From Mausoleum to Living Room. Practicing Metabolic Carpentry in the Museum

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Practicing Metabolic Carpentry in the Museum

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**ABSTRACT** Museums might seem to be the enemy of metabolism: mausoleums that preserve collections and their knowledge-producing potential, out of time. We argue that museums are in fact intensely metabolic: in their attempts to manipulate the life course and temporalities of objects they proliferate metabolic processes, limits, and potentials. We suggest that looking at the museum in this way can help articulate pressing practical as well as theoretical issues: storage rooms are “constipated,” as traditional practices of disposal cannot keep pace with rapidly growing collections from an over-productive present.

The paper consists of three main sections. First, we follow imaginations of the museum as preserver, contrasting these with more recent descriptions of the museum as metabolism, and highlighting the intimate relationship between the two. We describe the material and metaphorical ways in which objects and their meanings are transformed within a “museum metabolism,” and suggest that cultivating such transformations might help to imagine new approaches to problems of proliferation and disposal.

This leads us to The Living Room, a workshop and installation at Medical Museion in Copenhagen, where we encourage fringe objects destined for disposal to metabolize, entangled with living...
heritage eaters such as fungi and worms. Following Ian Bogost, this is a piece of “metabolic carpentry”; a thinking machine that explores ontology by practicing it. In the third main section, we reflect on this approach, and on how materially producing metabolic paradoxes might open new avenues for thinking about their concrete consequences, within an ethos of hospitality. We conclude by arguing for the creative potential of metabolism to link objects, organisms, and environments, emphasizing exchanges between transformation and stability at co-constituting interfaces.

**KEYWORDS** Art and Science, Museum Collections, Museums, Metabolism, Deaccessioning and Disposal, Philosophical Carpentry, Microorganisms

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### 1. Introduction

Metabolism is “the chemical processes that occur within a living organism in order to maintain life; the interconnected sequences of mostly enzyme catalyzed chemical reactions by which a cell, tissue, organ, and so forth, sustains energy production, and synthesizes and breaks down complex molecules.”¹ In other words, metabolism is the chemistry of life, and having a metabolism is one of the standard criteria for being alive.² Living organisms rely on extracting energy from their environments, which they then use for activities such as movement, growth, and reproduction. Metabolic processes are about the exchange of matter breaking down, building up, and maintaining the biological integrity of organisms; how substances are made and remade, digested and repurposed, in ever-expanding circles and cycles from cells to environments. Or, as Hannah Landecker formulates it, metabolism designates “the interface between inside and outside, the space of conversion of one to another, of matter to energy, of substrate to waste, of synthesis and break down.”³ Hundreds of coordinated, multi-step chemical reactions play into the process of converting energy obtained from nutrients into the molecules required for growth and maintenance. Metabolism is thus about matter exchanging over time: building up and breaking down across a multitude of scales; maintaining while changing organisms, bodies, and environments. For example, as Hans Jonas puts it, organisms are continuous results of their metabolizing activities—they persist as the same organisms by not remaining the same matter.⁴ Metabolism is both about change and stability, about storage and transformation. But why discuss metabolism in the context of museums and “dead” things?

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² Dupré & O’Malley (2009).
First, because at the heart of the museum enterprise lies a long struggle with literal metabolic processes: keeping objects safe from the numerous forms of life that have learned to feed off them, and creating environmental conditions in which those metabolic processes that do occur are kept to a minimum. In other words, metabolisms are controlled to ensure the stability of collections. So in a way there has always been a focus on the metabolic at museums, though primarily in a negative sense, as a potentially destructive force of life best kept outside collections, or at least put on hold through macro-environmental control. This control exists within an antithesis between object and environment, and aims at isolating museum objects from destructive agents (humidity, light, dust, insects, and so forth). It is important to stress, however, that not all environmental degradation is metabolic in nature, nor are all chemical reactions metabolic; museums fight oxidation, temperature change, humidity fluctuations, and so forth as much as they do the metabolic processes of living organisms extracting nutrients from their environments. Nonetheless, any conservator will know the damage that metabolizing organisms—from fungal blooms to munching larvae—can cause to museum objects. Life persists by breaking down and remaking matter, something the museum must actively combat if collections are to be kept intact for future generations.

Second, this aversion to literal metabolisms also plays into one of the key metaphorical conceptualizations of the museum: as time-stilled warehouses, dedicated to the fight against transformation. This famously led to a modernist discourse of museums as stultifying and oppressively lifeless mausoleums. In a more positive vein, museological writing framed museums as institutions dedicated to preserving collections and their knowledge-producing potential. For centuries, preservation practices have granted museum objects the capability to travel through years, decades, even centuries—awaiting the chance to tell their stories and contribute to our understandings of cultural and natural history. They are given a chance of resurrection from the “dead” and being brought back to life—metaphorically of course—for example, through (re)interpretations and juxtapositions with other objects. We argue that pairing the museum’s literal struggle to control metabolic processes with an exploration of its complex metaphorical “metabolism” might help us re-imagine links between museum objects, organisms, and environments. In both the biological and metaphorical realms, metabolism cannot be banished; it is ever-present, producing stability as well as transformation. The struggle is rather for control of its pace and direction. What can be “stilled,” for how long, and for what purposes? Which things or creatures are digested in the service of which others’ stability?

In this, we are not entirely alone. Today, we find an increasingly positive reframing of notions of the “metabolic” in the museum world, particularly through imaginings of the museum as an organism with its own metaphorical metabolism. For example, curator Chuz Martinez proposes imaginatively rethinking the museum as an organism

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5 For more on the suppression of the metabolic sense of the lives of objects by a cultural-metaphorical sense of the rich afterlife of objects, see Grünfeld (2022). For more on the measures of macro-environmental control in museums, see Beltrame (2023).
(more precisely an octopus) that hosts artworks and visitors instead of storing and exhibiting objects for the public. More recently, in her book *The Metabolic Museum*, Clémentine Deliss reflects on how she tried to change the Welt-kulturen Museum in Frankfurt into a laboratory. In her reflections, the concept of metabolism is used to thematize the relationship between the bodies of the visitors and the corpus of the museum collection. She argues that the monitoring environment of the museum, keeping collections inaccessible in storage units, is biased against bodies (visitors, researchers, artists, and so forth). In her own words, she “began to recognize the museum as a complex body with a severely ailing metabolism, afflicted organs, and blocked channels of circulation.” In Deliss’s reimagining of the museum, metabolism thus becomes a powerful metaphor for developing pathways that connect collections to researchers, artists, and visitors. However, in contrast to Deliss’s metaphorical reimagining, our focus on metabolism at the museum goes beyond the metaphorical to explore material and biological processes as well as transformative practices.

In this paper, we explore the potential metaphorical uses of metabolism in the museum, and potential parallels to aspects of biological metabolism. However, we are aware that these parallels are often rather loose, and we do not engage with biochemical detail in adjudicating on the usefulness of the metaphor for our purposes. We want, however, to engage with the creative potential of metabolism both as a series of literal transformations—and as a metaphor capable of reimagining links between museum objects, organisms, and environments. We begin in Section 2 by revisiting the old idea of the museum as a mausoleum: a place where objects and artworks go to die, negatively articulated by critics of museums from the 18th–20th centuries. We then describe a more positive framing within contemporary museology, in which the alleged death of objects and artworks is seen in the light of the potential for a rich afterlife, granting future generations historical and cultural insights. However, as we argue, the potential vitality of collections in the future is seriously challenged by a crisis of accumulation: museum storerooms are full and struggle to find room for the present, and thus face difficult questions about acquisition and disposal. This problem has some tantalizing metaphorical parallels to metabolic disorders such as lipid storage diseases, in which harmful amounts of fatty materials accumulate in cells and tissues. This is also a crisis of conservation resources—preserving the future metaphorical lives of museum objects by stopping metabolizers munching on them is costly, and chronically underfunded.

In Section 3, we aim to show how metabolism provides a particularly fertile soil for reworking challenges of disposal—for relieving museal “constipation.” In parallel with Deliss’s metabolic museum, we offer our own version of relieving a metabolic museum’s blocked channels of circulation by creating co-constituting interfaces. Yet contrary to Deliss, we leave out visitors to focus on objects and their closest caretakers. We do, however, plan to return to the question of what it might be like to visit

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6 Martinez (2014).
7 Deliss (2020, p. 14).
8 Deliss (2020, p. 18).
a metabolic museum in future writing. Moreover, our metabolic approach differs significantly from Deliss’s metaphorical framework, in our material and biological attempts to establish co-constituting interfaces between objects and organisms. To respond to the issue of constipation, we need more than metaphor—we need to practice metabolism at the museum too. Based at Medical Museion, and integrated within the Novo Nordisk Foundation Center for Basic Metabolic Research (CBMR) at the University of Copenhagen, we treat metabolism and metabolic science not only as topics for the humanities and social sciences or for museum exhibitions, but as infusing into our practices of these disciplines. Most recently, we have begun developing ontological experiments in The Living Room, to explore what happens if we reawaken museum objects from their slumber not just metaphorically but metabolically, by attempting to host metabolic processes that are usually (and for very good reasons) inhibited. We work particularly with a collection of objects on the verge of disposal—an assemblage of fringe objects that have been collected but never accessioned, and remain in the shadows awaiting their final end. In The Living Room, we reawaken these objects as metabolic things, bringing them into unexpectedly dynamic entanglements with organisms and environments, and thus making creative cracks in the tension between collections and disposal.

As Morgan and Macdonald show in their 2018 study, museums have started questioning their accumulative practices, and disposal is increasingly gaining acceptance as a strategy for refining collections and making room for the present. Such questioning sits within a wider societal disquiet regarding the overwhelming production of disposable goods and an attraction towards degrowth, as articulated by Serge Latouche. Yet as Morgan and Macdonald report, curators still find themselves in an ambivalent position between care and disposal, as settled protocols and systems of value are thrown into doubt, within hard spatial and financial constraints. As a response to this ambivalence, we describe our experimental reworking of disposal in The Living Room, and make some practical gestures toward reimagining the end of collections at museums grounded in a metabolic perspective. This leads to the final Section 4, in which we reflect on our own practicing of metabolism at the museum in more theoretical and general terms. Drawing on Ian Bogost’s philosophical carpentry, which seeks to practice ontology through the making of things to think with, we suggest practicing “metabolic carpentry” at the museum today as a response to the digestive challenges it faces in the light of centuries of over-production and, indeed, collecting. In the end, we argue that a “metabolic carpentry” can help rework connections between the living and the dead at the museum, by emphasizing

9 Bencard, Grünfeld, Hauser, & Whiteley (2020); Grünfeld (2022).
10 We utilize the polysemy of the word “thing” deliberately here to play on the duality of the concept both as signifying something very similar to objects, and in an extended sense deriving from Heidegger via Latour to signify a gathering—an opening and multiplication of possibilities beyond the objectification of objects; see Latour (2004).
12 Latouche (2009).
13 Bogost (2012); Bencard (2019).
interfaces and exchanges across objects, organisms, and environments through a deeply practical engagement, cultivating an ethos of hospitality and intimacy.

2. Imaginations of the Museum: From Mausoleum to Metabolism

In the 20th century, ideas emerged about the museum as a dead, timeless space, deliberately and oppressively removed from the concerns of the present—a mausoleum situated “out of time.” Daniel Sherman writes that the idea that museums drain life from art was developed by the first full-fledged critic of art museums, Antoine-Chrysostome Quatremère de Quincy (1755–1849), and has recurred “throughout museums’ history, in the writings of Saint-Simonian reformers, fin-de-siècle aesthetes, and multiculturalist curators.”14 In the introduction to his essay “Valery Proust Museum,” Theodor Adorno expresses the link of museum to mausoleum, suggesting that museums are places where works of art go to die:

The German word, “museal” [museumlike], has unpleasant overtones. It describes objects to which the observer no longer has a vital relationship and which are in the process of dying. They owe their preservation more to historical respect than to the needs of the present. Museum and mausoleum are connected by more than phonetic association. Museums are like the family sepulchers of works of art.15

Adorno’s reflections are primarily concerned with art historical museums and collections, and are embedded within a long intellectual tradition. It touches upon the long battle of avant-garde movements and political critiques against the museum across an intellectual landscape spanning Futurists such as Antonio Marinetti, artists in the Dada and Surrealist movements, and the work of late 20th-century critics such as Jean Baudrillard and Rosalind Krauss.16 As Andreas Huyssen remarks, these critiques saw museums as having

stood in the dead eye of the storm of progress serving as a catalyst for the articulations of tradition and nation, heritage and canon, and has provided the master maps for the construction of cultural legitimacy in both a national and a universalist sense.17

Or as Andrea Witcomb describes in her book Re-imagining the Museum: Beyond the Mausoleum: “For those in the avant-garde, the museum is backward looking, essentially a static institution. Bound by tradition and inherently conservative, the museum cannot help but represent the values and interests of the dominant elite.”18

In the avant-garde view, museums were thus places where objects and works of art were decontextualized: placed in temporal quarantine at a safe distance from

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15 Adorno (1967, p. 175).
18 Witcomb (2003, p. 8).
contemporary tensions and contradictions, brought out of circulation and out of a vital relationship to life as lived on the streets. In such readings, the museum as mausoleum is a strategy of power linked to hegemonic capitalism: Life exists in the dynamics of people and ideas as they change, while the museum appears to exclude change and struggle. This view is mirrored in the contemporary trope of museums as old-fashioned and often boring places, fundamentally out of touch with contemporary popular culture.\footnote{Museums themselves even fall victim to this trope; in 2018, the National Museum of Denmark installed “boredom buttons” in their galleries, which when pressed would start various multimedia effects. For a museological critique of the museum and its ties to particular views on collections and knowledge, see, for example, Murphy (2005).} However, as Jean-Paul Martinon argues, the temporal ideology of permanence creates both endings and openings.\footnote{Martinon (2006).} Susan Pearce highlights these openings when she describes the transformation of museum objects as a withdrawal from daily life that then enables a new and different order of life.\footnote{Pearce (1999, pp. 24–25).} When objects go to die at the museum they are indeed decontextualized, but out of this grows potentials for a rich cultural and political impact. This can be seen as a contemporary cultural corollary to the perception of the museum as mausoleum, but with an optimistic twist that underlines the potential of object “afterlives” to make links between past, present, and future, and to transform our understanding of culture and history.

Within both these perspectives on permanence and preservation, the museum might appear to be a thoroughly anti-metabolic institution.\footnote{It is important to recognize that this image applies only to a subset of institutions. Many museums over time—particularly smaller or local museums—have been uninterested or unable to practice the extremes of preservation required to “stop time” in the manner of major museums and collections.} The value of the museum being precisely its capacity to render things lifeless: to prevent transformation and deny museum objects their natural, or intended, decadent lifespan—if in the service of a potential future “cultural afterlife.”\footnote{Crane (2011, p. 99).} Yet if we look behind the scenes a different perspective emerges: one of a museum full of metabolic processes, both material and metaphorical. Once inside the museum, objects undergo a variety of procedures at the hand of trained conservators, to save them from processes of decay, environmental entanglement, and human impact. They are cleaned, treated with chemicals, sometimes fixed or otherwise preserved, and occasionally transformed to mimic an earlier state, a kind of metabolic “rewind.” They are carefully placed inside acid-free boxes and kept on labeled shelves in climate-controlled store rooms that isolate them from the drivers of further metabolism. Yet this is an idealized image. An integral part of the work of conservators is the knowledge of the continuous breakdown of materials, despite their careful efforts to maintain target states. Air moves, moisture appears, fungi and parasites find mysterious ways to reappear. Conservators also have to contend with the limitations of their storerooms, and difficult decisions
about which objects to spend their limited time preserving. As the objects rest, their chrono-metabolic processes keep on churning.24

In contrast to the literally metabolic work of conservators, Deliss applies a more metaphorical view of metabolism, describing the museum as composed of pathways and interconnections that flow through organic and non-organic formations to transform, decenter, recycle, and energize understandings.25 Metabolisms of ideas rather than of substances—which in turn leave material traces in the form of catalogue entries, journal articles, workshop debris, and more. In this vein, it is tempting to think of collection objects as being “digested”: first eaten or absorbed into the museum organism, crossing a threshold between outside and inside, and then entering processes of transformation. There is an evident tension here between the biological and metaphorical—material “digestion” being stopped (if only partially successfully) in order to nourish the vitality of its conceptual counterpart. So objects are preserved and stored, ready to be brought into the more rapid flows of the exhibition spaces, and from there to become parts of new material constellations, new triangulations between visitors, museum space, and objects. This is a metabolism of stops and starts, leaky and inefficient.

What then of the end point of digestion, the excretion of waste? Discarded ideas, meanings, and experiences can flow out of the museum, but in a material sense, museums are seriously constipated. In a recent study, Macdonald and Morgan find that many curators feel that they have inherited a problem that has built up over years: storerooms full to bursting. The problem originated in the collecting frenzy of the 19th century, often founded in colonial and mercantile power and fueled by acquisitive demonstrations of status, an impulse to categorize and control, as well as a rescue mode of collecting based on a desire to avoid loss.26 Making the situation even more challenging is the overabundance of objects manufactured and distributed since the age of industrialization and into the present, and the uncertainty surrounding their future cultural value. Furthermore, the outflow of these accumulating objects is then restricted by policies and professional ethos that severely limit deaccession and disposal, resulting in a “profusion struggle.”27 The museum’s more-than-human capacity for eating things, in conjunction with careful preservation practices, transforms the value of objects and stabilizes them across temporal spans.28 While this grants museums extraordinary powers to link past, present, and future, it can also become a burden that impedes dynamicity. For centuries museums have been over-eating and have become constipated—they have eaten too much stuff to make room for the present.29

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24 Of course, mausoleums are also not quite what they appear—coffins and sepulchers cannot fully hold back decay and transformation. Thanks to Karin Tybjerg for this observation.

25 Deliss (2020, p. 112).


28 These processes of compression relate to Adrian van Allen’s (2023) conception of “folded time” in this issue. See also van Allen (2020).

29 Similarly, Maria Balshaw has linked our heritage system to constipation: DeSilvey (2017, p. 4).
Contemporary museums are thus faced with digestive challenges threatening their future vitality, restricting both the fight against biological metabolism and the ongoing nutrition of future collections. While the critical metaphor of the museum mausoleum and its positive contemporary counterpart in the ideal of permanence disavow the potential of change, what happens if we allow the museum to be more metabolic?\(^{30}\) We don't often think of museums as biological processes—although one does not need to have many conversations with conservators in order to realize just how biochemically active and biologically unruly museum collections can be—but we suggest that doing so might provide a different take on flows and transformations of objects, bodies, and time going on in the museum metabolism. Perhaps we can even practice metabolism actively with selected objects, as a way of loosening up the inhibited flows of the constipated museum?

3. A Metabolic Experiment: The Living Room

What happens if we bring the metaphor of a museum metabolism to life, and attempt to develop a metabolic museum practice that amplifies and prioritizes organic flow and exchange? In this section, we want to invite the reader on a journey into one such experiment. At Medical Museion, we are continuously developing The Living Room as an experimental-ontological site, where we reawaken museum objects from their slumber not just metaphorically but metabolically. It is a trans-disciplinary project led by authors Martin Grünfeld and Louise Whiteley and developed in collaboration with conservators, artists, designers, scientists, and communicators. In The Living Room, we attempt to multiply our senses of the lives of museum objects beyond an ideal of permanence. We attempt to restitute our relationship with the more-than-human heritage eaters, to help us re-imagine the end of collections as characterized not by silence and destruction, but by re-growth and becoming. While the purpose of conservation is to minimize metabolic activity, in The Living Room we aim towards reawakening collections from their metabolic slumber and engaging the metabolic powers of heritage eaters to assist us in our profusion struggles.

In the following sections, we unravel our development of post-preservation practices that embrace material transformations as generative processes—for both de-growing collections, and re-growing significance. We describe four components in our experimental-ontological setup: the fringe objects, some of the unusual heritage eaters we work with, the boxes they enter, and our use of sounding as a method for exploring their entanglements. These components are brought together in a basement room at Medical Museion that we were allocated back in the fall of 2020 and finally opened to the public in November 2021 after two COVID lockdowns in Copenhagen. Visitors can now visit our small stone cube with its uneven surfaces and

\(^{30}\) While we lean into the dichotomy between the mausoleum and the metabolic museum, there have been many other routes with which museum professionals have reworked their practices in order to create more lively encounters and practices in the museum institution. See, for example, the extensive literature on the participatory museum: Simon (2010).
crumbling walls on guided visits. They enter the room from a small, steep staircase and notice photos of mould, a desiccator containing wax worms and soft plastic materials, objects arranged on the uneven concrete floor, and a brightly colored, red Perspex box hanging on spray-painted grids. In this article, we focus specifically on the Perspex box developed in collaboration with sound and performance artist Maria Brænder and entitled “Slow Show,” which contains an assemblage of old books, historical medical instruments, and fleshy pink mushrooms growing and decaying, intimately enfolded with the museum objects. Although you sense the processes of decay by looking at the box, they seem somehow stagnated and silent. Next to the box, a set of headphones invite you to listen in on the tiny sounds of pink oyster mushrooms cultivated in discarded books alongside Maria Brænder’s imaginations of entanglement and interspecies companionship. As you put down the headphones and turn away from the boxes, you realize that the entire room is teeming with life: you sense the humidity, notice the salt crystals appearing on the walls. This room appears as an uncanny living room—a room hosting moist, messy, metabolic life processes.

3.1. Fringe Objects: In-Between Value and Waste

Museums hold vast numbers of historically and culturally significant objects. Yet outside the confines of exhibition spaces and storage facilities, other objects reside in the margins. They are inside museum buildings yet left outside of collections and exhibitions—unregistered, unnamed objects. Fringe objects rest on cement floors, open shelves, office tables, or in cardboard moving boxes, awaiting the final judgment and likely permanent destruction. In a pleasing echo of its intentions to explore decay and disposal, the project was assigned a room in the basement of the museum, an in-between space containing piles of fringe objects. Duplicates and unregistered items without the value demanded of museum objects: a walker bleeding phthalates, a centrifuge, dental kits, neatly packed bandages, old medical books, and so much more. While Susan Pearce has pointed out how museum objects become dead in their living time in order to gain immortality within museum collections, fringe objects are from a museological perspective the truly dead. No longer in use or part of a collection and without any significance or interesting story attached to them, they decay unnoticed.31 In the margins of the museum, they occupy an ambiguous position, in an uncertain crevice between value and waste. Yet as Caitlin DeSilvey has argued, precisely these objects and sites at the margins provide fruitful resources for developing post-preservation practices, and for us these fringe objects became a valuable working collection to use for our metabolic experiments.32

But how did fringe objects become disposable? Fringe objects are the by-products of collecting and categorization practices. They have already been brought into the

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31 Pearce (1999, p. 24). Here we wish to express our gratitude to Amalie Schjøtt-Wieth for developing the idea of truly dead objects. For a detailed discussion of the senses of the lives of objects at the museum (the cultural-metaphorical versus the metabolic-literal), see Grünfeld (2022).

museum, but have neither been categorized as valuable and thus accessioned into the collections, nor judged as non-valuable and thus immediately refused or disposed of. In a sense, they are merely *matter out of place*, residing outside of systematic ordering into conceptual schemas, as famously described by anthropologist Mary Douglas. Without registration numbers and floating free of the “metadata” of stories and contexts, fringe objects are the silently displaced leftovers of the past (and present) with no place in our projected future. These fringe objects, however, are not just matter out of place, but closer to what Greg Kennedy describes as *matter without a place*.33 While deaccessioned objects in Denmark can be donated to other museums or returned to their original donors, they are not to be sold or otherwise reused and are most often destroyed—disposed of in sealed containers, taken to a landfill site, and destroyed. The fringe objects we are working with have never been accessioned, and so lie in a grey zone between museum object and waste. But even these fringe objects are significant by affiliation with the “real museum objects” and their cultural significance, and should thus also be destroyed. For conservators, this desecration of objects in the act of disposal contradicts their role as stewards, and places them in an awkward dilemma between care and disposal. Indeed, Amalie Schjøtt-Wieth, the conservator working with *The Living Room*, expressed this dilemma nicely during our collaborations: on one hand, she felt an immediate professional and personal inclination to

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33 Kennedy (2007, pp. x, 7).
save and care for our fringe objects, but on the other hand, she found herself meaningfully engaging in our suggested metabolic practice, because the fringe objects here in a sense acquire a second life and regain attention and value. In *The Living Room*, fringe objects regain significance as our working collection—as essentially a marginal collection at the verge of the museum collection proper, granting us the opportunity

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34 This, however, also leads to a potential problem when dealing with disposal issues at the museum, which has been articulated by Grünfeld & DeSilvey (2022).
to develop other practices of “caring beyond saving,” less hostile towards life processes as suggested by DeSilvey.\textsuperscript{35} Here, we can bring fringe objects to life as they depart from us.

While fringe objects lack the anthropocentric significance demanded of museum objects, from an ecological viewpoint, fringe objects can become significant parts of an all-encompassing lifecycle beyond good and evil or value and waste.\textsuperscript{36} In The Living Room, fringe objects play a crucial role as a collection of (nutrient-)rich material we need for our metabolic reawakening (see Figures 1a and 1b, for examples of the fringe objects we work with). In this reawakening, we try to abstain from objectifying the objects by reducing them “upwards” to their impact on or value for us—what Graham Harman calls “overmining.”\textsuperscript{37} Yet instead of attempting to avoid another reductive tendency Harman describes as “undermining”—reducing objects “downwards” to their material properties as described by natural science—we take the material composition of objects (wood, steel, plastic, paper, and so forth) as an opening towards transmutation and multiplication. From conservation theory, we learn to treat objects as micro-environments containing nutrients and water that potentially support a population of heritage eaters.\textsuperscript{38} In The Living Room, fringe objects become things—sites for uncertain gatherings of humans, heritage eaters, and environments, contained within strange boxes and encountered through multi-sensory methods (sound, vision, poetry, touch).

\subsection*{3.2. Heritage Eaters: Fungi as Intimate Collaborators}

Heritage eaters such as larvae, beetles, and fungi are cosmopolitan.\textsuperscript{39} Across the globe they are munching their way through walls, ceilings, and valuable artifacts in homes and museums. Museums do their best to prevent and control such heritage feasts, which can quickly turn into cultural-historical disasters. Preventative measures entail controlling both macro-environmental and micro-environmental factors. While macro-environmental measures are taken to control the temperature, humidity, and light in storage facilities, exhibition spaces, and so forth to limit the possibilities for growth and habituation, micro-environmental factors such as moisture and the content of nutrients in material play crucial roles in the prevention (or support) of fungi and insects.\textsuperscript{40} To hinder the transformation of collections, eradication and elimination strategies are implemented to decrease the metabolic activities of heritage eaters. But what if we reframe their metabolic properties not only as a threat but also as a potential partner in our metabolic reawakening of the museum?

\begin{itemize}
\item We collaborate with Caitlin DeSilvey, who has previously proposed a post-preservation practice beyond saving in her book Curated Decay, to explore what such a practice could look like inside a museum context: DeSilvey (2017, p. 184).
\item Kennedy (2007, p. 2).
\item Harman (2018, pp. 46–51).
\item Florian (1997, p. 2).
\item Florian (1997, p. 1).
\item Florian (1997, p. 2).
\end{itemize}
In The Living Room, we started working with fungi because of their enticing metabolic abilities to break down and transform dissimilar materials as they sustain their own being, as well as the challenge they pose to traditional definitions of the organism–world interface. As Merlin Sheldrake explains, mushrooms are metabolic wizards capable of breaking down the most stubborn substances, such as polyurethane plastics, rock, and even the explosive TNT. Through their wizardry, they stitch worlds together as recyclers and networkers. In nature, they form a “wood wide web” interacting with the roots of trees to connect not just root and fungus but also tree to tree in forest entanglements. As well as forming connective networks between species, their wizardry enables them to connect nature and culture in inclusive modes of co-existence.

As Anna Tsing explores in her work on matsutake mushrooms, by the 1970s citizens' movements emerged in Japan to address the impoverished environment, driven by a nostalgic search for places to see the wildflowers and fireflies of their youth. In their re-imagination of a more sustainable relationship between humans and non-humans, preservation meant guided disturbance rather than withdrawal from nature. Within this environmentality, the Matsutake Crusaders removed evergreen broadleaved trees to promote the growth of pine and let the hillsides develop into open forests where wildflowers can find niches and the matsutake can grow. For Tsing, this art of inclusion embodied a path towards a more hospitable multispecies environment, in contrast to extinction-oriented plantation science. While the work of the Matsutake Crusaders appears within an aura of romantic nostalgia for a lost natural environment, The Living Room develops a disturbing hospitality, welcoming disruptive metabolic forces into the museum. Yet The Living Room shares the basic idea of guided disturbance, rather than withdrawal and letting be.

Our metabolically guided disturbance stands in contrast to preventative conservation—rather than focusing on maintenance and stability, we actively try to support things becoming something else. The care and attention involved in reinserting fringe objects into the undifferentiated flow of natural growth and decay makes their wasting significant and affective. In her work on the bright-red Perspex box containing entanglements between discarded medical objects and fungi, Maria Brænder started cultivating Pleurotus djamor (the pink oyster mushroom) in shredded paper from discarded medical books and cardboard (see Figure 2). She chose to work with pink oyster mushrooms because of their aesthetic properties, and began cultivating them in her home office during the first COVID lockdown in Copenhagen between March and June 2020. An unusual heritage eater, this is a tropical mushroom best known for

41 Sheldrake (2020, p. 5).
42 Sheldrake (2020, p. 20).
43 Tsing (2010, p. 191).
44 Tsing (2010, p. 199).
47 Bencard & Whiteley (2019).
48 Kennedy (2007, p. 11).
Figure 2. Close up of “Slow Show” by artist Maria Brænder. In the installation Pink oyster mushrooms act as heritage eaters, entangling with the fringe objects. Photo by Sara Valle Rocha (2021). Reproduced with permission.
its aesthetic properties and almost meaty taste. Bringing the pink oyster mushroom into new habitats has been demanding and open-ended. As Nai and Meyer point out in their review of the recent fungal trends in art, fungi are dynamic uncontrollable entities that need not be tamed to be interesting.\textsuperscript{49} However, as Maria Brænder cultivated the pink oyster mushrooms at home, not only did they spark her interest, but they deeply affected her thoughts and imaginations of human and non-human entanglements and the risk of contamination (of her home and herself).

Returning to work in The Living Room after the first lockdown, the Perspex box was assembled by Maria Brænder together with conservator Amalie Schjøtt-Wieth. Inside the box pre-grown pink oyster mushrooms were placed together with mycelium, water, and fringe objects from our collection. In this chimeric constellation of misfits, we aim to create an unstable space where things both end and open up. By actively altering the potentiality of fringe objects we enhance their significance, so they are no longer judged within a solely anthropocentric value system but also become valuable as sources of nutrients and places to grow. Gathering organisms and objects into new assemblages enacts the basic chimeric process of life, yet pushes across the limits of an organic–inorganic divide.\textsuperscript{50} This metabolic reawakening not only entails cultivating fungi at the fringe of collections but simultaneously develops an increased sensibility and hospitality towards fungi as intimate collaborators. Fungi act as wizards, tricking us out of our preconceptions of the world and rendering it less familiar.\textsuperscript{51}

### 3.3. Metabolic Boxes: Developing a Space for Entanglements To Grow

Boxes can do lots of things. As Susanne Bauer explains: “they open and close, fold and unfold, hold still or speed up. Boxes work as sorting devices, they categorise and draw boundaries, they shut out, they enclose. They hide, store, silence, or expose, and bring about alignment, separation, filtering, or enhancement.”\textsuperscript{52} The museum is itself a box—a time machine with folded and intersecting temporalities.\textsuperscript{53} This time machine is rendered possible by an array of underappreciated boxes such as jars, cardboard boxes, and display cases. From a common-sense perspective, such boxes serve the higher purpose of protecting the valuable content they encapsulate.\textsuperscript{54} But as Martina Schlünder argues, boxes are also epistemic tools for ordering, containing, and classifying worldly mess.\textsuperscript{55} Within these boxes, specimens travel in time, aided by careful wet preparation, drying, or isolation in jars. Meanwhile, non-organic and composite materials are stored in cardboard boxes made of non-toxic materials and resistant to light and dust. These containers act as controlled micro-environments,

\textsuperscript{49} Nai & Meyer (2016).
\textsuperscript{50} Helmreich (2015, p. 173).
\textsuperscript{51} See also Sheldrake (2020, p. 5).
\textsuperscript{52} Bauer (2020, p. 45).
\textsuperscript{53} Bauer (2020, p. 49).
\textsuperscript{54} Rentetzi (2020, p. 38).
\textsuperscript{55} Schlünder (2020, p. 29).
and are then placed within macro-environments such as storage facilities with controlled temperature and humidity to keep collections stable. As Florian points out, the importance of micro-environments is often overlooked: drawers, bottom shelves, the piece of paper on the bottom of a pile, and boxes all have major impacts on the lifecycle of heritage eaters and thus the objects they feast on. In The Living Room, we pay particular attention to such micro-environments, but contrary to conservation science we attempt to sustain the lifecycles of heritage eaters and cultivate their entanglement with our collection of fringe objects.

As Maria Rentetzi argues, more than just passive containers, boxes are inextricably connected to the objects they hold, forming a joint material object. In The Living Room, we design and build boxes that treat this as a generative rather than disturbing idea. Our first such box, “Slow Show,” contains shredded books, medical equipment, water, pink oyster mushrooms, and mycelium (see Figure 3). The box is made of Perspex and ventilated with HEPA filters to become a natural-cultural micro-environment sustaining the co-existence and entanglement of fringe objects and heritage eaters. Perhaps it may seem paradoxical that we contain the fringe objects and fungi inside boxes, when we finally have the chance to set them free? For a start, we are not allowed to—the boxes are necessary to avoid contamination of ourselves and the fabric of the museum. And, indeed, there is no view from “outside the box”—taking down any given wall always reveals others. In a certain sense, we invite the outside of the museum into our boxes. Instead of isolating objects from humidity, light, heritage eaters, and so forth, our boxes are designed to host growth and decomposition; they are paradoxical spaces where the boundaries between inside and outside teasingly mutate.

When we attempt to bring the outside in, not only do the objects and boxes change correlative, but also in their temporalities. Boxes are usually (and ideally) designed to “freeze” objects in the moment, enabling them to travel through time, granting future generations opportunities to peek into the past. Meanwhile, in our boxes fringe objects are exposed to temporal agents that support and even accelerate their decomposition, amplifying the aesthetic effect of time passing. Old books crumble not over decades, but over weeks, as the blueish-grey of decaying oyster mushrooms blends with their fibres. Additionally, while pink oyster mushroom mycelium was originally added to the box, unknown greyish mold has begun growing in the bottom half of the box, leaving the future of the contents uncertain and emphasizing the uncontrollable metabolic power of fungi.

Accelerated metabolic processes provide glimpses into a (fictively) transformed future where everything returns to soil. From a preservation perspective, our boxes might seem dangerously similar to Pandora’s eponymous container, containing a myriad of evils—heritage eaters, humidity, nutrients—that threaten the stability of

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56 Florian (1997, p. 5).
57 Rentetzi (2020, p. 38).
58 Similarly, in her book Chaos, Territory, Art: Deleuze and the Framing of the Earth, Elizabeth Grosz (2008) argues that we cannot understand the flow of life without framing it.
59 For more on this, see Grünfeld (2022).
Figure 3. “Slow Show” by artist Maria Brænder in collaboration with The Living Room collective. A metabolic box hanging on the wall in The Living Room, containing fringe objects, heritage eaters, and contact microphones. Caring beyond saving, we invite visitors to see and hear decay. Photo by Sara Valle Rocha (2021). Reproduced with permission.
the collection. However, it is crucial to recall that Pandora's box not only contained all the troubles of humanity, but also the gift of knowledge. As Rentetzi explains:

Thanks to her curiosity, Pandora's box bestows upon mankind not only all evils and troubles but also the gift of knowledge. Releasing the evils into the world marks the end of human innocence, the beginning of knowledge, the pain of defining the human condition.\(^60\)

We believe that our metabolic boxes hold a similar, if much more modest, potential. Related to the metabolic chambers used in laboratories to sustain living organisms under study (humans, mice, frogs, and so forth), our boxes contain mysteriously complex bodily processes.\(^61\) Yet unlike the meticulously controlled metabolism of a creature inside a metabolic chamber, measured in terms of input (for example, diet) and output (for example, excretion), we explore the uncontrollable metabolic entanglements by other means: sounding and listening, as well as imaging.

### 3.4. Sounding: Exploring Metabolic Connections

The weird constellations of museum misfits—fringe objects and fungi—inside our bright red Perspex box may remind some readers of Jane Bennett's description of her encounter with a vibrant assemblage on a sunny Thursday morning in June, in front of Sam's Bagels in Baltimore:

Glove, pollen, rat, cap, stick. As I encountered these items, they shimmied back and forth between debris and thing—between, on the one hand, stuff to ignore, except insofar as it betokened human activity, … and, on the other hand, stuff that commanded attention in its own right, as existents in excess of their association with human meanings, habits or projects.\(^62\)

For Bennett, the shimmering of these things in the sunlight provoked affect (repulsion and dismay) but also awareness of the configuration of the pollen and the singularity of that particular rat. We find this ambiguity echoed in fringe objects: they carry an unknown past of purpose and use, but can also provoke repulsion at their uselessness, their wastefulness. For Bennett, thing-power arose that day as “the curious ability of inanimate things to animate, to produce effects dramatic and subtle.”\(^63\) Her description shows the potential knowledge affects of such unusual constellations. In *The Living Room*, our experiments differ in at least two respects. First, they are carefully curated and cultivated inside metabolic boxes. Second, we attempt to collaborate with heritage eaters to animate inanimate (or at least very slowly animate) things. Rather than focusing on the agency of inanimate stuff, we are

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\(^60\) Rentetzi (2020, p. 39).

\(^61\) Whiteley & Bencard (2020, p. 37).

\(^62\) Bennett (2010, p. 4).

\(^63\) Bennett (2010, p. 6).
intrigued by the ability of heritage eaters to animate seemingly inanimate stuff. Our collection of fringe objects becomes a vibrant gathering.

But while Bennett’s serendipitous experience occurred in bright sunlight, how do we let the shimmering knowledge affects shine through the impenetrable entanglements of fungi and objects within boxes in the basement of the museum? Even though we cultivate fungi to accelerate processes of decomposition, transformation is still almost invisibly slow. Hence, we work with multi-sensory methods to reveal transformation and highlight its vibrancy. Of the senses, the visual has played a privileged role in most Western knowledge production, including in museum exhibitions. Yet the almost invisible spread of fungal spores has led us towards unfamiliar sensorial territory in our attempt to explore their entanglement with fringe objects. As Stefan Helmreich argues, **sounding** can be a method to explore things without clear limits or whose limits have been obscured. In our experimental work, sound recording has become an increasingly important method for sensing the newly established bonds between fungi and fringe objects. American composer John Cage believed that noticing sounds in music and noticing mushrooms in nature were related skills, and he wanted a music that forced listeners to attend all the (composed and/or incidental) sounds around them. Working with fungi invites us to think backwards, to use a formulation from Sheldrake, and acknowledge that without decomposers “unmaking” the world there is nothing for “composers” to make with. In *The Living Room*, we invite decomposers to become composers and attempt to listen in on the tiny, almost inaudible sounds of entanglement, growth, and decomposition.

In the “Slow Show” installation, Maria Brænder applied specifically designed JrF contact microphones to capture the cultivation processes in her home office, and afterwards installed them in the box to allow us to listen in on the processes of growth and decay (see Figure 4). However, during our collaboration, we realized that it would be impossible to transmit live(ly) sounds from the box to visitors, because of the interference the mere presence of visitors would have on the recordings, compared to the tiny sounds we attempt to capture. So we ended up inviting visitors to listen to a pre-recorded composition consisting of sounds of the cultivation process, as well as Maria’s imaginings. This “listening-in” nonetheless brings audiences beyond simply hearing, and towards an intimately entangled experience of relations between museum objects and organisms. As Jean Luc-Nancy defines it: “To be listening is always to be on the edge of meaning, or in an edgy meaning of extremity, and as if the sound were precisely nothing else than this edge, this fringe, this margin.”

Listening in on the entanglements of fringe objects and fungi brings us to the edges of meaning. It does not yield conceptual clarity and/or new scientific evidence of processes of decomposition at the museum, but rather immerses us in sound at the edge of sense, generating knowledge affects and immersive bodily resonances with the

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64 Grünfeld (2022).
organic–inorganic entanglements. As Brandon LaBelle argues, sound has the ability to stitch together bodies in a temporal instant, creating a diffuse yet intimate meeting point. In a similar vein, Shelley Trower argues that vibrations appear to cross distances between things, people, self, and environment, promising—yet threatening—to shrink or break down such distances. If we listen in, we have the chance to expand

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69 LaBelle (2010, pp. xvi–xvii).
our experiences beyond the constraint of alleged borders between human and non-human. Perhaps such intimate exchanges can establish a metabolic connection with a vibrant, literally vibrating materiality at the margins of our lifeworld?

4. Doing Other Things with Objects at the Museum: Sketches of Metabolic Carpentry and Its Practical Consequences

As shown in the previous section, the creative potential of the concept of metabolism goes beyond the metaphorical realm, inviting us to do other things with objects at the museum. In *The Living Room*, we materially produce metabolic paradoxes: encouraging decay in an institution dedicated to eradicating it, enclosing the “outside” within a protective box, listening to the invisible within a typically visual regime, and foregrounding the end of collections as a potentially productive beginning. By working intensively with a few fringe objects and by giving them the space and time they need to transform and entangle, we aim to make creative cracks in the tension between preservation and disposal, in order to encourage more playful, proliferative conversations about value, about caring beyond saving, and about the potential of decay to provoke new forms of hospitality. In this final section, we wish to discuss the implications of our work in *The Living Room* both theoretically and practically. First, we relate our work to Ian Bogost’s *philosophical carpentry* and Thomas Feuerstein’s bioart, and suggest that our practice can be understood as a piece of *metabolic carpentry*—a “thinking machine” that allows us to think differently about time, ontology, and transformation in the museum. Second, we discuss how creating an unusual site such as *The Living Room* turns into public philosophy, as conservators, artists, and visitors join our interventions and engage with difficult questions about value, coexistence, the making of history, and disposal.

In Bogost’s book *Alien Phenomenology*, he uses “carpentry” as a way to unfold his reworking of phenomenology within unfamiliar territory. Bogost describes alien phenomenology as a philosophical practice that brackets the human solitary consciousness, in order to attend to a world beyond the correlation between subject and object. This is a philosophical speculation that attends to other objects at the limits of our experiences, or what Bogost describes (with reference to Graham Harman) as the “black noise of objects.” For Bogost, this calls for two interrelated methodological moves. On the one hand, “Our job is to write the speculative fictions of their processes.” Alien phenomenology can only proceed by way of metaphors; speculations into the realm of things are necessarily analogical and thus doomed to anthropomorphism, but this is not a problem, rather a creative resource. On the other hand, alien phenomenology becomes particularly forceful when it is applied beyond speculation: “Our job is to get our hands dirty with grease, juice, gunpowder,

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71 French (2020).
73 Bogost (2012, p. 34).
74 Bogost (2012, p. 64).
and gypsum.”75 As Bogost notes, recent trends in contemporary philosophy, such as speculative realism and object-oriented ontology, suffer from being very much philosophies of first principles like the old-school metaphysics of the past. They would, thus, benefit from being brought into practice as an “object-oriented engineering.”76 Or as Bogost polemically argues, “If a physician is someone who practices medicine, perhaps a metaphysician ought to be someone who practices ontology.”77 For Bogost, “carpentry” refers to such a practice—a practice that contends with material resistance and constructs artifacts as philosophy.78 It is not a theory in practice nor even practice as theory, but artifacts as theory—that is, as conceptual machines doing (at least some) philosophical work.79

How, then, does our practice of metabolic carpentry relate to Bogost’s philosophical carpentry? In a rather metabolic fashion, Bogost claims that the “stuff of being constantly shuffles and rearranges itself, reorienting physically and metaphysically as it jostles up against material, relations and concepts.”80 Yet despite our shared interest in interfaces and entanglements between objects, organisms, and environments, our metabolic carpentry diverges from Bogost’s philosophical carpentry in that we are not trying to become practitioners of a speculative metaphysics of inter-object “experiences.” While our attempt to rework the museum as metabolism similarly draws on the power of juxtaposition, we attempt to cultivate and grapple with the rich intensive variations of objects eating, exchanging, and digesting each other and attempt to make things that metabolize. In a specifically metabolic sense, we aim to awaken museum objects from their slumber—more than metaphorically speaking.

With our metabolic carpentry, we thus transgress an alleged schism between metaphor and metabolism, practically working back and forth between the two. In this, we are indebted to the artistic practice of Thomas Feuerstein, and his articulation of the notion of “metabols.” Metabols transgress a difference between metaphor and metabolism, and subvert any hierarchy that places human cognition above material nature.81 Rather, symbols are deeply ingrained in the fabric of the world—the transformations of matter inscribed in permeable bodies and fragile environments. When Feuerstein creates and cultivates his transformative sculptures such as Pancreas—a processual sculpture transforming Hegel’s Phenomenology of Spirit into glucose nourishing brain cells in a vat—he acts as a metabolic carpenter par excellence.82 He is at once a philosopher working conceptually; a scientist cultivating bacteria, algae and fungi; and a farmer harvesting products from his sculptures to be reused in other works of art (or even to be transformed into schnapps, fueling the creativity of the

75 Bogost (2012, p. 34).
76 Bogost (2012, p. 29).
77 Bogost (2012, p. 91).
79 It is also in this spirit that we describe the practices of The Living Room before relating them to the ideas of metabolic carpentry; the latter is not a philosophical method that is straightforwardly applied to a concrete case, but is developed through and in dialogue with practice.
80 Bogost (2012, p. 27).
81 Feuerstein (2020).
82 For more on Feuerstein’s work Pancreas, see, for example, Grünfeld (2020).
artist). In between metaphor and metabolism, Feuerstein cultivates transformative sculptures that literally metabolize while simultaneously affecting how we think about art and science, offering opportunities to link across the logics of the humanities and natural sciences.

We likewise seek ways to link art and science within museum practice, exploring the relation between the experimental and the ontological. Our experiments, however, do not offer the scientific knowledge of their counterparts in metabolic science, nor the historical knowledge expected of museum research. Indeed, our experiments might very well look like Pandora’s boxes, unleashing all the evils you want to avoid when producing knowledge (as well as when conserving collections)—in an uncertain, uncontrollable entanglement of objects, organisms, and environments. But this does not mean that our experiments are mere accidents. Rather, they are driven by an ontological attempt to make and intensify particular interfaces between objects, organisms, and environments: they are nonaccidental constructions intended to encourage unpredictable metabolic entanglements. They are not designed via a coherent ontology, nor are they able to yield systematic ontological insights. Rather, as in Bogost’s description, this kind of carpentry can be seen as “the process of driving a nail in with a cup of frozen custard.” In our work, metabolism becomes a creative concept for transformation that transforms not just the image of the museum, but also our senses of connections between objects, organisms, and environments, embedded in a constant circulation and exchange.

Importantly, however, our metabolic carpentry not only reworks our sense of connections between objects, organisms, and environments at the museum, but also the material museum practices that engage conservators, artists and, visitors. If we return to the fungi box “Slow Show” and its placement in The Living Room, we can take this as an example of how our metabolic carpentry becomes transformative of museum practices. In the making of “Slow Show,” the boundaries between conservation work, artistic practice, and humanities research are reworked. The conservator who usually hides in the shadows of the museum, working invisibly to keep objects authentic, now provides valuable knowledge about processes of growth and decomposition, thus disrupting standard practice in conservation science. Yet this practice still remains meaningful as a way of caring for objects beyond saving—a practice of caring that allows fringe objects to move out of their “fringiness” and become more than the anonymous remnants of a forgotten past. This change of status is made possible through the encounter between conservation and artistic practice—an encounter in which the artist acts as cultivator in a botanical sense, watering, gardening, and growing the interfaces between objects and organisms. Meanwhile, we—the humanities researchers—are drawn away from our usual habitats behind desks, books, and laptops to do practical-conceptual work and engage in making thinking machines that

83 Feuerstein (2020).
84 Hauser (2020).
86 This practice can be related to recent developments in conservation work around the idea of disruptive conservation. See for example, Sweetnam & Henderson (2021) for more on this.
cross boundaries between conservation, artistic practice, and our own research. This leads to awkward questions for everyone to consider: who are we when doing messy metabolic experiments? Where does our research end and conservation and artistic practice begin? In our experiments, similar to the intertwinement between organisms and objects, professions, disciplines, and authorship mesh and transform.

The Living Room grants us a reflexive space for engaging with difficult conversations around value, disposal, and history, as well as practical opportunities to rework object status and subject positions. This is precisely what our metabolic carpentry is about: creating not just art installations, but a transformative space for grappling with contentious questions about what preservation means in an age of climate crisis and what is worth preserving, and inviting visitors to join in the conversation. We have not yet conducted formal visitor research, but from personal experience we can describe our visitors as ranging from a general audience interested in the behind-the-scenes of museum work (conservation, valuation, research) to a specialized audience of artists and conservators engaging in detailed conversations about making and preserving. For example, a group of conservators from the School of Conservation in Copenhagen visited us and particularly admired “the beautiful damage of objects,” as one expressed, yet also questioned the decisions leading fringe objects to enter The Living Room. This is exactly what our metabolic carpentry is about: opening the hidden processes and decision-making of the museum to public audiences, and in a sense creating The Living Room as a thinking machine that turns museum philosophy into a public endeavor. As such, our carpentry is not just about making artifacts that metabolize, but crafting the uncertain transformative environment that surrounds the objects—a new organ at the museum for materially digesting difficult questions about value and waste and the making of history at the museum today.87 This history is not revealed by tracing the past of the objects in archives and registers, but plays on the anonymity of fringe objects and their material composition as having the potential to unleash the literally material powers of the past in our metabolic experiment. Perhaps paradoxically, decomposition becomes a way of giving life to historical objects.

Yet this paradoxical metabolic gesture of reanimating anonymous objects from the past hides a deeper paradox: as we work with fringe objects, they become increasingly valuable. Not only do our invested caring practices change the objects from anonymous into something we hold dear, but through our mixed conservation, artistic, and research practices they become parts of artworks and are in a sense artistically reborn.88 As DeSilvey and Grünfeld have previously discussed, herein lies the paradox that fringe objects are removed from their “fringiness” in The Living Room and perhaps end up being worth preserving.89 This deeper paradox poses problems for us when we propose our metabolic carpentry as a way to deal with the profusion struggle and constipated collections, because ironically our practice might end up

87 We want to thank one of our reviewers for suggesting the metaphor of The Living Room as a new organ at the museum.
88 See Bowell (2017) for a discussion of this.
89 Grünfeld & DeSilvey (2022).
making it even harder to dispose of excess objects; rather, they might end up in the storerooms they were supposed to leave behind forever. However, when we were assigned the basement room to develop *The Living Room*, we had to write a protocol specifying that at the end of the project we would not return to the head of collections at the Medical Museion asking him to (re)accession our messy metabolic objects. Rather, our metabolic experiments will continue their life course towards the end. This is a slow and intensive process, and thus we do not claim that we have solved the profusion struggle or found a practical solution to disposal issues at the museum. Far from it, our metabolic carpentry could not be scaled up from its current pilot stage without incurring significant costs and an increased work load of conservators, which very few (if any) museums would be willing to invest into something as contentious as disposal.

But what our metabolic experiments enable us to do is to navigate the dichotomy between value and disposal at the museum. They show a perhaps provocative, yet less destructive third way, which confronts standard concerns from museum professionals such as fear of loss, the negative connotations of disposal, and the ideal of saving for perpetuity—opening possibilities for doing other things with objects at the museum today. As we see it, composting as a way of allowing the mess of the world to take over collections is a crucial part of conservation practice for the future.

5. Conclusions: The Creative Potential of Metabolism at the Museum

What happens if we look at the museum as metabolism rather than mausoleum? While nothing really ends (or dies) at the mausoleum but slowly deteriorates and regenerates, the juxtaposition between museum and mausoleum imports an image of stability and permanence, while perhaps undermining the understanding of the museum as always and already metabolic. However, as we argue in this paper, from the moment objects enter collections, they become parts of a transformative network of conservation practices and institutional infrastructure that interfere with the interpretations, categorizations, and material constitutions of objects. This is a museum metabolism at work: objects are institutionally transformed to become stable, valuable artifacts capable of traversing long temporal spans. Yet this extensive focus on stability at museums overlooks a crucial aspect of metabolic systems: the breaking down and continuous exchange of matter. This is explicitly visible in the digestive challenges of museums today, and is manifested in the profusion struggle and disposal issues we describe. These digestive challenges call for more than permanence, but also for seeing the generative potential of time unfolding rather than stoppered; for reworking the end of collections in ways that do not entail destruction and loss but can also lead to proliferation and new ways of becoming; and for knowing other things about objects than the stories they hold from the past.

We suggest that the concept of metabolism invites us to challenge the way we look at collections, their potential endings and the taken-for-granted inclinations
to save for the future. Our suggestions, however, are not just metaphorical imaginations of a future museum but deeply material and metabolic in a more literal sense. We are not just trying to imagine, but we actually practice metabolism at the museum under the term “metabolic carpentry.” By employing the creative potentials inherent in the concept of metabolism, we develop this methodology from below through sustained attempts to practically collaborate with artists, conservators, and heritage eaters to constitute interfaces and exchanges between objects, organisms, and environments at the museum. Out of the experimental intervention—The Living Room—grows our proposition for a more generally applicable metabolic carpentry that aims towards intensifying metabolic connections, interfaces and entanglements across nature–culture. In The Living Room, we explore such connections through practical experiments placing fringe objects inside metabolic boxes with heritage eaters and listening carefully to their entanglements. In this process, we turn objects into gatherings—intensive interfaces between objects, organisms, and environments—and engage researchers, conservators, artists, and visitors in metabolic connections across these interfaces.

We acknowledge that our experiments do not solve the grand-scale challenges of disposal at the museum today, but we believe that they can open up new terrain for questioning our modes of caring for objects at the museum (and beyond), as well as thinking through our environmental impact in an age of climate crisis. What our experiments show us is the potential of bringing the museum to life—or perhaps bringing more life into the museum—to cultivate an ethos of hospitality and intimacy. This ethos recognizes the liveliness of being metabolized as well as acknowledging the damage done to objects by the metabolisms of the living, making us more sensitive to flows, circulations, and exchanges that span from tiny mushrooms in medical books through our bodies and out to our planetary home.

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