The New Uncanny: Stories for Liminal Technology

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Abstract

The Uncanny Valley is a thought experiment that has been colloquially used since 1970 to discuss technology's sometimes uncomfortable resemblance to human life. Seventy years later, this paradigm is no longer sufficient when discussing technological uncanniness in the world. Topics like synthetic biology, atmospheric engineering, and biomimetic robotics cannot be understood using a singular threshold based on human likeness. This lack of perspective on how technology reflects and impacts the non-human, "natural" world is particularly apparent in the field of BioArt and BioDesign where critical theory becomes closely intertwined with hard science. Drawing on language from the BioArt domain, this project expands the univariate, human-centric Uncanny Valley by exploring uncanniness along the three axes of the living, the biological, and the natural.

Keywords

BioArt, Alivenes, Uncanny Valley, Storytelling, Speculative Frameworks, Bioengineering, Biomimetics

Imitation Game

Around 2005 a small robotics company based in Waltham, Massachusetts began to release YouTube videos of a four legged robot walking around a suburban office park. [1] The robot was ugly, like someone had put the legs of an unfortunate baby horse onto the bottom of a camo covered coffee table. The robot didn't walk so much as it stumbled over muddy, rocky, steep, and sometimes snowy terrain, making a whirring noise with each step. Even on flat ground it walked with small uncertain steps, enforcing the effect of a baby horse or skittish spider.

One minute into the video an engineer appears in a parking lot with the robot and gives its side a massive push. The robot starts to stumble, legs alternately crossing and splaying out. It doesn't fall, but catches itself and stumbles drunkenly away from the engineer into another corner of the parking lot. A moment later, the robot appears near a frozen puddle. It steps on the ice and begins to slip, legs moving further apart until it's brought to its knees, legs splayed, motors whining in protest.

The entire video is unsettling, but that moment is the eeriest. As the robot catches itself, its sequence of missteps is entirely predicable. The motion of it splaying hips and crashing knees is just like our own. The juxtaposition of such familiar movement in an unfamiliar form is undoubtedly jarring.

A less watched video on YouTube surfaced a few years after the initial videos of BigDog. It opens with the familiar whining sound of motors and the weird four legged form walking through a wooded office park.[12] It's not until an "engineer" appears to give the robot a shove that you notice anything is amiss. As the robot stumbles and recovers its balance it starts to bend in a way that doesn't seem quite right. Taking a closer look at the point where the stumbling legs connect, you notice there is a human butt and the robot's legs actually have calf muscles – it's two people in a costume.

Figure 1: Boston Dynamic's BigDog, 2005

This pair of videos poses an interesting question: Which robot is more natural? Both videos are undeniably uncanny. It is uncomfortable to watch the electronic, mechanical robot mimicking the natural balance and walking of an animal. But is this machine's movement more natural than the humans mimicking the mechanical qualities of the robot? What exactly is it about the way that BigDog moves that is so unsettling?

An Exhausted Paradigm

The Uncanny Valley is a thought experiment proposed by Japanese roboticist Masahiro Mori in 1970.[9] In this seminal paper he argues that as the human resemblance of a robot or other machine increases, it becomes more attractive and relatable to real humans. At a certain point however, the resemblance can become too accurate, reaching a point at which the realness of the robot becomes off-putting or uncanny. This dip in otherwise increasing human relatability (Figure 2) is termed the Uncanny Valley.
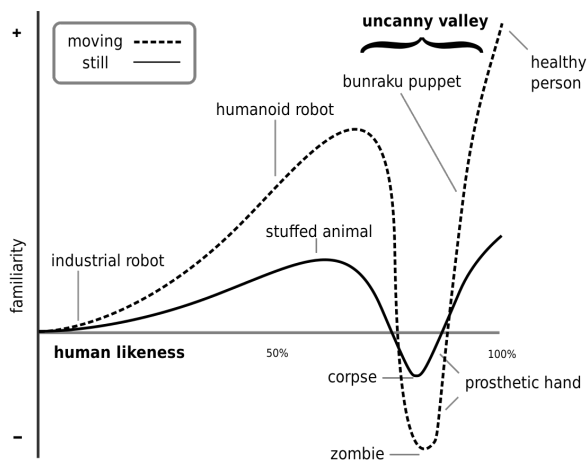

Figure 2: Masahiro's graphical representation of The Uncanny Valley.

Masahiro's realization was timely and formative within the technological development that characterized the end of the twentieth century. As new forms of digital technology appeared, their relationship – whether beneficial or harmful – to the human condition was at the front of everyone's mind. This idea, or story, gained significant traction in popular culture and critical thought. Spurred by narratives like *The Terminator* series and *I, Robot*, the image of the humanoid robot became emblematic of a dangerous tipping point.

Deep in the uncanny valley we not only become uncomfortable with the technology around us, but in many of these narratives, we lose control. Humans become subservient to and oppressed by the technology once hailed as the solution to our woes. The transformation of the uncanny from figments of our imagination, to oppressors of the human race was easily absorbed into collective imagination. Anything "other" or uncategorizable can be villainized and technology is no exception.

As the 20th century drew to a close, many became fascinated by the humanoid software revolution represented by new machine learning technologies. These narratives also proliferated toward the edge of disaster. Movies like *Her* and *Ex Machina* proclaimed this uncanniness to be the possible end of the human relationships.

The narrative of disembodied humanoid intelligence has only increased in stature today with the dawn of the large language model (LLM) arms race. Increasingly, we are face to face with software capable of completing tasks previously reserved for human invention – writing code, recommending movies, creating art, and discussing complex emotions can all be accomplished in front of any old laptop. Standing at the beginning of this new age in human-computer interaction, it's easy to look ahead and see the spiraling loss of control predicted in popular narratives of the 1990s and early 2000s. This singular, often apocalyptic, perspective about technology has come to dominate much of our worldview.

But what role should Masahiro's technological myth play in our conversations about technology today?

While the specter of humanoid intelligence is at the forefront of our minds in the present moment, many of the technologies that we interact with on a daily basis have little to no resemblance to human life. BigDog, an algorithm which calculates your risk to an insurance provider, 3D printed tissue, or chemically engineered clouds may exist within the realm of human interaction, but they are devoid of human resemblance. Most of the technologies that "threaten" society today do not fall on Masahiro's graph.

Yet, each of these technological miracles are undoubtedly uncanny. They exist on the edges of human explanation and expectation. Though their output may be intelligible, the algorithms governing BigDog's movement and the insurance calculation exist in a realm far from human comprehension. The 3D printed tissue may have traceable threads of biological explanation, but defies expectation, going against the grain of long-held intuitive knowledge about the natural world.

In the realm of BioArt and BioDesign, the degrees of uncanniness are allowed to become even more disconnected from a human framework. How should we categorize a tree 3D printed from plastic derived from algae or a sculptural machine that makes artificial poop? These explorations push the uncanny in a purposeful direction, asking larger questions about life than those found on Masahiro's graph, rendering the human-ness comparison myopic.

From engineering to art, biomimetic technological interventions force us to reconsider how we should discuss the uncanny. Does a scale of human likeness still apply? Perhaps we need a new perspective, a new story to tell, a new way to think about what it means for technology to be weird.

Proposition for the New Uncanny

Beyond the obvious mismatch in language and graphical indices identified above, there are two reasons such a shift in perspective is necessary. First, if we have learned anything from the recent explosion of AI within human computer interaction, it's that the degrees of uncanniness and ambiguity in our relationships with technology is only increasing. As the line between the natural and the artificial becomes harder to draw, the bottom of the valley only gets deeper and more difficult to navigate. Human relationships with technology are becoming more complicated, and so we need more nuanced language to understand them.

Advancements in digital computing and biomedical technology coupled with increased understanding of the profound impacts of human activity on the planet has thrown a particular set of language into focus among contemporary cultural

theorists. Whether discussing art, synthetic biology, or the origins of life itself, three adjectives and their indelible relationship continue to emerge at the center of conversation: **living, biological, and natural**. On their own, each presents a supposed dichotomy ripe for discussion – the living against the non-living, the biotic and the abiotic, the natural and the artificial. Taken together, however, the three represent an outdated equality which, perhaps, defines this moment in human history. We believe this equivalency statement is an appropriate place to begin investigating the growing realm of the uncanny.

Second, this single track story of human perspective has, thus far, set up an incessant and increasingly perilous divide between technology and the natural world. Embedded in the human centric technological narrative is the fact that the growth of the seemingly limitless digital world – a world for humans – comes at the cost of the physical, natural world – quite often imagined as the non-human. In the United States, the proliferation of data centers is a constant reminder of the natural resources required to sustain our digital footprints. Elsewhere, around the globe, pit mines dedicated to mineral extraction support an ever-growing demand for silicon based computing. What would happen to these structures if the human perspective was no longer the driver of our technological narrative?

At its core, Masahiro's argument poses a question about aliveness and being – how do we understand human life as it is reflected by our creations? Whether through the tension of the artificial and natural, biological or abiotic, living and non-living, these questions are increasingly urgent on an increasingly precarious and changeable planet. How should we grapple with the technological ambiguity and uncanniness that rises around us as we perpetually try to define and redefine the role of the human?

Using examples from the early days of the BioArt movement, this paper first seeks to clarify the utility of Art as a means for exploring unknown in culturally sensitive issues such as biomimetic technology and technological uncanniness. We then explore the three key terminologies identified above and their current relationship which underpins discussions of the uncanny, again relying on practitioners from the BioArt movement. After establishing this terminology, we examine current cultural theorists who call for expansion of human-centric technological paradigms beyond the human scale. Finally, we propose a new framework for discussion of technological uncanniness beyond a scale of human likeness.

Language of the Liminal

From in vitro fertilization and stem cell therapy, to growth hormone administration, the notion of what was fixed and what was changeable within the sphere of human life was changing rapidly in the early 2000s.[7] As some of these biomedical technologies made their way from industrial scientific labs into creative spaces, artists and cultural producers began to investigate the core questions of life that surrounded them. Art, as a tool for speculation, was not bound by the capital-fueled logic of engineering and science, and so some of the most interesting commentary and discussion into this confusing new landscape began to emerge. The intersection of "cultural and biological liminality," became core to the movement.[7]

Artworks like *Victimless Leather* (2004) by the Tissue Culture Art Project[3] – a small jacket-like structure grown from human skin – and Wim Delvoye's *Cloaca* (2000) [4] – a machine for making artificial poop – threw core functions of human biology into new light. These processes and their resulting objects forced viewers to engage in the technological fact that the mechanics of human life could now be separated from the human. Mirroring discourse about topics like IVF, they spurred more embodied but also further reaching discussions about what constitutes biological life. It was clear that we could reformulate design techniques from the natural world in synthetic systems, but the question of how these synthetic assemblages reflected our understanding of the natural world remained – and still remains – murky.
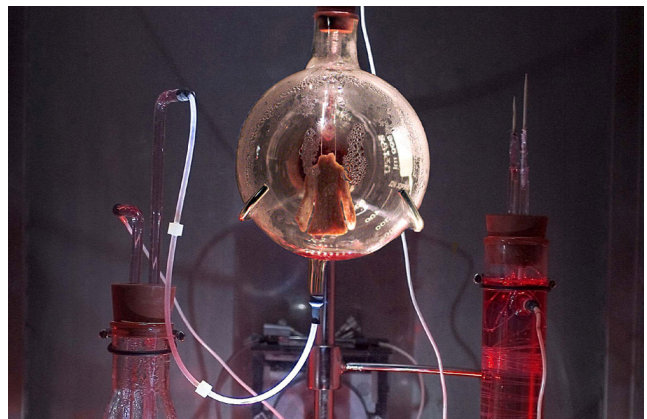

Figure 3: Cloaca, Wim Delvoye, 2000

Figure 4: Victimless Leather, Tissue Culture Art Project, 2004

Today, this approach to investigating the liminal has been thrown back into sharp focus due to the explosion of digital artificial intelligence and the renewed urgency in discus-

sion of anthropogenic climate change. Revisiting the same questions of life and liveliness which continue to be posed in today's BioArt, we can begin to examine some urgent questions in the landscape of AI and the non-human natural world. While the building blocks may be different – transistors as opposed to cells – the same questions of agency and aliveness apply in current debates over AI as they did in the early days of tissue engineering.

Whether Art simply reflects the consequences of technological development or, more actively, provides the aesthetic frameworks that "paves the way for the very coming-into-being" of new technology is tricky to answer.[13] The landscape of language and critical theory surrounding BioArt has a lot to offer as we, once again, being to untangle these age-old questions in the service of our newest, most uncertain relationships with technology. Living, natural, and biological are words that become cornerstones in describing and discussing visual art which somehow reflects and replicates the world with unsettling realism.

A brief grounding in how theorists employ this language will allow us to understand the relationship between these three words and their relevance to discussion of the uncanny. In each example, the theorist uses a particular terminology as the defining boundary between art which does and does not maintain a grip on the uncanny in some way. Maria Hansen and her collaborators focus on the aliveness of images in visual art, while Jens Hauser and Sophia Roosth explore the biological-ness and natural-ness of BioArt and the synthetic biology that underpins it.

The Living Beyond BioArt, the question of *how* our complex, intuitive understanding of aliveness is reflected in visual media is a fascinating one. As Maria Hansen notes in the introduction of *Dead or Alive: Tracing the Animation of Matter in Visual Media*, "the image is an ontological paradox; it is made of dead matter, yet appears to be living."[6] Within this paradox and its formulation in marble, paint, or pixel, lies the question of just how we came to understand the living visually. Hansen's answer is that "life's appearance rests on an embodied exposure of inner motion." [6]

Hansen and her collaborators trace this thread of aliveness through art history, exploring that animating "it" factor in the visual. The notion that some higher force imbues mere matter with the essence of life persists in culture today, but the question of how it's represented has changed over centuries. From the groundbreaking realism of Jan VanEyck to cinema, robotics, and fashion each of the images examined extends beyond itself as a static arrangement of color and creates a narrative sensation of movement for the viewer. [6] Whether internal – as in rapt adoration of the Virgin Mary – or external – in the violent motion of a deadly sword – an apparent capacity for movement, change, engagement, and agency holds the key to what we consider alive. While intuitive, it is nonetheless impressive to reflect on how much this single question has shaped our relationship with visual Art.

The Biological In his 2020 essay, *A Contemporary Paragone, Staging Aliveness and Moist Media*, which closes *Dead or Alive*, media theorist, Jens Hauser examines two trends in BioArt; the carbophobic and the carbophilic. For Hauser, discussing aliveness in contemporary art extends beyond the image and form making that has allowed inanimate matter to appear alive throughout most of human history. Today's BioArt relies on "artistic strategies that involve bio(techno)logical processes as such,"[8] not just creating a simulation or allusion to life, but working with the building blocks of the real thing. For Hauser the presence of carbon – whether you call it organic-ness or biological-ness is irrelevant – lies at the heart of the question.

In this question, he identifies a paragone – the Italian comparison of two art forms – between works which engage in the "moist media" of life itself, such as tissue and works which instead seek to imitate aliveness through synthetic means. Both carbophobics – those who engage in the "animation of the technological" – and carbophiles – those who engage in the "technologicalization of the animate" – exist within this sphere often attempting to claim space over the other.[8]

Hauser digs into the historical backing behind this dichotomy from 16th century automata to Christopher Langston's 1987 manifesto *Artificial Life* and our cultural fascination with silicon based computing. As is often the case, however, the most interesting outputs emerge within the intersection of these two camps. Hauser suggests that bridging "the gap between the animation of the technological and the technologization of the animate," lends new perspective in the question of how and when we define the living.[8] Combining the "dry" and "wet" definitions of life as we know it "puts our perceptual habits into perspective," forcing us to consider the physical and temporal scope of the technological as it rubs neurons with the vastly different temporal and physical scale of the biological.[8]

The Natural If, for Hauser the prevailing distinction arises between organic and inorganic forms of life, then for cultural anthropologist Sophia Roosth, the dichotomy of the natural versus the artificial takes precedence. In her book, *Synthetic, How Life Got Made*, Sophia Roosth take us on a deeper dive into the emerging field of synthetic biology. As she notes in the introduction, "synthetic biology is the latest instantiation of a centuries long debate as to whether nature may be known through artifice."[10]

As a hybridization, the role of synthetic biology in science is one of exploration. Its goal is not to answer traditional questions of biological science through the exploration of what *is*, but to arrive at new knowledge by creating what *could be*. "Newly built biotic things serve as answers to biological questions that might otherwise have remained unasked," Roosth notes.[10] Initially, the role of genetically modified E. Coli was to test our understanding about how DNA actually worked – our understanding that a change to its DNA would cause expected physiological results. In our understanding of E. Coli, computer simulation and the real bacteria bleed together building on each other, the results of the silicon based version informing the protienous and vice versa.

Roosth traces the interplay between the natural and the artificial through a number of culturally relevant narratives; lineage, labor, taxonomy, property, and origin. In each of these debates, synthetic organisms defy the expectations of our tra-

ditional human narratives about life. In discussing lineage, Roosth points out that the taxonomical tree of life is based on descent, tracing the progeny of one organism to another, categorizing the physiological shifts which occur over time. Synthetic organisms, "containing genes from disparate kingdoms and domains of life...inaugurate new forms of relatedness," in their evolution, breaking our traditional "Euro-American" notions.[10] Roosth calls on theories of queer and voluntary kinship to discuss this new topology and in doing so highlights the perniciousness of language defining what is natural or un-natural in kinship. As she astutely concludes, ""natural" and "unnatural" are categorically insufficient terms for synthetic biologists to describe the organisms they manufacture, even as they deploy those words to serve pragmatic and political functions."[10]

False Equivalencies For much of human experience, the three dichotomies highlighted in the work above have been entirely equivalent in our understanding; the living has been biological, the biological has been natural, and the natural is often alive. This has long since ceased to be true in the twenty-first century, forcing thinkers to reevaluate the ways in which these characteristics have been intuitively defined and intuitively equated. Arguably, the equality never existed in the first place, however human perception and an urgent need for new understanding have crystallized to make this exceptionally apparent.

These thinkers all highlight a single fact in the deep spaces of ambiguity and liminality they uncover; the stories we tell are no longer sufficient to encompass the weirdness of our reality. No matter how we try to separate these three descriptive threads or dichotomies – the natural, the living, and the biological – they continue to resurface at the heart of key discussions about the place of the human on planet earth. What each of these thinkers offer us is an invitation to step outside the linear narrative of human perspective and engage, as Hauser suggests, in "a voluntarily ambiguous way."[7]

New Narratives for the New Weird

In her 2022 book, *Death by Landscape*, Elvia Wilk examines the literary genre of the New Weird and the relationship between storytelling and environmental collapse. The stories Wilk dissects are broad in scope, from British stories about evil plants from the early 1900s, to Jeff Van DerMeer's 2014 Southern Reach Trilogy. Wilk's objective in each example is to examine the weird and the eerie – that which does not belong – as a point of ingress into the fact, "that planetary systems are more giant and more interconnected than the human brain can grasp."[14]

Like the scientific landscape of synthetic biology, the tales that Wilk highlights are confusing or downright impossible to understand from a human perspective, presenting a narrative agency outside the human foreground. The human world must take a back seat to the non-human and the delineated must take a back seat to the unknown and murky. Weirdness, as Wilk concludes, "resists the idea that everything can be explained by humans, but doesn't give up on the importance of human experience and ability to access and affect the world."[14]

In her 2021 paper, *Beyond Human: Deep Learning, Explainability and Representation*, digital media scholar, Beatric Fazi tackles a similar question from the perspective of explainability in AI. Throughout her work, Fazi argues for a theory of the digital on its own terms, suggesting that digital philosophy should be judged as such and not against a spectrum of human philosophy.

The largest problem we face with AI right now is one of accountability. How do we know that algorithmic decisions are being made "correctly" and "fairly"? Despite what some say, there is no analog of human abstraction that can untangle the steps behind a deep learning outcome. Fazi calls this gap in intelligibility and abstracttion incommensurable, in that there is no possible common ground to measure human experience and algorithmic experience. [5]

Many people are researching how to bridge this gap in order to create explainability and thus accountability in AI. Their intent is to open the black box algorithm and try to untangle what's inside, or, better yet, generate some indicator visible from the outside. [5] Fazi deftly argues that there was never any possibility of untangling it in the first place – the incommensurate is, simply that.

So how do we measure accountability if there's no possible measurement? Fazi doesn't know the answer, but her argument echos Wilk's in suggesting that we need to rethink our, "efforts to address objects and situations as they appear to or are understood by human consciousness and through categories of human life and experience".[14] She asks us to let go of strictly human centric understanding and take a more speculative approach.

Returning to the present moment in which the uncanniness of ChatGPT reigns supreme, we can see that yes, an LLM does fall on the spectrum of the Uncanny Valley, but human centric perspective may not be our best tool for understanding. We are already beginning to see how existing paradigms cannot sustain the types of interactions between humans and technology that are going to emerge in the longer term. How should artists deal with algorithms capable of replicating their work? How do we relate to an entity which can conversationally claim to know our deepest desires as a longtime friend and yet has exactly zero capacity for memory as we know it?

Clearly our comparative perspective which, as Fazi argues, never really existed – both from a mathematical and social perspective – is no longer reliable. As we enter the realm of technology which, like our planetary systems, cannot be grasped by the human brain we will have to find new means for understanding and abstraction. Leveraging this argument back into the technology of storytelling – the most powerful of human technologies, as Wilk suggests – we arrive back at the Uncanny Valley as narrative device or myth for explaining human relationships with technology.

The New Uncanny

If we are to speculate how should we do so? How can we best extend our human perspective to address the liminal technology shaping our lives?

Returning to BioArt and BioDesign, three questions emerge as containing the deepest seeds of ambiguity: How
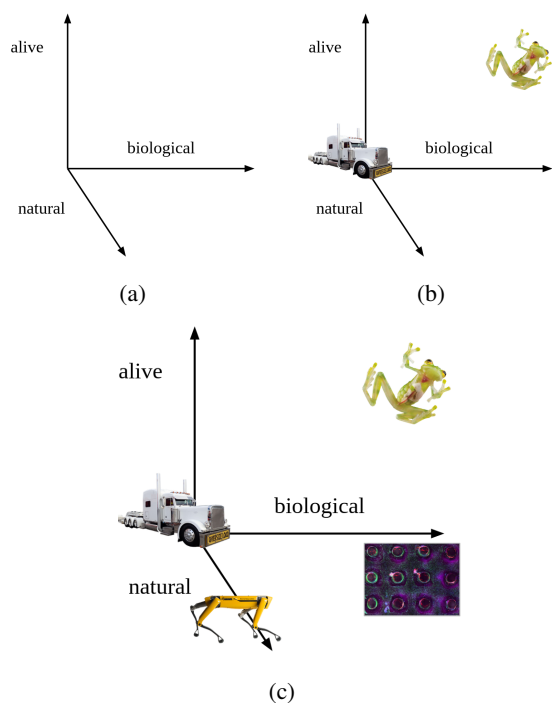
Figure 5: Examples of three dimensional space describing technological uncanniness.

do we perceive the perpetually undefinable adjective of aliveness? How does the biological change when reflected outside the bounds of "life"? Is the artificial increasingly necessary to understand the natural?

These three propositions are entangled in unimaginably complex ways, representing the uncanniness within our deepest held intuitive beliefs as human beings. Yet, in order to understand their relationship, they beg separation. Expanding on Masahiro's singular, narrative graph we can place each dichotomy along each axis of a three-dimensional space. Uncanniness now emerges within this space when the balance of the three axes becomes skewed toward one in particular. These are the moments when we encounter the biological without the living, the living without the natural, or the natural without the biological.

For the sake of simplicity we can imagine a frog in the upper right quadrant of the graph, centered in the space, and a semi-truck down near the origin. The frog is undoubtedly alive, biological, and natural while the truck is none of the above. 3D printed tissue lies far along the biological axis. It is certainly biological, but it exists in uniquely unnatural conditions and by most definitions, is not alive. BigDog moves in an uncannily natural way, but it is not alive or biological. ChatGPT may have the intellectual trappings of living consciousness, but it is neither natural nor biological.

Like the frog, most living humans exist in the center of this space. From that vantage point – a natural, living, embodied, biologically fleshy consciousness – the three axes are deeply intertwined. Separating the three threads allows for deeper specificity and ambiguity at the same time, allows us to step outside the story of our own lives and into a new space of language and meaning. We may now discuss a particular dimension of uncanniness without having to refer to human likeness. No single valley dominates this new landscape which has the potential to become a wild expanse of sinkholes and peaks.

Taking these examples further, we can investigate more current examples from BioArt, including the work of practitioners like Michele Sebdon and David Bowen.

Sebdon's 2019 project, *CMD*, uses two colonies of spirulina – cyanobacteria – and a machine learning algorithm to create a complex economic system. The bacteria grow and generate credits based on how much oxygen they produce. This information is fed into a genetic algorithm which creates and governs a complex economic system. Each colony of bacteria is granted access to the shared light resource depending on how well it does in the generated market environment, sometimes leading intense competition and sometimes to more collaborative states. [11]
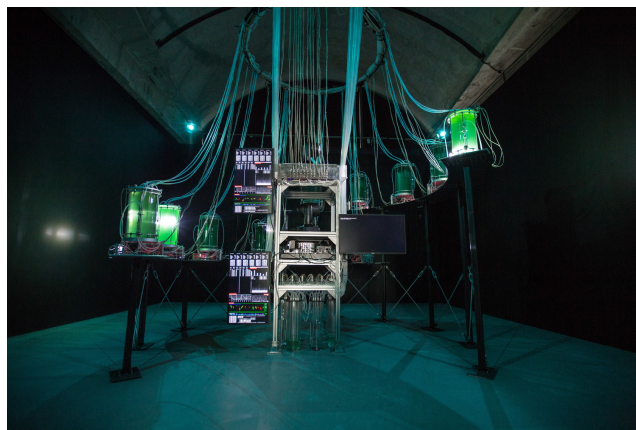

Figure 6: CMD, Michael Sebdon, 2019

The core actors in Sebdon's work, the cyanobacteria, are undoubtedly alive. And yet the situation they find themselves in is highly unnatural. Their lives are governed by artificial systems of abstracted currency generated by silicon based computing machines. This algorithm, while implemented in a silicon based computer is intended to mimic the biological determinism of genetics. The pairing of living organisms governed by artificially implemented biological procedures strikes a deep trough in the landscape of uncanniess while removing the element of human comparison allows us to view this divide more deeply.

In Bowen's 2018 iteration of *tele-present wind*, viewers are confronted with a different degree of uncanniness. Much like BigDog, *tele-present wind* moves in an uncannily natural way as the wind outside the gallery is precisely mapped to a field of servo motors connected to dried plant stalks. The motion of the plant stalks is determined via one stalk which sits outside the gallery in a rig specially designed to record and transmit its motion. [2]

The plants move in a beautifully hypnotic way, but without the living anchor of their roots and the physiological in-

centive to distribute their seeds, the *tele-present wind* lacks those elements of the biological and the living. The result is a work which is highly natural in its appearance and function, but is achieved through entirely abiotic and non-living means. Telepresent wind

Figure 7: tele-present wind, David Bowen, 2018

In the above examples we have expanded on the utility of this new space to understand the nuance in biomimetic art technology, however there are still limitations to the indices we propose. We offer this framework as a starting point, not a conclusion. A space for old language to gain new depth and for new language to emerge. Each axis of this graph contains a multitude of smaller dichotomies waiting to be proven otherwise. While the argument for these three domains, is persuasive, they are not the only words that can be applied to the exercise. The dimensionality of the graph, too, can be expanded. How would the addition of consciousness or sentience change the conversation?

The End of The Tale

Unlike Masahiro's Uncanny Valley, the stories that emerge within this new landscape are not easy to tell. Using the identifiers **living, biological, and natural** we have replaced Masahiro's univariate Uncanny Valley with a broader landscape by which to judge and discuss technological uncanniness. This particular set of language and the intuitive equality it represents, demonstrates the deep ambiguity that underlies human understanding of the world. It is therefore an appropriate place to begin creating new frameworks.

These new perspectives do not depict a single, to-the-death action sequence between technology and humans. These are the stories where landscape slowly and imperceptably seeps into the foreground and seizes control, stories that allow us to relate to the unrelatable, superseding all notions of abstraction. They are difficult stories to tell, voluntarily ambiguous, requiring our full attention for the new forms that emerge alongside the familiar human.

Simply stated by Wilk, "fiction has the potential to describe human subject experience without reducing the universe to human subject experience." [14] Thinkers like Wilk, Hauser, Roosth, and Fazi, ask us to explore this potential;

to step away from the clarity of the self narrative and into the collective ambiguity of the *other* narrative. Whether literal landscape, biological uncanniness, heredity of the uninheretable, or the algorithmically incomprehensible, each suggests that the power to make this shift – to the speculative, fictitious, ambiguous, weird, uncanny, and liminal – lies within the grasp of human imagination.

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