic moths, or other insects that feed on mammalian tears. The bar provides an assortment of tools to help humans flavor, induce, and capture their own tears for the enjoyment of thirsty insects. At the TFOT Moth Bar, the human body is what's for dinner. Moths wait patiently in an insect lounge while their meals are prepared. Humans are invited to make each other cry in the Party Booths, or escape to a Privacy Tear Chamber for some emotional time alone. Crying humans can climb atop the bar and lie, face up, while a table of moths is seated on their eyelids, ready to enjoy a round of drinks. If the human is in a hurry, he or she can donate a few drops to the lachrymatory bottles or other tear

vessels. These tears can then be left to age into superior vintages or evaporated into fine salts for consumption at a later date.” (TFOT, 2020).

This description clarifies what goes on in the bar. Since the topic is a bit provocative or strange, I was curious if this idea has already been put into practice. However, from the documents on the pink stage, it is not clear whether it is only a proposal or whether such an event has already taken place.

Object 28 is a picture that shows the head of a woman with disheveled hair lying on grass with a tool placed over her eyes. This image is also found in the recipe booklet entitled “Eyephones”. Eyephones are a low-tech VR headset which can simulate the feeling of moths feeding on tears around the eyelids (TFOT, 2020).

Object 29 depicts a larger illustration mounted underneath glass on a wall. It is a line drawn illustration with collaging black and white pictures of different sections of the TFOT project. The line drawing shows a plan of an imaginary construction where humans and other living species are moving about inside it. However, the viewer is not able to extract the story behind this picture unaided but can see a relationship between humans, animals, and plants that points to an interdependence in nature.

In addition to these four objects which are paper publications, a video plays on the wall regarding this project. In the video, various parts of the TFOT project in the form of animated models can be seen. The video contains a number of approximately 15 second segments separated by a screen with a black background and white text describing the content of each section. It is reminiscent of the classic silent films, especially as the video has no sound. In each section, different events occur around people, which are represented by small plastic figurines in white geometric spaces. The scene is then completed with a series of realistic shots of animals and plants and their movements. The plastic human figures move minimally or stand still while plants and animals move about. In this way, the project shows the passivity of humans against other creatures in nature. Now it’s their turn to use us as a food source.

The cut scenes of this film and other objects that present the project *To Flavour Our Tears* can evoke a sense of provocation in the viewer. It can be disturbing to see pictures where the body of a once living being is spoiled, to observe insects drinking tears directly from human eyes, or to hear their simulated voice. This disturbed feeling can be made even stronger by offering oneself as food for other living beings. This experience provides a strong visceral sense which is quite different from what was obtained vicariously through viewing or reading. However, both can be unique experiences.

By researching the internet, the website of The Center for Genomic Gastronomy, and other sources, evidence of visitor participation in this experimental restaurant has been sought. At each festival and exhibition, the Center has displayed TFOT in a new way. In some instances, visitors can participate in certain parts of the event, while in others they are allowed to only observe the documents of the research undertaken by the Center. The objects displayed also vary from exhibit to exhibit. During the Pixelache festival in Helsinki in 2016, The Center for Genomic Gastronomy offered the chance for visitors to call an expert every day at 6pm to learn more about the scientific background of the project. Tears were collected that were then dehydrated into salt and visitors could experience the use of “Eyephones” as well (Regine, 2016, para.7).

This project was originally created in the form of a complex proposal. The installation contains many sections which can also be perused in the accompanying booklet. Some parts of the installation are conceptual and not in a physical format. Regarding this research, Zack Denfeld states that:

We are calling this kind of research into flavouring oneself “AUTOGASTRONOMY”, It is both metaphoric and quite possibly implementable...we try to stay true to our materials, assembling real organisms and ingredients in new configurations and find ways that we can give people the taste of the world we are imagining / speculating, and have them put the art directly into their body (Denfeld, 2016).

TFOT's work takes a critical stance against anthropocentrism, the belief that humans are the central beings in the world. The project seeks to change this presumption by placing humans on an equal footing with other living beings. To accomplish this, the human body is humbly given as food to other living beings.

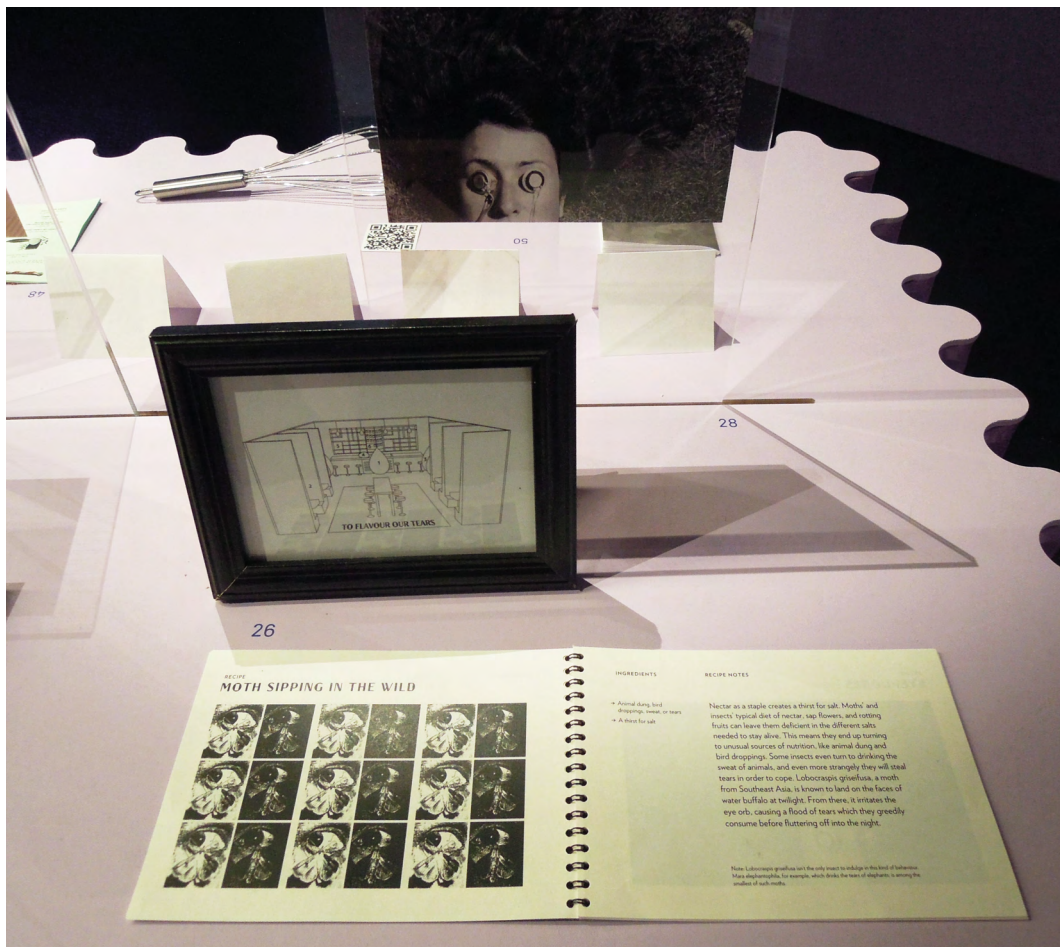


Figure 16. *To Flavour Our Tears*, 2022, Photo: Maryam Abtahi

Vegan Ortolan (2012)

A picture installed on an acrylic stand on the pink stage displays the project entitled “*Vegan Ortolan*”. Depicted in the photograph is a bowl containing what looks like flesh from a bird laying on a bed of long, dark, cooked herbs and what appears to be a rotten fig. The desiccated and dark appearance of the “meat” indicates that it is old and inedible. The food in the bowl is more reminiscent of scraps haphazardly thrown into a garbage bin than a wholesome meal served at a table. The appearance of the dish is unpleasant or even disgusting.

In the exhibition’s guide, it describes this as a vegan version of the “cruellest dish ever invented”. That the dish contains bird meat is unmistakable, yet it is called a vegan dish. The word „cruel“ strongly evokes the feeling of curiosity to understand what makes this concoction so inhumane.

In this archival exhibition, most of the projects are not introduced with all of their original dimensions and details. Therefore, it creates an ambiguity which leads to confusion for the viewer, and will be discussed later in this thesis. In *Vegan Ortolan*, this ambiguity is exaggerated by the paucity of information and the viewer is abandoned to make uninformed conclusions about the project’s meaning. It is like an equation with many unknown variables making it unsolvable. It is incomplete in the presentation of the project leaving no way to penetrate its message and only unanswered questions. Is it “vegan” and “meat” at the same time? Why is it cruel? There is no connection to be made between these words and it is difficult to dismiss. And that may be the goal as it is natural for the viewer to take out their mobile device and look up “cruellest dish” or “ortolan” on the internet. At least, that is what I did on my first visit.

Those who are familiar with the French culinary tradition may know how cruel the techniques are in preparing the ortolan bird as food.

The Ortolan bird is a rare songbird whose hunting was banned in France in the last part of the 1990s, not only because of its rarity, but also because of the method used for killing it to produce a dish. The traditional method of preparation is to force feed the captured birds excess grain. They are then thrown alive into a vat of Armagnac and drowned to both kill and marinate the animal (Wallop, 2014). Traditionally, when eating this dish, the head and face are covered with a large napkin to preserve the flavor of the food. It is somehow reminiscent of hiding the shame of such a cruel act from God (*Vegan Ortolan*, 2012). Despite its illegality and violent method of preparation, this dish still has its fans and consumers, and there is a demand for its return to the French menu (Wallop, 2014).

The project *Vegan Ortolan* is “an ongoing cooking contest” to regenerate this dish as vegan. It takes a lot of skill to simulate all the details of this little bird’s body as a vegan food (*Vegan Ortolan*, 2012).



Figure 17. *Vegan Ortolan*, 2012,
<https://genomicgastronomy.com/work/2012-2/vegan-ortolan/>

Cobalt 60 Sauce (2013)

Objects numbers 14, 15, and 16 display this project. The first is a bottle of barbecue sauce with a label on it that depicts an atom symbol and is made from common mutated varietal ingredients. A booklet accompanies the bottle, which is attached by a thread to its neck. However, it is not possible for the audience to physically examine it as the bottle is standing under a glass dome. There is, however, a copy of the booklet available online on the website of The Center for Genomic Gastronomy and it shows a short history about the radiation breeding of seeds by using an infographic. No record of this protective glass dome being used in a previous presentation of the Center could be found. It may be an idea of the organizers to create a sense of fear in the audience by appearing to protect them from an imagined danger of radiation exposure. The dark brown color of the sauce and its design convey less of the feeling of an edible product and more of industrial chemicals. Neither the exhibition nor the Center mention explicitly anything about the risks of this common technology. Nonetheless, the presented context of the object, its design, title, and little provided information, create an unpleasant sense of danger.

The Center for Genomic Gastronomy has produced these sauces as a limited edition of 50 pieces. The bottle presented in this exhibition is numbered 22 of 50. This object is one of the few in this exhibition which is tangible and not a document in the form of a paper publication or video. This project was also presented at the *Exhibition Matter of Life at MU*, Eindhoven in 2014. Visitors who wanted to taste the sauce were able to take a sample from a large dispenser located at the exhibition (Regine, 2014).

Object 16 contains two copies of cards that depict a single variety each of barley, grapefruit, and peppermint and are laying side by side under a glass on the pink stage. The cards pose the question of what do these ingredients have in common? Below the query is written in



Figure 18. Cobalt 60 Sauce, 2022, Photo: Maryam Abtahi



Figure 19. Cobalt 60 Sauce, Postal Card, 2022, Photo: Maryam Abtahi

small font “#cobalt60sauce”. This pertains to the makeup of the sauce on the stage. The depiction of the three edible plants are in the form of schematic illustrations with the name of the variety printed below. The answer to the question is written upside down at the bottom of each card, which explains that they each have mutations created through radiation breeding. This simple quiz helps to more clearly convey the message intended by the idea of the sauce.

Object 15 is a stack of postcards portraying a picture of a barbecue party. A woman dressed as a waitress is standing still in the middle of the picture holding a Cobalt 60 Sauce bottle in one hand and smiling. The guests are happy, cheerful, and enjoying the celebration. Other guests are also holding sauce bottles. The colors of the postcard, like many other works in the exhibition, are reminiscent of Pop Art. In the background of the picture and behind a wooden fence, dark clouds and the light of a sunset are visible, implying that “the party” will soon be over.

Unlike the other printed materials, this work is not tied to the pink stage and viewers can take a copy with them as a souvenir of the exhibition. On the back of the postcard, the atomic symbol and name of the project are printed as well as an explanation of what this sauce is made of.

This postcard can be interpreted as a symbol for the transmission of messages. The message here is that the party is coming to an end and must be conveyed to the visitors.

In this project, a description of the technique of mutation breeding is not given. There is no discussion on whether it is dangerous or what its advantages are. However, the feeling conveyed to the viewer is that of caution. The advantages of this technology that the International Atomic Energy Agency (IAEA) claims are that it is cheap, environmentally friendly, fast, proven and “non-hazardous” (IAEA, 2022, para. 5). Although mutation breeding is considered a harmless process, it is unclear what global impact this technology will have on humans and the environment.

The project *Cobalt 60 Sauce* is a critique on the vague future of utilizing modern technologies to create human food. The artists of the Center have combined science and fiction in this work in order to respond to their mission concerning the future of food sources for humanity.

Smog Tasting (2011-ongoing)

Objects 49 through 52 encompass the Smog Tasting project, where the viewer's curiosity is piqued by a kitchen whisk placed next to a QR code on the pink stage.

The contrast of a rudimentary kitchen appliance next to such modern technology is fascinating. Adjacent, a notebook with a black cover and a row of cards lay on the stage. The description in the exhibition guide clarifies the subject to some extent: „Uses egg foam to harvest air pollution, so smog from different locations can be tasted and compared. It has led to a suite of tools and techniques to study Aeroir: “The unique atmospheric taste of place”. The “Egg foam” in the text, justifies why there is a whisk among the items.

Object 50 is the QR code that connects you to a post of the Center for Genomic Gastronomy on Instagram. The post consists of a video accompanied by explanatory text. Its caption reads: “The purpose of GUIDED SMOG SMELLING is to activate our bodies, lungs and senses of smell and to experience with intention the unique atmospheric moment we are living through”.

The title clearly describes what our role is here. We are not just spectators, but we are invited to participate in an experience. The Instagram video begins with a shot of gray smoke moving slowly. The title “Guided Smog Smelling” appears and a female voice invites us to focus on our breathing and to relax. Next, a narrator leads the audience to close their eyes and imagine a series of different situations and then

to focus on their sense of smell. They are asked to recall smells from the past. During this concentration, the video shows only white light. The white light has a function here, because unlike a black background, it is perceived with eyes closed. After 5 minutes, the spectators are allowed to open their eyes.

This QR code is fundamentally different from other objects in the exhibition *Food Phreaks!*. It is not tangible and it cannot be directly read or watched. It is a code that must be deciphered in order to make a connection to a work of art. It is akin to a locked door that may hide a mystery behind it. This sense of intrigue draws the participant in and all that is needed is a cell phone, which most have today. By holding the phone's camera over the code, an instant connection is made to the artwork. In the interaction with object 50, the viewer comes out of passivity and into active participation. Although the visitors have the choice to open the available notebooks and flip through the pages, this kind of involvement is somewhat different. The act of flipping through the pages of a book is a common experience and the thought of it elicits a clear memory of the touch, sound, and even smell of such an action that it imparts upon the viewer a sense of control over what is seen and what to expect from this kind of medium. With an unfamiliar QR code that has no description, the viewer is left with an intangible, virtual object that can lead to anywhere on the internet and therefore must make the leap to give up control to a digital construct.

A video montage of scenes from previous performances of the Center plays on one wall of the room. The video is titled "Smog Tasting". In the video, people are mixing foam in a bowl with a whisk and a series of locations are shown while the name of big cities appears in large font on the screen.

Referring to the Center website gives insight into the origin of this work. The project employs egg foam to absorb air pollution which is subsequently used to make food items that are served to people. Participants can be involved in the entire process with the project's main objective being to educate the public that pollution is ingested

by people everyday, no matter if it is in food or if it is inhaled. The event maps out the air quality of highly polluted areas (Smog Tasting, 2011). While the viewer of the exhibition *Food Phreaks!* can access an overview of the subject of the original event through the presented objects and the text of the exhibition guide, there is no information about previous exhibits. However, it does appear that the organizers did not aim to show documentation of their achievements as they could have used other strategies to present them more clearly.

As a viewer, it is apparent that I should look for relational significance between cut-out images, texts, and tools and that I should make a connection between watching a video that requires the deciphering of a code to the objects experienced at the exhibit. All of this created a sense of confusion for me in understanding this project, and because it was among many other materials in this exhibition, this feeling of confusion was intensified. The question to be asked is whether this confusion is an intentional part of the exhibition or an unintended effect of this event.

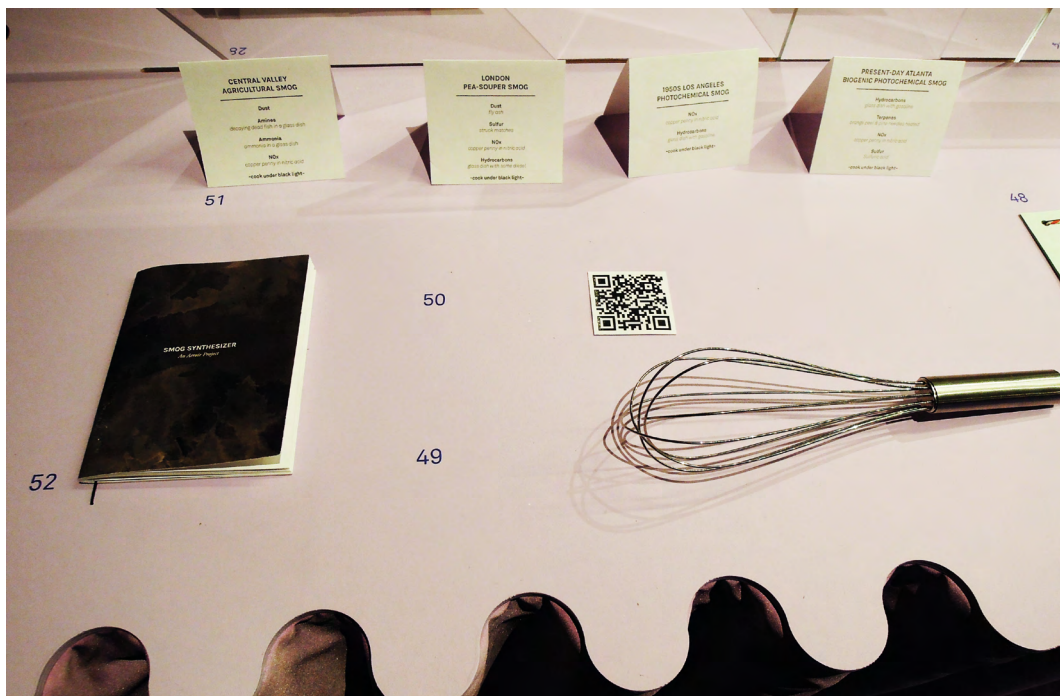


Figure 20. *Smog Tasting, 2022*, Photo: Maryam Abtahi

Food Phreaking (2013-ongoing)

Objects 3,4,6,7 and 8 are each five separate issues of the *Food Phreaking* journal that cover the experiments, exploits, and explorations of the human food system as described in the exhibition guide. These five issues lie side by side in a row on the pink stage, each being attached to the stage with a string.

Food Phreaking Issue 00 is the prequel in the series and contains 38 short stories that describe what food phreaking is and is not (*Food Phreaking*, 2013). Issue 01 examines a number of plant and fruit varieties that have been manipulated by human food cultures. Issue 02, entitled „What is In Vitro Meat?“, contains ideas and opinions from various scientists and experts on the subject of in vitro meat. This issue is printed in red tones in order to evoke the color of fresh meat. The fourth issue is about the bacteria that populate the human gut and body. Puffy italic font in pink is used for the titles on the cover and inside the issue, creating a style that brings to mind comic-strips and is in contrast with the content of the issue. Considering the issue focuses on the human intestinal microbiome, the pink color and the shape of the lettering is also reminiscent of the shape of the gut. The playful formatting of the issue seems at odds with its scientific content.

The introduction to Issue 03 explains that it is a collection of short texts written by experts and presents them in an art book format in order to provide a more approachable way for the reader to learn about an important but otherwise indelicate subject (at least to some) and to provide a glimpse into a new and rapidly changing field of study. The last word at the end of the text is “Enjoy!”.

The invitation to the reader to “enjoy” serves as a reminder that this publication and exhibition are primarily works of art and not solely a

scientific investigation. Food Phreaking issue 04 is titled “seeds” and has a four-color printed cover which is also presented as a seed triptych on the wall, and will be reviewed later. The interior is printed in two colors and contains many stories and articles that reveal the secret life of seeds.

These magazines are printed using the risograph process and appear in limited editions. Issue 01 on display at *Food Phreaks!* bears the number 173 of 500 on its first page.

The journals contain content that is very attractive to the amateur reader who is not familiar with many aspects of the food industry and agricultural technologies. Their scientific content and design are inextricably interwoven. They are objects that should be perceived as works of art rather than merely informative booklets. This is the obvious intention of The Center for Genomic Gastronomy, which refers to them as art books, as mentioned above.

However, there are problems with the presentation of these objects that limit the viewer. One example is that the journals are attached with a short string to the pink stage such that visitors are not able to pick them up. Therefore, one must bend down to read them, which places the viewer in an awkward and uncomfortable position and is quite different from being able to hold the little booklets naturally in hand. The contents of the journals are often presented in the form of short stories that entice the reader to read more by sounding an alarm about technology or hinting at some presumed unknown. Reviewing the journals provides an overview of many of the Center’s activities, research projects and points of view. The research background of some of the projects in this exhibition, which are presented in an obscure way to the viewer, is covered in these journals from different perspectives. It is unlikely that the viewer will be able to find a direct link between the topics of the journals and the projects when visiting the exhibition as there is too much material presented to be processed in one viewing.

Should it be the purpose of these objects in the exhibition *Food Phreaks!* to provide the means of discovery of such connections for the viewer or should the viewer remember that this is art work and just “Enjoy!”.



Figure 21. *Food Phreaking*, 2022, Photo: Maryam Abtahi

Food Phreaking: Seeds Triptych Print

On the left wall of the room is a triptych, which is also the cover of issue 04 of the journal Food Phreaking and is about seeds. This journal is located next to the other issues of this publication on the pink stage marked 4. The images are under glass in pink frames in the exact color of the wall. This work shows a number of people who have vegetables for heads and their outfits and poses connect them to different time periods as well as different places from around the world. In the picture, there is a floating astronaut with a head of lettuce and is associated with space agriculture. Humans are in the early process of expanding their domain beyond Earth and NASA has been researching horticulture aboard the International Space Station for some time by looking for ways to provide “home grown” nutrition to astronauts with freshly grown fruits and vegetables (Heiney, 2021). In the background of the picture, a building is visible which is mirrored on both the right and left images. This construction is of the Svalbard Global Seed Vault, which stores seed samples from the world’s crop collections and is located on the Norwegian island of Spitsbergen in the remote Arctic Svalbard archipelago. The presence of this construction is indicative of a major concern, which is the fear of worldwide catastrophic loss of crop diversity.

The picture is in bright colors and shows people who have no facial identity who seem cheerful on the earth through their actions, while at the same time are looking to conquer space and ensure their future. In this respect, this three-section work is reminiscent of the triptych *The Garden of Delights* by Hieronymus Bosch, created between 1490 and 1510. This work may also recall the work *The Four Seasons* (1573) of the late Renaissance painter Giuseppe Arcimboldo, whom I mentioned earlier in this paper.

Shifting from the Renaissance point of view to modern times, the context of the work would appear very different to a person familiar with the digital realm. With this perspective, it evokes images or “art” created by artificial intelligence that have a psychedelic and dreamlike look. Interestingly, the history of the creation of AI art has a commonality that can be found with the subject of the artwork on the wall. Quirky images were first produced in 2015 when Google was attempting to understand how its artificial intelligence interprets the world. The initial purpose of this attempt was to see how Google’s AI neural networks carried out classification tasks so that engineers could further improve the system. Surprisingly, strange images appeared beside and were quickly met with great interest among programmers and artists (Muoio,2016). This was something that was not anticipated. The image on the wall was created for a journal about seeds and implies that genetic modification of agricultural plants is a technology which has the potential to harm nature and lead to unexpected results. It is highly unlikely that humans are capable of foreseeing all the possible outcomes in the use of new technologies such as genetic modification and therefore unpredictable results are likely, much like the unexpected creation of AI art. However, unexpected outcomes of genetically modified seeds may not be as entertaining to most as AI art.

The artist has used collage to overlay images of vegetables onto people’s heads and faces. By doing this, does she point to possible catastrophic consequences of human intervention in nature? Or are we to associate it with the famous phrase: “You are what you eat!” ?



Figure 22. *Food Phreaking: Seeds Triptych Print, 2022, Photo: Maryam Abtahi*

De-extinction Deli (2013–2018)

The exhibition guide describes this project as having been an experimental eating experience in the guise of a market stand that focuses on the revival of extinct species and consuming them as food. Object 21 is a set of postcards arranged in two rows on the pink stage. Each of the cards on the top row depict a black and white graphic in the form of a food label. In the center of a circle is an extinct animal surrounded by information about its nomenclature, range, and year of extinction. Parts of the animals are labeled as we commonly know them from cuts of meat from farm animals as food.

In the bottom row of the display, the back sides of the postcards are visible. Addressed to an unspecified recipient, “I believe we should” is written and there are three options to tick in front of it: “Not de-extinct”, “de-extinct” and “de-extinct & eat”. At the bottom is space for noting the reason for one’s choice. These cards have already been filled out by participants in previous events, and the viewer can read the comments about the de-extinction of animals.

A poster or “butcher paper infographic” is installed on the plexiglass stand on the pink stage, which includes information about extinct animals. The design of both cards and poster is reminiscent of vintage advertisements. Object 25 is a set of badges with the same schematic images of animals on the postcards and project title. In the previous performance of this project, visitors received these badges indicating their choice to the survey options (The Center for Genomic Gastronomy, 2016).

Myers calls this project a „playful speculation“ created based on recent experiments to revive lost species. The *De-Extinction Deli* (2013) raises a critical question of whether any lost species will reappear and



Figure 23. De- Extinction Deli, Poster, 2022, Photo: Maryam Abtahi

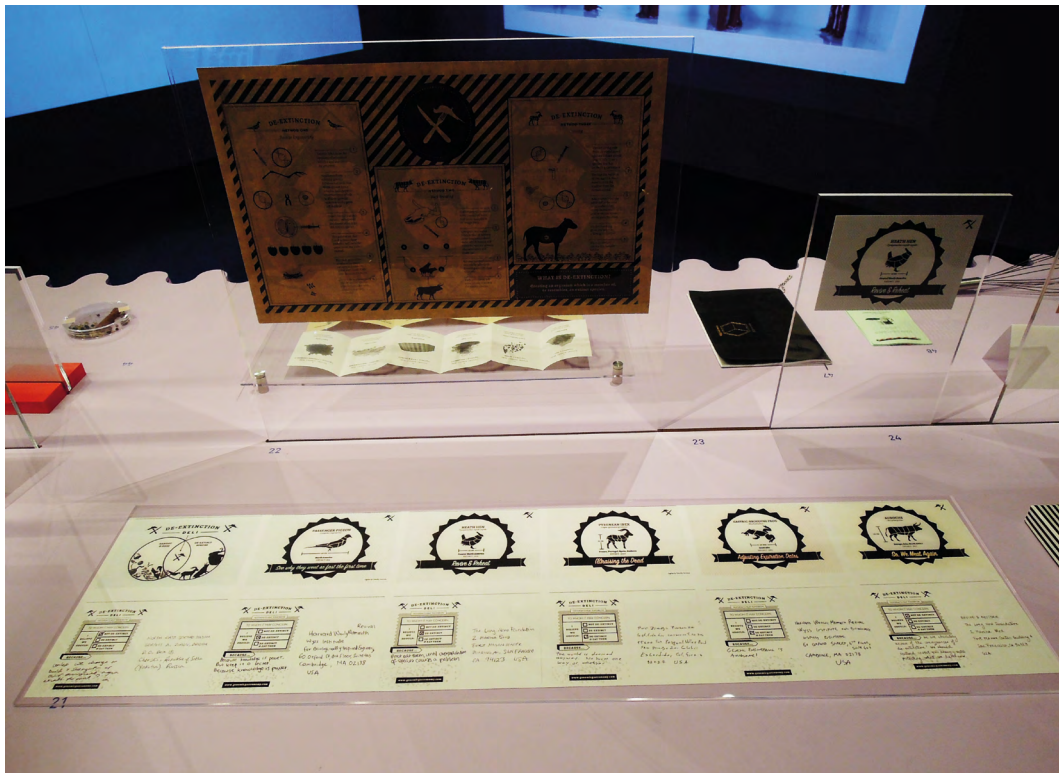


Figure 24. De- Extinction Deli, Survey, 2022, Photo: Maryam Abtahi

whether a new form of consumption will emerge (Myers, 2015, p.44).

When it comes to news of an extinction of an animal or plant species, it is often associated with a feeling of sadness. Perhaps we think about the right of living beings to survive; perhaps we have an uneasy feeling about our interventions on the planet which have led to the endangerment of many species in our time. It appears that the public is less educated about the problems that will happen in the ecosystem when biodiversity disappears.

While this project offers hope for the revival of Earth's extinct creatures, an unexpected question is asked that surprises the audience: Should we consume animals brought back from extinction and how should we do so? From an emotional and sympathetic standpoint, the viewer finds himself on the other side of the equation as a predator as if before this question we had forgotten that we have always consumed animals. There is also an intrusive realization that we ourselves are a cause of extinction of species.

The *De-extinction Deli* project raises ethical questions about humans' contribution to the extinction of animals and the use of technology to revive them. However, it appears that the goal of this project is to get us to look at ourselves from a different perspective as consumers of other species rather than the issue of reversing extinction. Myers states that we need to think more about why extinction is happening rather than focusing our efforts on the purely symbolic act of fighting it in a lab by recreating lost species (Myers, 2015, p.44). Although a small part of these concerns have been reflected in the exhibition *Food Phreaks!*, the entire theme can be easily received by the viewer through the published materials.

Genomic Gastronomy Recipe Box

A red, wooden box is attached to the wall next to a shelf of books and contains a large number of cards. This object is marked in the exhibition guide with the letter H under the title “Genomic Gastronomy Recipe Box” and is described as a collection of the many recipes that the Center for Genomic Gastronomy has obtained and copied.

All the cards include a title on one side and text about a food ingredient and a recipe that uses the ingredient on the back. Other information is noted in the margin of the card, such as the date and the main project to which this research belongs. The cards are completely white and plain with black lettering. It’s as if the Center doesn’t want to evoke any additional emotions so that the viewer perceives only what is read.

I have drawn some cards at random and one of them is titled „old-fashioned old-fashion”. Printed on the back of the card there is an explanation that the type of barley used in whiskeys is produced by radiation breeding, and in fact the old taste of old whiskeys can no longer be experienced. On the right side there is a recipe for making a cocktail drink in small font. These two elements are a warning and an offer. The card warns you about the loss of history due to modern technology and at the same time offers you a recipe that comes from it. This red box is not presented as a separate project, and seems to be a review of all the works of the Center. In this object, the topics discussed and research that has been carried out are presented again in the form of these recipe cards.

When creating a critical artistic project centered on food, many artists use a cookbook format. Lindsay Kelley begins each chapter of her previously mentioned book, *Bioart Kitchen: Art, Feminism and Technoscience*, with a recipe that explores a variety of issues in BioArt.

Kelley has also devoted a chapter on the cookbook format, which has been adopted by many bioartists in order to express concerns on how the food of today is created (Kelley, 2016, p.9). She states that cookbooks can be used not only as commercial products, but also as a tool for activists and artists to both promote and assess modern food technologies. These recipes and their cookbooks often contain critical, humorous, and provocative characters and are a popular vehicle for critical commentary on technologies like genetically modified foods. This format is able to make hidden GM ingredients visible to readers and provides them with a sense of urgency via interaction with these foods (Kelley, 2016, p. 116).

Another example of the use of this format is the book *The Anthropocene Cookbook: Eating for Our Survival* (to be published in October, 2022) which is an artistic research project by Zane Cerpina and Stahl Stenslie that explores humanity's future cuisine (Rucka, 2017).

It seems logical then, that the Center for Genomic Gastronomy, whose name includes a reference to prepared meals, would also choose to use this format in the *To Flavour Our Tears* booklet described as object 27.



Figure 25. Genomic Gastronomy Recipe Box, 2022, Photo: Maryam Abtahi

5

ANALYSIS
AND
DISCUSSION

Title of the Exhibition

Deciphering the title *Food Phreaks!: Biodiversity of the Kitchen* enables us to discover an intended connection. The word phreaks is notable for its unusual spelling. At first glance, it could be assumed to mean „freak“ or the artists may have wanted to be creative and obscure if using the concept of „freaking out“. However, the word already exists as a slang term. Phreak is a portmanteau of “freak” and “phone”. Phreaking refers to the illegal access of telecommunications systems, mainly to obtain free calls and as such, and is thus a type of hacking (Phreaking, n.d.).

It is a clever use of this term for the title of this exhibition, which deals with the subject of manipulation and a different type of hacking—biohacking. Additionally, it sounds like „freak“ which evokes a mental image of an underscribed biological aberration.

The word is also used in the title of the *Food Phreaking* journals, where the introduction to issue #00 explains that food phreaking is where „food“, „technology“, and “open culture” meet (Food phreaking, 2013).

Before continuing with the analysis and discussion, I reiterate the main focus of my thesis, which poses the initial question:

*How has a contemporary art practice that addresses the interplay of biotechnologies and biodiversity of human food systems been transformed into an archival exhibition, and how did its mode of dissemination add qualities to the experience of the audience?
A case study on the exhibition FOOD PHREAKS!: Biodiversity of the Kitchen by the Center for Genomic Gastronomy*

Exhibition Guide

The exhibition guide provides useful information on which objects belong to each project. The style of each project description in the guide varies greatly, with some explaining in detail the idea behind a project and in others, a terse, dismissive close to the subject. An example of this is the grotesque image from the project Vegan Ortolan, as has been described before. The explanation is not only brief but also seems incomplete. In contrast, the “Biohacker” poster provides the audience with additional information that facilitates understanding of its inherent message. It can be said that without perusing the poster, it would be much more difficult to follow the content of the exhibition. The guide itself contributes to confusing the viewer with very limited information and description. This seemingly intentional ambiguity raises several questions. Is its purpose to arouse curiosity about the project and lead viewers to form their own questions? Is the lack of clarity meant to inspire the viewer to hunt for clues like a detective? Or maybe the visitor isn't supposed to learn of the arcane nature of the original project as it is no longer the focus of the message?

Target Group

We must consider if the exhibition is aimed at a certain demographic such as an intended age group for the visitors. Yet, there is no mention of any such group in the guide or elsewhere. At first glance, the colors of the room look cheerful and even childish. The platform in the center of the room, which we call the pink stage, reminds us of a children's puppet theater with its pink and bright red colors. Is this design meant to invite children to participate or is it to induce a sense of reminiscent play among adults? The front space of the exhibition is often dedicated for events regarding children and youth by Vitenparken. Therefore, the

children who come to visit the event are likely to look behind the wall out of curiosity. However, given the complexity of the content of the exhibition *Food phreaks!*, it is unlikely they are considered part of the target audience.

I could not identify a specific dissemination strategy for children and teenagers in this exhibition. I did discover other events for children that took place in the spaces between the displays, which explored similar concepts as *Food Phreaks!*. These events were produced by other artists not involved with *Food Phreaks!* for youth projects of Vitenparken. Exhibition *Food Phreaks!* has the potential to be used as supplementary material for children's events and could focus on similar themes, even though it is complicated for children to become engaged with the contents.

Food phreaking, Issue 01, introduces to the reader, who is not involved in the food industry, to some of the technical aspects of agricultural biodiversity. However, this exhibition isn't meant to be exclusive for the uninitiated, although it is not required to have scientific knowledge to understand it. The objects present the research conducted from the perspective of artists. The aim is to evoke an emotional sense rather than to teach a scientific subject to the viewer. Therefore, these works attract non-professionals and professionals alike.

Participation in Food Phreaks!

Since the 1960s, a range of artistic practices have been developed that adopt social forms in order to more closely connect art with everyday life (Bishop, 2006, p. 10). Participation with a social dimension is at the heart of most of the activities of the Center for Genomic Gastronomy and plays an important role. This can be seen in an experimental

restaurant or DIY workshop, not only to carry out an individual viewer activity but to promote its political dimension. Indeed, it is the participation that shapes this artistic practice. This dimension does not exist in the exhibition *Food Phreaks!*. Visitors play no role in shaping and nurturing social aspects of the artistic practice, but they are witnesses to the activities created by past participants.

A form (object 46) for example, was filled out by the participants at a tasting event, introducing the presence of the participants and emphasizing the role of the displayed object as evidence. From this point of view, these specific documents remind us of a banquet from which the guests have already left. A social gathering that we are now only witness to the remains of. However, this feeling does not carry over to the entire exhibition. The poster “WE HAVE ALWAYS BEEN BIO_ HACKERS” at the beginning of the exhibition, allows the viewer to enter the game. “We” include the visitors of *Food Phreaks!*. As mentioned earlier, some of the works are remixes, where the focus is not on remembering previous events but are intended to be new works themselves.

However, the question arises of what strategies can be used to engage the viewer more actively in this exhibition. Perhaps if viewers could also participate by filling out forms or taking quizzes that tie into what they’ve learned at this event, it would facilitate a deeper intellectual and emotional connection to the exhibit and the objects would appear to be less documental in form.

Status of the Spectator in Food Phreaks!

I did not feel like a passive spectator in the exhibition *Food Phreaks!*. However, as already described, one can hardly consider the usual methods of dialogue-based dissemination, participation or interactivity which are utilized in contemporary art in this exhibit. This could be because the organizers knew that this exhibition, which opened during the peak of the coronavirus pandemic, would not have many participants.

While many efforts have been made in contemporary art to change the position of the viewer from a passive role into an active one, what position does the viewer assume in Food Phreaks!

Boel Christensen-Scheel addresses the subject of observers in her article *Recognizing the Observer of Art* (2015). She refers to the French philosopher Jacques Rancière by addressing the relationship between the theater and the audience. Rancière believes that the efforts of recent centuries to change or eliminate the role of the spectator in the art of theater represent a fundamental paradox, since theater is an art form that necessitates an audience. The solution to this dilemma is that we look at the observer's status in a different way by considering her an independent evaluator.

To respect this individual right of the observer, Christensen-Scheel believes that it is not necessary to challenge the existing patterns in art. Allowing the viewer this liberty makes her a recognized observer, and in this way art can raise and challenge social issues while also keeping its autonomy (Christensen-Scheel, 2015, p. 55). Does *Food phreaks!* put its spectators in a similar status by creating a meaningful situation?

Arrangement of the Objects

In addition to the objects presented on the walls, many are arranged in two neat rows on the pink stage. The sizes of the maps, cards and booklets are nearly equal. This orderly arrangement gives the viewer the feeling of being with sharply produced documents. As mentioned, the QR code (object 50) is different from other objects in terms of mediation. There are few objects that are not made of paper, nor are they published material or videos. The bottle of Cobalt 60 Sauce is one such example as is the whisk displayed to illustrate the tasting smog project. The bottle is placed under a protective glass and cannot be touched. The function of the protective glass seems to be for our protection and for the organizers' concern of damage to the art work. Unlike many other objects in this exhibition, the whisk is placed on the pink stage without any security measures that prevent the public from touching or picking it up. Given the efforts to prevent the loss of the other objects, however, it is assumed one should not handle this object as well.

These objects are mementos of previous physical projects and thus convey a different understanding than their mundane counterparts. This understanding is different from visualization through reading. Therefore, these objects help reduce the monotony and dullness of the stage's arrangement.

Introduction of the Center as a Goal

In the curator's essay, Tapio states that the exhibition is a display of a selection from the rich archive of the Center for Genomic Gastronomy's projects during the last decade. In this regard, one might ask why the

event should not be called a retrospective. In its examination, there is little evidence of a review of past phenomena. The projects are not classified and presented according to the time of creation although some objects have more information about the Center as a research group, such as books ordered on a shelf at the exhibition which contain articles about the Center.

There are some strategies and objects in this exhibition that focus specifically on the Center's activities during a particular time period. For example, a poster on the wall depicts 14 vehicles created and used by the Center in their previous events to present their ideas. It shows a stand which has been used in *De-Extinction Deli* to present their publications. Another vehicle is a dispenser box, which has been used in some events to offer Cobalt 60 Sauce to the audience for tasting. Exhibiting such documents that imply only the Center's activities, next to other strategies, shows that the introduction of the Center for Genomic Gastronomy is an important goal of the exhibition *Food Phreaks!*.

As mentioned earlier, one of NOBA's goals is to promote the development of BioArt through collaboration with artists and researchers in Norway and abroad. NOBA aims to stimulate public interest and disseminate knowledge about relevant societal challenges in the fields of environment, life sciences, climate change, and sustainable development through artistic and interdisciplinary events. It intends to increase the popularity of art and science and to introduce Norwegian artists to the regional public and abroad (NOBA, 2018).

Therefore, the introduction of the Center as a group focusing on similar issues as NOBA's can contribute to achieving this aim.

Aesthetic Choices in Food Phreaks!

Why has the Center for Genomic Gastronomy chosen to present its publications in a vintage design? Is it an ironic way of presenting modern technologies in a retro form? Is this old-fashioned looking paper meant to evoke memories of a time when we were safe from new technology?

In the exhibition *Food Phreaks!*, I was often confronted with the aesthetic choices that were reminiscent of Pop Art. In the installation of the exhibit, the color pink is juxtaposed with bright orange and shiny red. *Food Phreaking* journals, as stated before, utilizes colors and combinations that are reminiscent of works of this movement.

The artists of the 1960s Pop Art movement found subjects for their works within the banality of urban America (Archer, 1997, p. 13). The use of bright colors, collage, mixed media, massive printing techniques and the exploitation of pop culture are some of the characteristics of this movement.

Pop Art takes its material from mass culture and commercial products. It is often remembered how in 1964, famous pop artist Andy Warhol used Brillo Soap Pad boxes, which were a consumer product and could be purchased in any supermarket, as works of art. In his iconic silkscreen portraits, Warhol incorporated intentional errors into the silkscreening process (Archer, 1997, p. 18), where a layer of paint is not perfectly applied to the previous color, creating new colored lines and surfaces. These effects can be seen in many visual works, including *Food Phreaking* journals and posters.

Taking inspiration from everyday life, Pop artists utilized imagery that reflected their immediate environment such as common items,

consumer goods, and commercial advertising that, at times, presented work critical of the current culture (MOMA, n.d., para. 3). *The work Just what is it that makes today's homes so different, so appealing?* is one of the most famous works of art of the postwar age, created by the British artist Richard Hamilton in 1956. This collage shows the consumer society of the 1950s and became an icon of Pop Art. To create this collage, Hamilton searched through American magazines for a list of things he wanted to put in his work, such as images of men, women, food, history, newspapers, cinema, household appliances, cars, space, comics, television, telephone, and information. This selection reflects his ironic interest in pop culture and modern technology and shows the movement towards a hopeful future (Manchester, 2007).

The question arises as to why the artists of the Center and *Food Phreaks!* organizers used so many features of Pop Art in the design of their objects and in the presentation of this exhibition. Are these choices made unintentionally by the artists and organizers, or do they have the ideas behind this movement in mind and reinforce them through employing these choices in their work?

Contradiction and Irony

In creating projects, the Center for Genomic Gastronomy has often used an ironic approach to convey messages. At one exhibit, a sauce bottle is placed under protective glass, while elsewhere, it is offered at a cheerful gathering. In the *Food Phreaking: Seeds Triptych Print*, fear of possible harm from the genetic manipulation of seeds is felt, while the work shows a world full of colors and happiness. The interpretation of this contrast conveys danger by inattention, which is represented by a celebration or a happy world as our food supply is over-manipulated away.

It would appear that the Center attempts to draw the audience's attention to these issues by contrasting what genetic manipulation

looks like and what the consequences are. To be clear, the Center does not state a definite purpose of their works. Through contradiction or non- transparency, the Center invites the audience to consider and debate by placing them in a position of doubt between right and wrong. Cathrine Kramer says in an interview with Zane Cerpina (2017) that their projects may make people uncomfortable, but when the people ask if they are for or against GM foods, the Center is neutral in its stance. She believes that once they make their point, the conversation is over. Instead of taking one side, neutrality is a better way to open up discussion and talk about the subject of GM foods together with the public (Kramer, 2017).

In the design of *Food Phreaks!* there also seems to be a contradiction. The viewer is confronted with cheerful and somewhat childlike colors while being asked to engage with challenging topics such as the consequences of the use of biotechnology and the food of the future.

I called the platform in the middle of the exhibition the pink stage because it resembles a theater stage. Theater is a place where the line between reality and performance becomes blurred. While political and commercial forces shape the food industry in the backstage, we are only spectators to a play of it.

The clutter of information in this exhibition bewilders the audience and contributes to a feeling that not everything is under control. However, in general, this exhibition is not entirely pessimistic in tone. Hope is expressed for the ability of the human will to change what is wrong, and for this reason the audience is invited to the discussion to help shape it's the focus of this will.

The Archiving of the Center for Genomic Gastronomy's Activities

What is the purpose of documenting an art work?

Documentation of artwork can occur in various ways. Personal documentation through photographs taken by a viewer can evoke the memory of an artwork. Documentation can preserve art in the form of a new experience for viewers. It can also broaden the experience by revealing details that the viewer was not previously made aware of (Gunnerød, 2014, p. 240). However, it is different from the artist's point of view as the decision as to what to keep from their own artwork is theirs to make.

In the chapter "Theoretical Perspectives", I described the concept of "Biomediality" as presented by Jens Hauser. He considers the biological medium as a way to enable something to be formed without having any form itself (Hauser, 2012). Documenting something without form or collecting biological materials which are perishable, BioArt, is comparable with the documentation of performances which are ephemeral in nature.

As mentioned earlier, documenting an event or a performance can be part of the art production. Therefore, the artist may create the documentation as a new work which has an impact far from or beyond what the original work may have had.

How has the Center for Genomic Gastronomy archived its works? When looking at the exhibition *Food Phreaks!*, different approaches to the documentation and presentation of the objects can be seen. As explored, some are produced as remixes or as souvenirs of a previous event. Some of the works shown in the exhibition are not considered

documents of other works at all. For example, the Food Phreaks journals were created as work independent of the exhibition. Each issue displayed is one of the editions of an art book that were previously produced.

The Cobalt 60 Sauce bottle was made as an art object, while at the same time it was also used as a souvenir of the event where the sauce was introduced to the public for tasting. It is now situated on the pink stage and under protective glass, which emphasizes both its document status and the importance of possible danger. It certainly imbues the sauce with a new meaning or at least changes its quality when compared to the barbeque event where the sauce was offered for visitors to taste, since context conveys part of the meaning of an artwork.

Reviewing the exhibition has shown that it is not easy to distinguish between these objects as “documents” and “original work”. It appears that documents can have a different meaning at each event depending on how they are presented and the context in which they are placed. Therefore, the Center’s archive presented at Exhibition *Food Phreaks!* can be viewed as newly produced documents of the Center’s research rather than as documents of previous works.

Some works of the Center are produced as a limited edition series, such as the journal *Food Phreaking*, the poster Bio-hacker, and the bottle of Cobalt 60 sauce. Usually, the number chosen to be produced has artistic significance. The mention of limited edition on the objects reminds me that I am dealing with something exclusive, like a valued piece of art perhaps. At the same time, it suggests to me that there is not just one copy but many and prompted me to think about the “mass production” of “dangerous” technology when I noticed the number 22 of 50 on the bottle of Cobalt 60 sauce.

Food Phreaks! and Archive

At this point, I return to the *Atlas Group* project to find similarities with the exhibition *Food Phreaks!*, as they are two art practices that focus on the archive. One aspect of the *Atlas Group* project that can be considered similar to the exhibit *Food Phreaks!* performance.

The Atlas Group presented its visual archive with accompanying performances and lectures. Later, these performances were transformed into images displayed next to other documents of the Atlas Group in galleries and museums.

This process can be seen in the archiving and presentation of the Center for Genomic Gastronomy's works in *Food Phreaks!* The live performances have been transformed into visual objects such as notebooks, posters, images, and videos. So how does the second life of the performances flow in this archive?

In his 2006 article „*After All, This Terror Was Not Without Reason*“: *Unfiled Notes on the Atlas Group Archive*, André Lepecki, writer and curator, writes about the effect of the performance in the project of the *Atlas Group*. He claims that Walid Raad's accent and performance in his lectures gave legitimacy to the displayed visual documents. So much so that every time he sees these documents without the accompaniment of Raad's performances in the galleries, he feels that they lose their power as historical structures (Lepecki, 2006, p.94).

Referring to Sussane Sæther's three archival models mentioned in the chapter „*Theoretical Perspective*“, I would like to discuss how the organizers have used the archive of the Center for Genomic Gastronomy in this art practice. I can't categorize *Food Phreaks!* as one of these models, but upon examination, I find some characteristics of each of them in this exhibition.

The unreliable archive is one of the models outlined by Sæther where the provenance or authenticity of the archival material is in question in some way. Here, I return again to the *Atlas Group* project as an art practice in archive in which one can identify features of Sæther's unreliable archive model in that Raad achieves new meaning by producing and finding documents that do not necessarily support a fact as an example of artistic expression in the group's archive.

The exhibition *Food Phreaks!* has done something similar in this regard. We should ask if all the documents produced by the Center for Genomic Gastronomy imply a fact regarding their scientific research. The objects are produced based on scientific research, but in the end, they are assembled and presented in a way that conveys a concept to the viewer that goes beyond scientific determinism. However, since some of these documents extend past the scope of scientific evidence, they can be called into question. Cobalt 60 Sauce is made from ingredients produced by common technology, but the way the sauce is served and presented casts this technology in a critical light. Throughout the global food industry, similar sauces are made every day with very similar ingredients. However, the Center for Genomic Gastronomy's act of making this sauce gives the impression that a document has been created that attests to a perilous fact.

The projects which are conducted through biohacking focus on an intentional error to gain a new meaning. In this regard, biohacking manipulates living organisms and their biological processes. This is comparable to the *Atlas Group's self-produced* documents to manipulate a fact in order to generate an idea beyond the original research.

Even though *Food Phreaks!* cannot be classified as Sæther's unreliable archive since biohacking has created new versions of life processes which exist, we see in it in the use of self-produced documents.

The review of data-based archives as another model presented by Sæther offers more similarities to the exhibition *Food Phreaks!*. In this model, the artist uses existing materials and gives them a new direction

by altering their forms and structures.

By considering all of the documents and works produced by the Center for Genomic Gastronomy as a database for the organizers of *Food Phreaks!*, we can ask how they have used them and in what direction they lead.

The example that Sæther gives for this model is the 68-minute film, *Dial H-I-S-T-O-R-Y* (1997) by Johan Grimonprez. As described, this film used a montage form to create a work about the history of airplane hijacking. The film is edited and assembled from various previously produced materials that takes a new direction. The film consists of parts such as advertising or TV news that are a part of the collective memory. *Dial H-I-S-T-O-R-Y* presents its material without any chronological order in examining historical hijacking events. The exhibition *Food Phreaks!* also does not focus on presenting the archive of the Center in order of date, despite mentioning a decade of the Center's activities in its advertising. As examined, the details and aspects of the *Food Phreaks!* projects are not clarified for the viewer. They are cut up, put together and reassembled. Some projects are easier to understand, while others are only hinted at and obscure. Images or the title of one project appears in another project without the viewer understanding exactly how the two are related to each other or in time. All the information and fragments are put together to give the exhibition direction but they still retain the essence of their original purpose.

The viewer's position in the exhibition is similar to the viewer's position in Grimonprez's film, although these two works are completely different in terms of the medium used. In the film *Dial H-I-S-T-O-R-Y*, the images and information quickly pass by in front of the viewer's eyes before one can fully analyze them and construct the before and after. Presenting the large amount of information at *Food Phreaks!* creates a similar time limitation. Like the montaged 68-minute film, the viewer of *Food Phreaks!* does not have unlimited time to discover and analyze the exhibit in its entirety if we take into account the average time the public spends in a gallery. On the immersive archive Sæther states, "Here the viewer is invited to be immersed in the archival material in question, yet simultaneously to

ponder this material in a manner associated with archival investigation” (Sæther,2010, p.84). She goes on to say that this model places the spectators in an experience that allows them to simultaneously be inside and outside of the archive.

The exhibition *Food Phreaks!* attempts to make the viewer think in the direction of the archive, yet the way the archive is used isn’t immersive. The objects are orderly arranged on the pink stage. They cannot be handled and are only to be looked at and read. Despite this non-immersive arrangement, there were other strategies in this exhibition that made me feel like I was ultimately looking at the archive from the inside. I was surrounded by overwhelmingly scattered and fragmented information. These snippets and fragments imbue the document-like arrangement of the exhibition with a sense of disorder, and that contrast draws the viewer in.

I also felt deeply immersed in the themes of the exhibition which are so close to us. Food is not an abstract subject. Our lives and culture are centered around food and it’s not something we can look at from an outside perspective, think about occasionally, or forget. This applies to any issue related to food, including food production and technology, environmental issues, and sustainable development.

Social Reflection of the Exhibition Food Phreaks!

What had been considered the traditional value of art and its roles associated with certain tasks and media began to be questioned in the twentieth century. As a result of these debates, artists do not necessarily begin their art projects with the medium and content but rather highlight political and social qualities in their works (Christensen-Scheel, 2013, p. 115). As such, the media of contemporary art in past

decades have become immaterial and the creative process now focuses on engagement with social or educational issues (p. 113).

Environmental concerns and sustainable development are among the important issues facing societies today. At a time when the impact of human activities on the Earth is more apparent than ever, many artists and researchers are responding to the threat of global catastrophe through their work (Anker, 2015, p. 2). The exhibition *Food Phreaks!* is an extension of this movement by investigating wide ranging issues of the food industry, environment, sustainable development, and the Earth's future in the age of the Anthropocene. This exhibition introduces and reflects the same themes that the Center for Genomic Gastronomy claims to follow as their mission. Apart from the artistic strategies used to create this exhibition which make it a unique art practice, we can consider what political and social qualities have been added to it.

The exhibition reflects on concerns and hopes by raising critical debates about food and sustainable development in order to invite the viewer to think about the environment of today and in the future. *Food Phreaks!* has the potential to transform our understanding of food related issues such as the inequitable global food industry and the political and commercial factors driving its unethical practices. This art practice engages the audience with one of the most challenging issues of today's global society– to be involved in sustainability for a viable future. The exhibition *Food Phreaks!* is held in the vicinity of a specialized scientific environment. Holding this exhibition in Norway's heart of the Faculty of Agriculture in the city of Ås gives it greater significance. However, the exclusivity of the exhibition venue may limit social reflection and turn it in a different direction.

Organized by NOBA, *Food Phreaks!* is located in Vitenparken inside an area of the Norwegian University of Life Sciences NMBU. The venue is situated in the basement of a café on campus and is usually frequented by faculty, staff and students. It's likely that only researchers or experts in the field would be privy to its existence. With the exhibit being in such an out-of-the-way and hidden location, it's unlikely that the

general public would be aware of it. Therefore, prior knowledge of the event is almost a requirement for the layperson to find its clandestine, subterranean venue and so seems to preferentially encourage fans or followers of the subject to visit.

A dedicated venue for exhibitions involved with environmental and sustainable development issues, especially BioArt, can play an important role in the expansion of this field. There is also the question of whether it is a suitable place to convey the social reflections of the exhibition. With this exhibition occupying its own space, will NOBA focus more on the development of this field or does it seek to directly impact society? If these are indeed NOBA's goals, they are not mutually exclusive.

Food Phreaks! as a Practice in BioArt

Based on the definition of BioArt and the medium used in it, how does the exhibition FoodPhreaks! classify itself in the realm of BioArt?

In the chapter "Theoretical Perspectives", I mentioned the concept of biomediality proposed by Hauser (2016), and its three strategies used in art practices. Hauser classifies the media that bioartists use to create their work into three categories, as mentioned before. Much of the Center's artistic research has been created using these strategies. The artists of the Center for Genomic Gastronomy have conducted their artistic research in collaboration with hackers and scientists, sometimes in laboratory spaces and using biotechnologies and vital materials. But none of Hauser's strategies and living materials are to be seen in the *Food Phreaks!*. What is presented often consists of published materials and videos. After this transformation of media to archive, how can we consider these works to still be BioArt in this event?

While Hauser talks about the vital potential of biomediality, there are many works considered to be BioArt without connection to any living medium.

Robert Mitchell in his 2010 book, *Bioart and the Vitality of Media*, distinguishes between two different modes of BioArt in its definition. Many different forms of art can be considered BioArt. Mitchell argues that some works of art that don't use living material or biotechnology can be considered works of this genre. He refers to Catherine Wagner's work, *-86 Degree Freezers (Twelve Areas of Crisis and Concern, 1995)* as an example. This work is a series of black and white photographs, each showing a freezer used in biological research. These freezers are used by researchers to store media and slow biological processes in cells needed for certain experiments. Mitchell points out that in one sense this work documents the common use of a biological tool, but the subtitle *Twelve Areas of Crisis and Concern* highlights an emotional involvement between researchers and their living materials.

He uses the work of Alexis Rockman, *The Farm, 2000*, described on page 17, as another example. In his oil and acrylic paintings, Rockman shows his concern about a dark future that may result from the use of genetic engineering. Both works present some aspects of the scientific processes related to biotechnology, similar to other works of BioArt which utilize living materials.

These works are created by media such as painting and photography and not with biotechnology. In some ways, all of these works engage with biotechnology (Mitchell, 2010, p. 22). These works of art are unified by concept and theme rather than media. Mitchell states the connection between these works of art is a "critical debate" about the biotechnology used in them (Mitchell, 2010, p. 23).

Mitchell defines two categories of BioArt – prophylactic and vitalist. He believes that prophylactic BioArt seeks to protect the viewer from so-called unhealthy and problematic aspects of biotechnology. Vitalist BioArt, however, attempts to alter problems by involving spectators

more closely in the process. Thus, by Mitchell's definition, many objects in *Food Phreaks!* can be placed in the category of prophylactic BioArt.

In the analysis of *Food Phreaking: Seeds Triptych Print*, traditional media and techniques such as collage are presented in the familiar format of framed pictures which focus on the theme of biotechnology by highlighting its consequences and possible worrisome outcomes. It is similar to Alexis Rockman's work in the way he uses the medium as well as his concern about the use of biotechnology and of "unnatural" creations (Mitchell, 2010, p. 16). Therefore, the existence of similar critical debates about biotechnology categorizes the event *Food Phreaks!* into Mitchell's prophylactic BioArt, which preserves and protects the viewers from the negative features of biotechnology without confronting them with living artworks.

As long as this critical discussion is understood in the documented works of the Center, they can be considered new works of BioArt that convey a message to the audience in a different tone and with a different intensity from previous works.

Ethical Issues

In my review of the exhibition, some ethical questions arose for me in regard to the projects. The Center for Genomic Gastronomy has produced a food product from ingredients that it considers dangerous and harmful in the form of the Cobalt 60 Sauce. In the exhibition *Food Phreaks!*, an effort is made to mitigate potential danger as the sauce bottle is placed under protective glass and out of reach of viewers. This is in opposition to other events where it was tasted by the public. However, the artists of the Center claim that their work "doesn't necessarily deal with dangerous materials, but dangerous ideas instead" (Kramer, 2017). The question remains of why a meal or a food product is prepared by the group yet is also criticized by the Center itself. Another ethical issue similar to the one this project raises is the

use of decorative fish in cooking, which can be seen in the *Glowing Sushi Show*.

In her article *What Ethics for Bioart* (2016), Nora S. Vaage discusses the ethical challenges for bioartists through their work with living materials. Biotechnological techniques and methods are now being used for non-scientific purposes such as biohacking, citizen science, and art. The engagement of artists with these new media raises a number of ethical questions (Vaage, 2016, p. 87). Vaage examines how the moral value of an art work affects its artistic value. According to her, the emotional impact of bioethical questions posed by some works of BioArt may be very important to the viewer. These works may even contribute to an individual's ethical framework that might not be gained from other sources (p. 89).

Vaage raises a very basic ethical question: Should we do things just because we can? She notes that many artists and biohackers have emphasized that their perspectives changed after participating in interactive BioArt workshops, where they gradually became aware of the ethical issues involved in their projects. In other words, these ethical issues are only apparent when one does it in practice. Thus, a personal ethical framework will develop if people face something in an embodied way that otherwise is a difficult perspective to achieve by themselves.

The experience of watching the preparation of sushi with aquarium fish in the *Glowing Sushi Show* is disconcerting. But from what is presented, perhaps the only way to understand the ethical problem inherent in this work is to experience it through this unethical act.

Effects and Limitations of Food Phreaks!

Some features of the exhibition *Food Phreaks!* can be considered “limitations” or “effects” and many have been discussed previously. The purpose of labeling them as such is not to infer weakness of dissemination, but to recognize that each of them has special significance. In fact, many of them may be considered special effects of this event.

The exhibition *Food Phreaks!* as presented by NOBA did not have a large public audience due to its remote location. Since the event was held during the coronavirus pandemic period, it additionally suffered from the lack of spectators. NOBA has its own audience due to its permanent and exclusive location; this exhibition could have been used as material for educational programs to draw more people in to view *Food Phreaks!*.

It is apparent that the organizers have not been generous in providing much information regarding the Center’s activities by the way the works are presented and in the exhibition guide, even though it is provided as a supplemental aid. In confronting an art practice, it is unnecessary for the viewer to know what this project was in previous showings, as it is an art practice independent of the past. The documents which accompany the projects can be considered materials for the artist/curator or organizers to shape this event, rather than as factual sources which declare a clear report of previous events. Despite this, I wanted to know more about the different aspects of the projects and how they were performed before *Food Phreaks!*.

One such method applied was the monotonous and unvarying arrangement of things, as well as document presentation. Perhaps this is a possible explanation of how the viewer comes to be in a state of indeterminacy.

Time is another limitation seen in this exhibition. The amount of information is too much for the viewer to absorb in the average time spent at an exhibit. A barrier is created by overwhelming the viewer with material that prevents enough time to be spent for significant engagement in critical discussions of each of the projects presented. The lack of time coupled with the limitations of scattered and incomplete information, inconsistent interactions, the use of contradictory and ironic tones, and humor lead to a confusion that is an experience specific to this exhibition.

Findings and Reflections

The FoodPhreaks! exhibition tackles the most important and pressing issues facing our society today and offers a multi-layered experience. It presents various themes related to the food system and food technology and covers such diverse topics such as the extinction of species, the quality of the air we breathe, and the unexpected ingredients we produce and consume. In FoodPhreaks! , we are identified as the terminator of other species, and in other places, we can be offered as nourishment for other creatures. The vile and inexplicable photo of a dish provokes the viewer into presumably a feeling of disgust, while a QR code invites us to go to a window to breathe and relax in the windowless basement of the venue.

There are many other things to browse, read, and see in FoodPhreaks! that have been left undescribed and unanalyzed in this thesis, and there are many critical questions that remain unanswered but will linger in our minds for days, weeks or maybe forever. Because the subject of food is very close to us and we often think about what we eat and everything that is related to it, the FoodPhreaks! exhibition is able to leave a deep, long-lasting impression on the viewer.

I have studied the exhibition *Food Phreaks!*, which is a complex art

practice, from different angles and receiving varying answers or new questions from these multiple perspectives. Depending on the field in which the concept of the archive is considered or how broadly BioArt is defined, new aspects of the practice continue to be discovered.

It is apparent the main strategy of the exhibition's organizers is not to involve the audience with every aspect of the event in order to absorb its particular inherent message of each individual project. On the contrary, they attempt to distract the audience's attention from the details and direct it to a whole by offering cut-outs, fragments, overwhelming amounts of information and incompleteness.

By considering *Food Phreaks!* itself as a unit, one finds that the entire exhibition confronts the viewer with the issues of biotechnology engaging them in critical reflection. The effect of this critique conveys anxiety to the visitor, throughout the exhibition. This event can trigger many feelings in the viewer such as a sense of fear that the world could slip from human control by creating something that takes control of an individual. Such an emotion is deeply personal. There is also the fear of self-harm that man inflicts on himself as well as the feeling of power and the hope that one can control one's environment. But perhaps the strongest feeling I experienced in the exhibition *Food Phreaks!* is one of confusion. This sense arises not only from the complex content of the exhibition, but also from the mode of its presentation.

The exhibition inundated the viewer with so much information based on metaphors, irony, and knowledge that one is unlikely to absorb, process and understand it all. In the complicated forms presented, it simply becomes all too much.

This is in agreement with the artists of the Center for Genomic Gastronomy, who also say that their own artistic research turns up more questions than answers. The aim of the Center is to produce its projects in order to raise questions and bring up critical debates for its audiences. The exhibition *Food Phreaks!* is in line with this standard as it contains many questions for the audience which arise from the

dissemination strategies in addition to the content.

The organizers of this event have intentionally created an experience through employing some effects that in some cases can be perceived as shortcomings. Returning to the perspective of *documenta 13*, it can be said that FoodPhreaks! creates a meaningful situation through the display of documents, regardless of whether they are considered works of art in their own right or presented as evidence of fact; where procedural questions become even more meaningful than the thematic content of the projects (Christov-Barkargiev, 2011, p. 6).

Questions instead of answers. This is what has happened in this master's thesis as well. In doing this research and delving into this art practice, I haven't found many answers to my research question. Instead, more questions were the outcome of my findings in this investigation of the exhibition FoodPhreaks!

The viewer's confusion, enduring questions, and ongoing open debates are generated by the experience of *Food Phreaks!*. It speaks to the success of how an archival presentation of BioArt, as a meaningful situation, can guide the public towards positive action by inviting them to think about the consequences of technology in order to achieve the global societal goal of environmental sustainability.

REFERENCES

- Alvesson, M. & Skoldberg, K.. (2000). *Reflexive Methodology: New Vistas for Qualitative Research*. (3rd ed.) SAGE.
- Anker, S. (2015). Foreword. In Myers, W., *BioArt: Altered Realities* (p.6). Thames & Hudson Ltd.
- Anker, S. (2022). *Biography*. Suzanne Anker. <http://suzanneanker.com/biography/>
- Archer, M. (1997). *Art Since 1960* (3rd ed.). Thames & Hudson Ltd.
- Arcimboldo, G. (1591). *Vertumnus* [Painting]. https://commons.wikimedia.org/wiki/File:Vertumnus_%C3%A5rstidernas_gud_m%C3%A5lad_av_Giuseppe_Arcimboldo_1591_-_Skoklosters_slott_-_91503.tiff
- Arsen, Marilyn. (2012). Interview with Jen Ortiz. *Can Performance Art be Collected...and Still Maintain its Original Message...?* <https://hyperallergic.com/53624/can-performance-art-be-collected/>
- Biohacker. (2011). *Biohacker-poster*. The Center for Genomic Gastronomy. <https://genomicgastronomy.com/work/2011-2/biohacker-posters/>
- Bishop, C. (Ed.). (2006). *Participation*, Documents of Contemporary Art. Whitechapel Gallery and the MIT Press.
- Blatter, J. K. (2008). Case study. In Given, L.M. (Ed.), *The SAGE Encyclopedia of QUALITATIVE RESEARCH METHODS*. SAGE.
- Bolter, J. D. & Grusin, R.. (2000). *Remediation: Understating New Media*. MIT Press.
- Cagogne, Hector. (2012). Interview with Jen Ortiz. *Can Performance Art be Collected...and Still Maintain its Original Message...?* <https://hyperallergic.com/53624/can-performance-art-be-collected/>
- Caravaggio. (1601–1610). *Still Life with Fruit* [Painting]. [https://en.wikipedia.org/wiki/Still_Life_with_Fruit_\(Caravaggio\)#/media/File:Caravaggio_-_Still_Life_with_Fruit_\(circa_1603\).png](https://en.wikipedia.org/wiki/Still_Life_with_Fruit_(Caravaggio)#/media/File:Caravaggio_-_Still_Life_with_Fruit_(circa_1603).png)
- Christensen-Scheel, B. (2013). Application and Autonomy: The Reach and Span of Contemporary Art Didactics. *Nordic Journal of Art and Research*, 2(2), 109-123. <https://doi.org/10.7577/if.v2i2.729>
- Christensen-Scheel, B. (2015). Recognizing the Observer of Art. In Aure, V, & Bergaust, K. (Eds.), *Estetik og Samfunn: Tekster mellom samtidskunst og kunstdidaktikk* (p. 37-56). Fagbokforlaget Vigmostad & Bjørk As.
- Christensen-Scheel, B. (2019). Sanselige møter eller kritisk tenkning: Formidling i samtidens kunstmuseer. In Myrvold, C.B. & Mørland, G. E. (Eds.), *Kunstformidling Fra verk til Betrakter* (p. 22-47). Pax forlag A/S.
- Christov- Bakargiev, C. (2011). *Letter to a Friend, Brief an einem Freund*. Hatje Cantz Verlag.
- Christov-Bakargiev, C. (2012). Documenta 13. *Universe in Universe*. <https://universes.art/en/documenta/2012>
- Denefeld, Zach. (2016). *To Flavour Our Tears – A restaurant where insects can feast on us, Regine*. <https://we-make-money-not-art.com/to-flavour-our-tears-a-restaurant-where-insects-can-feast-on-us/>
- Documenta. (2012). *documenta (13)*. Documenta. https://www.documenta.de/en/retrospective/documenta_13

- Ebert- Schifferer, S. (1998). *Die Geschichte des Stillebens*. Hirmer.
- Food Phreaking. (2013). *Food Phreaking*. <http://www.foodphreaking.com/>
- Foster, H. (2004). An Archival Impulse. In Merewether, C. (Ed.), *The Archive*, Documents of Contemporary Art, (2006) (p. 143-148). Whitechapel Gallery and the MIT Press.
- Gorichanaz, T. (2017). Understanding Art-Making as Documentation. *Art Documentation*, 36(2), 191–203. <https://timgorichanaz.com/writings/Academic/artmaking/>
- Gunnerød, S. (2014). *Søppelets ambivalens i samtidskunsten: Kan kunst påvirke vårt syn på samfunnets avfallsprodukter?* [Doctoral dissertation]. University of Bergen.
- Hauser, J. (2012). Interview with Daniel Silvestrin. *DIALOGUES ON "BIOART"*. <http://digicult.it/news/dialogues-on-bioart-1-a-conversation-with-jens-hauser/>
- Hauser, J. (2016). Biomediality and Art. In I. Hediger & J. Scott (Ed.), *Recomposing Art and Science: artists-in-labs* (pp. 201-220). Berlin, Boston: De Gruyter. <https://doi.org/10.1515/9783110474596-021>
- Heiney, A. (2021). *Growing Plants in Space*. NASA. <https://www.nasa.gov/content/growing-plants-in-space>
- Hooper-Greenhill, E. (2000). *Museums and the Interpretation of Visual Culture*. Routledge.
- IAEA. (2020). *Mutation breeding*. International Atomic Energy Agency. <https://www.iaea.org/topics/mutation-breeding>
- Jacobsen, D. I. (2015). *Hvordan gjennomføre undersøkelser?: Innføring i samfunnsvitenskapelig metode* (3rd. ed.). Cappelen Damm As.
- Kelley, L. (2016). *Bioart Kitchen: Art, Feminism and Technoscience*. I. B. Tauris & Co. Ltd.
- Kramer, C. (2017). Interview with Zane Cerpina. *Feeding Dangerous Ideas: Cathrine Kramer and Zack Denfeld*. <https://eejournal.no/home/2018/3/2/feeding-dangerous-ideas-cathrine-kramer-and-zack-denfeld?rq=Kramer>
- Lepecki, A. (2006). „After All, This Terror Was Not Without Reason“: Unfiled Notes on the Atlas Group Archive. *TDR: The Drama Review* 50(3), 88-99. <https://www.muse.jhu.edu/article/201931>.
- Maithani, C. (2013). Error/Glitch/Noise: Observation on Aesthetic Forms of Failure. In Cook, S. (Ed.), *Information*, Documents of Contemporary Art, (2016) (p. 102-106). Whitechapel Gallery and the MIT Press.
- Manchester, E. (2007). Just what was it that made yesterday's homes so different, so appealing? (upgrade). *Tate*. <https://www.tate.org.uk/art/artworks/hamilton-just-what-was-it-that-made-yesterdays-homes-so-different-so-appealing-upgrade-p20271>
- Mathias, N. & Mørland, G.E.. (2019). *Formidlingens dilemma om digitalisering, kulturpolitikk og en endret kunstforståelse*. In Myrvold, C.B. & Mørland, G.E. (Ed.), *Kunstformidling Fra verk til Betrakter* (p.79-95). Pax forlag.
- McKechnie, L.E. F. (2008). OBSERVATIONAL RESEARCH. In Given, L.M. (Ed.), *The SAGE Encyclopedia of QUALITATIVE RESEARCH METHODS*. SAGE.
- Merewether, C. (Ed.). (2006). *The Archive*, Documents of Contemporary Art. Whitechapel Gallery and the MIT Press.

- Mitchell, R. (2010). *Bioart and the Vitality of Media*. University of Washington Press.
- MOMA. (n.d.). *Pop Art*. MOMALearning. https://www.moma.org/learn/moma_learning/themes/pop-art/
- Mulder, A. (1999). Trancemedia: from Simulation to Emulation. *Mediamatic*. <https://www.mediamatic.net/en/page/8767/trancemedia-from-simulation-to-emulation#>
- Muoio, D. (2016). 13 incredible pieces of art created by Google's AI. *Insider*. <https://www.businessinsider.com/google-to-auction-trippy-artwork-made-by-ai-2016-2?r=US&IR=T>
- Myers, W. (2015). *BioArt: Altered Realities*. Thames & Hudson Ltd.
- Myrvold, C.B. & Mørland, G.E.. (2019). *Kunstformidling Fra verk til Betrakter*. Pax forlag A/S.
- NOBA. (2018). *About Norwegian BioArt Arena – NOBA*. NOBA. <https://noba.art/about-noba/>
- NOBA. (2021). *FOOD PHREAKS!: Biodiversity of the Kitchen*. NOBA. <https://noba.art/whats-on/food-phreaks-biodiversity-of-the-kitchen/>
- Ortiz, j. (2012). *Can Performance Art be Collected...and Still Maintain its Original Message...?* <https://hyperallergic.com/53624/can-performance-art-be-collected/>
- Phillip, Glenn. (2012). Interview with Jen Ortiz. *Can Performance Art be Collected...and Still Maintain its Original Message...?* <https://hyperallergic.com/53624/can-performance-art-be-collected/>
- Phreaking. (n.d.). *In Educalingo's online dictionary*. Retrieved April 11, 2022 from <https://educalingo.com/en/dic-en/phreaking>
- Raad, W. (2004). Walid Raad and Atlas Group (Kaelen Wilson-Goldie). *Bidoun*. <https://www.bidoun.org/articles/walid-raad-and-the-atlas-group>
- Ravens, Joseph. (2012). Interview with Jen Ortiz. *Can Performance Art be Collected...and Still Maintain its Original Message...?* <https://hyperallergic.com/53624/can-performance-art-be-collected/>
- Regine. (2014). *Cobalt 60 Sauce*, a barbecue sauce made from 'supermarket mutants'. *We Make Money Not Art*. https://we-make-money-not-art.com/cobalt_60_sauce/
- Regine. (2016). *To Flavour Our Tears – A restaurant where insects can feast on us*. *We Make Money Not Art*. <https://we-make-money-not-art.com/to-flavour-our-tears-a-restaurant-where-insects-can-feast-on-us/>
- Rucka. (2017). *The Anthropocene Cookbook: Eating for Our Survival*. Rucka. <http://www.rucka.lv/en/the-anthropocene-cookbook-eating-for-our-survival/>
- Rockman, A. (2000). *The Farm* [Painting]. https://www.artspace.com/alexis_rockman/the_farm
- Røssaak, E. (Ed.). (2010). *The Archive in Motion: New Conceptions of the Archive in Contemporary Thought and New Media Practice*. National Library of Norway
- Schoene, D. (2012). More of A State. *Canvas: Art and Culture From The Middle East and Arab World*, 8(4), p.36-37. Retrieved April 27, 2022 from <https://werk3.berlin/wp-content/uploads/5-Review-documenta-13-Canvas-Magazine.pdf>
- Silvestrin, D. (2012). *DIALOGUES ON "BIOART"*. DIGICULT. <http://digicult.it/news/dialogues-on-bioart-1-a-conversation-with-jens-hauser/>

- Smog Tasting, (2011). *Som Tasting*. The Center for Genomic Gastronomy. <https://genomicgastronomy.com/work/2011-2/smog-tasting/>
- Stapel, H. (2022). Anthropozän: *Wie der Mensch die Erde formt und so ein neues Zeitalter schafft*. GEO. <https://www.geo.de/wissen/anthropozoen--das-zeitalter-des-menschen-31529866.html>
- Sæther, S. Ø. (2010). Archival Art: Negotiating the Role of New Media. In Røssaak, E. (Ed.), *The Archive in Motion: New Conceptions of the Archive in Contemporary Thought and New Media Practices* (p.77-108). National Library of Norway.
- Tapio, H. (2021). *FOOD PHREAKS!: Biodiversity of the Kitchen*. NOBA. <https://noba.art/whats-on/food-phreaks-biodiversity-of-the-kitchen/>
- Tate. (2022). *Fluxus*. Tate. <https://www.tate.org.uk/art/art-terms/f/fluxus>
- TFOT. (2020). *To Flavour our Tears*. The Center for Genomic Gastronomy. <https://genomicgastronomy.com/work/2016-2/to-flavour-our-tears/>
- The Atlas Group. (n.d.). *The Atlas Group (1989-2004)*. Retrieved February 10, 2022 from <https://www.theatlasgroup1989.org/>
- The Atlas Group. (2003). Let's Be Honest, the Rain Helped. In Merewether, C. (Ed.), *The Archive, Documents of Contemporary Art*, (2006) (p. 179-180). Whitechapel Gallery and the MIT Press.
- The Center for Genomic Gastronomy. (2016). *YESTERDAY'S MEAT TOMORROW: THE DE-EXTINCTION DELI TO GO AT THE V+A*. MOLD. <https://thisismold.com/process/materials/yesterdays-meat-tomorrow-the-de-extinction-deli-to-go-at-the-va>
- Vaage, N. S. (2016). *What Ethics for Bioart? NanoEthic*, 10. P. 87-104. <https://doi.org/10.1007/s11569-016-0253-6>
- van Gastel, J. (2016). Auf fruchtbarem Boden. Das neapolitanische Stillleben. In Forster, P., Oy-Marra, E., Damm, H.(Eds.) *Caravaggios Erben: Barock in Neapel* (p.226-237). Hirmer.
- Vegan Ortolan. (2012). *Vegan Ortolan* [Photo]. <https://genomicgastronomy.com/work/2012-2/vegan-ortolan/>
- Vegan Ortolan. (2012). *Vegan Ortolan*. The Center for Genomic Gastronomy. <https://genomicgastronomy.com/work/2012-2/vegan-ortolan/>
- Von Carmela, T. (2018). *Giuseppe Arcimboldo – der Hofmaler deutscher Kaiser*. Deutschlandfunk. <https://www.deutschlandfunk.de/vor-425-jahren-gestorben-giuseppe-arcimboldo-der-hofmaler-100.html>
- Von Hantelmann, D. (2014). *The Experiential Turn*. In Carpenter E. (Ed.), *On Performativity*. Living Collections Catalogue. Minneapolis: Walker Art Center, 1(2). <http://walkerart.org/collections/publications/performativity/experiential-turn>
- Wallop, H. (2014). *Why French chefs want us to eat this bird – head, bones, beak and all*. The Telegraph. <https://web.archive.org/web/20210303221803/https://www.telegraph.co.uk/foodanddrink/11102100/Why-French-chefs-want-us-to-eat-this-bird-head-bones-beak-and-all.html>
- Westphal, U. (2013). *Lycopersicum III* [Painting]. <https://www.ulivestphal.de/the-cultivar-series/>

Westphal, U. (2013). *The Cultivar Series*. Uli Westphal. <https://www.ulivestphal.de/the-cultivar-series/lycopersicum-index.html>

Wist, A. (2016). *WHO COOKED THE LAST SUPPER? FIVE SURPRISING WORKS OF ART FROM THE VALUE OF FOOD EXHIBITION*. MOLD. <https://thisismold.com/visual/art/who-cooked-the-last-supper-five-surprising-works-of-art-from-the-value-of-food-exhibition>

Yetisen, A. K., Davis, J., Coskun, A.F., Church, G. M., Yun, H. Y. (2015). Bioart. *Trends in Biotechnology*, (33)12. 724-734 <https://doi.org/10.1016/j.tibtech.2015.09.011>

