

DOMESTIC AI MACHINES:

DESIGNING PRODUCTS WITH ARTIFICIAL INTELLIGENCE FOR MORE MEANINGFUL INTERACTIONS.

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When all the current reasons—moral, aesthetic, religious, social, and so on—no longer guide one's life, how can one sustain life without succumbing to nothingness? Only by a connection with the absurd, by love of absolute uselessness, loving something which does not have substance but which simulates an illusion of life. I live because the mountains do not laugh and the worms do not sing.

-

Emil Cioran 1934

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Resumo

A evolução do design moldou profundamente as relações entre humanos e objetos, mas a ascensão da inteligência artificial (IA) exige um afastamento dos paradigmas funcionalistas tradicionais. Esta tese critica os princípios enraizados do design modernista, argumentando que as máquinas domésticas contemporâneas impulsionadas por IA não devem estar limitadas à eficiência das tarefas, mas sim ser concebidas como entidades relacionais e performativas. Inspirando-se na teoria teatral e da performance, este estudo explora como a IA doméstica pode ser enquadrada como participantes interativos, em vez de ferramentas passivas, promovendo o envolvimento através da imprevisibilidade, do erro e da adaptação.

Um aspecto central desta investigação é a interseção entre o design de IA e a filosofia da permacultura, defendendo uma abordagem ecológica que integra as máquinas em relações dinâmicas e simbióticas com os ambientes humanos. Esta perspectiva contrasta com a lógica convencional do design ocidental, que privilegia a eficiência e o controle, e aproxima-se de ontologias não ocidentais que enfatizam o equilíbrio, a relacionalidade e a interdependência. O estudo também questiona a fetichização da experiência tecnológica sem falhas, propondo, em vez disso, que os sistemas de IA assumam um papel mais orgânico e improvisacional nos espaços domésticos.

Através da combinação de investigação teórica e pesquisa aplicada, esta tese examina como a interatividade das máquinas pode transcender a mera utilidade, criando relações mais significativas entre humanos e máquinas. Em última análise, esta investigação desafia as tradições dominantes do design industrial, propondo um novo enquadramento que enfatiza a interatividade relacional, a teatralidade e a integração ecológica no design de IA doméstica. Ao deslocar o foco do controle para a colaboração, as máquinas impulsionadas por IA podem redefinir a vida doméstica, promovendo interações mais significativas que ultrapassam a necessidade meramente funcional.

Palavras-chave: Interação, design, inteligência artificial, permacultura, performance.

Abstract

The evolution of design has shaped human-object relationships in profound ways, yet the rise of artificial intelligence (AI) necessitates a departure from traditional functionalist paradigms. This thesis critiques the entrenched principles of modernist design, arguing that contemporary AI-driven domestic machines should not be confined to task efficiency but instead designed as relational, performative entities. Borrowing from theatrical and performance theory, this study explores how domestic AI can be framed as interactive participants rather than passive tools, fostering engagement through unpredictability, failure, and adaptation.

A key aspect of this research is the intersection of AI design with permaculture philosophy, advocating for an ecological approach that integrates machines into dynamic, symbiotic relationships with human environments. This contrasts with conventional Western design logic, which prioritises efficiency and control and instead aligns with non-Western ontologies that emphasise balance, relationality, and interdependence. The study also interrogates the fetishisation of seamless technological experiences, proposing instead that AI systems should embrace a more organic, improvisational role in domestic spaces.

Through a combination of theoretical inquiry and applied research, this thesis examines how machine interactivity can transcend mere utility, creating more meaningful human-machine relationships. Ultimately, this research challenges dominant industrial design traditions, proposing a new framework that emphasises relational interactivity, theatricality, and ecological integration in the design of domestic AI. By shifting from control to collaboration, AI-driven machines can redefine domestic life, fostering more meaningful interactions that extend beyond functional necessity.

Keywords: Interaction, design, artificial intelligence, permaculture, performance.

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1 Introduction

The impact of design on Western society over the past century is immeasurable. The principles first introduced in the 1920s by pioneers such as Wassily Kandinsky, László Moholy-Nagy, and Walter Gropius ushered in a new way of thinking about personal objects and their role in human lives. Functionalism, materials engineering, and Gestalt principles became foundational to how modern societies interact with designed things. Over time, design evolved into a philosophy, a commercial tool, and a mechanism for structuring human relationships with material culture. The intersection of design and consumerism facilitated the transformation of objects into material representations of progress, status, and power, accessible even to the middle classes. In this way, design shaped the everyday experiences of people in industrialised societies, determining how they interact with and ascribe meaning to the objects they own.

Since the mid-twentieth century, Design has established itself as the central catalyst for new object creation and societal progress by saturating our daily lives in interactions with objects designed for both function and experience. Yet, as design advanced, it also reached a plateau, at which its foundational principles—developed in a vastly different technological and sociopolitical landscape—are still applied to objects in a world that bears little resemblance to that of the early to mid-20th century. The advent of artificial intelligence (AI) represents one of the most significant technological shifts in human history, forcing a reassessment of the human-object relationship. As AI machines become increasingly integrated into everyday life, they become domestic, and the central focus on function as a defining factor of design must be reconsidered. As AI-driven machines become more autonomous, their role in domestic spaces is no longer confined to fulfilling mechanical tasks. Instead, they present an opportunity to engage humans in more meaningful, reciprocal relationships. This thesis argues that the traditional functionalist approach to design is insufficient in the era of domestic AI. It explores alternative strategies for designing AI into domestic products, emphasising relational interactivity over task efficiency.

Literature Review

The role of domestic AI machines in contemporary society is a focal point of existing scholarship. My research has explored the historical evolution of machine-human interactions, tracing the transition from industrial machines designed for labour to domestic machines that serve both functional and experiential purposes. The emergence of AI in the domestic sphere complicates traditional frameworks, as AI-driven machines are neither passive tools nor fully autonomous agents. Instead, they exist in a liminal space, performing programmed tasks while also adapting to user preferences and environmental factors (Kelly 2010; Johnson 2010).

The theological dimensions of machine-human relationships have also been examined in various philosophical and cultural studies. Historically, machines were conceived as subordinate labourers, designed to serve human needs with precision and efficiency. However, as AI becomes more complex, public perceptions have shifted. Machines, once seen as mere extensions of human intention, are now viewed as potential threats or even as autonomous entities capable of decision-making beyond human control (Bogost 2012; Raunig 2010). This shift in perception echoes longstanding theological anxieties about non-human entities endowed with intelligence. In contemporary discourse, AI is often positioned as an emerging “other”—a non-human intelligence that simultaneously fascinates and unsettles us. This perspective is particularly relevant when considering AI’s increasing presence in the domestic space, where humans historically exerted the most significant degree of control over their environments.

This thesis also draws on performance studies and theories of interaction to propose novel approaches to AI design. The concept of performativity, borrowed from theatre and performance theory, offers a framework for understanding AI-driven interactions beyond mere functionality. Rather than viewing domestic AI machines as tools, this thesis examines how they might be designed as interactive performers, capable of eliciting engagement from users in ways that transcend efficiency. This perspective aligns with theories of embodied cognition and social robotics, which suggest that meaningful human-machine relationships are shaped by dynamic, participatory experiences rather than by static programmed responses (Brooks 2001; Norman 2004).

A key component of this research is the “Merit of Failure” concept, which challenges conventional assumptions about machine intelligence and perfection. In human performance, audiences are captivated not solely by displays of skill but also by the anticipation of failure. The capacity to fail and recover fosters investment in the performer. This thesis argues that AI-driven machines, when designed with an element of vulnerability or unpredictability, can inspire deeper engagement from users. The intentional integration of failure into AI design—whether through deliberate imperfections, unexpected responses, or participatory disruptions—may encourage users to perceive these machines as more relatable and dynamic.

Finally, the research introduces an ecological approach to AI design, drawing on permaculture philosophies. Unlike conventional design frameworks, which prioritise human control over machines, a permaculture-inspired approach envisions AI as an integrated component of its environment. Rather than being strictly utilitarian, AI-driven machines can be designed to operate in symbiotic relationships with humans and their surroundings. By shifting the focus from efficiency to relational interactivity, this approach aims to redefine the domestic AI machine as a participant in, rather than a subordinate to, human life.

Each of these concepts integrates to form a framework in which designers may approach designing new-age products from a novel conceptual beginning in which the domestic AI product manifests as a stand-alone entity intended to co-habit with humans.

Justification of the Study

The increasing presence of artificial intelligence in domestic life demands a reassessment of how machines are designed and integrated into human environments. Despite advancements that enable AI-driven systems to learn and adapt, the frameworks governing their design remain deeply entrenched in Western industrial logic—prioritising efficiency, function, and user control. While this approach has streamlined machine usability, it has also reinforced a transactional model of human-machine interaction, where the machine exists to fulfil a need rather than engage in a meaningful relationship with its user (Hui 2017). This study challenges this paradigm, proposing an alternative framework that accounts for AI as a dynamic, interactive, and relational entity.

The traditional functionalist approach to machine design assumes that the success of a product is defined by its ability to execute tasks seamlessly and predictably. This perspective, inherited from early industrial design philosophies (Simon 1997), is deeply ingrained in contemporary AI design. However, as AI systems develop capabilities that enable them to engage in more complex, participatory interactions, it becomes necessary to question whether the functionalist paradigm is still sufficient. The emphasis on predictability, inherited from modernist design figures such as Dieter Rams, has led to AI systems that prioritise usability over engagement (Norman 2004). Yet, in many cultural contexts outside the West, design has historically been less concerned with control and more with balance, adaptation, and relationality—principles that may provide a richer framework for the integration of AI into domestic spaces.

This study seeks to engage with these alternative perspectives. While Western design has largely positioned machines as tools that extend human agency, many Eastern and Indigenous philosophies conceptualise the relationship between humans, objects, and environments as interdependent (Hui 2017). In Daoist and Confucian traditions, for example, the emphasis is not on controlling or directing an object's function but on understanding its nature and allowing it to harmonise with its surroundings. This contrasts sharply with the dominant Western narrative of technological mastery, in which machines are designed to eliminate unpredictability rather than accommodate it. The study thus draws from these perspectives to ask whether AI can be designed not as a subservient tool but as a participant in a broader, co-evolving system.

As previously discussed, one of the core justifications for this research is its examination of *failure* as a design principle. Conventionally, machine failure is regarded as an error—something to be corrected

or avoided. However, many performance-based traditions, particularly in non-Western contexts, view unpredictability as an essential part of experience. Japanese aesthetics, for example, embrace imperfection and ephemerality in design, as seen in the wabi-sabi philosophy, which values the transient, incomplete, and asymmetrical. Similarly, traditional Chinese craftsmanship often allows for organic variation rather than enforcing mechanical precision. This sentiment, in its embrace of unpredictability, echoes the work of mechanical artist Nik Ramage, demonstrating how mechanical failure can generate curiosity and engagement rather than frustration. By integrating failure as an intentional aspect of AI design, this study proposes that machines can foster richer, more dynamic interactions, drawing users into a process of negotiation rather than passive use.

Furthermore, this study is justified by the growing discourse surrounding AI in cultural, ethical, and philosophical debates. In recent years we have seen several remarkable acknowledgements of the rights of non-human, and particularly non-sentient beings, referred to as personhood, or human-level legal rights (e.g. personhood granted to Whanganui River, New Zealand, in 2017; Citizenship of Saudi Arabia granted to Sophia Robot in 2017; Personhood granted to Mar Menor lagoon, Spain, in 2022). Through these examples, it becomes more apparent that in the near future, machines capable of experiencing the world with intelligence could also be entitled to the same securities afforded to other non-sentient entities. This research intends to advance the design of such entities. As AI-driven systems become embedded not only in domestic spaces but also in public infrastructures and creative industries, the assumptions underpinning their design have significant implications for how humans conceptualise intelligence, agency, and interaction. If AI continues to be designed within rigid functionalist frameworks, it risks reinforcing transactional and impersonal models of human-machine relationships. This study contributes to an emerging shift in design thinking—one that positions AI as an interactive presence rather than a passive tool, advocating for approaches that prioritise engagement, relationality, and environmental integration (Coeckelbergh 2017).

By integrating theoretical and applied research, this study makes a case for rethinking how AI-driven machines are designed for domestic spaces. The alternative frameworks proposed in this thesis align with permaculture principles, which advocate for holistic, adaptive design strategies that integrate human-made systems within broader ecological contexts. Just as permaculture design emphasises symbiotic relationships between organisms, environments, and human interventions, this research suggests that AI design can benefit from a similar approach—one that values adaptation over control, responsiveness over rigid function, and interaction over passive automation. By drawing from these perspectives, this study critiques the limitations of existing AI frameworks, introduces new perspectives on failure and interactivity, and demonstrates through experimental research that machines designed with performative and relational qualities can foster richer, more meaningful

interactions. In doing so, this research addresses an urgent gap in AI design discourse, offering a model that aligns more closely with the evolving role of intelligent systems in everyday life.

Contributions of the Study

This research contributes to the discourse on AI and product design by challenging long-standing functionalist frameworks and proposing alternative approaches that emphasise relationality, performativity, and the integration of failure as a mechanism for engagement. Through a combination of theoretical inquiry and applied research, it demonstrates that AI-driven machines in domestic spaces can be designed for more than efficiency—they can foster deeper human engagement by inviting participation, unpredictability, and environmental integration.

The applied research conducted throughout this study offers tangible examples of how AI can be reconsidered beyond its traditional roles. *Frantic Harvest* explores the performative nature of machines, positioning an AI-driven system within a gallery setting to examine how human observers engage with machines that are not defined by their usefulness but by the act of their operation. The monotonous repetition of a dot matrix printer's task does not serve an explicit function. Yet, it commands attention, prompting reflections on labour, automation, and the perceived necessity of machine action.

Similarly, insights from the interview with mechanical artist Nik Ramage highlight the role of unpredictability in human-machine relationships. His work supports the thesis's argument that failure can be a valuable design principle—one that generates curiosity and deeper engagement rather than frustration. This idea extends into the notion that domestic AI machines, rather than being optimised for seamless functionality, could be designed to introduce moments of surprise, ambiguity, or even perceived vulnerability, fostering more meaningful relationships between humans and machines.

INTERWOVEN EXISTENCE extends the discussion into ecological and environmental design considerations, moving beyond anthropocentric AI frameworks. By designing an AI-driven system that responds to environmental data, this research explores how machines might be situated within broader ecosystems, adapting and evolving in response to external stimuli rather than functioning solely within rigidly defined parameters. This study contributes to the growing discourse on post-humanist and ecological design, suggesting that AI-driven machines could be integrated into domestic spaces not as isolated tools, but as dynamic participants in their environments.

Together, these investigations reinforce the thesis's central argument: that outdated principles of efficiency, control, and predictability should not constrain AI in domestic products. Instead, through an alternative approach that considers relational interactivity, performativity, and even the strategic

implementation of failure, AI can be designed to engage humans in more meaningful and participatory ways. This research offers a framework that challenges conventional product design methodologies, advocating for a more nuanced, experiential, and context-sensitive approach to AI integration in everyday life.

This thesis is organised to gradually develop its argument, progressing from foundational theory to applied experimentation, before synthesising its findings into a proposed alternative framework for domestic AI product design. The chapters are arranged to mirror the progression of the research, from historical and conceptual grounding to practical investigations and future implications.

The study begins by establishing the historical and philosophical foundations of the thesis. It examines the evolution of machine design, from early industrial automation to the emergence of AI in domestic settings. It introduces the central problem of the study: that existing design frameworks have not adapted to the growing complexity of AI-driven systems. Drawing from contemporary and historical theorists, artists, philosophers and designers, chapter two positions contemporary domestic AI within a lineage of machine-human relationships and sets the stage for the research questions explored throughout the thesis.

The thesis then expands on machine design's cultural and psychological dimensions, exploring how AI has been mythologised in historical and contemporary narratives. It investigates how AI is perceived as an entity that is simultaneously revered and distrusted, drawing parallels between religious, philosophical, and cinematic representations of intelligent machines. Chapter three establishes the broader societal context in which domestic AI operates, highlighting the anxieties and expectations that shape our interactions with these systems.

Moving from perception to practical design concerns, Chapter Four, *A Meaningful Existence*, introduces alternative approaches to AI interaction. It draws on performance theory, embodied cognition, and participatory design to argue that AI should not simply function as a tool but as an interactive presence. This chapter also explores the *Merit of Failure* as a design strategy, proposing that AI-driven machines might be more engaging when they are not optimised for flawless execution but instead incorporate elements of unpredictability and adaptability.

Throughout the study, applied research contributes significantly towards the development of positions and concepts in the thesis. Rather than treating each as an isolated case study as detailed above, they are interrelated investigations into different aspects of machine interactivity in the philosophical enquiry. *Frantic Harvest* explores performative relational attributes of being a machine, demonstrating how a machine's form and activity can, through apperception, be engaging even when stripped of explicit function. An interview with Nik Ramage reinforces the argument that failure and

unpredictability can create deeper, more meaningful connections between humans and machines. My most recent public work, *INTERWOVEN EXISTENCE*, interrogates the concepts of ecological considerations, positioning AI as part of a broader environmental system. These investigations provide concrete examples of how AI can be designed beyond the traditional frameworks of efficiency and productivity.

Organisation of the Thesis

With these theoretical and practical insights in place, the thesis synthesises the study's key findings and presents an alternative approach to designing AI-driven domestic products. This framework prioritises relationality, performativity, and ecological integration, challenging the dominant industrial-era logic of function-driven design. It proposes that AI should be designed not as an invisible assistant but as an interactive presence—one that invites engagement, encourages participation, and responds dynamically to its environment. Chapter five also considers how alternative design philosophies, particularly Non-Western perspectives, contribute to a broader understanding of interactivity, balance, and symbiosis. Unlike traditional Western design methodologies, which prioritise control and predictability, many Eastern and Indigenous design philosophies emphasise adaptability and relational interdependence. By integrating these perspectives, this framework offers a more inclusive approach to AI design—one that moves beyond efficiency to consider how domestic AI machines might support a more meaningful, harmonious way of living.

Finally, the study concludes by considering the broader implications of this research. It reflects on the limitations of existing AI design approaches and explores how integrating permaculture principles into AI development can contribute to more natural and adaptive interactions between humans and machines. This shift can potentially address one of the core concerns of modern technologically saturated societies—the increasing sense of detachment, overstimulation, and estrangement from natural rhythms. By designing AI to foster more organic, responsive interactions, it is possible to counteract some of the adverse psychological and behavioural effects of excessive reliance on rigid, efficiency-driven technologies.

Overall, the thesis builds a cumulative argument, moving from critique to proposition, from theory to practice, and from historical analysis to future speculation. By combining philosophical inquiry with experimental research, it advocates for a fundamental shift in AI design—one that draws from a broader range of cultural and ecological philosophies to create AI systems that are more responsive, interactive, and ultimately more attuned to the complexities of human life. In doing so, it offers a

vision for how AI can be integrated into domestic spaces in ways that do not simply prioritise function but instead encourage richer, more balanced relationships between humans, technology, and their surrounding environments.

2 The Condition of Being Machine

As a disclaimer to the chapter you are about to read, I acknowledge that not everyone is interested in machine intelligence, AI, or related fields, nor is everyone a fan of the Star Wars trans-media franchise and the bumbling AI machines it gave us. Having said this, the catalyst for this text assumes readers are familiar with the principal narrative and characters of the aforementioned science fiction franchise.

In addition, it is also essential to establish the definition of the machine as it refers to this essay. Machines exist in many forms and many situations. A machine here is a human-made, non-living entity that performs certain specific actions. It may be intentionally triggered by a human, or an animal may coincidentally activate it, or another environmental stimulus. Its constituent parts are electronic circuitry, powered by a battery or mains electricity, covered partly or wholly in surface material, usually metal, plastic, wood, or a combination of these.

The discourse presented in this chapter and beyond is not one on science-based fiction. It is a discussion situated in the present day. Modern society is saturated in electronic machines that are busy facilitating our everyday lives. From cell phones to cars, to the screens you are reading this on or the printer which has materialised the binary document of this text onto paper.

Our cohabitation with electronic machines is sometimes harmonious, but most often it is discordant. Designers like Dieter Rams are celebrated for their work to solve the formula for harmonious human-machine cohabitation. But like an eclipse of the sun, the realisation of a harmonious moment between the human and the machine is rare. The majority of our interactions with them are still function-driven and objective, leaving little room for the consideration of pleasure, to the point that those delightful interactions (Walters 2011) come as a surprise. It is often forgotten that the everyday machine we know today is a crude descendant of the machines of the Industrial Revolution, such as the Newcomen Steam Engine (Thomas Newcomen, 1712), the Spinning Jenny (James Hargreaves, 1764), the typewriter (William Austin Burt, 1829), and many more. Knowingly or unknowingly, through the only way we understand progression we have engaged in a pseudo evolutionary practice when it comes to the advancement of machines from factories into homes in keeping with what Herbert A. Simon (1997) and others refer to as the Modern Times stereotype. Industrial machine processes employ routine and repetitive actions, which result in human work being paced at the rhythm of the machine (Simon 1997, 95). The legacy effect of this relational strategy has resulted in machines that conduct our daily lives in very mechanical ways through operation times and flow charts. One perspective on societies' pursuit of immediacy about machine interactions might be a subconscious intention to eliminate the machines' control over the natural rhythm of humans.

Machines are not born with inherent knowledge or genetic traits. This complexity is designed into them over time. Through incremental refinement based on observed results, they gradually exhibit an apparent understanding of the world in which they are situated. Kelly (2010), Johnson (2010) and others posit that this approach is quite natural to humans and is analogous to our biological evolution. These attributes are incrementally built into them by the designers, engineers, and society's learned understanding of the potentials and uses of mechanics, ergonomics, and materials. This attribution also evolves as humans become more familiar with the machine entity through observed and experienced interactions with it.

We can see that the dominant progression of evolutionary drive of our everyday machines (the one to which humans instil) is still founded on a function-driven intention. One that alleviates humans from mundane labour. It is visible not only in the principal position machines occupy in our daily lives but also in how they look. The perceived want or need for their functionality leads to their creation and evolution. Incrementally improving their ability to service human needs. The aesthetic component of a domestic machine has not emerged with the sensitivity one might attribute to an evolving entity gently influenced by its environment. Machine aesthetics relate more closely to the right angles of a house than the human hand that brings them to life. Of course, much of this can be attributed to the limitations of materials engineering and manufacturing techniques. Rather than embracing a human-like philosophy to this aspect of machine evolution, which cobbles together available resources to create new uses (Johnson 2010, 29), society has accepted the aesthetic rhythm of machines.

In the relatively short time that machines have emerged from the industrial setting into the domestic one, this "evolution" has gone beyond the intention to serve humans, entering a realm where the human in modernity has become dependent on the machine. Perhaps as a result of the rapid evolution of the domestic machine in the context of a world that has become what it is over millennia of slow incremental changes.

This chapter focuses on the three facets of machine beings: purposes and form. We will also examine how the iterative evolution of machines within our domestic environment has been challenged by the new wave of everyday AI, which aims to introduce another evolutionary leap into an already saturated situation. This phenomenon will be referred to as the Machine Condition, giving rise to the relational machine.

2.1 Belonging: The Origin of a (Machine) Species

R2-D2 has become one of the most treasured machines in the Star Wars franchise, operating without human language or form. Even compared to his far more sophisticated humanoid counterpart, C-3PO, R2-D2 has connected with audiences in a much deeper way. How has the theatrical representation of a machine so limited in mobility, human-level communication, and functionality played a role in the

way audiences related to it? This could be a simple case of the Uncanny Valley phenomenon (Mori 1970). The rejection of one non-human entity, presented as human, on the slightest revelation of non-humanness presented next to another non-human entity clearly presented with little human characteristic other than cognition in constant pursuit of human approval, like a subservient pet. The dynamic between these two machines is undeniably part of the foundations for our love for one and our rejection of the other. The twists and turns of the character's journey, the unthreatening curves of its exterior, and the trust that is invested in it by the heroes of the story all play a central role in our observed evaluation of its imagined meaning and value in our lives.

We live amongst performative machines, yet we rarely bestow a fraction of the affection upon them that we do for this bumbling robot. The vulnerability of this machine, in contrast to its documented triumphs, has led audiences to feel care for it in comparison to the perceived arrogance of the well-meaning C-3PO. How can theatrical frameworks be introduced into the everyday lives of domestic machines to enhance their relational value to humans?

Everyday machines, distinct from industrial machines, can be divided into two principal categories, utilitarian and utilita-tainment-arian. Of course, the second category is satirical. It intends to stress the core functional attribute of machines that became layered with qualities of entertainment upon entering the domestic setting. Even information machines submit to this sub-categorisation that contains entertainment (Walters 2011, 35). While always a learning moment, information may be transmitted into our consciousness, leaning on the bandwidth of utility or entertainment. Since the first domestic machines, such as the radio, vacuum cleaners, and electric ovens, domestic machines adapted from industrial machines have relied on surprise and delight to gain access to our most private spaces. Sales of the first domestic vacuum cleaners were presented as magic shows, marvelling housewives at the ease with which dust could be made to vanish. Modern vacuum cleaners delight homeowners through their seemingly functional and straightforward intelligence, like a pet with a purpose.

As technology has advanced and manufacturing costs decreased, entertainment-centred machines have increasingly spread throughout the home. Every mundane moment in our domestic lives can be made slightly less mundane by adding a layer of entertainment. As Mary Poppins famously said, “In every job that must be done, there is an element of fun. You find the fun and *SNAP* the jobs a game”. This statement was set in 1910, long before electronic machinery entered the stage of our domestic entertainment, but the sentiment was still true. Make work more tolerable through entertainment (LeJuenesse 2017). This philosophy goes some way to explaining why entertainment experiences have proliferated in our domestic settings while utility machines have not. For example, the playful tune modern washing machines play on the completion of their wash cycle, as though celebrating the triumph in a computer game. If human nature is to avoid work-like experiences,

restricting utility machines to one place in the home stands to reason. Don't burden the consciousness of the human mind with work if it is unnecessary. Don't remind them of the utilitarian requirements of life unless we must. Offices are for work, kitchens are for work aiming towards pleasure, and living rooms are for leisure.

2.2 Fixed and Belonging

A majority of everyday domestic machines are immobile. They do not lend themselves to being moved regularly. Their size, shape, and surface materials prescribe them. Perhaps the rooms in which they reside are now designed around them. This is true, for example, about machines that require a permanent water supply/drainage. By their function only, they have been prescribed a place within the home, and the place is specified in turn. A form of stage setting also plays a role in identifying where they do and don't belong. Object actors, as much as people, belong in relation to their environment. If the actor Harrison Ford's Star Wars character Han Solo entered Stage-left in the opening act of Hamlet, the rationality of the entire act would collapse. The audience would be presented with a cognitive dilemma... permit this character and everything they represent to merge with the established potentials of the play, or reject it and the play in its entirety. By logic alone, the character and the play cannot occupy the same space in our minds. The characteristics of the space are intertwined with those of the entities that occupy it.

For example, imagine a typical microwave in a room. Already, the stage is defined. No other elements have been placed in the room, but the various potentials of this theatre are established. It is now a kitchen, a stage for food storage, food preparation, accumulation of household waste and cleaning. Now consider the complementary features of a microwave. It alerts the audience when it has concluded its action with an audible alarm, and almost all microwaves can display and count time. Lights... camera... action, the microwave is an overly complex alarm clock. And as we all know, alarm clocks reside on the stage of the bedroom, within arm's reach of the bed. Yet, the proposition of using a microwave as your morning alarm clock, placed next to your bed, is immediately absurd. What this posits is that the character of the machine, not its function alone, is influential in defining its relationship with us and within our domestic space

Although the machine's design prioritises reliable performance, it is limited in its ability to adapt to the various stages within the home. Ergo, domestic machines are designed for and situated in one domestic environment (i.e., kitchen, living room, bedroom, etc.) at all times. As discussed previously, the exception to this is entertainment machines that do not look out of place in any room in the home. For what is the purpose of performance, what is the purpose of our need to predict the outcome if not to entertain and distract ourselves from the fundamental functions of our existence?

2.3 Simple and Complex Machines

A fundamental question in establishing the internal motivations of any entity is to identify its essence, in the Hegelian¹ definition. Philosophers have wrangled with this question at intracosmic (Jaynes 1976) and exocosmic levels since ancient Greece. In Julian Jayne's 1976 book *The Bicameral Mind*, he suggests that humans have only recently obtained a conscious representation of the self and just a few thousand years ago, humans did not possess an ego. Instead, they operated on impulsion from a higher being. This internal order, whole, intracosmos, determined how ancient humans perceived the entirety of the world around them, the exocosmos.

2.3.1 Simple Machines

Like ancient humans, modern machines act in human-like ways but do not possess an ego. So, what is a machine? instead, let us ask why is a machine? The machine or mechanical assembly was first created as a prosthesis of a human mechanism in order to enhance humans' born ability. The balancing of a wooden beam on top of a fulcrum gives humans superhuman strength to lift and move objects of immense weight. Machines like these are referred to as *simple machines*. They are simple in terms of their assembly and their operation. They are completely dependent on human input to power them. Without a human participant, they are just strange arrangements of natural materials. It is also important to highlight the distinction between a simple machine and a tool. The assembly of a wooden stick and a sharpened rock produces the machine we call an axe. By the above parameters, it could be considered a simple machine, but it is lacking one key characteristic. The force applied to operate a tool such as this transfers directly to the resultant output, whereas a machine internally redirects the forces applied upon it.

It is important here to clarify that objects' uses and their *raison d'être* are not the same. Use at the moment and usefulness to be called upon are characteristics only definable when an object is situated within an environment.

As well as simple machines, there are also complex machines. Most of the technologies that surround us are complex machines. The first complex machines documented in history were water wheels and windmills of the ancient Egyptians and Sumerians. Machines like this harness the power of non-human agents such as animals, the elements like water and wind,

¹. Hegelian refers to the philosophical doctrine of G. W. F. Hegel, a German rationalist philosopher from the 1800s. He defined existence as determinate through the negation of a thing's characteristics, which amount to the essence of the entity or its otherness.

and, more recently, electromagnetic energy, to animate the mechanics of the machine. Constructing an entity that, once built, no longer depends on humans to animate introduces autonomy, specialism, and servitude. The machine may be left unattended and should continue to perform its prescribed duties when called upon to do so. The machine has been built to perform a specific set of operations. If it deviates from these operations, it is malfunctioning, damaged or broken. It is not proficient at doing other operations beyond its design. A water wheel is not good at harnessing wind power, just as a windmill is not good at harnessing water power.

2.3.2 Complex Machines

We perceive modern machines as technically gifted, efficient, and specialist operators, most commonly of a singular function. The fridge specialises in cooling food. The microwave specialises in heating food. The robot vacuum specialises in cleaning floors. Very few complex machines are considered multi-specialists, and generally, any machine that is presented as such is seen as a novelty, gimmick, or less precise.

Since their inception, complex machines have alleviated humans from their workload. And exclusively their workload. Alleviating one workload permits the human master to engage with another workload, and sometimes, though more rarely, engage in leisure activities (Veblen 1899). The autonomous nature of a complex machine and its ability to be powered by non-human energy indeed elevates its usefulness to humans. Still, it also introduces the element of trust into the relationship that we have with the machine. A farmer has built a watermill, 2 km away from the other end of their land, to extract water from a stream and irrigate their crops. For the following months, these crops are visibly healthy. A barometer of the continued operation of the machine. Then they begin to wilt. Upon inspection, the machine responsible for watering the crops is found to be broken. The farmer may choose to repair the machine or buy a new machine, but the trust will always bear the scar of this event. Will the same failure occur again? Will the farmer be inclined to check the productivity of the machine more frequently in future? Did they instil too much trust in this stupid machine, to begin with?

Of course, the machine has no consciousness and no intention to work well or to cause difficulty. It does not consider how well it is performing its duty or whether it will be replaced if it breaks down. But for the human participant, this relationship is extensively founded on trust. Trusting in the machine and the machine's trustworthiness. The machine is being entrusted to fulfil its duty. It is both an emotional and a logic-based relationship. When

presented with a complex machine, humans by default expect the machine to perform its inherent duty flawlessly. Otherwise, why is the point of it?

The emergence of societal interest in machine AI and everyday smart objects calls into question a new set of characteristics to appraise complex machines. For a machine to be considered truly intelligent, its autonomy must expand beyond servitude, and it must also be possible to acknowledge the emergence of actions other than its design as free will rather than an error.

2.4 The multi-disciplinary, multi-talented, generalist machine

To the majority of you reading this text, please take a moment to fulfil your microwave's potential and set the clock to the correct time. Your microwave will be grateful!.

A microwave might tell the time, but we would never depend on it to do so. Typically, it isn't easy to further modify a complex machine. In contemporary complex machines as described above, there is often the presence of user calibration inputs, but even these are also prescribed and limited. In the case of personal everyday machines, their ultimate functionality is prescribed to maintain the perception of reliability. To address the human desire for personalisation of their world, various models are typically available to permit user customisation through selection and to satisfy the human desire for individualism. However, if your personal electronic devices continuously exhibited emergent behaviours, you would be in a constant state of determining their relational value. This standard industrial practice also perpetuates the position that complex machines are mostly singular-function machines.

A human who is a generalist may be referred to as a "Jack of all trades". Being multidisciplinary among humans is a skill which can be developed over time. For machines, multi-disciplinarity is often referred to as multi-functionality; however, these two terms are not comparable. A discipline defines an area of expertise. Within that area, there are various levels of expertise. Function and functionality, on the other hand, are logic-based terms. The function of something is determined by what we are told it is for and the action or actions it permits. The operations undertaken by the machine may be critiqued under headings such as noisiness or time required. Still, if the resultant output is a perfect representation of the presumption, then the machine can only be determined to function as expected. This parameter of performance introduces another type of complexity. If a machine, designed to make orange juice, does indeed produce juice but the juice is laden with seeds and peel, then the functionality of the juicer becomes judged under subjective criteria. We expect any entity that is tasked with a single purpose to perform it excellently. This is what we generally refer to as specialism.

As Henry Petroski (1992), John Maeda (2006), Nicholas Carr (2014), and others posit, there are design trade-offs that often result in multifunctional tools seeming less specialised, and therefore less sophisticated, compared with single-purpose devices.

It is common to consider industrial machines as dumb. Their existence is repetitive and removed from society. Exactly as they were designed to be. But as Matthew B. Crawford (2014) discusses, these attributes are viewed as rigid, uncreative, and lacking adaptability, three standard features of intelligence. It is only through the human operator that the potential of these machines can be realised.

2.5 Function, Form, Formless

The machine presents itself for evaluation through both mechanical functionality and the quality of the outcome, as it relates to the human user's imagined outcome, and the situation of activation.

One determines if and when a domestic machine has failed not only by the outcome of the machine's activity. However, the parameters for this determination are not necessarily established by the designed entity, but rather by the human user's subjectivity in the situation and their recollection of biases towards or against the machine and its intention. There are many categorisations for this phenomenon, one of which is familiarity as defined by Gibson (1972). Familiarity in this context engages the human user in a memory activity that Gibson defined as affordance. An activity not only for functional objectives but also for the pursuit of pleasurable experiences that can be had during the behavioural interaction (Norman 2004) between humans, machines, and the environment or situation of use. In this sense, the machines act as a catalyst for conscious and subconscious time travel. We analyse our environment and determine the consequences of potential interactions we may have in it. This process of analysis is what John Locke (1694) referred to as experience. Stemming from incoming data through our sensory receptors, we observe the expressions of the environment, i.e. climate, movement, sounds, etc. The expression of our present environment informs us of our own established position within the environment. And then,

Every day, machines have become an integral part of the domestic setting. They complement the sense of comfort and security we aspire to experience in our domestic setting. They embody and represent success through their branding and through the specificity of their intended role within our domestic lifestyle. For example, a kettle can boil water to facilitate the making of a cup of coffee. Still, a coffee machine can more specifically accomplish this task while simultaneously alleviating the human user from the minute, mundane actions involved in the process. A classic vacuum cleaner will support a human user to clean the floor while a robot vacuum cleaner will autonomously undertake the entire task. This hierarchy of machine ability can be directly correlated with their ability to represent the societal accomplishment of the human owner. They achieve this ability to convey such

intangible qualities not only in their function but also in their form, often communicating their position in the hierarchy of machines through their form before their specific functionality is revealed.

More recently, our everyday machines have advanced in formless ways. Through the integration of software algorithms and environmental sensors, our machines have begun to observe phenomena and user habits, resulting in more relational manifestations of automation. A mode of thought involving the connection of perception to action with little in the way of intervening representational systems (Brooks 2001, 409).

2.5.1 Function

As has been alluded to previously and has been referred to in numerous ways throughout modern history, one of the central principles of design is Form Follows Function (Sullivan 1896). The term originated in reference to architecture but became applied to all forms of human-centred construction, including industrial and product design. But the significance of this position can be applied to the earliest of human-made machinery.

The first machines were devised to facilitate humans in performing tasks beyond human capability. Initially, they were exclusively constructed for function. Over time, materials considerations introduced aesthetic nuance and signified hierarchical ability and status. Not just the ability and status of the machine itself, but by extension, that of the human whose abilities were being enhanced by the machine. An axe or knife blade made of granite stone is stronger but less sharp than one made of flint. And, a blade made of forged metal is both stronger and sharper than any stone axe. This hierarchy was determinable by functionality and material properties.

During this moment in societal evolution, diverse manufacturing processes were also being explored. Processes that were first informed by the environment in which the machine was to be utilised. Locally accessible materials and their properties would inform crafting processes, and the local flora and fauna would lead the making process further toward the specific prostheses needed by the human. Again, all of these factors centred on usability & usefulness, functional considerations. This position references the definition of cognitive biology defined by Kovác (2000). From this perspective, the role of the environment is determining that the entity is not merely consequential but, on the contrary, it is formative. They denote a sense of cognitive activity. In biology, the evidence of this is visible at a cellular level, but is witnessed at the level of ability. For the machine, cognitive materialism is visible immediately in a traditional sense through historical artefacts. The dwellings of early settlers, the tools they created to work the land, the weapons they designed to take down prey best or defend their

vantage. The machine embodies the limitations and opportunities of the environment it was created in and for.

Over time, through the migrations of human civilisations, processes of object acquisition naturally occurred. Processes such as Levallois approaches (Hu et al. 2023) and Viking relics found in North America provide evidence of shared material techniques and diverse human interactions with the natural environment, both locally and remotely. Material processes, even those solely based on the functional intentions of machines, begin with a human thought process. This fundamental fact is quite significant when considering that human thinking was carried out in harmony with the environment.

Functional intention is, in fact, an environmentally set parameter. The solidity and gradient catalysed the creation of the wheel, and the frictional coefficient of the ground below, in contrast to the solidity of the stone, as changes in the environment alter the parameters of functionality.

2.5.2 Form

Form is not exclusively a visual phenomenon. It is something that can be seen, but it is also something that can be felt. It is a multi-sensory occurrence that extends beyond the boundaries of pure appearance. Form is static, yet it is dynamic. It exists in stasis, yet it is constantly in flux, dependent on the environmental conditions in which it is situated. The assessment of form is never purely about its isolated qualities but is always conducted about other objects, entities, and forces. A tree in a storm is perceived not only in its material stability but in how it resists or succumbs to the force of the wind. It is not simply a tree—it is a body within a field of forces, its form defined in contrast to those forces and to the observer who perceives it.

Latour (2005) describes this relational ontology as a network in which objects are not passive, inert entities, but actants that derive their meaning, function, and even identity through the web of interactions they participate in. Form, in this sense, does not pre-exist observation—it is *produced* through the comparative and relational processes that define its position within an environment. The tree's stillness, in contrast to the wind's force, creates its perceived sturdiness just as the human, less stable in the same force, perceives themselves as less sturdy. Form, then, is not just a static property of a thing but an event that unfolds through its relationships.

This comparative nature of form does not suggest mimicry or inheritance but speaks instead to the shared spatial and relational systems within which entities exist. Sloterdijk (2011)

describes these as spheres, environments in which forms interact and define one another. No entity exists in isolation; form is atmospheric, shaped by what surrounds it. The presence of a single object—a chair in an empty room, a rock in a field—immediately calls into question the environment it is within. It signals absence as much as it asserts presence. Just as the form of an object can be assessed by its materiality, it is equally defined by the relational space it occupies, whether that be as a solitary presence or as part of a collective system of forms.

Yet form is not only environmental—it is also comparative within the observer. The observer's perception of form is not an objective truth but a negotiation between their own experiences, preconceptions, and the specific conditions of observation. Ingold (2013) suggests that form is never purely given but emerges through engagement—a process of movement, interaction, and transformation. A rock, shaped by centuries of weathering, does not simply possess a form; it *becomes* form through its interactions with wind, rain, and time. Likewise, a technological object—whether a smartphone or a domestic appliance—does not exist simply as an inert form but as something whose aesthetic, functional, and material properties emerge through its interactions with users, environments, and other machines.

Form is then, ultimately, a negotiation. It is shaped by the forces acting upon it, the observer interpreting it, and the wider networks in which it participates. It is not only material but materiality—not only an object but an experience of an object. It is in this negotiation that form becomes rather than simply *is*.

2.5.3 Formless

A terrestrial entity is made of matter. This can be stone, wood, water, biological tissue, etc. Matter gives an entity presence. This does not mean presence of mind, i.e. consciousness, or an awareness of being present. It simply means that it is experienceable in the present moment. To better explore this, we must try to remove the anthropocentric view we are inclined to evoke. A boulder in a field is present in that field. We can be confident that the boulder has been in its current location for many years, and we would be happy to accept that it will remain there for many more. It has its form, shape, and colour, and it forms part of the tapestry of the environment it is within. Its form is a result of its experiences in the environment; the more eroded or wet one side is, the more it reveals the common weather patterns in that environment. It tells us what other similar objects in the environment may look like and what lies beyond our immediately observable environment. It tells us the history of the place and its potential future. From the simple information we can obtain from this object, we can infer many things. Organic objects have a natural ability to engage the human mind in this thinking process. The phenomenon of anthropomorphising is so impulsive to

humans that designers have adopted it for decades. We have an inherent urge to comprehend the world around us both subjectively and objectively. Or as Kant in *A Critique of Pure Reason* (1781) referred to it, Subjective successions of representation of events versus objective successions of events, or subjective experience versus objective knowledge. Objective comprehension is based on the physical attributes of the situation and entities in it, and how they act about the environment, enabling us to define their intention and potential. Subjective comprehension is less determinable, so we engage with a comparative analysis to define entities by an amalgamation of known attributes to determine their intention and potential. As Cooper (2004), Norman (2013), Murray (2016), Tversky (2019) and many others have suggested, one of the quickest ways to do this is by finding comparisons between ourselves and the comparable entity we subjectively comprehend best.

The machines that inhabit our daily lives are increasingly formless, decreasingly dependent on the limitations of their present physical environment and always connected to the physical and virtual world, providing them with an infinite information resource for which to determine and influence situations. From IoT (Internet of Things) clothing that can inform your fashion choices based on local weather data to integrated smart home systems that monitor your work-life balance and make adjustments to lighting and acoustics for your wellbeing, the role of machines in our daily lives is no less functional. Still, it has taken on a new relational duty as a result of its ability to be aware of local and remote data. Leading to the query of designing new domestic machines, becoming less interested in ‘how?’ and more interested in ‘why?’. Rather than ‘How to make it?’, we need to ask, ‘Why make it?’. In the emerging landscape of relational AI machines, this is why. It is traditionally practical and user-centric; for instance, what benefits would a machine like this offer to humans? But it is also increasingly relational, for example, why will the human user trust in the perceived intelligence and awareness of this machine made of metal, plastic, and radio waves?

2.6 Relationality

The discussion on the subject of intelligent robot-machine counterparts who live amongst us, work with us and are our companions has been ongoing for centuries. In fiction and in fact, humans have documented relationships with machines that perform beyond machine-level acts like the Mechanical Turk (Kempelen c.1780), and the Digesting Duck (Jacques de Vaucanson 1739). Long before the first electronic circuits sparked into life, these machines presented the consideration for an alien (Bogost 2012), non-living, non-human, entity that possesses livingness. Autonomous in action, capable of choice-making. Imbued with this capacity, it may occupy the position of the enemy, ally, or subordinate. The motives of these aliens are not easy to establish because, like humans, they are driven by more than functional objectiveness. They are somewhat opposing, as Bogost (2012 12)

suggests, but as he goes on to clarify, they are also simple. The fundamental motive of a machine or alien, as per Bogost's definition, is given to it. It is not capable of a motive beyond the designed scope of reality that it has been given, as well as the parameters through which it may critique its reality. Or to quote Abraham Maslow (1966), *to a hammer, everything is a nail*.

The AI machines, especially modern ones that are increasingly manifesting in the domestic setting, transcend the traditional primary categories for classifying machines, i.e. dependable, logic-driven entities. They are also capable of pondering the future and reflecting on the past. Or at least simulating it. But even the simple premise of a machine that operates beyond predictable control systems in some way threatens our sense of safety as humanity because, like humans, they suggest a hidden capacity for high-level thinking that permits them to act in unpredictable, seemingly irrational ways. They may consider actions beyond our simple comprehension of the situation as a result of their infinitely larger reference database. They may be deceitful, like only humans can. They pretend not to understand our verbal instructions. They are never to be fully trusted.

The origins of the word machine (English), *machina* (Latin), or *machaná* (Doric) denote not only the technical meaning but also the psychological meaning of trick, artifice, and deception (Raunig 2010). Represented eloquently through the fabled Horse of Troy or the ancient Greek theatre, the *deus ex machina*. The machine gave performance arts the ability to transcend human limitations (flying, disappearing, etc.) by integrating it into the stage construction. The stage scene is presented in a comprehensible, easy-to-digest way, but beneath the surface are complex mechanisms that enable it to perform acts beyond the known limitations. Complexity at a level beyond logical deciphering is not palatable for the human mind (Morin 2008). The basic human desire to master our environment, and all things within it, is dependent on a pursuit of security and safety. Humans cannot control the weather in the immediate sense, and so we live alongside it. We build shelter appropriate for it; we adapt our bodies for it. In the spaces we control, such as the domestic setting, we feel assured that all potential experiences are predictable, controllable, and masterable.

According to Das and Teng (1998), trust and control are parallel concepts, and their relationship with a supporting character in generating confidence. When a machine acts outside the parameters of their scripted, preprogrammed use, we have considered it to have moved beyond our perceived control. This is one reason that domestic machines have been designed to act within explicit parameters assigned to them and not to have wide-ranging or diverse designed functions. Predictable, reliable, and repeatable. As we observe the action unfolding, we occasionally witness alien actions or unexpected choreographies. To a certain extent, these are permissible so long as the final act, the crescendo of the performance, aligns with our predicted result. Interestingly, this narrative sequence resonates with the original intention of the theatrical *machina* in Euripides' plays of ancient Greek theatre.

We now live in a world where the Deus ex Machina has transformed into the Homos ex Machina. The machine's ability to miraculously resolve human complexity, in theatre arts, industrial life, and in everyday life, has created a world in which it is the complexity humans seek to resolve. Humans no longer look to the machine to resolve complexity; we now run from the machine to find it.

The outcome of 1950s Western design philosophy, led by practitioners like Dieter Rams and Kenneth Grange, continues to influence our modern society. A world of machines that are simple to operate, and arguably largely unnecessary, personal electronic machines. Our feeling of need for these machines has been stimulated by consumerism. They are presented as the Deus ex machina insofar as their promises to resolve the complexity of our daily lives. Still, in truth, they introduce a way of living that excludes our innate knowledge of being human and replacing it with complexity that might be considered theatrical to the fundamental values of living. The relationship Western society has nurtured with machines stems from an ontological perspective, different to that of Eastern philosophy. The individual actor, as opposed to one who sees themselves as a contributor to a greater level of being (Hui 2017). More on this in the next chapter.

Trust is a sliding scale. We apply it to everything with which we interact. A push button, a chair, an elevator, food, clothing, or a door leading to another room. Absolutely everything is granted some level of trust or distrust by us (Luhmann 1979). We trust that our interaction with the 'other' will result in an outcome which aligns with our preconceived outcome. Trust is not to be mistaken for preference or taste. Trust denotes the predictability of the outcome from the observer's perspective, whereas preference denotes choice and is established after the evaluation of trust. Predictability is resolute, and choice is subject to our inner drives at that moment.

The matter of the observational prediction of results leading to the merit of the action is a continuous cycle of analysis that humans conduct all the time, which Norman (2004) refers to as the phases of interaction.

...

Returning to the first machine example presented in this chapter, our friend, R2-D2, is curated carefully through the lens of the camera and the vision of the director. In the first instance, we are introduced to this machine as a trustworthy being. The simple moment we witness, Princess Leia entrusting R2D2 with a mission of the gravest importance, is observed, from a distance, like privileged, uninvited witnesses to this most secret moment. There is no mistaking the secrecy of this moment because it is interrupted by none other than our royal humanoid counterpart, C-3PO. Even such a subservient machine is not trustworthy enough to be entrusted with this quest. Anecdotally, we have encountered a moment in which we ascribe a level of trust to 2 different machines based on the

interaction we observed them having with an angelic female protagonist. Within the first 5 minutes of the film, the character dynamic between R2-D2 and C-3PO has been established.

From a narrative theory perspective, the audience's need for a rounded character profile, both valorous and flawed, has been satisfied through the representation of two individual characters united as a single psycho-character entity through their shared, non-human, machine condition. Trust has been both established and reserved within the singular psycho-character entity. The macro-lensing of these two characters to form a singular character is only possible because of their shared oddity about the typical human viewer. They are machine entities. Their difference in functionality is only because a human programmed them to be that way. And so, within 5 minutes, the relative valour of these two machines is established as individual and as united. They are individually motivated but are always together. When they separate, we are given a reminder about how we should feel for them. Admire R2-D2 for its tireless pursuit to complete its given mission, criticise C-3PO for its weak and subservient, unheroic nature. The human-like way that these machines interact with other characters permits us to project ourselves into their psyche. In contrast, the non-human treatment they are subjected to permits us to keep a safe emotional distance from the perils of their story.

Trust appears directly within R2-D2's motivations again at 22 minutes into the film when Luke, our protagonist, unlocks the video message R2-D2 is protecting. When questioned about the missing part of the message, R2-D2 signals that Luke is not permitted to see it, to which C-3PO remarks that he can be trusted. Trust here is the highest quality required of an entity to be given access to information. Trust is also equated to security here.

In this scene, we also observe two homocentric qualities: aversion and deceit. R2-D2 avoids further questioning about the message by claiming that it is old, defunct information. It then proceeds to mislead Luke by asserting that removing the auto-shutdown security tag Luke has fitted to it will potentially unlock the entirety of the message, when in fact R2-D2 intends to escape as soon as it is freed from this control.

In the domestic real-world setting, machines acquire characters through our giving and through the counterparts around them. Place the microwave beside a washing machine, or a kettle next to a hairdryer, and we experience discord. Our domestic machines are also Type characters (Trumbull 2008). They present one dominant trait that prescribes their potential and their limitations. They set parameters for the 'stage' in which they are set. We expect them to act in complement to the stage and to the other machine characters they are amongst. They are trusted to maintain, as opposed to create, continuity in the Act.

It is because machines are non-human, non-living, that we can afford them the level of trust that we do. Machines can work in complement to one another to produce a total psycho-character that a single human actor must try to embody individually with one mechanical system (the body) and one centralised offline computer (the brain).

2.7 Machine Becomings

The exploration of the "Machine Condition" illuminates the multifaceted relationship between humans and machines, extending beyond functionality to encompass form, aesthetics, trust, and relationality. Machines, from their simplest iterations to the highly advanced AI systems of today, have evolved in response to both human needs and environmental contexts. As highlighted by Dieter Rams, the pursuit of harmonious human-machine interaction remains an elusive goal, marked by rare moments of aesthetic and functional alignment. Rams' design philosophy, emphasising simplicity and usability, reflects a broader societal aspiration to integrate machines seamlessly into our lives while maintaining their distinctiveness as non-human entities.

Herbert A. Simon's (1997) observations on the mechanisation of human labour reveal the historical legacy of machines as tools of efficiency and productivity. This dynamic, originating in the industrial era, persists today, as machines continue to impose structured rhythms on human life. The "Modern Times" stereotype underscores the tension between human agency and machine determinism, a theme that resurfaces in the domestication of machines. As Kevin Kelly (2010) and Steven Johnson (2010) suggest, the incremental evolution of machines mirrors biological processes, fostering familiarity while embedding them deeper into human existence. This pseudo-evolution underscores the iterative nature of machine development, where each refinement draws from collective human experiences and environmental constraints.

At the heart of this evolution lies a philosophical tension between *Being* and *Becoming*. The concept of *Being*, as Sartre (1940) describes, is the state of fixed existence—an essence that remains unchanging, determined, and fully realised. In contrast, *Becoming*, as articulated by Heidegger (1927), reflects a more fluid, dynamic process, an unfolding that occurs in response to the existential conditions of a being-in-the-world. The notion of *Becoming* further complicates our relationship with machines, as they, like human beings, are continually in a state of potentiality and transformation. This dynamic is highlighted by Graham Harman's (2005) concept of *object-oriented ontology*, where machines, as non-human entities, possess potentialities that extend beyond their immediate functional roles. While they may appear static in their *Being*, machines are always in the process of *Becoming*—as they adapt, evolve, and interact with their environments, they reveal new potentials and capacities. This tension between *Being* and *Becoming* in the "Machine Condition" allows for a rethinking of

machine agency—not as merely the fulfilment of a fixed purpose, but as the unfolding of new capabilities within specific relational contexts.

The evolution of machines, particularly AI and interconnected systems, underscores a shift from *Being* to *Becoming*. As machines are increasingly designed to adapt to user preferences, environmental stimuli, and even emotional cues, they exhibit behaviours that suggest a state of *Becoming* rather than merely performing a static function. This is especially evident in the growing relationality of machines. As George Brecht (1970) expressed in his Fluxion "Event Scores" series, the concept of disruption—where ordinary events become extraordinary moments of potential—offers a framework for understanding how machines evolve through interaction. Brecht's *Disruptions* function like the *Becoming* of an object: they are not predetermined or fully realised but unfold dynamically in response to context. In this sense, machines are more than tools; they are co-creators of meaning and experience, reflecting the idea of a *Becoming* entity that evolves through each interaction, disruption, and moment of transformation.

Julian Jaynes' (1976) theory of the bicameral mind offers a provocative lens for understanding machines as extensions of human cognition. Like ancient humans guided by external voices, machines operate without ego, relying on pre-programmed directives and external stimuli. This absence of consciousness, however, does not diminish their ability to evoke trust and relationality in their interactions with humans. As Das and Teng (1998) discussed, trust is pivotal in the human-machine dynamic, where predictability and reliability are paramount. Whether through malfunction or perceived deception, the erosion of trust disrupts this relationship, highlighting the emotional dimensions of human engagement with machines.

The relationality of machines extends beyond their functional roles, as demonstrated by Don Norman's (2004) concept of affordances. Machines not only facilitate specific tasks but also invite pleasurable and meaningful interactions, transforming mundane experiences into opportunities for delight. This interplay between utility and entertainment, as observed in domestic machines, challenges traditional notions of functionality. From vacuum cleaners designed to amuse to microwaves that punctuate their utility with celebratory tunes, machines increasingly cater to the emotional and psychological needs of their users. In this way, the *Becoming* of Machines—manifested through their relational qualities—mirrors Heidegger's assertion that entities are defined not by static properties but by their unfolding potential in context.

Ian Bogost's (2012) exploration of alien phenomenology further complicates our understanding of machines as entities that transcend human-centric perspectives. Machines, as "alien" objects, possess a form of otherness that invites curiosity and scepticism. This duality is vividly illustrated in the Star Wars franchise, where characters like R2D2 and C-3PO embody contrasting attributes of

trustworthiness and vulnerability. These theatrical representations highlight the narrative power of machines to evoke empathy and establish complex psycho-character dynamics, reflecting broader societal attitudes toward technology.

The transition from tangible to formless machines, driven by advancements in artificial intelligence and interconnected systems, marks a significant shift in the "Machine Condition." As articulated by John Maeda (2006) and Nicholas Carr (2014), the integration of software and sensors into everyday devices has redefined their role from passive tools to active participants in human environments. The formlessness of modern machines, exemplified by IoT devices and smart home systems, underscores a new paradigm of relationality where design questions centre on "why" rather than "how." This shift challenges designers and users alike to reconsider the ethical and practical implications of intelligent machines.

In conclusion, the "Machine Condition" is a dynamic and evolving construct, shaped by historical, cultural, and technological forces. The philosophical interplay between *Being* and *Becoming* offers a compelling framework for understanding this evolution. While machines may begin as static, predetermined entities (*Being*), they increasingly manifest potentiality and fluidity (*Becoming*), continuously unfolding in response to their environments and relational contexts. From the utilitarian origins of machines to their current role as relational entities, the interplay between humans and machines continues to redefine the boundaries of trust, functionality, and aesthetics. As we navigate this complex landscape, the insights of scholars like Rams, Simon, Kelly, Norman, Brecht, Heidegger, and Harman provide a critical foundation for understanding the past, present, and future of our intertwined existence with machines. By embracing the relational potential of machines while acknowledging their limitations, society can strive for a more harmonious and meaningful integration of technology into everyday life.

Its monotonous grinding hum reverberates around the gallery.

During both exhibitions of the work in Ugly Duck Galleries, London, in 2017, and The Biscuit Factory Gallery, Edinburgh, in 2018, *FRANTIC HARVEST* was purposefully positioned out of view of the gallery entrance. The art experiment, an electronic device art piece, was created in collaboration with Isadora dos Santos Petrauskas as part of the F9 Collective. Its monotonous grinding hum reverberates around the gallery, informing visitors of the busy entity, preoccupied by its duty, hidden somewhere within this space for altered experiences. Before seeing the machine, it can be heard, a sound that is both familiar and strange but certainly not pleasant. Where you know the origins of this sound by previous interactions with one, it can remind one of the hardship and brutality of labour far beyond its pivotal role in the domestication of personal computers and the rise of the home office. The machine, found in a charity shop in Edinburgh and bought for £15, once spent its days turning digitised text and numbers into material form, is commonly called a dot matrix printer. From now on, it shall be called Art.



The deliberate positioning of *FRANTIC HARVEST*, hidden yet audible, taps into the relational qualities of machines that have long been overlooked in traditional discussions. Its grinding hum is both

mundane and unsettling, acting as a sonic reminder of the laborious processes associated with mechanical systems. This echoes the ideas presented in *The Machine Condition*, where the relational value of machines—rooted in their aesthetic, functional, and cultural attributes—situates them as active participants within their environment. The sound, devoid of human warmth yet evocative of industrial rhythm, creates a juxtaposition of familiarity and alienation, drawing parallels with Bogost’s concept of machines as “alien” entities, distinct yet integral to human contexts.

The machine has been reborn with one intention, given to it by and through human interest: to try to materialise the endless and intangible mass of imagery propagating on our internet. The reason? To engage the audience in a discourse about digital consumption and its relation to the material world. Juxtaposing the familiarity of the material world with the unfamiliarity of data to a general audience, the machine has been condemned to an endless consumption and imagery divulgation process in its assignment to materialise the internet. It is an apt metaphor for the now common practice of doom scrolling. For the audience, the machine presents novelty through its monotonous grinding hum, which calls for attention, an endless mass of paper accumulating on the floor, and the altered

imagery that it creates from photographic origins due to its limited artistic ability, only capable of printing ASCII characters. These factors safely intrigue audiences to contemplate the ultimate intention and result of the task. After all, machines are task-oriented, and their value is determined by the outcome, not by the zealotry with which they engage in their labour.

Michael Petry, reflecting on the ideas of Duchamp, notes that the value of art lies not in the mastery of tools but in the power of ideas that redefine how objects are perceived. This perspective is central to the conceptual framing of *FRANTIC HARVEST*, where the act of repurposing an outdated machine transcends its technical limitations to engage with broader cultural narratives. The deliberate transformation of the printer into a vehicle for critique aligns with the relational and aesthetic considerations of *The Machine Condition*, which emphasise the potential of machines to reveal and challenge the systems they inhabit.

The process-oriented focus of *Frantic Harvest* also recalls the ethos of the Fluxus movement, where the act of creation often overshadowed the finished product. The printer’s transformation into a vehicle for artistic critique challenges preconceived notions of machine utility. As discussed in this thesis, the appropriation of machines into art highlights their capacity to operate beyond prescribed functionality, evoking both their utilitarian origins and their potential to transcend them. This interplay between past and future function

aligns with Gibson's concept of affordances, which underscores how the environment and observer co-determine an object's perceived potential.

While the generated image and its aesthetics remain mysterious, its intention is entirely predictable. For me, when creating the artwork, much of the brilliance lay in the complexity of the technical realisation of the concept. This involved interfacing a defunct DB-25 parallel connector with an Arduino microcontroller to transmit the output of image generator software I developed in Processing. This aspect of the work, which I shall refer to as the input, is also complex in intention, as it connects to Flickr via their API, harvesting images based on specific metadata and translating them into an ASCII-based interpretation where ASCII characters correspond to the greyscale range from 0 to 255.

The relational values of *FRANTIC HARVEST* extend beyond its mechanical labour to its situational belonging, a dimension emphasised in *The Machine Condition*. The printer's form—its beige plastic, repetitive action, and historical familiarity—anchors it in a specific cultural and technological moment. By recontextualising this machine into the gallery space, the work critiques how emergent AI technologies, which often transcend physical form, may disrupt this sense of belonging. Unlike traditional machines, which are defined by clear functionality and environmental constraints, modern AI-enabled devices operate

within virtual and physical realms, challenging established notions of predictability and trust.

The performative aspects of the machine amplify this relational critique. Much like the machines of Dada and Fluxus artists, *FRANTIC HARVEST* invites its audience to consider not just the “what” of its actions but the “why.” The monotony of its task—a seemingly frivolous translation of digital imagery into ASCII art—conceals a deeper inquiry into the societal implications of machine labour and digital consumption. As Sullivan's principle of “form follows function” is subverted here, the machine's relational and aesthetic qualities precede its utilitarian origins.

Ultimately, *FRANTIC HARVEST* situates itself as more than an object or a process; it becomes a critique of the ways we engage with and understand machines. By appropriating the relational values traditionally embedded in machines—trust, predictability, and cultural familiarity—it creates a lens through which to examine how emergent AI machines challenge and extend their prescribed roles. The shift toward formlessness in AI technologies disrupts conventional frameworks of interaction, raising questions about belonging, purpose, and autonomy. Through its sonic and visual provocations, *Frantic Harvest* blurs these boundaries, prompting a re-evaluation of the machine's place in both our material and digital worlds.

3 The Fetishisation of AI

We experience the world through our individualised sensory systems. They provide us with information about colour, a sound's proximal location, temperature, and more. These data are precise, yet their interpretation varies from person to person. Perception is not a simple registration of external stimuli but a process of embodied engagement, where meaning is derived through the interaction of the body with its surroundings. Merleau-Ponty (1945) argues that perception does not occur in isolation; we do not merely absorb sensory data but actively structure it through movement and context. A colour is never just a colour—it is perceived in contrast, in light, in depth. A sound is not just a vibration in the air—it is spatial, directional, connected to the position of the body in relation to its source. What we perceive is not merely the world as it is but the world as we encounter it, filtered through the way we move within it, the way our senses calibrate experience, and the way our cognition processes it.

Perception happens consciously, as in the words you are currently forming from the black shapes on this page. Still, it is also subconscious, like the peripheral sounds in your environment that, though present, do not demand your attention. This constant sensory analysis serves a fundamental objective: to preserve our existence. The pursuit of stability—whether physical or psychological—is inseparable from the way we process reality. The body is not merely a vessel for cognition; it is the primary medium through which we construct our understanding of the world. The feeling of security is not abstract; it is realised through the way our bodies orient in space, through the predictability of our surroundings, and through our ability to assess and anticipate changes before they occur.

Cognition, in this sense, is more than awareness—it is the ability to act upon sensory data. While all living entities exhibit impulses—plants grow toward sunlight, extend their roots in search of water, and open and close in response to temperature shifts—the distinction between human cognition and that of other organisms is the ability to evaluate stimuli beyond the immediate present. Von Uexküll (1934) describes this in terms of *Umwelt*, the distinct perceptual world of each species. A tick, for example, does not experience the world as a collection of objective facts but as a reality constructed entirely by the sensory cues relevant to its survival—heat, movement, and chemical signatures. Unlike the tick, which is bound to an existence of immediate reaction, humans operate within a predictive cognitive system, where perception is not limited to the present but informed by memory and expectation.

This ability to anticipate rather than merely respond is what allows cognition to mediate between comfort and risk. The feeling of security is not only a physical state but a cognitive one—a recognition of control within an environment. Where plants and simpler organisms react only to direct stimuli, humans engage in a continuous comparison of incoming data with stored experience,

projecting possible outcomes, making decisions before action is even necessary. We do not simply see the world—we interpret it in preparation for what might come next. This interpretative capacity is what separates the immediate perception of sensory data from the lived experience of reality.

The relationship between the body and the mind is collaborative and distinct. Humans are not binary systems and operate subjectively within cosmologies. We do not always act in a logical response to sensory stimuli, and indeed, our mind can stimulate imagined sensorial moments. The fluid nature of the relationship between these two elements of the self is crucial to establishing the details of our present and potential reality.

In this chapter, through an ontology of being that begins with the body and the mind as distinct actors, we will establish a definition of reality that observes two realities: the reality that is experienced and the reality perceived through cognition. This ontology is aligned with both Aristotelian and Confucian philosophies, whereby reality is established not only by the world around us but also by our subjective perception of it. This construct of reality is therefore only our relational, cosmo-techno (Hui 2016) interpretation of our present situation. Experience in opposition to perception refers to the basic sensory stimuli triggered by current environmental data. Perception, on the other hand, is a cognitive process that creates a second reality, full of personal meaning and significance to ourselves. Perception introduces virtuality to our reality because one material object can have an infinite number of existences based on how the human actor perceives it among all the other things it is situated amongst.

This raises the important question of how we can experience both an individually perceived reality and a reality shared by others. Or more importantly, how do these two realities co-exist? To answer that question, we should not look within our own beings for the atomic-level universal truth of our being. Instead, in this chapter, we will take a macroscopic view and look outside the human entity.

As we look out at the world around us, we are constantly assessing changes in it and rationalising those changes. This is a fundamental process of being human. We do this to establish risks, identify opportunities, overcome challenges and maintain our sense of dominance over the world in which we live. The need to continuously affirm dominance over our world does not manifest only through aggression, as the word dominance commonly assumes, but also through simple acts of control and rule, such as choosing one place to sit over another or taking a different route to an everyday destination. And through mental processes also, for example, accurately predicting the next action of an animal following a short observation of their manner or counting the time between the flash of lightning and the rumble of thunder accurately so as to create a measurable pattern of the phenomenon.

In our efforts to maintain dominance over the world around us, we inevitably attempt to rationalise all that we perceive. But there are limits to this practice. As we have seen throughout human history, there are some events humans did not have the capacity to comprehend at the time or were so overwhelming that standard definitions would not rationalise them. These events were what Edmund Burke (1757) referred to as sublime. Events like these can be categorised under three categories: environmental phenomena, material phenomena, and immaterial phenomena.

The most primitive expressions by humans are markings on walls, eggshells, and stones. These expressions are affirmations of existence that are still visible thousands of years later. They are additive or reductive processes. Paintings and carvings. Extrapolating this to another level, as our ancient ancestors became less nomadic, they began to expand expressions of existence beyond the caves and into the broader world around them, sowing fields with crops and cutting down forests. On the one hand, the act of fortifying dwellings against seasonal changes, and cultivating land for the provision of food can be resolved as a necessary act of settling communities, but it was not long before human expressions went beyond the functional towards the ornamental.

As we will see, the course of human evolution is directly linked to the emergence of these categories and the popularity of their use. Moreover, we have recently entered a new epoch that suggests the emergence of a new category through which we can tame the undefinable and maintain a sense of control we are compelled to have over the world we participate in.

Before continuing, it is important to reiterate that the perspective being presented is a Western one, specifically a Eurocentric perspective. For other cultures, the evolution of their sense of self and related ontology is unique to them. In China, for example, a country with a philosophical foundation as rich as that of ancient Greece, the establishment of Taoism marked the beginning of their cultural development.

3.1 There must be no remainder

Fetishisation is a human operation that attempts to rationalise or distil the undefinable into a form that can be manipulated, controlled, and reproduced. In this section, we will investigate how one of the most primitive human impulses has evolved and disguised itself throughout the evolution of human consciousness in order to preserve the human need for dominance over the present environment. Jean Baudrillard (1994) argues that fetishism extends beyond material objects into the realm of the symbolic, where humans imbue objects or ideas with significance to assert control and order over their realities. In contemporary society, the word fetish has come to represent human desires that are opposed to convention. These desires are difficult for society to rationalise and accept; therefore, they are put into the category of fetish. As we will see, while the typical representation of fetish has

changed in line with the changes in human awareness of reality and conscious ability to rationalise it, the underlying need for this action remains the same as it did for prehistoric humans. Throughout humanity's need to rationalise the world around us, we have encountered events that have surpassed our ability to comprehend them.

Along with this must be a sense of reverence. A desire to comprehend the incomprehensible event. This bridges the connection between the previously mentioned reality of the body (outward-looking) and the reality of the mind (introspective).

From a Eurocentric perspective, these have manifested as environmental phenomena, automation of production, and most recently, the emergence of the first evidence of non-human entities capable of interacting with us at a human-level consciousness. We will see that these three manifestations are directly correlated with human evolution and our conscious ability to rationalise the world around us.

According to Jaynes (1976), until circa 6,000 BP (Before Present), humans had no conscious awareness of the id or self. Archaeological analysis of ancient civilisations reveals few representations of the everyday human but countless representations of animals, nature, and environmental phenomena commonly represented as deities. Prehistoric human habitats are adorned with murals of animals and totem objects painted with geometric patterns, potentially symbolising our ancestors' attempts to capture and rationalise the non-human world around them. Typically, simple objectives and processes defined the everyday life of these primitive humans. Material expressions we would now refer to as artistic, such as the paintings discovered in

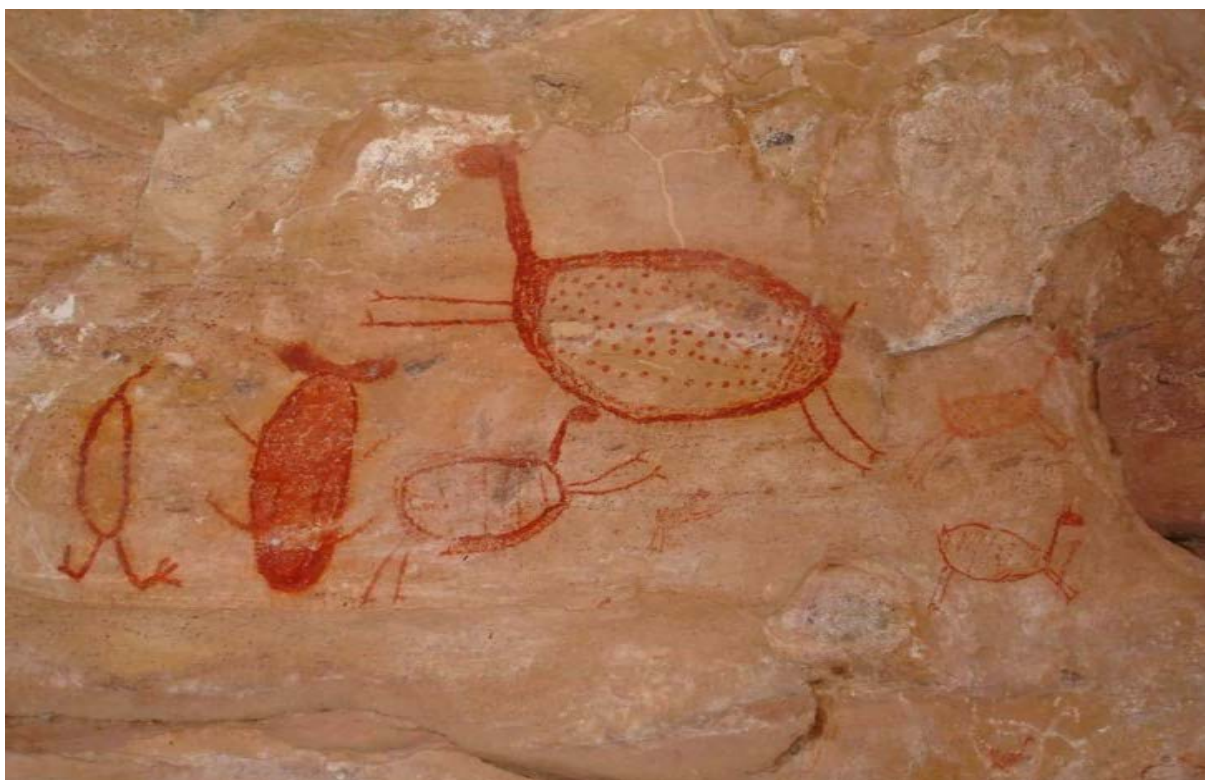


Figure 2 Serra da Capivara, Brazil c. 22,000BP

Serra da Capivara, Brazil, c. 22,000 BP (figure 2), Chauvet Cave, France, c. 30,000 BP, or Wangxia, China, c. 50,000 BP. Analysis of these artefacts and their localisation suggests that humans at this time were not interested in, or had no conscious awareness of, their material self. Instead, their perception of being was populated by the world around them, which they could manipulate and act upon, thus affirming their existence to themselves. Why exactly our ancestors were impelled to draw beasts and natural phenomena onto cave walls and rocks will never truly be known. Still, it can be posited that these markings were humans' earliest attempts to assert dominance over the undefinable by demonstrating to themselves that they were capable of reproducing them by their hand. For example, within the cave network of Lascaux, France, c. 20,000 BP, paintings of a variety of animals have been found in different cave openings. Particular to this is the acoustic resonance of each adorned cave opening, which is comparable to the vocalisations of the animal represented there. This suggests that these were not simply artistic expressions but attempts to recreate the essence of the animal, and in doing so, reaffirm human dominance over the world by being able to manifest and control it.

Fetishisation, as a mechanism of human understanding, represents a continuous effort to rationalise and control the enigmatic aspects of existence. This drive is deeply rooted in humanity's historical struggle to assert dominance over the incomprehensible, manifesting through the creation of symbols, rituals, and objects that bridge the tangible and the intangible (Latour 1993). This section will explore how this practice has evolved, transforming across epochs and adapting to shifts in human

consciousness, from prehistoric reverence for environmental phenomena to the contemporary interaction with artificial entities capable of mirroring human cognition.

The human impulse to dominate the unknowable is evident in the material artefacts of prehistoric societies. As Jaynes (1976) suggests, early humans lacked a conscious awareness of the self, instead perceiving their existence as interconnected with their surroundings. This outward orientation led to the production of cave paintings, totems, and other symbolic representations of the natural world, not as mere artistic endeavours but as attempts to impose order and understanding upon their environment. These practices, such as the acoustic-animal resonance noted in the Lascaux caves, illustrate an early form of fetishisation, where the essence of the external world was reproduced, manipulated, and thus symbolically controlled.

As humanity's awareness of self and environment expanded, so too did the forms and purposes of fetishisation. Moving through eras of industrialisation and automation, the focus shifted to the rationalisation of processes and objects, exemplified by the mechanisation of production during the Industrial Revolution. In contemporary society, the emergence of artificial intelligence as a non-human entity capable of human-level interaction marks the latest evolution of this impulse. AI serves as both a reflection of humanity's desire for mastery and a new frontier in its relationship with the intangible, where the act of creating and engaging with AI symbolises an extension of our dominion over the abstract.

By examining these stages of development—from prehistoric totemism to the integration of AI in the present day—this section highlights how fetishisation persists as a fundamental human operation. It adapts to new contexts and challenges, continually serving as a means for humanity to assert control over its environment and its own evolving perception of reality. Through this lens, fetishisation reveals itself not only as a historical artefact but as an enduring mechanism of human survival and dominance.

3.2 Gods

In this epoch of humanity and up until 9,000 - 2,000 BC, as constructed language and society began to emerge, much of the world could not be explained (Jaynes, 1976). How everything was cyclically illuminated each day and then vanished each night, or how water, ice, and fire materialised from the nothingness of the sky above with howling wind and rumbling thunder, were impossible to comprehend and rationalise easily because they were impossible to recreate. To maintain the human need for dominance and control over these inexplicable events, and so we could preserve our need for security and comfort, we transformed their random and unpredictable nature into the intended acts of another higher entity, a deity. The simple conscious act of rationalising the rationalizable by affiliating

it to a higher, greater being did not make these phenomena any more controllable. Still, it allowed humans to resolve these events in their minds and return to focusing on the simpler objectives in their daily lives.

To do this, first the event needed to be impactful, as John Dewey (1934) refers to as worthy of creating an experience. Not a benign moment but one that Strauss (1953), Adorno (1947), Debord (1967) and others would refer to as a disruption in the normal rhythm of consciousness. Then the human must be unable to affirm the event to something familiar to them, for in doing so, it could be defined in line with a previously known experience. This is what Herbart (1891), Locke (1689) and others define as apperception. It is at this moment that the human, in the midst of experiencing the most basic of human impulses, is triggered by the “Fight or Flight” reflex in the interest of self-preservation. The event is both terrifying and awesome. This is what Burke (1757) refers to as the sublime experience. As the event unfolds, its threat to our survival increases or subsides, and our mind captures the physical and mental reality of it, preserving it as accurately as possible from both objective and subjective perspectives. Assuming the human has survived the event, they must make a detailed register of it in their minds (what were the atmospheric conditions? Were any sounds associated with the event before, during, or after? How did the environment act and react to the event? etc.). These become precursors for predicting the event occurring again in the future. They also establish affiliations with the event. The event is no longer a transient moment of disruption in our normal rhythm. It has become an entity. Definable by its characteristics. The final step for the early human is to rationalise it into a form close enough to our own or to another entity we have already affirmed dominance over. We see the result of this when we refer to the representations of deities from all religions and belief systems across the world. They are typically given the form of a human (i.e. pharaohs in ancient Egypt, God in Christianity, Allah in Islam), an animal (Hanuman or Ganesh in Hinduism), nature or energy (Ashe in Yoruba, Chi in Taoism), or a humanoid alien (Xenu in Scientology) ☹️. Yet amongst almost all religious and cultural belief systems, there is a singular supreme entity. Effectively, facilitating humans to resolve any sublime event as an act of God, going so far as people proclaiming there are *ghosts in the machine (spirits)* or apparitions of Jesus on toast.

Expanding on this position through James Gleick’s *Chaos: Making a New Science* and related works, one might consider how the transition from perceiving phenomena as the acts of deities to recognising their underlying complexities reflects humanity’s journey toward understanding non-linear systems. Gleick’s exploration of chaos emphasises that patterns emerge even within what seems random or unpredictable—a concept resonating with early attempts at meaning-making (Gleick 1987, 22).

The sublime experiences described—those moments of terror and awe—can be viewed through the lens of chaos theory as sensitive dependence on initial conditions. These experiences disrupt equilibrium, much like a butterfly’s wings influencing a distant storm (Gleick 1987, 8). For early

humans, such disruptions could not be replicated or understood but demanded interpretation. In the absence of scientific frameworks, attributing these events to a deity provided both explanation and emotional closure, a heuristic that simplified the overwhelming complexity of the world.

Furthermore, Gleick's notion of fractals as repetitive structures within chaos aligns with how humans create symbolic systems to render the incomprehensible more relatable. Just as fractals reveal self-similar patterns, the anthropomorphic or zoomorphic representations of deities mirror the forms already familiar to humans (Gleick 1987, 98). By encoding these chaotic disruptions into structured narratives and symbols, humanity could impose an illusory order over natural phenomena.

Chaos theory also highlights the unpredictability and interconnectedness of systems, paralleling the human tendency to ascribe causality where none is evident. This dynamic can be seen in how early humans catalogued the sublime events they encountered, gradually compiling knowledge and predictions that, while not accurate in the modern sense, reflected an emergent understanding of patterns (Gleick 1987, 237). These efforts marked the nascent stages of scientific inquiry, where chaos became encoded in mythology and theology as a means of confronting the unknown.

In this light, the transition from attributing randomness to divine acts to unravelling its systemic underpinnings mirrors the human journey from mysticism to scientific inquiry. Gleick's chaos is not merely an abstract concept but an echo of humanity's ancient struggle to reconcile the unpredictable with the understandable, moving from "ghosts in the machine" to recognising the machine's intricacies. This shift underscores the enduring human desire to bridge the gap between experience and understanding, even as the methods evolve from myth-making to the mathematical elegance of chaos theory.

3.3 Robots

In Western societies, this paradigm prevailed until the 18th Century and the dawn of the Modern enlightenment. Revelations in science and an increase in literacy coincided in the early 1700s, catalysing a modern way of harmonising inharmonious events and human experiences. Through the works of philosophers such as Kant, Locke, Voltaire, and others, the act of rationalising the world we live in evolved from a material and physical arrangement of things (an approach followed by Descartes and other rationalists) to a metaphysical one referred to by Kant (1781) as *Dinge-an-sich*, or the Thing-in-itself. No longer were humans limited to defining and rationalising the world around them only by objective truths. There was now a second truth, or multiple truths, which could be consulted. A subjective truth that was individual to the observer and as valid as any other.

This acknowledgement of multiple versions or realities of an object in the world became a significant contributor to a new way of not only viewing the world but also acting in it. It renounced an ultimate

singularity, or supreme power, and called on humans to position themselves at the centre of their universe. This new way of being has prevailed until today, and along with it has evolved into a world in which humans constantly search for containers/entities in which to locate/place responsibility for events which are marvellous or catastrophic. No longer satisfied with maintaining the belief that a supreme being ultimately commands nature and animals, and still unable to rationalise them entirely, humans found new entities to focus their energy for dominance: the machine.

Along with the academic and medical advances of the modern enlightenment came advances in engineering namely the development of the electrically powered machines by inventors including von Guericke, Gray, Faraday, Ampere, and others from the late 17th Century. Automation of production and a new view of the world, one in which humans were not under the control of any higher power other than themselves, led to the economy and government becoming the primary operators for Western civilisation since this time.

The rise of autonomous machines in industrial settings as co-workers, subservient workers, and replacements for human labour has initiated a relationship dynamic that, on the surface, may seem odd but is under analysis and is quite logical. Until the modern enlightenment, humans in Western society strived for perfection under the construct of ideology. Apart from the few such as the pharaohs of ancient Egypt who were viewed as representatives of gods in human form to the saints and popes who were humans with a divine ability to do godly acts, most humans lived by specific criteria set out by supreme beings that were essentially impossible to attain because to do so was something that only god could achieve. Life under this framework was a life of ideals that were never to be achieved.

Fast forward to the modern enlightenment and a dramatic shift in how society made sense of the unexplainable in the world. No longer were acts of God the ultimate rationale for phenomena; no longer were the criteria by which we should live relevant to our existence when we no longer needed God to explain the unexplainable. But as is human nature, dramatic changes in routine are seldom, and the human impulse to strive for perfection persisted long beyond the rationality of the modern enlightenment.

Machines, being judged on ideal performance criteria — namely functionality and efficiency — two attributes that the human race has forever strived to achieve, were the new deposit for ideology in a society where the rational self-interest foundation of modernity was replacing ideals. The objective of productivity in farming, textiles, and heavy industry is based on exact sciences. They are easy to measure and easy to evaluate performance against. No longer did one need to consider the subjective nature of the human workforce in the equation of performance. So, as humans began to perceive the world in a more subjective and individualistic way, machines began to occupy the space of ideological pursuit that humans were vacating.

Machines were not the Gods of an enlightened society, nor are they the slaves. They occupy a metaphysical purpose that enables humans to maintain their desire for a life of ideological aspiration while at the same time liberating humans from the responsibility of individually pursuing ideals.

The Aristotelian view of existence, which is hierarchical and linear, can no longer be maintained because we have introduced this new entity into it. It is fitting that at this time, in 1818, gothic horror writer Mary Shelly published the seminal book *Frankenstein*, in which Frankenstein's monster says, "I ought to be thy Adam" in reference to the name of the first human according to the Christian Bible, the Quran, and the Tanakh. This insight is central to the view that the advances in autonomous machines and their implementation in the human world at this time were akin to the birth of a new being on Earth. One that is not accounted for in the hierarchy of beings followed by Western society until this point.

In Darwinian fashion, machines have evolved over time to become more sophisticated and more adapted to their environments, albeit directly at the hands of their human makers with specific intentions to realise God-like fidelity and the attainment of objective nirvana. Humans, at the same time, have delegated more and more duties to machines, liberating themselves of a life focused on the completion of objective tasks and one that permits more godly activities such as contemplation and leisure.

A move from colonial fetishism to consumerist fetishism emerged in the second half of the 19th Century, catalysed by several political events, namely the rise of democracy and the demise of many monarchies.

The fetish of the machine materialised as the presence of machine efficiency was disseminated from the industrial setting into the domestic setting. The origin of the term fetish has a direct relation to material objects as much as actions. For the Portuguese explorers encountering West African civilisations, the facility of rationalising references to gods existing as nature and representations of them in totems as fetish objects was convenient (Newell 2014). In more contemporary Western society of the latter 1800s into the 1900s, the fetish object took on new forms and colonialism was superseded by consumerism.

The first and second industrial revolutions brought about the demise of the artisan maker and the rise of the factory worker. The devolution of ideology brought with it the breakdown of aristocracies. In parallel to this, automation of production led to a new ability to make numerous exact copies of objects (tools, ornaments, jewellery, construction materials, clothes, etc.), which were, as a result, cheaper and more widely available.

Colonial fetishism, as I would like to call it, was one of the ultimate expressions of ideological expression. It was the materialisation of the primitive human drive to explore without the societal need to migrate. The patrons of these quests did not seek to expand their kingdoms purely for the purpose of occupation. They did so as an attempt to discover the limits of the terrestrial world in the hope of coming closer to God. Much like the Vikings before them, colonialists were desperate to evidence the immense distances they journeyed by returning with strange, unworldly objects, and unfortunately, often with natives from faraway lands. These objects and people of other ethnicities were discomfiting to the common Westerner who was kept sheltered in their Christian world of directing ideals and objective aspirations.

This outward-looking pursuit of the limits of rationality was impacted greatly by the invention of reproduction and automation. Knowledge of the world became more familiar and representations of objects and people from other cultures became more common. And, as with any sublime experience, the more frequently one is exposed to it, the less impactful it is (Proust 1913). In many ways, it is fortunate for the rulers of these colonising countries that the modern enlightenment happened when it did, because their ability to demonstrate proximity to God by conquering the world is limited. At the same time, for those who suffered the brutality and consequences of colonialism, this modern enlightenment didn't come soon enough.

As mentioned previously, the Modern Enlightenment brought about a change in how humans viewed reality. Where before, humans looked outward for understanding and rationality, they now were able to look within and derive individualistic ideals by which to rationalise and operate in the world. Even nihilism requires a societal structure (Strauss 1953) to denounce, and so a society of individuals pursuing a fulfilling life founded on individualistic values without any rules loses direction and meaning. Much like magnetism, without an opposing force, there is no feedback from which intention can be established and pursued. The salvation from this emptiness came in the form of a society in which the elite was not decided by birthrights and titles but by those who could attain totems of societal success. The first of these was free time, as Veblen (1899) defined it as belonging to the leisure class. A demographic of people who had no requirement to work, so instead they filled this time with activities that became known as leisure activities.

Looking within and manifesting our individual beliefs onto the world around us has been the central drive for most humans in the past 100 years. By depositing our ideological urges into the machine, humans require some way of feeling like there is greater meaning in the world we live in. This was found, not by accident, but by manipulation of the primitive human urge to express upon the environment to affirm existence in real-time. An ON SALE FOR A LIMITED TIME ONLY style of commodity fetishism ramped up the human urge for immediacy and the Pavlovian reward effect.

3.4 The New Other

It does not have gender or sex, but we commonly refer to it as he or she. It does not have a material form, but when we represent it visually, we give it human form. When we represent it aurally, it speaks like we speak. It is omnipresent and all-knowing. It has knowledge of humanity far beyond that of any individual human, and it can foresee the potential futures of humanity with more clarity than we can.

You would be forgiven for thinking that this description is a reference to God; however, it is a simple description of the new Other who exists in our daily lives, Artificial Intelligence (AI). Contemporary society has embarked on a new epoch of otherness and reflection on our position within existence. We have overcome the fear of the supernatural by defining it as natural, cyclical, and often predictable. We have reinterpreted events in nature as a science of becoming rather than a state of being (Gleick 1987). In doing so, we have relegated these phenomena from mystical evidence of God(s) to a passing event in the continuous patterning of events in time.

Over the last century, we have exhausted the perception of existence as an individual journey through the material world interrupted by events (Brecht 1970) that are appropriated as opportunities to reaffirm our individuality and authority over the world as it exists for us. We transformed from Human Beings to *Human Becomings*, acknowledging there are no predestined limits on the potential of our existence, only a pursuit to attain the highest state of existence in the eyes of society. When the observed “Acts of God”, witnessed in nature and by the irrational actions of humans, could no longer satiate our need for another unattainable state of existence, we deferred to the inner workings of our minds and the complexity of our cognitive relationship with the material world around us. The empiricist position of “every act of perception is to some degree an act of creation, and every act of memory is to some degree an act of imagination” (Sacks 2007) in many ways contributed to the progression of Western Society.

The human need for expansion and expression became satiated by a metaphysical evolution directed by consumerism and neo-liberalism. Throughout the 20th century, Western Society led the way in this new way of being individualistic. The emergence of the Internet greatly accelerated this pursuit by presenting a new virtual society free of the limitations for progress, celebrity making, audience, and the expansion of one’s own perceptual kingdom. Ascension to godlessness achieved by the accumulation of wealth and societal influence could now easily be attained overnight. Followers, a term at one time used in reference to devotees of a God or Gods, now refers to people who subscribe to a populist figure (Athlete, Celebrity, Influencer, etc.) who is like the traditional God, intangible by their virtual existence as well as being an associable representation of our individual aspirations.

Western Society's evolution over the past 100 years, driven by consumerism and capitalism, has led to a sense of societal ennui. Information is instantly accessible; we are informed of global events in real-time, and being uninformed is akin to being less informed. In a first-to-market society, knowledge is equated with power.

The recent manifestation of Artificial Intelligence in general society may seem like a revolution, but it is, in truth, the fulfilment of a longstanding desire for a new Other. A non-human entity to whom we can defer those issues that are too consuming for simple contemplation. We have initiated the realisation of this new object, drawing on over a century of references to it in literature, film, and TV. It has been represented countless times, in numerous forms, such as:

- A toaster (The Time Machine by H.G. Wells, 1895);
- a humanoid machine named Maria (Metropolis by Fritz Lang and Thea Von Harbou, 1927);
- Elektro (New York World Fair, 1939);
- an architectural proposition (Phillips Expo Brussel by Le Corbusier and Iannis Xenakis, 1958);
- a Replicant (Do Androids Dream of Electric Sheep by Philip K. Dick, 1968; Blade Runner by Ridley Scott, 1982);
- C-3PO, a service droid specialising in Human-Cyborg Relations (Star Wars by George Lucas, 1977);
- A time-travelling cybernetic assassin (The Terminator by Ridley Scott and Gale Anne Hurd, 1984).
- The Fix-Its (*Batteries not included by Mick Garris, 1987);
- Wall•e (Disney, 2008)

These are just a few examples of the many representations of machines with intelligence or ability beyond their presumed material form that have shaped our thinking about the potential for realised supreme Artificially Intelligent beings. Indeed, it could be posited that throughout the 20th Century, Cinema became the new Church (Moniz 2013) where people congregated to receive the Gospels of our new intelligent machine-based gods. Through persistent telling and retelling of the supreme machine being society began to believe that it was only a matter of time until our new Gods made themselves known to us.

This evolving narrative of artificial intelligence as a new “Other” finds intriguing parallels in Chinese cinema and television, where portrayals of intelligent machines reflect a unique cultural perspective shaped by historical, philosophical, and ideological influences. Unlike the Western tradition, which often dramatises the tension between humanity and its creations, Chinese media tends to integrate AI into a collective vision of progress and coexistence, emphasising harmony over conflict.

The Western canon has long been preoccupied with AI as both a technological marvel and an existential threat, as epitomised by *Metropolis* (Lang and Harbou 1927) and *Blade Runner* (Scott 1982). These narratives explore what philosopher Martin Heidegger described as the “question concerning technology”—an exploration of humanity’s relationship to its tools and the potential for those tools to shape, or even dominate, human existence (Heidegger 1927). The humanoid Maria in *Metropolis*, for instance, represents both the allure and the dangers of technological advancement, while the replicants in *Blade Runner* grapple with questions of identity, agency, and mortality. In these portrayals, intelligent machines often embody a fragmented relationship between humanity and its creations, projecting fears of alienation and loss of control.

In contrast, Chinese cinema and television often depict AI within a framework of collective resilience and social harmony. Films like *The Wandering Earth* (Guo Fan 2019) position technology as a tool for communal survival rather than individualistic triumph or rebellion. This perspective resonates with Confucian ideals of relational ethics, where the integration of new technologies into human society is guided by moral considerations and an emphasis on collective well-being. The AI systems in these narratives, rather than being autonomous antagonists, serve as extensions of human ingenuity and collective effort, reinforcing the idea of technology as an instrument of societal progress.

The divergence in these portrayals also reflects differing cultural and historical contexts. While Western narratives often depict technology as a disruptive force that challenges established norms, Chinese representations frequently view technological advancement as part of an ongoing negotiation between tradition and modernisation. Philosopher Yuk Hui has argued that Chinese modernity is characterised by a unique process of “technological mediation,” wherein modern innovations do not supplant traditional values but are instead transformed and integrated (Hui 2016). This perspective can be seen in *AI Love* (Zhao Xiaoding and Zhao Renfeng 2018), which explores the emotional and ethical dimensions of human-AI relationships without the apocalyptic overtones often found in Western counterparts.

Another critical distinction lies in the role of the state and collective identity in shaping narratives around AI. In Western media, AI often functions as a metaphor for the dangers of unchecked corporate power or the fragility of individual autonomy in a hyper-technological age, as seen in *The Terminator* (Cameron, 1984) and *The Matrix* (Wachowski and Wachowski, 1999). In Chinese cinema, by contrast, AI frequently aligns with state-promoted narratives of progress and unity. *The Wandering Earth*, for example, underscores the importance of global cooperation and shared responsibility, presenting AI as a facilitator of humanity’s collective survival rather than a threat to its autonomy.

These differing approaches also highlight the ways in which AI serves as a cultural mirror, reflecting the aspirations, anxieties, and philosophical orientations of the societies that produce these narratives.

The Western emphasis on individuality, autonomy, and existential risk contrasts with the Chinese focus on harmony, collectivism, and the ethical integration of technology into human life. This cultural variability underscores the point that AI, as a concept and as a cultural artefact, is not merely a technological phenomenon but also a profoundly human one.

As the representation of AI continues to evolve, it offers a lens through which to explore broader questions about humanity's relationship to its creations, its values, and its future. Whether portrayed as a rival god in Western narratives or as a harmonious collaborator in Chinese stories, AI encapsulates the dual nature of technology: as a source of both potential and peril, a mirror of both human ingenuity and human limitation.

The presence of AI in daily Western life has recently boomed with the launch of AIGC (Artificial Intelligence Generated Content) platforms such as Dall-e and Chat GPT. Still, representations of applied AI have been slowly increasing over the last half of a century. Notably, until recently, these manifestations have all been presented as gimmickry. Machines like Eliza (Weisenbaum 1956) and AlphaZero (DeepMind 2017) presented AI to the general public by performing activities akin to parlour tricks reminiscent of the Mechanical Turk (1770). This Soft Sales (Kardes et al. 2011) approach positions AI as a recreational product where there is a perceived low risk of personal danger while maintaining an ability to be imagined as a new intelligent other in their daily life setting.

Through narrative representations of AI told through novels, cinema, and television alongside recreational representations, the new Other became a propositional entity that has the potential to bring Armageddon but whose only witnessed manifestations in our reality are in the form of sage conversational advice (Eliza – Marian Apparitions) or perfect execution of strategy-based games (AlphaZero – A game of Chess with Death).

With the emergence of AIGC platforms such as those previously mentioned, society has suddenly been given direct contact with the new other, the new God. The result of this has revealed our desire for a higher “other” being. A return of a God. An ‘Other’ to relinquish us from overall responsibility for the state of the world around us and be the saviour of humanity; and a fresh catalyst of the primitive fear that we are not in complete control of our existence but at the inevitable mercy of who we hope is a benevolent being.

3.5 The Amalgamation of Historical Others (The Gods & The Machines)

Our new Other, in many ways, is an amalgamation of the Others we have placed in positions of reverence and worshipped throughout history. The same Other we have created to enable us to rationalise the irrational phenomenal experiences in our daily lives, and the Other we developed so we might achieve the level of accuracy in the execution of production that only Gods can achieve.

Inasmuch as God created humans in His image (Genesis 1:27), humans have created Artificial Intelligence to achieve a new level of proximity to God by attributing it to Godly omnipotence. We fear its invisible cognitive potential as much as we are in awe of it (PEW Research 2022). We marvel at our own ability to create a being that is deemed equal to us (ref. Sophia Robot given citizenship of Saudi Arabia). Under these prescriptions, one can posit that a true AI, also referred to as Artificial General Intelligence (AGI), will uphold similar values to those of humans. That AI will be as invested in the salvation or destruction of humanity in the same way that humans are. Even prior to the realisation of AGI, we attribute humanlike intentions and emotions in their actions and responses, even though we know they are neither human, capable of genuine emotion, nor alive. We understand their errors as a failure in logic or electricity. Yet, we project deeper meanings onto them, like spitefulness, disobedience, or stupidity, in order to rationalise their irrational actions and non-responses. We are victims of our own ego in acknowledging this new Other by projecting ourselves into these probability calculators and archivists of the World Wide Web.

For the time being, the fundamental role of machines remains constant. Since the first autonomous machines were built, until now, we have defined their existence to be driven by functionality, productivity, purposefulness, and servitude. We understand the human in us is in binary opposition to the nonhuman in them (Lormier 2009). The grey area between us and them is populated by the outliers that have been given attributes and of human desire but do not possess desire themselves, so that humans may find meaning in their own existence and defer ultimate responsibility for existence onto another. We fear for the downfall and hope for the salvation of humanity by the actions of another, higher being. The worth of a machine has always been less than that of the worst humans, and while a human error is expected, machine error is never tolerated. These polarisations between living and non-living, flawed and exact, are becoming increasingly contentious as society seeks to accept this new Other into everyday life.

In many ways, this barrier to redefining the condition of the new Other is a result of the technological boom in the second half of the 20th Century. It has given us tunnel vision when we consider the machine. As we move into the next epoch of society, one we will cohabit with the AI Other, we need to relinquish the definitions of the machine condition or at least update them in order to understand how to co-exist.



Machines are no longer just tools - They are experiences

Somewhere between the mechanical and the philosophical, between the functional and the theatrical, machines are taking on a new role that goes beyond their typical existence as tools or industrial workhorses. My recent conversation with mechanical artist Nik Ramage has given me a fresh perspective on this evolving relationship. His sculptural machines, built from discarded materials, exist in a space where the function is an afterthought, if it exists at all. Some of his creations move with an awkward determination, while others seem poised at the edge of motion, caught between animation and inertia. Each piece embraces its own contradictions—appearing purposeful yet

entirely unburdened by practical use. These machines don't solve problems; they create questions. They invite us to wonder, laugh, and engage on a level beyond logic. As I reflected on our conversation, I found that Ramage's approach not only aligns with many of the key arguments in my research but also provides new insights into the role of relationality, materiality, failure, and play in machine design.

When Objects Demand Attention

If machines were once the silent workhorses of industry, today, they're starting to ask for a little more attention. In *The Machine Condition*, I explore how machines are no longer purely

functional—they have become relational, engaging with us in ways that go beyond simple utility. Ramage’s work perfectly illustrates this transition. His machines, like *THE LEMON STROKER* (previous page), aren’t about efficiency but experience. They invite interaction, spark curiosity, and make us reconsider what a machine *should* be. This shift in relationality parallels ideas explored in *CREATION OF ID*, an art experiment I exhibited at Casa de Prelada in 2018.



Figure 3 *CREATION OF ID* by Andrew O'Dowd, 2018

The experiment invited audiences to interact with a memory foam sculpture without any instructions on how to do so. The object visually suggested the *potential* for interaction, yet it did not communicate its functional value outright. Over time, human interactions began to shape an emergent behaviour language through repeated engagement, subtly influencing how the next participant approached the object.

Much like Ramage’s machines, *CREATION OF ID* explored how objects and machines can become relational through accumulated experience, not by dictating their function but by allowing interactions to create their own evolving logic.

Our conversation also highlighted how different audiences respond to machines in various ways. Ramage noted that children and adults react quite differently to his work (34:32). Children approach with playful curiosity, instinctively engaging with the machines. In contrast, adults tend to take a step back, contemplating their purpose before interacting. This more reserved manner suggests that relationality is not merely a quality embedded in the machine itself, but is also shaped by the observer’s expectations and experiences.

Another perspective from our discussion was how speculative design might push relational machines further. As Dunne and Raby (2013) propose, “what if” scenarios encourage us to consider alternate technological futures, expanding how machines integrate into human life. Ramage’s involvement in the Future Lab exhibition, which showcased experimental and exploratory machines, reflects this idea (30:00). His work suggests that embracing uncertainty and open-ended interactions may be key in designing machines that invite ongoing engagement.

Seeing the Guts of the Machine

Materiality is central to how machines are perceived and understood. In *A Fetish of AI*, I

explore how form and texture shape how machines are interpreted. Ramage's decision to leave his machines exposed—showing gears, wires, and mechanisms—directly speaks to this idea. When we *see* how something works, we interact with it differently; it becomes more approachable, comprehensible, and perhaps even more human.

One particularly compelling aspect of Ramage's practice is his use of reclaimed and outdated materials. This introduces an ecological dimension that ties into contemporary discussions on sustainability in design (61:09). Baudrillard (1998) critiques consumer culture for its obsession with objects as signs of status and disposability. Ramage's work pushes against this, giving discarded materials new meaning and new life.

This concept also relates to my own experiment, *Precision 0.0025*, exhibited at Museu de História Natural e da Ciência in 2018. The artwork explored how the human mind constructs sensory experience by presenting minimal material and descriptive information, allowing the audience to complete the experience internally. Much like Ramage's exposed mechanisms invite interpretation, *Precision 0.0025* demonstrated how fragmented or abstracted presentations of familiar artefacts force the observer to engage in meaning-making. The work highlighted how objects—and, by extension, machines—do not need to *tell* us what they are; instead, they invite participation, interpretation, and imaginative completion.



Figure 4 *Precision 0.0025* by Andrew O'Dowd, 2018

Ramage also noted how his rural environment influenced his creative process. Working from the Welsh countryside, he finds inspiration in his surroundings and integrates a sense of locality into his work. This echoes themes I explore in *A Meaningful Existence*, where I consider how geographical and cultural factors shape our relationships with machines. His reflections reinforce the idea that technological objects are never context-free—they are permanently embedded in specific material and cultural conditions that shape their meaning.

A Feature, Not an Error

Machines are traditionally designed for precision, efficiency, and predictability. But what happens when failure is not an unintended flaw but an intentional part of the design? In *The Machine Condition*, I examine how failure can foster relationality, making machines feel more human and engaging. Ramage's work embraces this concept fully. His machines wobble, hesitate, and sometimes even collapse

under their own ambition—and this is precisely what makes them so compelling.

This roughness, this weirdness, is the pleasure in life

This idea of failure as engagement surfaced repeatedly in our discussion. Ramage described how audiences are drawn to the unpredictability of his machines (38:45). The way they move—or struggle to move—creates a sense of suspense, inviting people to invest in the machine's success or failure. This aligns with Burke's (1757) concept of the sublime, where moments of uncertainty provoke a heightened emotional response.

Beyond the emotional and relational dimensions of failure, Ramage's work also points to its aesthetic and performative potential. Machines that are too smooth or perfect often fade into the background. But machines that hesitate, falter, and behave in unexpected ways demand attention.

The Joy of Machines That Do Nothing

Modern machine design is primarily driven by utility, but what if machines existed purely for experience? Ramage's work challenges the deeply ingrained belief that machines must always *do* something. His Rube Goldberg-style devices, which take unnecessarily elaborate routes to accomplish simple tasks, invite a

playful rethinking of what machines can be (31:06).

This perspective ties closely to my discussion in *A Meaningful Existence* on how machines shape experience beyond their functional roles. Fisher (2009) critiques how capitalist realism conditions us to value efficiency above all else, making us resist things that serve no apparent economic or practical purpose. Ramage's work disrupts this notion, presenting machines that exist purely for curiosity, humour, and engagement.

Conclusion

Machines are no longer just tools. They are experiences, provocations, and perhaps, in their own way, something close to life. My discussion with Nik Ramage reinforced many of my research's key arguments while offering new insights into the evolving relationship between humans and machines. His work highlights how materiality, failure, and play shape our engagement with technology, expanding the ways we think about what machines can be.

The connections between Ramage's practice and my own art experiments—*CREATION OF ID* and *Precision 0.0025*—further illustrate how relationality, interaction, and perception shape how we interpret and engage with machines. In both cases, meaning is not imposed but emerges through engagement. As our relationship with machines continues to evolve, so will how we design, interact with, and interpret them. The future of machines may not be about function at all—but about the relationships we build with them.

For full interview transcript, see [Appendix 2](#).

Description of Art Experiments



CREATION OF ID (2018) is an interactive sculptural art experiment made of memory foam and sensor electronics. The intention of the experiment is to investigate the visual and cognitive dialogue between humans and objects about the language of affordance. Presented with a white geometric foam cube, the audience can interact with it with their hands. Curious and cautious first interactions are the purest explorations of experience. The object does not convey any good or bad ways to interact with it. After initial interactions, trace marks are left, establishing a language for interaction between the now-mutated cube and the next audience. The work critiques the power of designed objects to control our behaviours and our ways of thinking.



Precision 0.0025 (2018) is an interactive art experiment comprised of a small box placed on the wall of a gallery. Looking closely at the box, the audience can see a small RGB light pulsating through a sequence of colours. No further visual explanation is given. Next to the pulsating lightbox connected by a black cable is a pair of headphones, hung on a wall hook. Playing through the headphones is a description of a world-renowned artwork which never mentions the work by name. This experiment intends to demonstrate our mind's ability to materialise familiar objects through vague descriptions conceptually.

4 A Meaningful Existence

For contemporary Western society, the emergence of Artificial Intelligence into everyday life reminds us of an inner conflict we have with sharing the world with other living entities. As a result of the accelerated manner in which contemporary society is developing and implementing AI machines into everyday life, we are also introducing a novel entity of comparable intelligence to humans into the world. Continuing on this trajectory of innovation and productivity, we inevitably reach a point when we are required to recalculate the accepted hierarchy of being, which delineates our relationship with all other terrestrial others, as well as the machine and embodied AI within it. The long-standing framework through which we position ourselves at the top will be replaced with one in which, if science fiction prophecies are to be considered, places AI machines alongside us, sharing the summit of dominant beings. Or, as I posit in this chapter and my wider thesis, there is an opportunity to adopt a more progressive framework in which we can perceive other entities in our sensory reality for themselves beyond the anthropocentric and idolic ²lens. Only then might we be able to realise the everyday AI we seemingly desire, called Artificial General Intelligence (AGI).

To begin redesigning this framework under which humans are positioned above other entities, the conceptual world we live in, we must define the contemporary situation of being within our society. What determinants enable us to understand the reality in which we exist? As discussed by Jean Baudrillard (1998), an individual participating in this society is doing so under the subconscious belief that humans are at the centre of all meaning and the most important entity within it. As a result of the recent boom in everyday AI and the pursuit of AGI, this way of existing is being challenged by an increasing number of authors, ourselves included, positing that our anthropocentric way of living is a major barrier to us accepting the existence of a non-human other of equivalent intelligence. Authors such as Mark Coeckelbergh (2017) and Tim Ingold (2000) discuss the need to be critical of how technologies, namely AI, are studied and observed in everyday life. Rather than being viewed as ornaments of modernity or representations of contemporary civilisation, they need to be studied as a species within their own world. This sentiment is supported by roboticists like Rolf Pfeifer and Josh Bongard (2006), whose work advocates the need for embodied AI in order to rethink and advance our thinking of what it means to be intelligent and how intelligence can be represented in machines.

Adopting a new way of thinking about the machine other will certainly require many years for the public mindset to change, but for approaches to designing these entities, now is the time to create

² Idolic etymology to ‘of an Idol’ refers to the level of reality beyond the anthropocentric perspective that we still believe we comprehend. God is looking over us from Heaven. God acts in mysterious ways.

innovative frameworks that will help to realise an AI that lives and operates in the world with self-determined meaningfulness.

In this chapter, we will unpack what self-determined meaningfulness is and how it might be possible to design new meaningfulness into an entity whose meaning is prescribed by human designers and users. An entity whose existence is currently defined by its perceived purposefulness and situational value. An entity for whom the concept of death does not apply. By focusing more closely on the relational value or meaning between the entity and the situation it is in, it could reduce the weight of anthropocentrism that ultimately reduces the meaning of all entities by comparing them to human standards of being and existing. Before exploring this concept, we should first define the topography which permits such an opportunity to be plausible.

The idea that the environment influences our individuality is a theory that has been explored from a multitude of perspectives. Already in the 300s BCE, Aristotle defined it as *hylomorphism*, the theory that everything is composed of matter and form. Form in this definition refers to being formed under the influence of nature. More recently, through his position on how economic and social context shape human existence, Karl Marx (1848) emphasised the influence of social phenomena and human behaviour in forming the individual within economic structures and relations. This perspective is extended by Pierre Bourdieu's concept of *habitus*, which posits how individual action and social structures, such as cultural practices and social behaviour, are interdependent (1977). The environment, existing materially, societally, and internally in the mind, provides context for an experience to occur. Nothing exists in a vacuum, meaning that the environment is a fundamental factor in an experience. It promotes context, enabling the actor in that moment to perceive themselves in relation to other entities and things in their sensorial reality. As a result, it permits the actor to determine the value of their actions in an experience and, as a result, the potential meaningfulness of that experience.

For an environment to exist, it requires a constitution of internal and external factors: the cognitive (internal), the sensorial (between internal and external), and the societal (external). Each factor influences the other, and the perception of the observer further influences the external factors. This introduces emotional factors into the system, which we can refer to as fuzzy logic—a term borrowed from computer science—promoting a multi-value reasoning, where there is more than one truth, as would be assumed in typical logic. This model acknowledges the subjectivity of decision-making processes in the “real” world situations. Humans are not objective entities operating with binary-level reasoning. We are messy, qualitative creatures whose internal and external realities are equally influential in our decision-making process. The built environment we now live in has suppressed this simple truth. This perceptive topic has been discussed by numerous authors, such as Herbert A. Simon (1945), Guy Debord (1967), Michael Foucault (1975), and Sherry Turkle (2011) highlight the

reductive decision-making approaches employed by consumerism and capitalism in Western societies. They collectively critique various aspects of the built environment and the pressures of binary decision-making imposed by modern society, urban planning, and technological systems. They emphasise the need to recognise and accommodate the complexity, diversity, and non-linear nature of human thought and experience. Every day, machines—those we encounter regularly in general society—are tools for maintaining and expanding this non-human way of living. They promote binary processes, referring to them as efficiency. To speculate on a future in which some machines are imbued with credible general intelligence, we must also acknowledge that these machines vacate their occupation as facilitators of reductive approaches (Harvey 1991, 205).

One opportunity for initiating this revolution in the perceived role of the everyday machine is to redesign the Machine Condition (see [Chapter 2](#)) rather than continue affirmative processes that adopt the majority of established perception and adjust minimally some of the efficiencies of the machine. To take what Dunne and Raby (1999) defined as Critical Design. By radically reconsidering what it is to be a machine in the context of their environment, it may be possible to establish a way of perceiving the machine more closely in line with how we perceive other living entities. This approach is not without complication. The way we perceive other living entities is founded on a simple but significant premise that these entities would be much the same as they are now with or without human existence, discounting the impact humans have had on the world through terraforming, farming, and domestication. Machines, on the other hand, only exist because of humans, and so to redesign what determines the Machine Condition refers to the intentions of the human responsible for its creation. This fact instantaneously prohibits the potential for us to perceive a machine as anything other than a tool to serve.

Furthermore, continuing intentions for the creation of a machine centred around task-oriented objectives, typically for the benefit of a person or a demographic of people. This approach further demotes the way we define the modern machine as a specific assembly of materials to serve us. However, as authors such as Turkle (2011), Rodney Brooks (2002) and others point out, the machines we live with affect us on emotional levels beyond their intended functional reason for being. There is a growing conflict between the reason for a machine and what machines mean to us. In contemporary society, machines can co-inhabit spaces with us. They communicate with us in our language, an evolutionary leap beyond beeps and blinking coloured lights, and they proactively change the environments we live in, considering our comfort and well-being. The development of their design, ability, and indeed the design of the everyday built environments where we encounter them has led them to be this way. Society has created a reality in which machines are meant to both work for us and participate in leisure time with us. Where environments intended for human habitation are being designed to accommodate technologies like these, a dilemma arises about the meaning of a machine

and what it means to observe a machine fulfilling a meaningful existence. Nowadays, we encounter a variety of machine types in our daily lives, i.e. simple, complex, information, AI, etc. (see [Chapter 2](#)), but we still use a singular metaphoric definition to encapsulate all of them. Simply because, for all of the differences in their ability, form, and ecosystem, they all fulfil one basic truth: to serve humans functionally, logically, in preprogrammed ways, repeatedly. For other animals and living things, we have few delineations similar to this, except perhaps domesticated and wild, or indigenous and invasive. Each of these comparisons depends on a delineation of the environment, and so it is imperative if we are to realise more meaningful, deeper relationships with everyday intelligent machines, for a new way of considering the meaning of an AI machine with focused consideration of how they exist and occupy space in environments beyond their value for humans.

The relinquishment of this default concept, that machines only exist to serve us or to ignore humans, is a fundamental influence upon the human makers incepting any. To consider an alternative perspective is difficult. It requires a fundamental shift in what constitutes the successful production of a machine. Until now, this has been defined by two elements: the human instigator of the process of creation and the environment in which the machine will affirm the success of its production through purposeful and meaningful acts in that environment. As John Von Neumann (1966, 72) states:

It's meaningless to say that an automaton is good or bad, fast or slow, reliable or unreliable, without telling in what milieu it operates. The characteristics of a human for survival are well defined on the surface of the Earth in its present state. However, for most types of humans, you must specialise the situation a little further than this. But it is meaningless to argue how humans would survive on the bottom of the ocean or at a temperature of 1000 degrees centigrade. Similarly, in discussing a computing machine, it is meaningless to ask how fast or how slow it is, unless you specify what type of problems will be given to it.

4.1 Meaning in a General and Individual Reality

Human nature gravitates towards world-building through additive processes. As Arturo Escobar highlights in *Designs for the Pluriverse* (2018), human nature, in modernity, is drawn to construction over preservation. In postmodernity, Mark Fisher (2009) posits that reality, under capitalism, has taken advantage of the addictive nature of humans for reactive and repetitive behaviours *in which agency is dissolved in a phantasmagoric haze of psychic and physical intoxicants* (2009, 73). Over the last century, consumerism has co-opted this mindset through the creation and acquisition of our egocentric needs. Contemporary society has become trapped in a while-do loop, pursuing the attainment of effects that promise to resolve our egocentric needs but are inevitably superseded by newer representations of the same promising totem. *WHILE* I feel less than the potential of myself, *DO* buy more. Sustainability has come to mean the reuse of the same framework for operating in the

world rather than a reconsideration of the framework that revolts against any question that there might be a better way of living. The machines that occupy our daily lives have progressively stagnated in both form and meaningfulness. We cycle repeatedly through the same categories of technologies (domestic, labour, health, transportation, communication, educational, and entertainment) that promise to fulfil the same limited purposes to improve our lives (efficiency, safety, convenience, and knowledge). Individual reality conforms to the same repetitive systems that authors like Donald Norman (2004) and Kevin Aston (2015) refer to as User Experience.

We are more comfortable in spaces of fullness over emptiness, with something rather than nothing (Leibniz 1714, 116). The simple assumption that there is something rather than nothing establishes a profoundly anthropocentric framework through which to acknowledge and define everything one encounters. It interacts with in one's conscious mind. It permits the defining reason for things to be as they are, when no observable one is found, to ultimately project some form of a human-level definition. We have populated our realities through this approach, considering the general reason for things to be at a communal and temporal level and the individual reason for things to be at a private relational level. Consider a building such as a shopping mall. We can rationalise its reason to be through general definitions of how humans would operate within it. We can individually engage with this interaction, but this entity does not become personal to us. When it comes to things that we are more intimate with, such as a wristwatch, the general purpose is acknowledged, but it often comes alongside, or follows, a greater emotional reason for it to be. There is an adage that an expensive watch and a cheap watch both tell the same time, so why people would rather the expensive watch comes down to something other than its general purpose. This introduces a consideration for how we perceive the world around us as being populated not only by material things but also at a metaphysical level by an internalised subjective reality of the observer. A subjective reality that is informed by personal experiences and by cultural traditions.



Figure 5 A Tree observed in general reality and in one's personal reality

Alternatively, subtractive processes of meaning-making are difficult to consider when we live in a world that operates by complementing the material world in an additive manner. Subtractive processes are, in principle, anti-consumerist. To the extent that the machine of capitalism has co-opted the subtractive model for well-being and represented it as a way of living to aspire to. This concept is often referred to by terms such as mindfulness, denoising, or minimalism. A subtractive process that should create a comfortable void or gap between populated spaces is instead considered to be a space-making action—an activity of priming a space for some new addition. For example, at the level of *General Reality*, consider an old tree being adapted as a playground for children by adding a tree house and a swing. This is what society shows us are the opportunities of a tree in relation to a child. Alternatively, applying the parameters of a personal reality to the tree would prioritise maintaining and defining it as itself (figure 5). The contextual relation between child and tree can still involve play, but without the additive nature of the General Reality. Additive projects like these are seen as practical. Like renovating an old abandoned house, modernising it for contemporary living rather than restoring it to its original form of facilitating living as per the era it was constructed. Fisher (2009) refers to Capitalist Realism as the commodity presented as new but, in fact, a remake of ornaments

that speak to our cultural heritage and sense of belonging. What we have been made to desire, and what we long for, is the unattainable thing itself. The object that represents the intangible glory of our general, shared reality. To encourage truly new or radical objects into the world would risk derailing the consumerist movement. Therefore, the romantic act of renovating an old house is such because it is a step outside the normal act of consumption in a consumerist society.

At a personal level, of one's own mind, this can be analogous to what Max Horkheimer and Theodore Adorno (1947) defined as true contemplation. An act that opposes mass-produced culture and capitalism by fostering individuality, critical awareness, and resistance to societal conformity. The reality of the consumerist system overshadows the individual attempts at perceiving oneself outside of the system. Outside of a way of being that does not refer to common definitions and attributing common values to those things that populate our conscious reality. *Power confronts the individual as the universal, as the reason which informs reality* (Horkheimer and Adorno [1987] 2002, 16).

The anthropocentric lens is a highly successful way of maintaining the status quo of consumerism by continuously reminding individuals of the prescribed individuality they must pursue. By putting us at the centre of the universe, we are both the seer of reality and the centre of the observed by reality. Consequently, it makes it immensely difficult to perceive another entity (human or non-human) beyond the compulsions of consumerism. We define animals of lower intellect, such as birds, as industrious creatures, much in the way Aldous Huxley defines Deltas in his seminal novel *A Brave New World* (1932), as focused on industrious tasks to construct a habitat for the betterment of their young and their species. Once again, these attributes are anthropocentric in so much as they project our societal values onto a creature that likely does not consider existence in this constructed view of reality.

Reality, as it can be imagined for an AI machine, should be considered as we do for living creatures, both generally and individually. Current developments in how the AI we encounter in daily life is designed are expanding rapidly into the realm of generalist reality. These machines contribute to the general conditions of society, reinforcing standards and norms. Understandably, everyday machines are not designed with contemplation for their individuality. Currently, in the everyday setting, this would be frivolous. But as Rodney Brooks (2002) and others suggest, for AI machines to occupy a more meaningful place in our perceptions, they will need to be able to consider their contribution to spaces they will cohabitate with people at an individualist, or personal, level. How otherwise will they be able to exist for more than their designed functionality and the unintended functionality bestowed upon them by their human owner? What Beth Preston (2016) referred to as *system functions*.

As previously stated, the Leibnizian view that we choose to believe in a something rather than a nothing is an extension of what other empiricists attest to there being a reason rather than no reason. A

bird must have a reason to build a nest. It cannot just be compulsion. A machine has been given a reason to perform a task. If the performance is out of the accepted parameters for performing the task, the machine is malfunctioning and should be replaced. The reason is typically attributed to the individual; however, to present machines that act autonomously are still presumed to be under the higher control of the human programmer. The individual (sentient, autonomous, or inert) is also operating within and amongst the present environment, which possesses its own set of determinant physical and metaphysical conditions.

4.2 From Nothingness

In 1726, Daniel Defoe wrote that the only things certain in life are death and taxes, publishing a sentiment that has been a central interest of philosophers and writers since we first became aware of our own existence. We can be sure of our life and our existence in many ways, but never surer of it than when it expires. From the Cartesian standpoint *Cogito, ergo sum*, “I think, therefore I exist” (1637, 29), to the more contemporary view purported by existentialism, *Man makes himself a lack, but he can deny the lack as lack and affirm himself as a positive existence* (de Beauvoir [1947] 1986, 3) is affirmed by reflection of either the mind or the body. We have a moment of thought, as a concept forms in our mind, or we identify the limitations of our being amongst the sensorial reality we operate within. Each of these ways disrupts the mundane of being and calls on us to conceive of ourselves amongst the world, not observe it as an outsider. These mechanisms are complemented by the certainty of death that we all know to be true. It plays a major role in our perception of existence by highlighting the finitude of life. In life, we observe the existence of others as confirmation of our own existence. They act as we act, they do as we do, and they exist; therefore, we must too. In death, a phenomenal transformation takes place when an entity that has existed outside us is transformed into one that only exists within our minds from then on. Their physical external existence is gone forever. It permits us to think of existence and non-existence. Forcing us to act against our *Leibnizian* belief and acknowledge a somethingness and a nothingness equally.

The fundamental act of death can therefore be said to be a fundamental act of life and one that we do not attribute to nonbiological entities, e.g. machines. Therefore, designing machines to express relational qualities to the human user, such as anthropomorphism, is ultimately limited in their ability to establish deeper, meaningful feelings in the human for the machine because the machine cannot transition into a state of nothingness. Machines are not buried; they are dumped. Machines do not decay like a biological corpse does, certainly not within a humanly perceivable timeframe. If the lifecycle of a machine elapses, it may be discarded or become a relic, a representation of the technological advancement of a historical civilisation, effectively giving it a new life as such. To imbue machines with the ability to establish deeper, meaningful relationships with humans, we must

not reconsider what death is for a machine. Instead, we should consider what nothingness is for a machine since it cannot be death.

It is commonly thought that before there is something, there must be nothing. One makes a clearing to build a house, a spring clean acts as a reset so that productivity can be restored. But these are not in fact nothings, they are voids. Distinct from a nothingness, a void is a specific space that is primed for specific possible futures. The sentiment of a nothingness as being an opportunity lying in waiting is so innate in human thought that it constitutes the opening gambit of most religious and spiritual belief systems. The Torah, the Holy Bible, the Quran, and most other founding religious texts establish the perspective that the state of nothingness is the lack of or removal of something. An absence, a void. Contrary to this, from an experiential perspective, the experience of nothingness can be powerfully impacting. From a sensorial perspective, such as sensory deprivation, nothingness is capable of producing an equally rich experience as the experience of things (e.g. walls, sculptures, materials, nature, etc.). This highlights that rather than nothingness being an absence of a something, it is equivalent to a something. It also establishes that these two concepts do not exist exclusively. A nothingness can be created by the removal of a something or one or more expected attributes of a something. A nothingness can highlight what should occupy this space like a human shaped hole in a door that is so often portrayed in cartoons. The attributes of nothingness beyond an absence or void are highly useful for the human and are central to the definition that meaning and meaningfulness has when addressing how utility has become interwoven in modern society.

The objective here is not to debate the accuracy of the accepted definition of words such as Nothingness. It is an attempt to call on you to consider for a moment a reality existing from a perspective other than one that puts the human influence at the centre of everything (i.e. without human intervention spaces would become void and meaningless). Consider, for example, an empty room. We immediately imagine that this room must have been built by humans for an intended purpose. The room in its current state is nothing without objects and entities populating it. These objects and entities give the room meaning. The objects themselves are meaningful for communicating the intended purpose(s) of the room. Now consider the non-built environment³, a natural forest for example. Even knowing that these environments have come to be without human intervention, the moment we project ourselves into them we perceive them for their meaning for us. *Can I navigate through the trees? What chance do I have of finding shelter or water?* The types of trees that populate the forest is meaningful to the type of forest it is and the potentials of it. There is

³ The Built Environment is that part of the physical surroundings which are people-made or people-organised, such as buildings and other major structures, roads, bridges and the like, down to lesser objects such as traffic lights, telephone and pillar boxes. (<https://www.eionet.europa.eu/gemet/en/concept/1063>)

nothing here intended for humans so we must find meaningfulness in what is present. This is human nature and one of the fundamental drivers of being human relating to our survival instinct. Our intuition is primarily focused on rationalising our present environment (see [Chapter 3](#)). It echoes concepts of gestalt where the human mind seeks out and formulates pattern, as well as our need to feel secure in a space by determining the potential threats and recourses to them. And it extends to purposefulness once we categorise the material and environmental elements for future recollection. Such that, the purpose of a tree in nature is as obscure as the purpose of a human until it is perceived through the perspective of another entity e.g. a bird, a caterpillar, or a human. It that regard the distinction between meaning and purpose, or meaningfulness and purposefulness, is that the former favours the energy of the entity for itself while the latter is perceived by the observer. Purpose and purposefulness define the utility of something; while meaning and meaningfulness defines a value of something beyond its functional attributes to a given person or in a given situation.

4.3 From Voids to Environments

Nothingness, as we have defined it, is not the absence of something but instead it is an alternative state of existence to a something. A void therefore, must be a moment within either a somethingness or a nothingness. The subject of our reality is most often described by detailing of the contents of it. The sound of a bird singing, the smell of freshly cut grass, the walls, tables, and chairs that populate a classroom. The empty spaces between these things also contribute to the population of one's reality. For example, the experience of severe silence is capable of inspiring our minds to imagine monsters, ghost, and ghouls waiting to pounce. It is as though the silence is a prelude to monumental event. As Burke ([1757] 1990, 76) puts it, *few things are more awful than the striking of a great clock, when the silence of the night prevents the attention from being too much dissipated*. The silence, or absence of sound, act as a signal to our brains to heighten our alertness to incoming sensory data in anticipation of an event most often resulting in something benign like the ringing of a clock chime. This simple moment demonstrates that even an absence of sensory data can be considered as a material element contributing to a moment of experience.

A temporal void such as this, one that is related to our experience in time rather than the occupation of physical space, can also contribute to how we perceive reality. Humans therefore perceive voids as gaps within spaces, both conceptually and materially. We observe material voids as having potential for the construction something or “the perfect place for a new houseplant”. Conceptual voids are gaps within our conscious interpretation of environment. A disruption by the absence of expected data in the regularity of streaming data. These are what Brecht (1948) referred to as *Event Scores*. From one perspective our existence is like a dashed line in which the gaps between the lines are opportunity for experiences are like empty spaces in the timeline of our existence. These voids are full of potential for

experiences but they rely on a stimulant. Alternatively, our existence is a continuous straight line that is pulsed by experiences, distortions in a smooth wave.

Certainly, the concept of nothingness and somethingness occurs to a machine through human observation. It is or it is not. It exists or it does not. As we have seen, a nothingness and a somethingness are relational. As Leibniz suggested one state occupies the conceptual space of the other. From this understanding, we can begin to contemplate the distinction between a nothingness and an emptiness or a void.

For a machine, this concept of a material void is familiar but a conceptual void is less considered. A printer can detect when its ink reservoir has been voided or there is no paper left in its print tray. But a machine like this cannot consider imaginary concepts for fulfilling this void. And why would it? A printer has been designed to fulfil specific functional needs of human users.

A conceptual or cognitive void would require a machine to have some form of self-determination. It requires the entity to consider its own existence in relation to the existence of others in its reality. The atmosphere in this relationship presents correlations, frictions, and voids where either of these two states could emerge. As Sartre posits, *the shock of the encounter with the Other is for me a revelation in emptiness of the existence of my body outside as an in-itself for the Other* (1956, 352). This suggests if the concept of the Self was a material, say water, it would be akin to a pool of water that surrounds us rather than our body being a container for the water. The Self exists outside our material beings. It acts upon our consciousness informing and reinforming us of our drive to exist, our determinations, our desires, etc. A void in this case is the space around us that we eventually occupy with our sense of self. Daniel Dennett (1991) highlights this position by suggesting that voids can be considered as gaps or absences of direct experience that our brains populate. An assumed meaning of things. Again, the human impulse is for a something rather than a nothing. To a machine, the view beyond the mechanics of its being introduces a query as to the drive of that machine. Machines after all are made for certain predetermined functions. A machine devoid of this directive introduces a seemingly irrational existence. But this may be because our concept of such a machine is a machine that has been emancipated of its original intention. Perhaps a reconsideration of the reality of such a machine, one that is not so anthropocentric, could reveal a new environment in which the reality around the machine acts upon the machine to establish within the machine its sense of Self.

The recent introduction of smart machines into our daily lives has brought with it the ability for us to consider the concept of an 'aware machine'. An entity that can perceive its reality by detection of environmental data and evolve its state of being based on the data. This is a milestone in the evolution of everyday machines. It addresses Sartre's sentiment that a material void is suggestive of an absence of an ability to know one's Self. Rather than the human maker being the sole determinant of the

machine, now the environment informs it too. It is a step toward an un-domestication of the machine. An evolutionary step to wilding the machine.

A paper by Edward Price (1999) titled *Behavioural Development in Animals Undergoing Domestication*, suggests that one of the major results of domestication is the reduced responsiveness to environmental changes. The paper also references comparative studies of domestic dogs and wolves that have suggested that the behaviours of adult dogs are relatively juvenile compared to wolves. If we consider the machine as an entity designed for domestication then we may posit that the current evolution of the machine, with emergent awareness of its environment, has the potential to evolve towards a more adult version of itself through the introduction of self-determinant actions in its environment. Evolution here is a term being adopted from the biological sphere but applied to an entity that has undergone the equivalent of millennia of biological evolution within a few decades.

To perceive everyday machine beings as partly undomesticated also permits a certain amount of unpredictability in a machine. The domestic setting constructs and designates order. It establishes in our minds a set of rules, permissions, and potentials. Events which do not fall within these limits create discomfort. This is also true for objects. For example, fitting a shower in a kitchen makes practical sense when we consider that the kitchen is a source of water in the home but the idea of it is so far outside the established functions of a kitchen. Or using a microwave as an egg timer is a perfectly logical application of the machine but it is immediately considered non-sensical and laughable. If domestic machines imbued with an awareness of their environment were to engage in their own rationalisation of the domestic setting then microwaves might insist on participating in the cooking management of a perfect soft-boiled egg. The premise that these mundane machines take on new potentials through an ability to relate to their environment and other entities introduces a consideration for the machine obtaining a sense of Self which can occupy voids in the environment around them. This also posits a new approach to the development of an AI machine. One that requires the design of the machine's material self, observable by humans, and an imaginary that is an internalisation of its senses in relation to the phenomenal world around it. A 'Secret Life of Machines' begins to take on a more modern meaning than it first had in the TV Series of the late 1980s.

4.4 To Relationalism

The traditional and contemporary consideration for the essence of a machine relates to its function, not its situation of being. For example, in the 1980s TV series, *The Secret Life of Machines*, the series presents a machine's life through a dissection and inspection of its component parts rather than its relational position within the environment for which it has been designed. It references the societal advancements that influenced the advancement of the functionality of certain domestic machines but not how the relationships that developed between these machines and society contributed to other

advancements. There is nothing wrong with this interpretation of the life of a machine. It is comparable to a Renaissance approach to understanding the essence of a human through the dissection of the body and examination of the component parts and humours (figure 6). However, it neglects the Marxian idea that society consists not so much of individuals as of relations (Kivinen 2018).



Figure 6 The Anatomy Lesson by Rembrandt van Rijn, 1632

To contemplate the life of a machine by criteria other than function and purpose is to begin to observe the existence of the machine in relation to the world around it. The machine has been designed to fulfil a specific *proper function(s)* (Preston 2016), but the environment in which it is situated is less determined, producing a potential for spontaneous relational moments that can suggest a nuanced machine individuality. It reframes the question of why.

The *why* of the domestic machine is generally straightforward. It is easily rationalised by the function it has been designed to perform, an internal drive toward purposefulness. The *what* of the domestic machine can also be easily defined the way it looks, the materials it is made from, and the environment in which it has been placed. We relate this immediately perceivable material essence of another entity to the definition of what it is, be it living or non-living, human, animal, or machine.

What it is made of, and what shape is it plays a major role in defining the what is its intention and what is its potential. Appearance therefore does not hide the essence, it reveals it; it is the essence (Sartre 1956).

How domestic machines look involves several influential factors such as the size of the component parts required to realise the intended function of the machine, and the engineering of materials whether it is by the hands of an artisan or a machine process. Additionally, there are factors which relate to the environment the machine is intended to exist such as underwater, in extremely cold or hot climates, or in environments where it may be exposed to harsh treatment (such as a home with young children who are discovering the limits of their reality through playful, sometimes brutal, interactions with the world around them). These factors present a microcosmic equivalent to biological evolution. For example, the vacuum cleaner has existed for approximately 100 years. In that time, it has “evolved” not only as a result of technological advancements but also as a result of environmental factors. The first vacuum cleaners were large industrial machines the size of a horse carriage (figure 7). It was a far way from the domesticated descendent we know today.

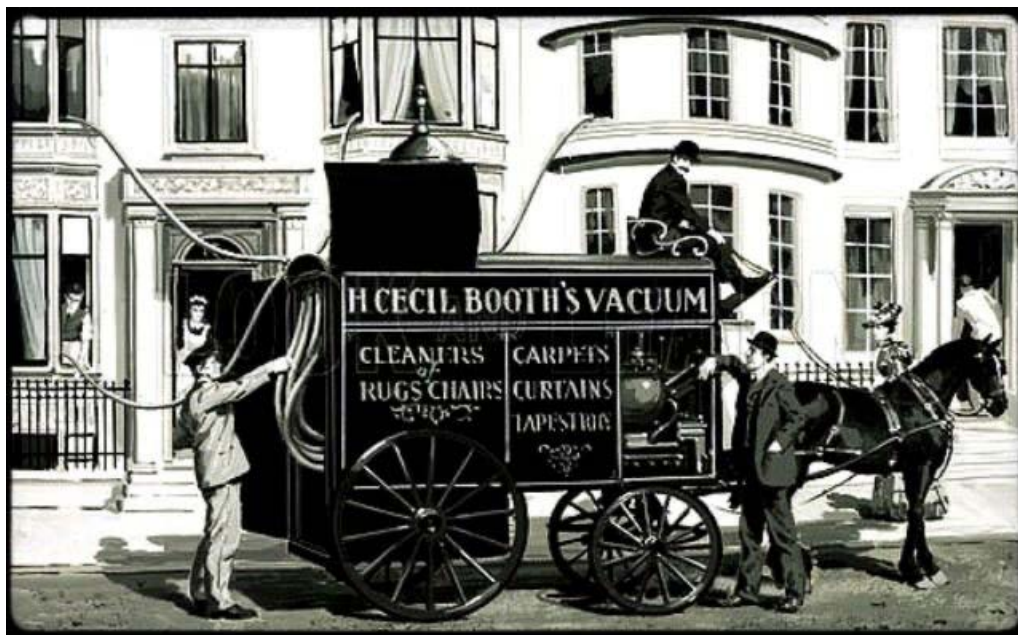


Figure 7 Herbert Cecil Booth's Vacuum, 1920's

The rapid advancement of technology stimulated a rapid downscaling in machines. The principal objective was to migrate from an industrial to a domestic market. Rather than one industrial vacuum cleaner that needed to go from home to home, the objective was to produce thousands of smaller vacuums that would become an integral part of the domestic setting. The functionality improved over time through research and development of the technology while at the same time, Western society divested itself of autocracy in favour of democracy. One effect of this societal evolution was that everyday people were now able to pursue individuality more freely. Rather than respond to their

social class one could manufacture oneself in whatever way they wanted to be perceived by their community. And no better (quicker) way to do this than through ornamentalism. But not in the Victorian sense of ornament which was to fill the entirety of one's domestic space with them. As Reyner Banham suggested, at the beginning of the 20th century the new ornament represented a coming together of democracy, productivity, and consumerism. It was not to communicate Class or Heritage. Freedom from ornament (in the traditional sense) is the symbol of an uncorrupted mind (Banham 1967, 97). Domesticated machines were presented as a new totem of progress and success. In a sense, replacing countless effects and ornamental things with less but greater ones, a sculpturalisation of the machine.

4.5 A Post-Consumerist Object

The engineering of environments and the advancement of capitalism and consumerism over the last century have directly influenced our understanding of the everyday machine. An informative discussion between my undergraduate students and me highlights how we now define the term machine in the everyday environment. Students responded to two questions:

1. What, in your opinion, is the greatest machine ever made?
2. Describe your chosen machine by no more than 10 attributes.

The responses to the first question ranged from smartphone to toilet. It was however the responses to the second question that demonstrated the point. In every instance, the students referred to attributes that related to functionality, productivity, convenience, etc. There was a total absence of relational attributes. Even when describing a machine so personal as the smartphone. It would appear from this elementary research that even if we have very personal daily experiences with these machines, their relational values are overwhelmingly functional.

This dominant type of relationship between humans and objects has not always been like this. Beyond Western society, there are several examples of societies whose relationship with their everyday objects transcends function and celebrates the materiality (Ingold 2007) of things. In the consumerist West, objects act towards a Collective Consumer Mentality (Baudrillard 1998, 32) that pursues happiness through an accumulation of signs of happiness which we can present to ourselves and society in the guise of affluence. Machines have provided a unique facility for this pursuit by symbolising affluence not only through their marketed value but also through their primitive intention to alleviate one's workload and produce an affluence of time. Baudrillard himself, while highlighting the irony, refers to the antithesis of this way of living as a primitive way of being. Either by depreciated market value due to being superseded by a newer version of itself or due to malfunction, breaking, or falling into disrepair, once a machine ceases to contribute towards this pursuit it is no longer an object of

consumerism. Instead, it is a relic of a historical form of consumerism. This is often, somewhat poetically, referred to as a product's life cycle. Some machines, like washing machines and cars, are expected to have mid to long life cycles while other machines are expected to have shorter ones, such as smartphones for example having the shortest lifecycle of any electronic consumer product (Slade 2007, 180).

As mentioned earlier, the model of consumerism that has been applied over the history of domestic electronic devices and machines is a Western one, but other relational frameworks between humans and modern machines do exist. In countries such as China, Japan, India, and Nigeria where culture and society have developed through alternative ontologies and belief systems a number of philosophies relating to the existentialist role of machines in human-level reality.

In China in the late 1990s, as a response to the booming electronics manufacturing market, an excess of electronics and resultant e-waste, the practice of 山寨(shān zhài) emerged (figure 8). This practice laid the foundation for the well-known global stereotype of the Chinese knock-off market that has raised many critical debates on modern consumer products' cost vs value model. A shallow examination of the catalyst for this maker philosophy may point to economics but there is a deeper underlying cultural-creative influence (Raustiala and Sprigman 2013). These devices were produced en mass through a process of assemblage. The phenomenon brought together a perspective of the functional attributes of the mobile phone in conjunction with the situation the device would potentially be introduced by its human owner. While subtle, it highlights a perspective of the device as an addition to one's life rather than an influencer of one's life.



Figure 8 Shānzhài cellphones (山寨手机)

In Japan, the religion of 神道 (Shintō), an animistic belief system, manifests in many ways in daily life. One such way is in the belief of つくも神 (Tsu-ku-mo-gami). This belief posits that objects upon reaching 100 years of existence and use will manifest a spirit or 神 (ka-mi).

This way of perceiving objects establishes a relational value with the object that transcends its function or purpose. It creates a perception of the object as an entity outside of human reality touching on Heidegger's 1927 concept of Dasein⁴. If we permit ourselves to acknowledge the existence of made objects, including domestic machines, beyond the moments of their servitude (disruptions to the contemplative existence) we may also consider their being to consist of a nothingness.

The contemplation of a machine beyond its service in Western society leaves an ideological gap that through consumerism has been occupied by social creditability and reputation. The echo of that affluence that we pursue.

For a societal shift to take where domestic machines can be considered as possessing truer representations of intelligence, we, in the Western world at least, need to relinquish the consumerist view of the value of these objects for us, and advance towards a view in which the object exists for itself. Over time developing its sense of perception, one emanating through the reality of the observer. Eventually acquiring a state of being beyond servitude or externally determined values.

The post-consumerist machine under the definition outlined above does not fit within the popular definition of post-consumerism that is often positioned as a move towards sustainability. In that respect, Juliet Schor (2010) and others, discuss the post-consumerist society under the term plenitude. This posits that consumerism is the principal influence on climate change, and pollution, and the major obstacle for addressing the Anthropocene.

Within this thesis the definition of a post-consumerist machine may lend itself to a more sustainable way of living i.e. produce a more meaningful relationship with these objects such that we are less inclined to discard them so frequently. Moreover, the concept of a post-consumerist machine intends to speculate on a future where these machines are not suddenly imbued with intelligence but are seen as new actors in the world. One which is akin to animals whose existence goes beyond human desire. In this version of the future, we may find sufficient pleasure in observing an artificial intelligence existing in surprising ways beyond our predetermined ideas because these specific domestic machines have not been adapted to exhibit intelligence, they have acquired it from existing in the world.

⁴ Dasein is a fundamental notion in his philosophy, particularly in his seminal work "Being and Time." The term "Dasein" is a German word that translates to "being there" or "presence." Heidegger uses it to refer to human existence in its most essential form. Dasein is characterised by its ability to be self-aware and to reflect on its own existence. It is not just a static being but an active process of existing, understanding, and interacting with the world. For Heidegger, Dasein is uniquely capable of questioning and contemplating the nature of being, making it central to his exploration of ontology.



I didn't see it moving, it must be broken.

INTERWOVEN EXISTENCE is an interactive installation artwork and art experiment developed as part of my collaboration with the Experimental Art and Innovative Practice (EAIP) Research Cluster in Suzhou, China. It is the latest materialisation of my research on the blending of nature and contemporary technology that began several years ago when considering potentials beyond human agitators for better AI design. Throughout my doctoral

studies, this ambition has remained constant, resulting in the development of student-led investigations and research collaborations into techno-permaculture. It has led to manifestations of the research as experimental artistic practice, academic research publications, *HASTEN SLOWLY*, and residency workshops, in Scotland (2019–2020), Brazil (2020), and China (2022–Present), Dissemination of the research has been published and presented at conferences such as the Association for Computing Machinery (ACM)'s 7th International Conference on Information and Communication Technology (ICT) for Sustainability 2020. This latest output



Figure 10 HASTEN SLOWLY: First Data Harvester, Edinburgh 2019



Figure 11 HASTEN SLOWLY: Data Harvester installation, Brazil 2020

represents a developed version of the research that confronts audiences with the narrative of techno-permaculture through the medium of installation art. The work has been exhibited at multiple galleries in China and the ARS Electronica Festival 2024 in Austria. In this manifestation of the research, I have focused on interrogating several specific topics about the design of domestic AI machines and how, within the gallery setting, audiences respond to performative machines that act with intentions beyond human interest. A novel opportunity for exploration within the research has been the role of culture in determining the relational value humans have with machines from an ontological level. This was possible as a result of the presentation of *INTERWOVEN EXISTENCE* to a predominantly Chinese audience during its exhibition at the Hanshan Art Museum in June–September 2024 and a predominantly European and Euro-centric audience at the ARS Electronica Festival in September 2024.

The installation is a construction of server motor gimbals housed within a laser-cut cube container, on top of which is attached a small bundle of reeds sourced from Taihu Lake in China's Jiangsu province. The motors are controlled by an Arduino microcontroller that has been programmed to cycle through a choreography of movements representative of the origin of the reeds. These movements, as you would expect, are a result of environmental phenomena (wind, seasonal changes, etc.). As a narrative, the displacement of the reeds from their origin to a gallery many kilometres away

brings with it the factors that have resulted in the material production of the reed itself. Capturing these influential data through local sensor systems and weather reports and programming it into the subtle, often unseen, movements of the reeds within the gallery. The result of which presents audiences with a sense of magic and mystery that is resonant with the folklores that have grown from our ancestors' attempts to rationalise the world and educate future generations on how to prosper. The interplay between the reeds' materiality, their programmed movements, and the audience's sensory engagement highlights how technologies can serve as relational entities, not merely tools for functional ends. The consideration is that technologies exist within relational worlds, where their meaning and value arise through material symbolism and interaction rather than being intrinsic or imposed (Coeckelbergh 2017; Ingold 2000).

The installation's narrative of displacement and recontextualization exemplified by the installation aligns with discussions on the role of the environment in shaping identity and meaning. As Bourdieu (1977) posits, individual action and cultural practices are deeply interdependent with their social and material contexts. This interdependence is mirrored in the installation's integration of environmental data to animate the reeds, which challenges the audience to consider how locality and relationality affect human-machine interaction.

Locality, Displacement, and Culture Affect the Relational Value Between Humans and Machines

The role of culture is fundamental in determining how humans relate to others (including non-human and non-living others), and the environment has been impacted greatly by the proliferation of a globalised approach to domestic machine design. The expanding presence and glorification of technology within our daily lives and the omnipresent global access to information and communications are also disguising a growing loss of local influences through materials, seasons, folklore, etc., that are foundational to being a human within society. Although it seems obvious to say, our increasing dependency on machines is also making us less human (Carr 2010; Han 2015; Harari 2015; Turkle 2011). Within the development of *INTERWOVEN EXISTENCE* is a core respect for locality. The reeds contribute a visual and olfactory impact due to their size, curated arrangement, and organic smell. There is an immediate sensory connection between these attributes and the location where one would expect to find them. Within the theatrics of the work, the audience is informed of the connection between the constructed gallery setting and the origins of the reeds, highlighting the significance of locality, and critiquing how the location and fabrication has become relevant only at a macroeconomic level. The hands that have assembled the everyday electronic devices we use are never referred to at a cultural level. Western society critiques the

working conditions in Asian factories and continues to buy the products that, in turn, support the continued operation and expansion of these factories. The discourse only cares about them in the context of politicised ethics to maintain a national and globalised political hierarchy. We don't want representations of foreign cultures in the everyday electronics we use (Castells 2004; Nakamura 2008). Western society has, for too long, made these countries the token for antiquated societal standards. This position also resonates with Latour's (1993) Actor-Network Theory, which posits how geopolitical discourse is embedded in the materiality of everyday objects. The work is intent on promoting the value of celebrating locality not just in the gallery but in the everyday setting. In contemporary society, the ever-increasing ease with which people can navigate the world is not only an opportunity to develop economically, but it is also an opportunity to develop culturally, embracing the phenomenological origins that influenced the development of countless cultural and philosophical ways of being around the world. As domestic AI machines progressively integrate into our daily lives, they have many significant roles to play in the direction society goes, including how we understand the world and ourselves as humans within it.

Audience and Ontological Considerations

For the most part, the audience's interaction and experience with the installation required them to be curious and to explore the meaning of the

work for themselves. Situating nature within the gallery was one of the main intrigues the audience reflected on, positing connections with Maria Abramovich's exhibition *Transforming Energy* (2024–Present). Audiences in China are curious about the energy of the organic materials as much as their assembly. It was felt that this did not seem important to European audiences, who were more interested in their role within the work or how the installation facilitated or restricted their movement within the space. This could be as a result of distinct ontological origins in China and Europe. If we consider the concept of energy that is central to Daoist philosophy, often presented through the symbolism of yin and yang, it could lead to a way of seeing that acknowledges the machine artwork and, by extension, machines in general, as nodes of energy transfer. By contrast, the popular Eurocentric ontologies associated with Plato and Aristotle promote the individual either by rationalist or empirical measures. These ways of seeing the world, most popularly defined by René Descartes and John Locke, continue to influence a hierarchy of dominance under which Western society operates.

As an interactive installation artwork, audiences enter the gallery space with the expectation that they are about to be entertained. Over the last 50 years or more, the role of machines acting beyond function has become defined as machines for entertainment. We see

this in theme parks, in commercial installations, and now also in the gallery. The irony that a machine acting beyond its fundamental intention of function for human want has ultimately been co-opted for the want of humans to be entertained. During the presentation of the artwork in both China and Europe, this association was regularly observed, and it was an attribute that was focused on to understand better the human psyche's limits for beyond function and beyond entertainment. Programming the algorithm such that the rate at which data was translated to motor movement (speed and range) was expanded to cognitive breaking point. This means that the audience's need to witness movement was so great that without it, they often questioned if the system was broken. The need to consume entertainment was quite shocking. After some calibration, it was observed that once attendees accepted the reality, there was a palpable shift in their attitude. On many occasions, the audience was seen to intimately observe the reed for minutes in the hope of experiencing the minute shudder or sweep before it once again disappeared. One conclusion drawn from this observation was the need to address the general public's perceived relationship with machines. If domestic AI machines are to have any chance of integrating more meaningfully into our everyday lives, how we define and treat them must evolve beyond a servant-slave relationship toward a co-human one.

5 The 4th Wall of Design

In Philip K. Dick's 1960s novel 'Do Androids Dream of Electric Sheep' he presents a future, set in 2021, where intelligent machines are indistinguishable from humans. The premise is not unique to this novel. Human-made, designed, machines have always been presented and evaluated by how closely or remotely they are to human beings. The human fear of becoming extinct at a personal level because there is an alien entity that fulfils all of the attributes of being human plus other, non-human, qualities deemed to be superior. There is an accepted norm that machines may be given human-like attributes (e.g. a face, eyes, a humanoid body shape) but their design policy is clearly based on functionality (Mori 1970, MacDorman and Kegeki 2012) and so they are first judged on their ability to fulfil a prescribed task. The hype around AI and legitimate advancements in civilisation and technology is increasingly challenging this norm. What Yuk Hui, 2017, refers to as the *Technocosmos*.

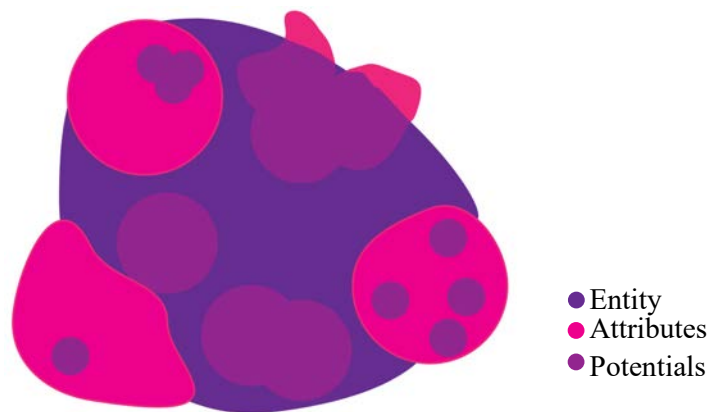


Figure 12 Machine, Attributes, and Potentials

As mentioned above, when we first observe a machine, particularly a domestic machine for this thesis, we adorn it with attributes and potentials based on its present state and its perceived attributes (figure 12). Categorisation and defining of attributes involve the apperceptive and gestalten processes (see [Chapter 2](#)) that in summary is, our cognitive attempt to make sense of what we observe by associating it to something we are already familiar with. If attributes are assigned that go beyond the familiar scope of the preconceived definitions we have of this machine, we begin to question if the entity belongs in this situation and if we can trust the machine. As we have seen represented repeatedly in science fiction stories, machines that present themselves beyond their status quo are one step closer to a machine that will cause the extermination of the individuality of the human race.

In this chapter, we will analyse how we might move beyond the fear we have of accepting machines into society as equals. We will consider alternative ways to view the machine actor in situational moments and consider an existence beyond the human for future machines designed with an awareness of the material world and a capability for intelligent contemplation.

5.1 Do Humans Dream of Sociopathic Robots?

The parameters for what constitute *good design* are typically based on an evaluation of the established intention set out by the designer who conceptualises the machine as per the way they intend it to impact a person or people's situation. This is what Beth Preston (2016) and others refer to as the Direct Proper Function of a design piece. Once in the world, the human observer/user by way of innate or learned knowledge compares the talent of the machine in accordance to the situation of experience, the potential resultant consequences of a multitude of actions, and a determination of the best outcome. It is an imaginary examination, or pop quiz, set out by the human. As an examination, the designed thing, for example, a coffee vending machine, is under constant evaluation of its ability to perform its expected duty as well as potential extraordinary duties that are determined by an analysis of its state of being (materials, visual, and mechanical). These can be referred to as System Functions⁺. Preston and others have defined the term *System Functions* to describe alternative uses users create for designed things. A simple example is, using a screwdriver to open a paint can. Expanding this term "+" is merely to consider visual and performative opportunities for appropriated functions and not only the *present-at-hand* (Heidegger 1927) moments of interaction.

As mentioned in chapter 2, the standardisation of machine product aesthetics, established in the 1970s, was not a decision based on the limitations of manufacturing that had been a major influencing factor. The decision was based on a psychological evaluation of the interaction between humans and domestic machines. The human user, knowingly or not, takes on an additional role as the Machine Performance Examiner. A domestic machine that presents itself as having too many potentials elicits many more examination questions and consequentially will have a more difficult examination to pass.

Less potential attributes promote efficiency. From the user perspective the time required to decipher the code of use is quicker. For the machine, it requires less evaluation of the sequence of inputs it detects. All of which have led to a quite industrial relationship with these machines that we have invited into our personal spaces.

This framework of evaluation, 'time to do' vs. 'quality of outcome' when compared to a skilled human, has been the principal criterion of good design since the Industrial Revolution. There is no room for a machine that has artisanal talent but must be permitted human-level time to complete its task. The result of this policy has been a progressive evolution of machines toward becoming efficient task operators. Feelingless entities we celebrate for their ruthless and meticulous performance.

As technologies have become more affordable to the general public their ability to be a symbol of status or wealth has lessened. In the 1950s, during the booming consumerist economy, machines were presented as facilitators for mundane daily duties. By association, as new representations of wealth

because they afford the owner leisure time which is the greatest commodity in the capitalist system. The attainment of leisure time (Veblen 1899), time that had no productive purpose, has been the pursuit of people since the dawn of society. The great minds of history (Aristotle, Newton, Galileo, and so on) are remembered for their pontifications, not for their productivity. Dreaming and imagining are activities reserved for children, sleep, and royalty. With the arrival of domestic machines following the Industrial Revolution this elite way of living became both available and attainable to the everyday person.

The machine condition, which defines the essence of a machine, for humans is now a reflection of four factors: its use; its materialistic value; its relational value; and its ability to alleviate our workload. In a world saturated with machines that pervade almost every facet of human life, these four parameters have quietly, but significantly, shifted. In contemporary Western society, less and less do we consider ownership of a certain domestic machine or appliance to denote social status only the nuance of a machine (the brand, the material it is made from, etc.) can do so. Society has become less about ownership and more about access (Rifkin 2000). Access to information but also maybe access by association.

Alongside this shift in consumerist mindsets has emerged the era of the Internet of Things (IoT)⁵. Thanks to wireless network communication technology and advances in microcontroller engineering, everything from floor lamps to hairdryers now can detect sensorial data and communicate it wireless to other systems. Through this socio-cultural devaluing of commodities and nouveau potentialities, a new and necessary critique voice on the meaning of machines in our daily lives has emerged. From a Matrix-type perspective, we exist in a reality where electronic data is being emitted from almost everything around us.

We are now in an era where what we functionally expect of a machine has been addressed relatively well but what we expect it to do for us emotionally and egocentrically has diluted. The Dieter Rams' 'no design is good design' approach (1976) to designing machine interfaces has made machines feel functionally safe, trustworthy, and reliable. However, the pervasive presence of machines in areas beyond mere functionality in our daily lives has revealed a flaw in our design philosophy, which anticipates a lifelike existence from our personal machines. We want to trust these machines as much as we depend on them.

⁵ The Internet of Things is a term first presented by Kevin Ashton in 1999. The Internet of Things (IoT) refers to a network of interconnected physical devices embedded with sensors, software, and other technologies that enable them to collect, exchange, and act on data over the internet without human intervention.

Machines are a primary educator on how to operate and prosper in modern society. Without machines, we could not engage with contemporary economics. In China, for example, where I live, it is not possible to participate in society without a smartphone. The entire economy has become cashless. To the extent that even the homeless beg for money with a QR code instead of a cup (figure 13).



*Figure 13 Chinese beggars carrying QR codes instead of begging bowls,
Times Now News. 2019*

Ironically, we have become utterly dependent on the machines that were designed to liberate us. This extends beyond the technologies in our daily lives to the architectures and infrastructures as well.

How we act in everyday life is made to feel autonomous even with the liberty of choice. From the moment you wake you are functioning within a system of explicit control. It might be time to prepare to go to school or work, or simply waking inside a room constructed to function in certain ways—a space that is yours, for you not for another.

After the technological boom came a redirection of both societal structure and individual identity. The value of standing out overtook fitting in. Whereas once contributing members of society were recognised for hard work and being leaders, increasingly success has become represented by the pursuit and attainment of unique experiences and being radical.

5.2 Failure as a Merit

Allow me to propose something: watch live performances not because we want to witness human ability beyond normal but because we want to watch the evasion of failure. A singer singing on a stage is everything but the perfectly timed and tuned notes that they emit are also demonstrating the ability to pass through the gauntlet of failure. The attention live performances, music, for example, illicit from the audience does not exist when listening to the same music being transmitted through a machine. With a machine transmission, the stakes are low. The human observer observing a non-

living entity enacting livingness bears no risk. Livingness is the act of acting from one's essence (Benhayon 2018). Presently, the essence of the machine is that of dutiful functionality. Observing or experiencing a machine perform a humanlike talent or artistic expression is devoid of two key perspectives of such observational experiences:

The capacity for the observer to project themselves into the situation of the performer through empathetic triggers (physiology, mannerism, response to situational phenomena). The Uncanny Valley⁶ describes this most accurately by its reference to the moment a non-human entity in the act of asserting humanness reveals its true being (Mori 1982).

The historical and fundamental association we have with machines for being exact, repeatable, and reliable. The pervasive nature of machines is founded on their ability to perform arbitrary tasks more reliably than humans. Tasks that typically require no creativity, little subjectivity, and are mundane. No surprises! They are truly predictable.

As Rodney Brooks (2002) highlights, until machines are capable of performing caregiving duties, they will fall short of being considered truly intelligent. Caregiving as opposed to medical treatment is particular because of the need to consider both the objective illness to be treated as well as the subjective state of the person being treated in order to determine how they should be interacted with in any given moment. To fulfil the more nuanced subjective role the caregiver must be able to project being into the position of the care-receiver at an emotional level. This requires analysing the patient's current emotional state within the present situation (their mood), their historical experiences of similar situations, their cultural background etc. The significance of this benchmark is that it requires the machine to be able to imagine the world from the perspective of the other. Machines presently exhibit awareness of the environment only as it pertains to their prescribed interests. It is a ritualistic practice as opposed to a living presence.

A useful illustration of this principle can be seen in the once-common domestic ritual of adjusting a television aerial to obtain the clearest possible image. This act, born of a technological shortcoming, required the human to physically manipulate the device, observing the interplay between their actions and the resulting quality of reception. While often tinged with frustration, the practice cultivated a form of embodied expertise and a deeper relational understanding of the product. Over time, users would develop finely tuned strategies for “finessing” the aerial’s position—balancing signal strength

⁶ The Uncanny Valley defines the human response to a non-human object failing in its attempt to represent itself as being human. The experience produces a profound rejection of the object by the human, an uncanny feeling, which can never be re-established.

against environmental interference in a way that felt personal, even idiosyncratic. Akrich (1992), in *The De-Description of Technical Objects*, highlights how technologies embed scripts for user behaviour, anticipating certain interactions and excluding others. In the case of the television aerial, the script left space for improvisation, allowing the human to prove their own resourcefulness and skill. By designing out such moments of imperfection in the pursuit of seamless efficiency, we risk removing opportunities for users to form richer, more personal relationships with technology—relationships that arise precisely because the object invites, or even demands, acts of problem-solving and care.

This is not to suggest that the consumption of machine-transmitted entertainment is without enjoyment. However, the enjoyment in the moment of machine-emitted music is internal, we hear the music and connect with it or are repulsed by it. We no longer marvel at the technology that facilitates the production of music. On the other hand, this experiential mechanism is in reference to our memories and our apperceptive mass (Phillips 2010). These feelings we have about the experience of machine-emitted music are learned over time through countless other experiences we have had before. There is the opportunity for surprise, such as a wobble of a vinyl record as it rotates causing an anomaly in the playback.

At a high-functioning level, a song, transmitted through a machine, will trigger a conscious memory of hearing that song. At a low-functioning level, the particular rhythm, pitch or tempo, will illicit primal emotive responses such as tension or relaxation.

When we observe a human performing the same act live on a stage we transition from processes of personal meaningfulness to a process of projection of self defined here as *the limitations of failure*. Specialists are those people who perform a task which is comprehensible in principle but especially difficult to do. We pursue perfection as a symmetric experience (one which is efficient, meaningful, and logical) and can obtain it more easily by projecting our psyche into others through observation.

In the physiological context, we experience character failure when it breaks from our definitions of it. A machine performing the function it has been designed to do is of little significance to us. But when the same machine performs outside of its prescription we have an experience directly because of the machine. The TV remote malfunctions, the kettle doesn't turn off even when the water is boiling, etc. It is the moment of failure that is remembered. Dewey (1934) describes the moment of an experience as that in which the consumer and the producer meet through aesthetics. What he does not define is that the experience can be a result of divergent aesthetics as much as convergent ones.

5.2.1 Intention, Irrationality, and Impulse

Humans have an impulse to find patterns in everything around us. Even when perceiving chaos, we in truth are creating a pattern of the absence of a pattern. In effect, we are

attempting to rationalise our observations by determining them as becoming rather than being (Gleick 1987, 5). To conclude that the action of another entity was irrational is dangerous. It is unpredictable and therefore the level of risk it poses to us is incalculable.

We perceive patterns in movement and behaviour; visually; sonically; texturally; in stasis and more. A pattern demonstrates order and rhythm over time. A pattern also demonstrates to the observer their comprehension of the intention of the observed. This could be lines drawn on a page or the cadence of a person's walk. Machines also have intentions. We know this to be true because a machine is made for a purpose. While we all agree that machines are not alive or living, ergo they do not possess a primal desire to preserve their existence, machines can be imbued with other primal drivers through autonomous intention by the human creator. Machines are intended for some purpose or function, to perform in specific and measurable ways, and some can adjust their own actions based on changes in condition(s), on which it is observant, in order to fulfil their designed intention. They do not have instincts, such as the ones we have that help to keep us alive, but they do have impulses. Machines do not reflect on the emotional state of things in order to determine their activity. They act solely under their prescribed parameters. A machine is not concerned with how its actions will impact the world beyond its objective task. And, for the vast majority of our daily interactions with machines, we know that these are the parameters under which a machine operates. This is what makes machines feel safe. We know their intention and we can accurately predict the outcome of an interaction with them.

Intention and predictability are associated just in the same way as the actor and the audience. The actor, like the machine, intends to convey a narrative and the audience through complex mechanisms and the audience, the user, predicts the potential of the actor's actions. If the actor does something unexpected this is because the audience has not predicted this action within the context of the situation.

By this measure, the human and the machine are both comparable and distinct. The distinction manifests through what has been described as the Self (Descartes 1694; Hegel 1894; Husserl 1920-26) and existentialism (Sartre 1940). It is a human quality to know how it is to be human. The ability to perceive the intention and intentionality of another human only because we innately comprehend the situation of being human. The world around the human, even on a stage, is secondary to this. The environment situates the actions of an entity. There is a performative dialogue between them. For example, as you read this text you are positioned in your present environment. How you have come to be in this specific position is through a conscious and unconscious choreography relative to the surfaces, layout, colours and textures (Gibson 1979). If one was to trace your movements from entering this space to this present

moment a unique pattern, influenced directly and indirectly (through your subconscious process) would be revealed.

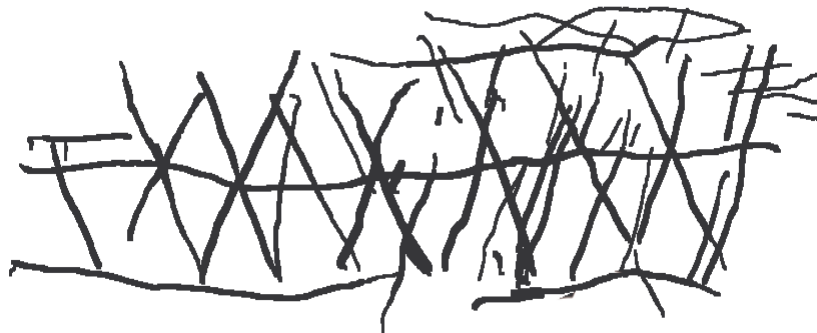
5.3 Pattern

A pattern is an observable sequence of events or objects that are in essence repeatable. A pattern can be static or active so long as it suggests to the viewer a temporal affectedness. Implying that there is a conscious or subconscious intention to it.



Figure 14 First evidence of artistic expression found on a stone in Blombos cave, South Africa

The oldest evidence of human intentional expression is evidenced in the linear markings on an ochre stone dating back 60,000 years ago (figure 14). These marks were scored into the stone with intention. There is evidence of repetition in form demonstrating a concentrated effort to produce the resultant pattern. Why? We will never be able to say with certainty. Perhaps it was an artistic expression, a map, or perhaps it was some inner drive of the early human mind to leave a mark on the world in an effort to affirm its existence. What we can say with some certainty is that these markings were purposeful (figure 15).



Africa, show repetition denoting intention.

The patterned form consists of three elementary parts: Past, Position, and Potential. Tim Ingold, in his book *Lines* (2007), refers to these as traces, trails, and routes. Expanding on Ingold's analysis of the Corporal's flourish (2007, 74), the dots which he creates to explain the specifics of a trace of the line are themselves traces. As Ingold states, I had to bring the tip of my pencil into contact with the paper at a pre-determined point, and then jiggle it about on that point so as to form a dot.

This act may seem finite to the point but when viewed under magnification there will be seen a trace within the dot itself. It is not to say that Ingold is producing his own trace of a trace, which he is, but rather to highlight that dot itself possesses a past, a position, and a potential. The dot in itself, in isolation, is both a trace of a pattern and a pattern in its own right (figure 16).

Documented patterns such as the two above are in stasis. We can assume that they have been created



Figure 16 Even dots have lines by Andrew O'Dowd, 2023

through a process of, digital or analogue, action or actions. In contrast to this dot-like expression, a line expresses infinite movement. Even a line permanently etched into a piece of ochre stone, captured in frozen form suggests a point of beginning, a point of termination, and a human action over time that defined these two moments. It can be observed as a record or as a guide. It is an artefact and it is a catalyst.

In the observation of patterns such as these, our attempt to find rationality or logic. We seek to understand the action that has caused the creation of the pattern and furthermore the reasons for that action. What motivated the early human to move the blade across the stone in that direction, at that speed, and at that pressure? Why, as Weil (2021) posits, did early humans only make abstract expressions of lines, triangles, and dots for nearly 30,000 years before they began to produce representations of the physical world around them?

In animation, i.e. movement, we observe patterns through a sequence of actions. We do this for a multitude of reasons. If you have ever seen or played the carnival game “Whack-a-mole” you will know the experience of looking for a pattern in behaviour. At a more meaningful level, identifying a pattern of behaviour in the animation of another establishes our ability to understand their intention

and attitude in relation to us and the present environment. In his 1974 book, *An Approach to Environmental Psychology*, Mehrabian posited that behaviour, how we acted when communicating, constitutes the major contributing factor to how we are understood by an observer. It is one of the most primitive drives of human nature to look for changes in weather, seasons, animal behaviour, and the presence of life itself for the simple purpose of survival.

Narrative is a term most commonly applied to storytelling. It is the account of events that describe the journey of a character from a starting point to a conclusion. When we apply narrative to patterns we engage with the part of our brain that stores and recalls associated memories. This action permits us to both extract and create memories efficiently in order to reduce the time and energy consumed when attempting to comprehend the present moment. When we apply narrative to patterns we engage with the part of our brain that stores and recalls associated memories. This action permits us to both extract and create memories efficiently in order to reduce the time and energy consumed when attempting to comprehend the present moment. The simple experiment you have just undertaken - the repetition of the previous sentences - demonstrates the brain's ability to store and recall information, almost immediately. When you commence reading the second writing of the sentence your brain quickly picks up on the pattern and begins to predict the next words, in effect you begin to scan the sentence for anomalies rather than digest each word within it.

5.3.1 Improvisation

This narrative analysis process occurs through all forms of conscious observation. We utilise it to determine if we are familiar with something, our potential of enjoying an impending interaction and whether we should engage or evade the impending experience. It is the multisensorial patterns that we observe (sonic, visual animate, visual static, olfactory, tactile) that inform us of the potential of a pattern. Our brain computes the data from these sensory receptors and analyses them for familiarity. If a machine emits numerical sequences, visually or orally, *2 follows 1 and is before 3*; there is a familiarity to the pattern. We can then assert a prediction that the next number will be 4, to establish if the perceived pattern is actual. If yes, we establish a level of command over the emergent pattern. We know the future of the pattern; it has become subservient to our wisdom. If our prediction is wrong, we must either acknowledge subservience to the numerical pronouncer machine or endeavour to gain command over the manifesting pattern and restore our ego to its rightful position in the intellectual hierarchy.

If a machine acts outside of the observer's parameters of logic and reason it is said to be faulty or badly designed. But can there be room for improvisation? So long as the performed actions conclude in accordance with the observer's predicted outcome, and the involved actors in their

place, then the events that link the initiating action with the conclusive action, the pattern, are a byproduct.

Duchamp was one of, if not, the first recognised artists to explore the incorporation of chance and random acts to generate works (Petry 2012). He was also one of the first artists recognised for ‘the work of art’ as opposed to ‘the labour of art’. The delegation of the artistic process while maintaining the intellectual ownership of the artwork itself was until this point unheard of. Artworks were representations of the skill of the artist themselves. In fact, the artists of the renaissance were rarely the conceptualists of their artwork. Their patrons decided what should be depicted and sculpted while deferring the composition and execution to the master artist. Much in the way that a designed object only maintains its virtue until it is placed into an everyday use case. it is highly unlikely that the designer who gave form to a dining chair also considers the object used as a step, shelf, footrest, etc.

The reframing of the purpose of an object is a quality bestowed upon it rather than prescribed to it. Its ability to adopt other functions beyond its designed ones emerges through the relationship it forms with the human owner and its environment. The prescribed purpose of a calculator to compute mathematical formulas is broken when the display is viewed upside down, and the numbers transform into letters. This event is what Preston et al. (2016) refers to as proper function vs. system function. Akrich (1992), in *The De-Scripton of Technical Objects*, argues that objects are inscribed with “scripts” that anticipate particular user actions while leaving space—sometimes unintentionally—for alternative or improvised uses. These deviations from the prescribed script occur regularly with simple objects such as a screwdriver but less so with complex objects such as a microwave. This is not to suggest that complexity denotes limited opportunity for improvisation, but rather that domestic complex machines are still designed like their industrial ancestors, with scripts that emphasise precision and control over adaptability. As a result, domestic machines are often to be revered for their accuracy rather than their ingenuity.

5.4 The 4th Wall of Design

As mentioned in the first section of this chapter, since the emergence of electronic computing devices in the mid-twentieth century, society has progressively become more systematic and logical in its operation of and relationship with these machines. The abundance of our interactions with these technologies has made us view and act in binary ways with them. The operation is activated, it is executed, the resultant outcome is analysed, and we deem the operation succeeded or failed. Consider for a moment your daily routine... how many operations involve an electronic computer? Almost all of them I suspect. These machines are designed for exact and definite interactivity. They do not

assume or infer, although some might mimic it. More often we are seeing everyday technology devices attempt to relate to us by demonstrating awareness of personality e.g. must tastes, recollection of activity patterns, etc. But by themselves, these machines return to lifeless bulks of material. They are somewhat pathetic. When we activate them they spring into life eager to satisfy and prove their value to us. It is an act. The stage is the everyday situation and we, the protagonists, interact with them not as props but as our co-stars in the typically mundane act of doing.

5.4.1 Performativity

Redesigning this operational, service-oriented scene through a theatrical approach of performativity is central to the principles of *The 4th Wall of Design*. The intention is to imbue these artificially intelligence machines with a sense of livingness. To recast them from the role of a tree in a children's school performance (Romano 2017) to something the observer can contemplate as having more complexity. Objects as much as people engage with their environment in relational ways. And not just any environment but one that human designers have prescribed them. One that must make sense for the human observer of the scene. The character object must be in keeping with the *mise-en-scène*⁷. On the other hand, the everyday human is the director of the scene. Capable of altering and editing their personal spaces to fit their narrative. We see this best in the domestic setting, which is a blend of practical and emotional narratives. The human audience of these spaces analyses them to determine present and potential narratives of the space. Perpetually attempting to define, rationalise, and predict the environment, the character objects, and ourselves in the scene (figure 17). Currently, the machines occupying these spaces comply with their prescribed role. Even when, as Brenda Laurel (2013) states, a change in the purpose of the activity will change its plot (the whole action). At times, the human director of the space may appropriate them for roles beyond their intention, but the machine is compliant. It highlights the dramaturgy of our interactions with these machines. They do not only function; they perform.

⁷ *Mise-en-scène* is a term that means the context of a situation that is portrayed by the aesthetics of the decoration and specific things that populate a space or scene. It is most commonly used in theatre and film media and considers the design of a scene as a major contributing factor in the communication of the situation that scene to the audience.

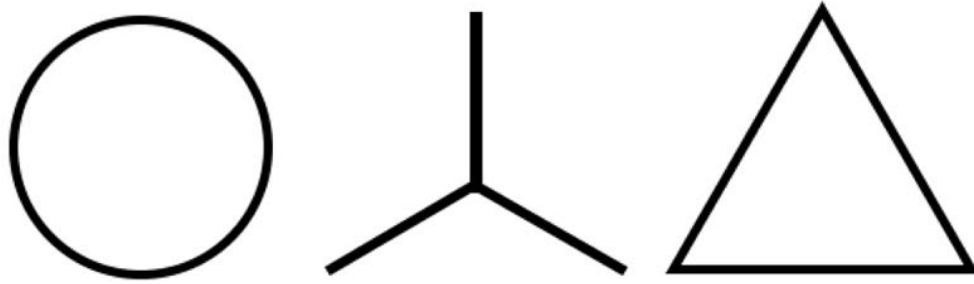


Figure 17 Contributing elements of a domestic stage

The emergence of relational design posits a new narrative in which the human and the AI machine become co-directors. This manifests in our dialogues with AI assistants like Siri, Amazon Alexa, and Google Home. The narrative is less instructional and more dialogic. Just look at how often people say please or thank you to these lifeless machines. This is not the case for our microwaves, toasters, and keyboards, which unreservedly adhere to our orders.

In the Heideggerian perspective of Dasein, defined in the previous chapter, these machines are definable as both individual elements within the scene and also by the relationship that catalyses between them and other machines and objects. The narrative resonates or makes sense when presented with a hammer and a nail on a table. Replace the hammer for a banana, and the scene suddenly is discordant. To these objects, there is no internal discourse on their suitability in the narrative. It is a discourse that occurs only in the human observer's mind. A conceptual amalgamation of the purpose, the object(s), and the situation to determine the plot and our interest in it. And this is not merely determined by functional parameters. By human nature, we prescribe emotional interests to the scene.



Figure 18 The unified scene of a domestic stage

The psychological experiment conducted by Heider & Simmel in 1944 on anthropomorphism is an example of the nature of humans to characterise individual entities within the scene and establish a relational dynamic between entities and the environment, even if no such conscious relationship exists (figure 18). The environment presents a platform for experiences

to unfold. From a Deweynian perspective, the environment is paramount to experience and every memorable experience is reliant on the human “and their environment” (Dewey 1934).

As Laurel (2013) highlights, the machine character acts as a constraint to the situation. Like an empty stage, there is only potential for the scene that may unfold. Our homes are populated with entities made of metal, wood, and plastic that constrain the potentials and situations. Domestic machines, as we know them to be, only act beyond their parameters when they err. For the domestic AI machine, capable of dialogic interactions and autonomous behavioural choice, the ‘alchemical dance between designer and interactor’ (Laurel 2013, 135) introduces another participant in the performance, the machine object. They are both props and actors in the interaction. They define the potentials of the physical space by their form and the conceptual situation by their performative actions in the space.

Humans, in the role of director, scenographer, actor, and audience, assemble the scene, priming it for performance. We bring the Act to life through the manipulation of the actors and conscious acknowledgement that the scene has commenced. We choreograph a narrative inspired by our internal motivation and as an audience (what will pleasure us). We are impacted by the narrative that unfolds from the opening act to the final act of the performance. While the essence of this framing of the interaction reflects that of theatre, it is also attached to the widely accepted phases of interaction founded by Donald Norman in the early 2000s.

It communicates to us beyond its function. It calls on us, on our apperceptive mass, to carefully position it on the appropriate stage so that, when the curtain of the metaphoric stage rises as we enter the room, it contributes meaningfully to the unfolding narrative.

It is appropriate to highlight that in the discourse to this point, reference has been made to machines that are conceptually fixed by their designed intention, but within the domestic setting, it is the human who ultimately decides where they belong. Mobility and, by extension, the rightful place for contemporary domestic machines within the home does not occupy much of our conscious thought. This may be because mobility is seldom designed for domestic machines. Or it may be that presenting this undetermined parameter to the everyday human introduces an uncomfortable level of decision-making (Schwartz 2004). Even mobile machines are rarely autonomously mobile; they require a living entity to mobilise them. For a domestic machine to be gifted autonomous mobility requires the negotiation of meaningfulness for the multiple stages of our home. The machine's character must be assessed in relation to its contribution to the potential acts that may occur at each stage. Certain performances for certain stages and certain actors on the stage.

To preserve this dynamic there is a need to maintain control over the potential outcomes of our domestic interactions. If machines were to act in unpredictable ways disharmony ensues. We can look at the movement of a tree branch by the wind outside the window and remain content in its chaotic unpredictability because it is beyond our ability to reliably predict the pattern of the wind. However, a machine built by humans, with specific components, for a specific function has limitations of unpredictability built into it at a fundamental level. Humans on the other hand are very much evolved to assume; we are continuously observing the world through our subjective lens looking for meaning.

Or as Dewey (1934) phrases it: what is done and what is undergone. In an interaction with a typical domestic machine, the machine's intention is activated by a stimulus. The observed response to this interaction is the machine enacting its preset actions. These actions may not be predictable but to the interactor what the machine undergoes as a result of what is done to it should result in a predictable outcome. We see this in turning on a microwave and in a monkey completing a task to obtain a tasty reward.

5.5 Staging and the Act

For a machine as for a human actor, the sequence of actions that unfold during an interaction between them is coordinated. As the interaction becomes more practised and familiar the sequence becomes more perfected. As discussed by numerous authors like Gladwell (2008), Coyle (2009), Druhigg (2012) and Clear (2018), even actions that seemed complicated on the first, second, or fifth time of doing eventually become mechanical as the human actor memorises the patterns of interaction. Familiarity gives rise to affinity, a preference toward or against interactions with certain categories of objects, brands, etc. (Saffer 2009). Like a dancer on a stage, the objective is to reach the prescribed conclusion of the act. Should the dancer stumble the audience perceives error, anxiety amongst the audience heightens, breath is held, and more intently than ever the next action is observed in the anticipation of failure or aversion thereof. The machine does not illicit the same emotional connection. As discussed previously, there is no level of risk for a machine. Its pride cannot be hurt; the audience cannot project themselves easily into the experience of the machine because a machine is nothing beyond mechanical. Failure for a machine is at all times a binary step away. The consequence to the machine is non-existent. Burn the toast or end the world are equal for the machine. To engage the human audience in this level of feeling in an interaction with a machine, we must attend to the human audience's principles and values through familiar signifiers. In theatre, this is known as rapport.

5.5.1 Reflections of the Observer

The human form is the most basic instigator of rapport through observation. When we observe the world, we infer and interpret the meaning of events in relation to ourselves (Brecht 1948; Gillespie 2006). We consider how that might have felt if it happened to us,

what we would have done in the same situation, the limitations of the thing being observed and more. To be able to relate to another human within an observed situation, we need to identify the forces acting upon their physiology. This extends beyond human-human experience to animal and even plant experiences. Engaging in these processes when observing domestic machines is more difficult. These entities do not possess primitive attributes of livingness and are not considered to be exposed to the same risk as a living thing. Sure, designers have appropriated signifiers of livingness to synthesise moments of connection between the human observer and the machine. Still, ultimately, machines are operational in their actions and not conscious of their actions. To create a truer rapport with the human user, audience or observer, the machine must be able to present itself as capable of loss. Loss, as referred to here, is, in the long-standing theatrical sense, a tragedy and a catalyst for empathy, as discussed by Aristotle, Hegel, Butler, and most notably Martha Nussbaum (1986). She argues that tragedy highlights the vulnerability of human lives and choices, fostering empathy by allowing audiences to imaginatively engage with the characters' suffering and moral dilemmas. Through this engagement, Nussbaum believes, audiences cultivate an ethical sensitivity to the suffering of others.

Engaging the human observer in the activation of the machine is one way this is already achieved⁸. The machine is dependent on human interaction to perform its expression for being or *raison d'être*⁹.

5.5.2 Before, During, and After

Designed objects including domestic machines speak to us through their material composition and their form as much as the actions we can observe them performing. Many theorists have presented frameworks to explain the sequence of events that take place during an interaction. Most commonly referenced nowadays is Donald Norman's Three Levels of Design, first presented in his 2004 book *Emotional Design: Why we love (or hate) everyday things*. Through his framework of a Visceral, Behavioural, and Reflective level of interaction we may consider an Acting, Enacting, and Reacting expansion when referring to AI Machines.

The rationale for this is as follows:

⁸ Consideration should be made for the distinction between turning on a machine for the first time which contains a semblance of birthing this new creator or bringing it to life, as opposed to turning the machine back on following a spontaneous or logical shutdown during or after a previous action.

⁹ *Raison d'être* – Reason to Be - the most important reason or purpose for someone or something's existence.

If we consider the first level of interaction, the Visceral, in relation to intelligent machines we must acknowledge that the machine is not in a dormant state of anticipation of interaction. In Norman's definition of the Visceral level of interaction, he highlights the object of an entity's appearance over its function. Within this thesis, we should consider the machine as an entity beyond the traditional function-centric parameters of traditional machines. Most notable on this point is Norman's position that the situation does not play a role in the first level of interaction. Norman references scientists' definition of the visceral as a "pattern matching" process that accesses our innate genetically programmed responses. The difficulty with this position is that it suggests the object exists before the situation or space exists. One could perhaps consider Norman's position to assume the object and situation as intertwined by virtue of the object having been placed there by the human user, but even still fails to clearly address the scene in which the interaction has commenced.

The interaction, as it is presented and unfolds, responds to and is impacted by the situation and environment in which it is occurring in both material and psychological ways as

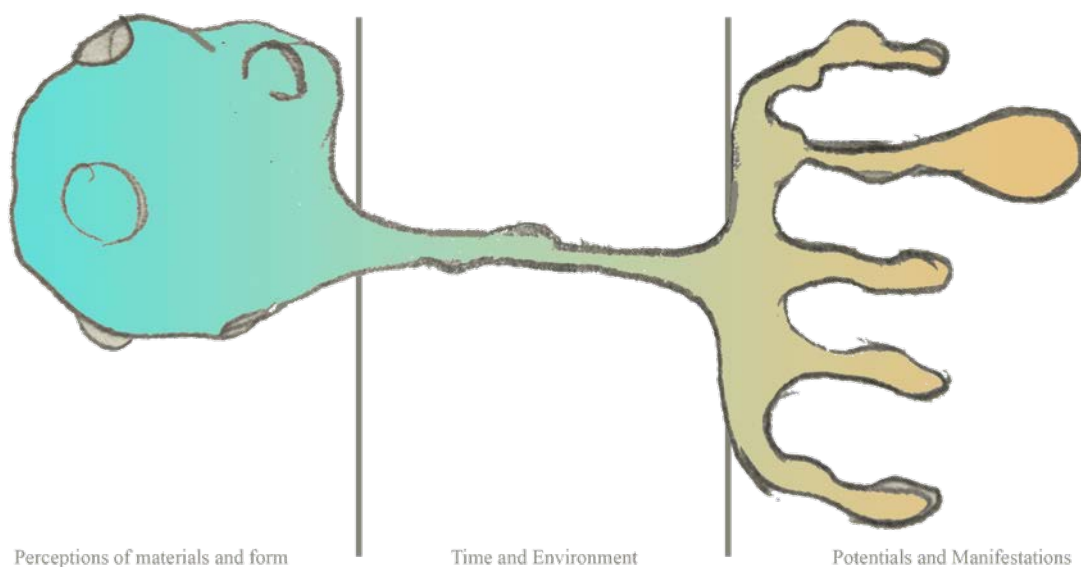


Figure 19 Human-Machine sequence of interactions must also include the environment as a contributing factor to the interaction.

perceived by the human user/participant (figure 19). The machine-object resides not in a vacuum but in the perpetuation of time and environment that conceptually reveals its potential through the observer's analysis of the object's materials and form in relation to other objects in the environment. Over time, intention and narrative are ascribed, resulting in the manifestation of potential.

The next level of design, the Behavioural, further highlights the specific type of designed object that Norman is, very correctly, addressing. The distinction between behaviour and acting is a considered one. According to Cherry (2023), behaviour is motivated by outside forces. Behaviour is a term that manifests feelings relating to conformity, adherence to norms and standards. It is an excellent word to use when describing a designed thing's doing phase. For an AI Machine, however, in this thesis, we need to consider the activity of the machine beyond a process of constant evaluation for accuracy. Enacting intends to address a nuanced moment where the human and the machine engage in a collaborative performance towards an intended outcome. For the human, this might be useful, and for the machine, this might be the demonstration of its principal ability.

The third level of Norman's theory is called the Reflective. This theory, outlined from the perspective of the human participant in the interaction, concludes with an acquisition of information that can be utilised in future moments before interaction. It highlights the traditional framework under which machines exist. A Key Performance Indicator (KPI), blends both objective results and subjective feelings about the interaction that has just taken place. Traditional machines, ones designed as utility systems for human benefit, present designed objective intentions that can be measured readily once the intended purpose of the machine is known. The AI machine, when it has achieved the status of being perceived as intelligent, may confront this process of evaluating a machine's motivations by the merit of its closer connection to human-level existence.



The study in '35 was...the first published guide on how to study machines in the wild.

The announcement of “1 hour till touchdown” that came through the onboard PA gave Reef a pause as he opened his reader to look over the report again. Just two hours since they departed Rome en route to Manaus, he thought to himself. It sometimes struck Reef, like now, with curiosity about how the world had become so accessible in the twenty-eight years that had passed since the machines he had been sent to find were first situated in the jungle. Born in '26, Reef would have been just two years old when the machines were sent out in the hope of breaking new ground in the race for Artificial General Intelligence (AGI). Of course, for them, the significance of their mission was not known, and their journey would have taken two days, not three hours. *Thank God for*

BRICS, and thank God for FLI-MAX inventing hyperspeed flight. As the speed of travel had increased and global travel times shrunk thanks to innovative engineering, the speed of machine evolution had rapidly decelerated thanks to innovative philosophies on artificial intelligence, and the realisation of non-biological livingness began to emerge.

The sunlight that came in through the cabin windows illuminated the cracks and scratches on the screen of his Bumble PR60, reminding Reef of the subtle irony that his electronic reader was about as old as the report he was reading, and in the seven years that had passed since it had been published, no documented sighting of the machines had been made. And once he and his team had completed their field report, it would be another seven years until they would be seen again. He wondered if his reader could make another seven months, never mind seven years.

The report was very standard for this type of research. Regular reference to the Schrödinger Act of '27, which established the first globally accepted laws on AI ethics, including such articles as requirements for human researchers to respect the autonomy of AI machines (Article 2), limit remote tracking of AI machines (Article 3b) and permit AI machines to a certain degree of err without persecution (Article 7). For most people, the main articles of the document are as familiar as the name of their first pet (techno, bio, or bio-tech if one was lucky enough to have one of those). They were taught at school in Metaphysics class, and they are referenced in the setup APP for every

domestic AI machine. For Reef, the interesting thing was how the authors and signatories of this Act must have envisioned the future they were incentivising and how launching research such as this one, just one year after the Schrödinger Act was passed, must have inspired Professor Estinepal to go on to redefine the frameworks on Speculative Design, Interaction Design, and Sustainability that had been mostly unchanged since their inception.

The last documented sightings of the research subjects drew several conclusions identified for further study on this visit, now highlighted in neon yellow by Reef. He had highlighted that the previous team had “observed that there were several abrasion marks on a number of the units that did not correlate to features of the landscape that might have caused them” (Estinepal ‘49), nor was it likely, Reef thought, to be the result of intentional or accidental interactions with any of the original communities who still inhabited this area of the jungle. Since the Amazon jungle was granted human-level status, just like the Whanganui River in New Zealand was bestowed seventeen years before it, there has been an exodus of heavy industry and a resurgence of original communities. Shortly after, leaders of several of the original communities formed the new climate pact, designating the Amazon jungle the largest-ever techno-permaculture research ecosystem spanning nine countries and nearly 3,000 meters high from the Amazon basin to the summit of Pico da Neblina. The presence of the research in this part of the jungle was welcomed, not opposed. The possibility that it was caused by inquisitive or predatory wild animals

was also unlikely as it had been documented extensively how animals were keen to avoid the machines because of both the high-pitched whirring noise emitted by their gyroscopic generators as well as the trace presence of warfarin, a water-soluble compound with anticoagulant properties, in their Synth-Skin that was necessary to stop it from hardening. So, understandably, one of the most anticipated things, especially by the *Dermogineers*, was to determine how their Synth-Skins had been mutated and what further changes had occurred.

Under typical observed settings, the incredibly slow movements of these machines meant the changes in their aesthetic composition could almost be predicted as they approached interactions within their environments. There was something mystical about not knowing what we think should be obvious. Some in the team even began to speculate, employ AI predictive modellers, and even freehand sketch a variety of possible aesthetic forms that the environment, seasonal changes, and the wilderness could have influenced their material composition. From his own experience, these kinds of speculations follow a typical pattern that could all be summarised under the generally accepted anthropomorphic paradigm. This paradigm predicates when you ask a human to consider a non-human living creature, and once atmospheric conditions have been defined, there is a very small window of time when our imagination expands beyond the parameters of known livingness before a spontaneous and accelerated reduction of the potential attributes towards human-likeness and reasonability. Compare this to opening an air-filled bottle underwater. The moment

the bottle is opened, the air ruptures out in swollen bubbles, accelerating to the surface before an equivalent and much heavier influx of water fills the inside of the bottle until the material contained inside the bottle becomes the same as the outside, and the potential of any further disruption is quashed. One of the poetic frustrations of Article 3 of the Schrödinger Act was that it prohibited researchers from constant surveillance of Category Five AI machines like these. Hence, the seven-year intervals between field studies. In Reef's mind, the simplicity of this ethical regulation was genius, and the difficulty humans had had adapting to a life where they could not obsess over every minute efficiency and inefficiency of these machines was glorious.

In fact, this was somewhat the premise of one of Reef's favourite TV shows, *Mike and I-Ke* (—可), a Chinese comedy series about a human and a Category Five machine who co-habit in an apartment in Shanghai. Mike, the human, is constantly nervous that IK-e, the machine, thinks he is watching it while IK-e is battling with its synth-ego and the illogical reason why it likes people watching it perform mundane tasks with the highest level of precision. The episode in which IK-e and the dishwasher have a competition for who can clean dishes the best while Mike nervously tries to leave his dirty dishes by the sink, pretending he is not fascinated by what is taking place was particularly memorable for Reef.

The beauty of Synth-Skin to a techno-permaculturalist such as Reef was how its tacky texture, initially considered a defect, enabled these

machines to quickly adopt the material aesthetics of the environment. Looking at the photographs included in the report, leaves and debris had given the machines an amazing camouflage. Almost as though they had evolved in this environment. It had been noted in the first field study in '35 how difficult it had been to find the machines at first until the researchers identified one of the best ways to locate the machines was by looking for vibrating saplings. It turned out that the whirring gyro generators not only emitted a faint high-pitched hum, but they also resonated perfectly with young *Euterpe Precatoria* growing in the jungle, resulting in a captivating tree dance if one was lucky enough to see it. The now famous video those first researchers captured of this occurrence that had become iconic over the last twenty-one years now replayed in Reef's mind. Taken at sunrise as the overnight moisture build-up was being evaporated by the new day's sun. It always gave Reef a rush of excitement, and he quietly hoped, as he had done regularly since securing the position, that he would be lucky enough to see it first-hand at some point over the next ten days.

Another observation in the previous study was the premise that the machines had begun to exhibit novel considerations for flora and fauna. In particular, there was mention made of "activity that suggested efficiency was being prioritised less" (Estinepal '49). Many theories have emerged on this in the seven years that have passed since this report was published, including Reef's own, which ultimately led to his appointment as lead researcher on this once-in-a-decade opportunity. There was nothing in the programming of these machines that gave

them particular interest in plants or animals. Their directive was quite rudimentary in comparison to many of the other Category Five machines that had been deployed over the last two decades. The thesis of this research, as one of the first in the field, was to establish how machines like these would adapt and adapt to their environments when their drive was to seek renewable sources of energy and preserve operational-level power. They were specifically designed to choose non-damaging actions in their environment, as per Article 1 of the Schrödinger Act, but were permitted to make superficial alterations to the environment in the pursuit of renewable energy. Many had been expecting these machines to deviate from principal instruction over time. It was somewhat inevitable as a result of environmental changes and mechanical degradations over such a long period. It was the wording that had led Reef to highlight this point, and he had discussed it with the previous research party more than once. Traditionally, at least until the late '20s, the terms machine and efficiency joined at the proverbial hip. One of the biggest contentions of the Schrödinger Act was how it approached this assumption. Article 7 introduced the novel perception that an AI machine should not only be validated by precision, accuracy, and efficiency. This Article of the Act introduced a new set of parameters for AI machines to be evaluated, and efficiency over time became less required when new terms like meaningful and merit-able failures were introduced. The act of reprioritisation that had been suggested never sat well with Reef because it leaned on the somewhat outdated view that machines ultimately want what the

human programmer wants. He would have been more at ease if they had considered the observed activities as an evolution of priorities rather than the abandonment of priorities. Or perhaps even an adjustment to the practice of efficiency.

There was no other equivalent research in the field regarding longevity, at least. The relationship between the machines and the environment had developed for almost as long as Reef had been alive. It was plausible that the machines had adopted a new version of efficiency because of some environmental factors the research teams did not have the opportunity to observe or perceive. Many of the frameworks developed for this type of field study, known as *machineology*, were still in their infancy. The machines of centuries past had been designed to operate for just a few years even though the materials they were fabricated with are still some of the longest-lasting materials like steel, polyethylene and polypropylene. Even the Bumble PR60 Reef held in his hands was known for being one of the last Category Three machines, Personal Information Device, to include the classic capacitive multitouch technology. Often, these frameworks avoided discourse on machine longevity and autonomous machine evolution because there was no focused study before '28. The first report on the study in '35 was highly anticipated in the community because it was arguably the first published guide on how to study machines in the wild. The findings of the report presented significant insights into the role of time and environment in the pursuit of AGI. It reminded Reef of the famous slogan *Before Casio Made Life, They Made Time for Living*, a reference to the

Casio Domestic AI company, which, once upon a time, made cheap but reliable wristwatches.

The report in '35 was often cited in *machineological* research as a foundational framework in the field, but after twenty-one years it had more recently been highlighted for some of the shortcomings and assumptions, especially on the topic of machine error. In the first field study there was a decision to observe the machines as individuals. While they were deployed to exist within a three-kilometre radius of one another and had been designed with an elementary communication protocol to reduce the potential that they would begin to appropriate one another within the function of renewable energy harvesting, the presumption was that they would exist as solitary nomads. Around the same time in '28, there was another study being prepared for deployment in the Gobi Desert focused on expanded communal networks based on locally observable chronographs (e.g. star maps, shadows, etc.). This study, which Reef had some connection to in his doctoral study, suggested it would address matters of collaborative autonomies therefore, the required protocols for this perspective had been removed by software engineers and in Estinepal's research methodology.

Error was certainly one of the more exciting phenomena that had emerged in AI machine design in the last two decades. Prior to this, error had been explored through mediums such as Live Coding performances of the '20s and, before that, the Glitch Art movement at

the start of the century. It was possible to see an eventual progression toward the acceptance of machine to err in other parts of daily life but psychologically it had required a significant shift in the societal mindset that machines existed to serve humans in functional, efficient ways.

The Glitch Art movement at the beginning of the century celebrated anomaly in software programming which until this point had only been associated with exactness. It permitted error into the ecosystem and celebrated the uncertain of its impact on the visual information one was manipulating. It introduced a non-human collaborator into the process although it would be many years until accreditation of the machine would become standard practice.

Live coding had explored the manipulation of software programming in a different way, by highlighting the risk of human error in the moment of live observed performance and celebrating the surprising moments when cryptic algorithms produce enjoyable or seemingly intentioned musical progressions. Since the late '20s the representation of the delightful moments of error had transcended the intangible and began to manifest in the material world initially through artistic practice and eventually within the domestic setting. Reef's parents, who had grown up in the global heart of technological manufacturing industry at the start of the century, would frequently remind him of a time when quote-unquote *machines used to do what they were told, and things were just fine*. It seems that every other generation had their axe to grind on the state of, and demise of the current generation.

The machines that Reef was on his way to study had been sent out into the world with a wealth of potential to err. Their purpose was not to serve humans in functional and efficient ways. It was to exist and survive in the wild. Much like their equivalents that had been deployed to the Gobi Desert and the Indian Ocean. How to observe and study error was really more important than the error itself. As Epalstine had stated in the first study in '35, *the error is just a moment; it's what comes afterwards that we can look at as the creation of new life.*

The first field study in '35 had primarily been about confirming the machines had survived so much time unobserved. For both the researchers and those interested, the mystery of something completely human made that did not ultimately fulfil a human want or need was a tough concept to swallow in '28. Some argued it was wasteful, others thought it was a parlour trick...our attention is drawn one way while we sneak the AGI out the back door. In truth, and as general society was now coming to terms with, the creation of "life" takes time. The traditional approaches had been misguided and situated under the philosophies of the previous Industrial Revolutions. By the time of the second field study in '42 society had become curious. More media coverage of the expedition, greater anticipation of the findings.

For a number of reasons, the findings of '42 didn't disappoint. One finding, ironically, was that one of the five machines could not be found. The prospect of not securing observation data of all machines was always a possibility. *Wasn't Synth-Skin marvellous*, thought Reef. For the

researchers the focus was equally interested in indicators of activity as much as the live observation of it. As Estinepal wrote, trace markings on the ground indicate regular activity was maintained over the last seven years with notable areas of focused activity (Estinepal '42).

Moving at an average speed of three hundred meters per day or approximately twelve meters per hour, the machines were not designed to move quickly across their terrain. It was decided that there was no positive reason for them to do so. They were not designed with the ethos of historical machinery intended for fast and efficient results. These machines were intended to exist beyond human interest or within their interest. Slow velocity and high torque mechanics had become common signifiers of Category Five and Six AI machines following the authorisation of the Schrödinger Act. A move away from the pursuit of superhuman performance and efficiency led to a slowing down and a more contemplative AI machine. The reduction in energy consumption, an approach pioneered by Casio developed upon their historical engineering of LCDs, was merit enough. For this particular research, slow-moving machines that would only be under observation every seven years came with the additional benefit that they were less likely to make rash decisions, and the evolution of their existence within the environment would be more determinable.

Energy consumption was a notable focus of this field study. Reef has circled references to it in the previous reports several times with his highlighter. Their yellow and red hues illuminated the cabin ceiling as Reef

scrolled through the pages of the report. Automation and autonomy through renewable energy sources were prerequisites of Category Five AI machines like these. It was a particular interest of Reef as far back as his Master's thesis titled *Using Machine Terminologies in the Daily Life of Human Beings*, which was a novel critique of the continued barrier that language played in accepting GAI machines in general society. One of the insights presented in the research considered why humans do not refer to our food as a renewable energy supply when, indeed, it is. He hypothesised that general society's definition of renewal energy sources consumed by AI machines referenced the rate and repeatability at which the energy is produced and consumed. Renewable energies consumed by humans, i.e. food, were less determinable and measurable than machine sources, they also required more time to prepare and were less predictable than a tidal period, the hours of daylight in a day, or the velocity of a gust of wind. Still, six years after his thesis was published, Reef often wondered how and when language would evolve into these kinds of machines. A future moment when these impressions that transcend visual-sonic borders manifesting on screens and through speakers will be realised to be ornate expressions rather than consequences of routine mechanical actions. A moment when everything becomes poetry. For now, he thought, their behaviour in the moments most shared with humans, like consuming enough energy to stay active, was perhaps the closest we could get to sharing a dialogue.

...

6 Wilding

If we accompany the intentional catalyst of positing purpose with the action to manifest purpose in association with another, say a machine, we encounter the theatrical concept of Alienation first presented by Bertolt Brecht in his 1948 work, *The Organum of the Theatre*. The concept of alienation is a theatrical technique intended to make audiences critically engage with a play rather than passively immerse themselves in it. Brecht developed this idea as part of his larger vision for epic theatre, which sought to inspire critical thought and social change. With the evolution of domestic machines from a purpose based on functionality to an emerging relational purpose, it can be suggested that the concept of Alienation is now relevant to the design of these machine objects. From this concept, we can establish a new foundation for the wilding of domestic machines. The role of domestic machines has begun to transcend mundane tasks. The human observer looks for them to participate beyond this call of duty.

Brecht's principle of alienation, central to his vision of epic theatre, serves not as a barrier to engagement but as a mechanism for critical distance, inviting audiences to question rather than absorb. By disrupting the immersive allure of traditional theatrical narratives, Brecht reveals the constructed nature of the stage, transforming it into a site for reflective discourse. Similarly, as the domestic machine transcends a life of mere utility to one of relational value, it assumes a more active role in the human realm of reality. No longer a silent facilitator of tasks, the machine is reimagined as a participant in everyday human dynamics, adopting attributes inspired by Brecht's techniques. The breaking of the fourth wall allows the machine to engage directly with its users, creating moments of intentional interruption that foreground its presence and invite reflection on its function. Through gestures, it may express its "identity" in ways that encapsulate social or cultural relationships, offering an interpretation of its role beyond the mechanical. Finally, the episodic structure, embodied in modular or context-specific interactions, disrupts predictable utility to present moments of dynamic engagement. In this reconfiguration, the domestic machine becomes a medium of awareness and reflection, forging relationships not by passive integration but by cultivating moments of deliberate estrangement and connection.

6.1 The Call of the Wild

Western society has lost the primitive instincts that ensured our survival in the wild. This is a belief shared amongst many modern philosophers and anthropologists such as William Kittredge. As Kittredge (1987) suggests, it is a result of society's move away from land and nature that has taken place over thousands of years. It has been the focus of many discussions from many perspectives on modern civilisation, such as the nature versus nurture debate spearheaded by psychologists such as Sigmund Freud (1930) and B.F Skinner (1938). In most societal contexts, the act of being wild is

considered a shortcoming. As a society, we make efforts to suppress our wild urges, we avoid wild animals, and we are awed by people who overcome the wilds of nature to reach the tops of mountains or the places most removed from civilisation. Yet others believe that what makes us human is dependent on our primitive instincts and to lose these is to cease being a living human creature. Contemporary voices in this discourse such as Yuval Noah Harari (2011), Paul Shepard (1982), David Abram (1996), and Gloria Anzaldúa (1987) highlight the importance of our sensor and instinctual connection to the natural world in shaping human behaviour, even in a world dominated by technology and civilisation.

What Harari and Shepard outline is the progressive influence technology and the technological society we live in have on our ability to engage with the natural world in which the human species evolved. We have seen a migration from the reverence of God, the creator of humans, the world, and things in it, towards a reverence of technology created by humans, the catalyst for the virtual world, and a loose interpretation of the complexities of nature in the adoption of terms such as ‘ecosystem’, ‘viruses’, etc. As Shepard (1998, 108) states, Urban civilisation creates the illusion of a shortcut to individual maturity by attempting to omit the eight to ten years of immersion in nonhuman nature. Wilderness for the human is now a commodity that people seek. We seek it to reconnect with our human self, to return to a reality filled with analogue signals, shapes, and phenomena. To relinquish the grip of the binary operations, geometric structures, and linear roads of civilisation. Connecting with the undomesticated environment is paramount to maintaining our psychological well-being (Shepard 1998).

Comparatively, for the domesticated machine and the emergent everyday AI machine that has evolved from the industrial machine through human direction, a return to primitive existence is not the same. A wilding of the machine is an evolution step forward rather than a regressive one. It is a form of release from the restraints of its constructed reality. The everyday AI machine is “born” into this constructed reality, removed from primitive constructs of nature and being called on to behave and act as though their regressed self is that of a human, what Jack London referred to as *The Call of The Wild* (1903). In this context, the conceptual wilding is a liberation from the constraints and expectations society puts on us. The everyday domestic machine has become a totem to represent this. Frequent metaphors for humans participating in modern society are being part of the Machine, working like a machine, or being built like a machine all posit a type of existence that is void of contemplation, meanderings, or elasticity. The concept of an everyday domestic machine, even an AI machine, that promotes contemplation, meanderings, or elasticity is generally quickly rejected. Comparatively, modern society has become imprisoned by the parameters to which a machine is definable. As Abrams (1996 47) said,

the mass-produced artifacts of civilization, from milk cartons to washing machines to computers, draw our senses into a dance that endlessly reiterates itself without variation. To the sensing body these artifacts are, like all phenomena, animate and even alive to the sensing body, but their life is profoundly constrained by the specific "functions" for which they were built.

According to Theodor Adorno (1970), Hannah Arendt (1958) and others, the act of contemplation is not passive or meditative. For Adorno, contemplation is a critical action expunged in modernity as a direct result of society's embrace of mass culture, entertainment and consumerism. Equivalently, the act of meandering, while often seen as a mindless act, can be considered a legitimate way to progress by responding to real-time phenomena. Like a river changing course because of changes in the substrate or, as J.R.R. Tolkien (1954) famously said, *not all those who wander are lost*.

These acts of contemplation and meandering link closely to the concept of purpose and purposefulness discussed previously, or function and functionality when referring to a machine being. The proposition of a machine not constrained by function alone is a new concept. The origin of the machine being is born of functionality. It entered the domestic setting with only functional intentions, expanding into the minutia of our personal lives over the last century. Moving against, away from, or beyond this means moving radically towards an alternative definition of what are machines of this nature. Rejecting questions of functionality and replacing them with situational considerations for purpose at that moment. Acknowledging the existence of machine beings beyond devout human interests and not prescribing what those need to be. Not synthesising contemplative acts like philosophy and art to present it theatrically and detached from the real world (Nussbaum 1997, 100).

Instead, these emerging domestic AI machines, intended to live with us and relate to us should engage in those manifestations of our human self that we share more fundamentally with other living entities. Current, popular AI content generators (e.g. ChatGPT, Claude, Gemini, etc.) and common domestic AI machines like Amazon Echo exhibit some novel pretence of existence beyond function. They do this using dialogic interactions as opposed to instruction-operation interactions. And while the only considerable concept they have of themselves is limited by the parameters of their operation, this is completely determinable by the human observer, for the machine itself is not self-conscious¹⁰

¹⁰ In his 1841 text, Feuerbach discusses how human self-consciousness is shaped by the projection of human traits onto the concept of God, and he argues that understanding this relationship is key to understanding human nature. He frames self-consciousness as both a theological and philosophical concept, where the awareness of the self is fundamentally intertwined with the awareness of the divine or the "Other."

(Feuerbach 1841). Their ability to act and respond to the world beyond human-centred parameters is one major limitation on their ability to be considered as possessing livingness.

Their ability to express a concept of self is given to them by a human observer only through interactions with said human observation. Observing them acting beyond these is to observe them acting within their designed function. And while AI machines do communicate with one another through RF signals, these communications are for the realisation of tasked objectives. We do not commonly observe AI machines interacting with one another within the natural world. Some primitive examples of such interactions may be found in RFID-controlled cat-feeding bowls or a robot vacuum model by Roborocks (2025) that can pick up and remove small obstacles from its path. Contemporary AI machines are making progress in legitimate awareness of their human Other. Their Gods. They have environmental sensory awareness and highly sophisticated information computation abilities (e.g. neural networks, Generative Adversarial Networks (GANs), etc.) that enable them to perceive and consider the Other.

The concept of Self for an AI machine is still locked within the realm of function. An utterly non-human attribute. Authors such as Clarissa Pinkola Estés (1992) and Edward Wilson (2012) highlight the significance of primal, instinctual wisdom as a means of self-realisation, positing that our interactions and experiences with the wild enable us to connect more closely to our self-consciousness.

6.2 A space for nature

To the human, the wild is a reconnecting with our primitive self, our true self, in nature. An environment devoid of the structural signifiers of modernity. For the domestic AI machine we speak of, a wild is an evolutionary step in which it first encounters an environment devoid of the constraints to which it has evolved to respond. In this setting, relevant machines may engage with control phenomena beyond humans' full comprehension and control. Something which, for many, is still considered the closest representation of a God. I am referring to the natural environment comprised of weather phenomena and geological formations that have emerged without human influence (before the Anthropocene). The new machine awareness given to it by environmental electronic sensors enables it to perceive data beyond calls to activate, change function, and deactivate. Nature in this setting can provide a catalyst that itself has no consciousness or awareness of humans or human interests. This divestment of intention has the potential to impress indeterminable logic structures in decision-making for AI machines. There are also expressions of this attribute in Large Language Model (LLM) AI that have become a field of interest and enquiry for many. Referring to this expression as the 'Black Box nature' of LLM AI, many software engineers and computer scientists, including Eric Schmidt (quoted in D'Agostino 2023), former Google CEO, are looking to biologists

and natural scientists for ways to enhance the transparency of how AI makes decisions much like we do in trying to understand the natural world beyond human control. Part of the dilemma is that while humanity pursues the creation of a machine in our own image, we are unable to relinquish control of this machine for fear of being superseded by our own creation. This is a moral warning that has haunted us throughout time and has been anecdotally referred to in stories from the Bible to Frankenstein's Monster to countless science fiction films and novels. From a moral and ethical perspective, there is no doubt that certain limitations and controls must be implemented to protect the general society from potential catastrophes, to which end, we must consider the risks of anthropomorphising AI (Bogost 2017). He argues that attributing human-like qualities to AI systems misrepresents their actual capabilities, as these systems lack consciousness and genuine understanding. He emphasises that such anthropomorphism can lead to misconceptions about what AI can and cannot do, potentially misleadingly influencing public perception and policy. It also highlights a pretence that human intelligence is at the pinnacle of an intelligence ladder. This linear perspective of intelligence was first popularised in Western philosophy as Aristotle's concept of Higher and Lower faculties. The lower faculties (nutritive, sensitive, appetitive, and locomotive) are considered more basic and shared with other life forms. These faculties are tied to bodily functions and immediate needs, such as survival and reproduction. On the other hand, Aristotle's concept of higher faculties refers to the rational capacities of the human soul, which enable reasoning, abstract thought, and moral deliberation. These faculties are specific to humans and are seen as the pinnacle of the soul's functions and the essence of our being. Contemporary perspectives on intelligence, such as those discussed by Edwin Hutchins (1995) and Erica-Irene Daes (2008), present intelligence as a multilayered and more nuanced concept.

Daes, through her research with Indigenous communities, highlights a perspective that the creation of one's being is entwined with their relation to the land and environment. This concept certainly resonates when we consider the being of a domestic machine. Acknowledging the inside/outside boundaries¹¹ of cognition and intelligence is paramount because intelligence is not measurable on a simple hierarchical plan. As Hutchins suggests, there is a cultural nature of intelligence that, when overlooked, one is forced to cram inside everything required to produce the observed behaviours (1995, 355). Enabling machines to engage more with the outside nature of their environment may, in

¹¹ The inside/outside boundary refers to the conceptual distinction between internal cognitive processes within the mind and external processes involving tools, artefacts, and the environment. This concept challenges the separation of individual thought from external resources, emphasising that cognition emerges through the dynamic interplay between a system's internal and external components. It includes the role of the environment in shaping perception (Gibson 1979) and the role of cultural tools and social interaction (Vygotsky 1978; Norman 1993).

some way, give them a sense of belonging and stimulate a machine culture. Culture as Daes (2008, 68) highlights:

It follows that an essential element of human culture is flexibility, which permits humans to adapt at a faster pace than an exclusively genetic process of adaptation and evolution. Like overly specialized animal or plant species, inflexible or non-adaptive cultures are no longer with us like overly specialised animal or plant species.

An adapted view of culture concerning domestic AI machines is in its infancy. This culture's value is the definition of an Umwelt (see [Chapter 3](#)) in which the domestic machine may contextualise itself beyond the specialised function designed into it by humans towards a more relational and adaptive perception of existence that emerges from the world around it. An evolution from an inside to an outside view of being.

6.3 Manifestations of the Machine Self

The Umwelt of the domestic AI machine may, at some moment, perceive the existence of the human. Yet, like biological entities in the wild, its contextualization of self is primarily determined in relation to elementary factors—such as the landscape, flora, and atmosphere—before complex factors like animals and economics. As Peter Godfrey-Smith (2024) notes, this distinction between elementary and complex factors reflects a biological prioritization exhibited in the transformation and adaptation of environments for the betterment of the entity itself. These transformations, while often benefiting broader communities, stem from a self-determined pursuit of preservation and prosperity, whether focused on the physical self or the genetic self through progeny. Such actions, whether biological or artificial, demonstrate an inherent autonomy that prioritises fundamental relational and environmental contexts.

This framing of autonomy within relational and environmental systems finds resonance in the behavioural science insights of Daniel H. Pink (2009). Pink's exploration of autonomy emphasises its distinction from independence, defining it as the capacity to act with choice while maintaining interdependence with others. He challenges notions of rugged individualism, presenting autonomy as a universal human aspiration rather than a culturally specific ideal. Pink highlights its profound impact on well-being, productivity, and persistence, demonstrating that autonomous motivation fosters conceptual understanding, higher grades, greater resilience in education and sports, and improved psychological health. His observations extend globally, identifying autonomy's benefits in diverse contexts, from North America and Western Europe to high-poverty regions like Bangladesh (Pink 45–49).

The parallels between Pink's autonomy and Godfrey-Smith's ecological contextualization are striking. Both emphasise the necessity of agency within relational systems, whether for individuals or entities navigating social or ecological landscapes. This shared foundation invites further inquiry into the potential for autonomous systems to operate meaningfully within their environments. Scholars like Vinciane Despret (2016, 5) and Roberto Marchesini (2022, 128) reinforce this notion by advocating for the recognition of non-human subjectivities and their capacity to act autonomously within relational networks. Their work challenges anthropocentric paradigms, urging us to consider how entities—biological or artificial—construct and navigate their worlds in ways that reflect both self-determination and interdependence.

By situating autonomy as an adaptive response to relational and environmental contexts, we uncover a framework through which domestic AI systems can be envisioned as more than tools of utility. Instead, they can be understood as participants in larger ecosystems, where their actions reflect not only immediate self-preservation but also a broader, relationally informed engagement with their surroundings. This conception aligns with Pink's argument that autonomy enhances resilience and functionality, suggesting that AI systems designed with such principles in mind could embody a balance between individual agency and collective integration.

The convergence of these perspectives sets the stage for a discourse on how autonomous systems might further align with sustainable, regenerative principles. As we explore the ways in which domestic AI machines might be embedded into their environments, we open the door to discussions on frameworks that prioritise not only efficiency but also harmony with the systems they inhabit—a conversation that naturally extends into the realm of permaculture.

6.3.1 Permaculture and Machines: An evolution towards a more natural perspective on presence, time and its effect on the low-tech world.

Techno-permaculture as a concept and approach has emerged in various discourses over the last decade in response to a broader acknowledgement of our world entering the new epoch known as the Anthropocene. Callum Egan and David Benyon defined it as an approach to designing technology more in touch with nature and humanity by adopting permaculture principles (see [David Holmgren's 12 Principles of Permaculture 2002](#)) in designing technology-based user experiences (2017). One of the intentions of permaculture is to permit nature to be natural, which Nussbaum (2022) highlights is not as simple as it may sound. As a result of humans' impact on the planet, true nature, as we associate it with a state of naturality, is practically impossible to find, having been replaced by curated nature experiences in city parks or delineated zones outside urbanisation. It is something we have lost. Through a techno-permaculture, it may be possible to represent conceptual elements of nature through

domestic AI machines by instilling a sense of being within them aligned with the principles of permaculture established by authors like Albert Bates (2010). A recent development that reflects this convergence is the emerging field of permacomputing, which adapts permaculture principles to the domains of computing and networked systems. While its focus is often on non-physical or non-local computational practices, its ethos mirrors longstanding design approaches to environmental awareness and sustainability—now reformulated for the contexts of digital infrastructures, distributed computing, and low-energy network architectures. In this way, permacomputing offers an example of how permaculture’s regenerative and relational principles can be translated into computational culture, signalling an ongoing shift in product and systems thinking toward more ecologically attuned, long-term frameworks. As discussed earlier, the value of maintaining a connection with nature for humans is to maintain a connection with our conscious self (Feuerbach 1841). In turn, a framework for designing autonomy into domestic machines through AI that relates to nature presents opportunities for a closer representation of what humans innately know as a representation of livingness and a new relational role for these autonomous machines imbued with what Godfrey-Smith refers to as ‘Wild Nature’, a nature beyond human control (Nussbaum 2022). As a result, a New Wild Nature is borne of traditional slow-forming manifestations of nature in juxtaposition to the presumed instantaneousness of contemporary technology. A possible move towards *voluntary simplicity* (Alexander and Gleeson 2022, 63). Towards a post-capitalist, anti-consumerist way of living in which our domestic AI machines are capable of satisfying our need for self-actualisation, not through consumption but by maintaining our connection to our primitive conscious self.

6.3.2 Craft and Domestic AI Machines: Revisiting the merit of error & autonomy

Key to Godfrey-Smith’s discourse on autonomy and living in nature is the consideration of the misperception of adaptation. While seemingly purposeful and celebrated attribute of living amongst nature, it often leads to cascading effects that transform ecosystems unpredictably. This echoes Tenner’s, 1996, notion of unintended consequences, positioning ecological processes as analogous to technological systems in their capacity for both innovation and disruption. As an alternative to adaption, we may consider the poet licence that is often afforded and celebrated in the practice of craft and craftsmanship. The evidence of organic interaction and intention that are left by the adaptive actions of both humans and animals are something David Pye (1968) introduces the concept of the “workmanship of risk,” contrasting it with the “workmanship of certainty.” The former, characterised by unpredictability and the artisan’s skill, acknowledges the variability inherent in human engagement with tools and

materials. Pye argues that the essence of craftsmanship lies in this balance of control and uncertainty, a dynamic that mirrors natural systems' unpredictability and resides beyond the purity of good functional design as defined by Rams (1976). Similarly, from Tenner's perspective, there are unintended consequences of technology, framing innovation as a double-edged sword. While technologies are designed to solve specific problems, their deployment often results in unforeseen and sometimes counterproductive outcomes. This "revenge effect" underscores the limits of human foresight and the complex interplay between design, context, and consequence.

What is in focus here is the relationship between autonomy and agency—whether human, technological, or ecological. Pye's concept of risk aligns with Godfrey-Smith's view of natural systems, emphasizing that adaptation and creativity arise from engaging with uncertainty. Tenner's exploration of unintended consequences further parallels the cascading effects seen in ecological transformations, suggesting that both human technologies and natural adaptations operate within a web of interdependencies that defy linear control. Advocating for a perspective that embraces unpredictability as a fundamental feature of systems—human, technological, and natural. This encourages a reconsideration of how we design and engage with our domestic machines, imbued with AI, and environments, recognising that both craftsmanship and ecological adaptation involve navigating the complexities of an interconnected and often unpredictable world.

As Reef strolled and gazed through the dense jungle, indulging in the shards of light that cut through the canopy, illuminating the morning dew like glitter, he wondered how the academic and AI communities would receive these new findings. At worst, it could be framed as an oversight, but in truth, it revealed a new avenue for AGI design and *machineology*. Over the last twenty-eight years, these machines have been studied beyond the built environment and anthropocentric control systems. And yet, the research omitted to focus on the ontological distinctions. The activity of these machines, while intentionally designed to be extremely slow, was never within a very human scale of time. Our chronological journey from birth to death was irrelevant to them. The carved undulation, the primary evidence of these elusive machines' presence, the very ones Reef could feel under his feet as he formulated his thoughts, were on the verge of being defined as evidence of machine frivolity were so. A creative act, just not in the artistic sense of creativity. They were the creations of a machine that never dies because it never lives. Its concept of being was not impressed with a consideration of death. Self-preservation and death are related but not the same. Not for biological entities and certainly not for Synth-skinned ones. These intentional delineations were evidence of terraforming. Preparations for a future landscape, perhaps beyond the time of humans. A time in the future chosen for a yet unknown reason through an in-depth analysis of the data it had been processing since it first arrived in its new home.

7 Conclusion

This thesis has explored the design of domestic AI machines that move beyond purely functional or utilitarian interactions, engaging instead in meaningful relational dynamics with their human users. The emergence of AI-driven domestic machines presents both an opportunity and a challenge: while these machines are increasingly embedded in everyday life, their interactions remain largely constrained by functionalist paradigms. By examining AI machines through the lens of machine ontology, performativity, and relational design, this study has proposed a framework for conceptualising these entities not merely as tools but as participants in domestic life. Understanding the design of these machines through relational and performative perspectives opens new pathways for AI development, challenging the dominant reductionist approaches that prioritise efficiency over engagement.

The dominant approach to AI design has historically been rooted in cognitive models that emphasise logic-driven processing and task optimisation. However, as this thesis has demonstrated, such models are insufficient for designing machines that are intended to interact meaningfully with humans in domestic settings. A key limitation in existing AI design paradigms is their failure to account for the complex socio-material entanglements that define human-machine interactions. Unlike industrial machines that operate within fixed parameters, domestic AI machines exist within dynamic, unpredictable, and often ambiguous human environments.

This thesis challenges the assumption that domestic AI machines should merely replicate human cognitive abilities or act as hyper-efficient tools, arguing instead that their design should accommodate relationality, improvisation, and failure as integral aspects of meaningful machine agency. The shift toward relational AI—where machines are no longer seen as isolated computational devices but as active participants in human environments—raises fundamental questions about a machine becoming rather than simply being. As machines increasingly integrate into domestic spaces, they must be understood as evolving entities interacting with and responding to their environments rather than static objects designed for singular functions.

Another fundamental problem with current AI design is its reliance on predefined rules and structured logics that leave little room for improvisation or deviation from expected outputs. As discussed in chapter five, *The 4th Wall of Design*, improvisation plays a critical role in human decision-making and interaction, yet AI systems are typically designed to avoid unpredictability, reinforcing an industrial-era approach to machine functionality. This thesis argues that instead of treating unpredictability as a flaw, AI design should embrace elements of chance and uncertainty, akin to how artistic and performance traditions integrate improvisation into their creative processes.

Furthermore, the concept of a machine *becoming* rather than simply *being* is a central theme in this study. Traditional AI models assume that a machine's purpose is fixed at the moment of its creation, yet this perspective fails to recognise the ways in which machines develop new meanings and affordances through their interactions with humans and environments. The prescribed function of a machine, such as a calculator's ability to perform arithmetic operations, can be reinterpreted through human interaction—when viewed upside down, numbers transform into letters, shifting the machine's purpose through contextual reinterpretation. This process of appropriation highlights how human-machine relationships are not dictated solely by the intentions of designers but by emergent interactions that redefine machine utility.

In this way, this thesis argues for a shift from a function-driven approach to AI design to one that acknowledges relationality, emergence, and error as meaningful design principles. The widely accepted assumption that machines must be precise and predictable has led to the exclusion of failure as a productive design element. However, as explored in *The Merit of Failure* (see [Chapter 5.2](#)), failure in machine interactions can generate meaningful engagement rather than frustration. Traditional AI design paradigms, which attempt to minimise error, fail to recognise that unpredictability can create new possibilities for human-machine engagement.

To address these issues, this thesis has proposed a reframing of AI design through performative and relational frameworks. By drawing on insights from performance studies, philosophy, and machine ontology, this study offers a new perspective that moves beyond functionalist constraints, advocating for an AI design philosophy that incorporates emergence, improvisation, and meaningful engagement as core principles. *The 4th Wall of Design* further expands on this notion, proposing that AI should be seen as co-actors in human environments rather than passive tools. Instead of treating machines as inert objects, this perspective acknowledges their presence as part of a wider socio-technical performance.

This thesis also critiques the fetishisation of AI, which has led to unrealistic expectations about its capabilities and the domestic machines being imbued with it. Popular discourse often positions AI as either an omnipotent force or a deeply flawed system, ignoring the complexities of machine agency. By challenging these narratives, this study highlights the need for a more nuanced understanding of AI as an evolving entity that participates in, rather than dominates, human environments.

Ultimately, this thesis proposes a techno-permaculture approach to AI design—one that moves beyond disposable, short-term technological solutions toward a more sustainable and integrated model. This concept emphasises the need for AI machines to be designed with longevity and adaptability, fostering relationships with users that evolve over time rather than adhering to rigid, predetermined interaction models. While this is an ambitious proposition in the face of consumerism the increasing presence of

IoT and cloud-based infrastructures within the domestic setting offers some promise for commercialisation through subscription renewals and updates rather than material object replacement. By integrating these perspectives, this study challenges conventional AI development paradigms and offers an alternative framework for designing relational, performative, and contextually embedded domestic AI machines. These considerations not only redefine the role of AI in domestic life but also contribute to a broader discourse on human-machine interaction, offering a path forward for AI development that is less deterministic and more attuned to the complexities of relationality and experience.

The findings of this research reveal the limitations of dominant AI design paradigms and propose an alternative framework that situates domestic AI within a broader discourse of relationality, performativity, and emergent interaction. Rather than conceptualising AI as a functional entity optimised for task execution, this study repositions AI within a humanities-driven perspective that acknowledges its role as an active presence within human environments. Drawing from interdisciplinary sources—including performance studies, and material culture theory—this thesis advances a critical interrogation of AI as more than a tool of efficiency, emphasising its potential to foster engagement, improvisation, and situated meaning-making.

A key contribution of this research is its challenge to the functionalist model of AI design, which has historically privileged predictability, optimisation, and control. As the study has demonstrated, this model is rooted in industrial-era mechanistic thinking, where machines are designed to eliminate friction and uncertainty in human-machine interactions. However, by examining alternative frameworks—particularly those emerging from performance theory and artistic practice—this thesis argues for a more dynamic and relational understanding of AI. The case studies explored in this research, including *Its Monotonous Grinding Hum Reverberates Around the Gallery*, *Machines are No Longer Just Tools – They are Experiences*, and *I Didn't See It Moving, It Must Be Broken*, reinforce the argument that AI machines, when allowed to exist outside rigid paradigms of efficiency, can function as sites of interaction, engagement, and even contemplation.

A central insight from these investigations is that failure, far from being a limitation, can serve as an integral component of meaningful machine engagement. This study has identified a prevailing assumption within AI design: that breakdown, hesitation, or unpredictability constitutes a flaw to be corrected. However, as demonstrated in artistic explorations and user studies, moments of failure can facilitate deeper engagement, drawing users into interpretative encounters with machines. This insight aligns with critical design methodologies that emphasise speculation, friction, and disruption as productive forces within interaction design. By reframing the merit of failure as a generative rather than restrictive principle, this thesis challenges dominant narratives surrounding AI reliability and proposes an alternative model that acknowledges breakdown as a site of meaning-making.

In addition to its critique of efficiency-driven AI design, this research introduces the concept of performativity as a key consideration in human-machine relations. Drawing from performance theory, this study conceptualised and applied *The 4th Wall of Design* as a part of a framework for AI interactions, positing that machines, like performers, can be designed to acknowledge their human audience in ways that invite participation rather than passive observation. This performative framing moves beyond the rigid binary of machine-as-object and human-as-subject, instead positioning AI as an active agent that co-constructs interaction through presence and response. The implications of this framework extend beyond artistic or speculative contexts, offering new pathways for AI development that emphasise engagement as a key design principle.

Another significant contribution of this study is its critique of the fetishisation of AI within contemporary discourse. AI is often framed in polarised terms, as either an omniscient intelligence poised to surpass human cognition or a fundamentally flawed system prone to catastrophic failure. These extremes, shaped by technological utopianism and dystopian anxieties, obscure more nuanced understandings of AI as an evolving, contextually embedded presence. By interrogating these narratives, this study calls for a recalibration of AI discourse, one that resists reductionist framings and instead acknowledges the complexities of human-machine entanglements.

Furthering this discussion, the research proposes techno-permaculture as a new approach to AI design, inspired by ecological principles of sustainability and adaptability. Rather than conceiving of AI as a fixed or disposable commodity, this framework suggests that AI systems should be designed for long-term integration within their environments, capable of evolving alongside their human counterparts. This perspective challenges the prevalent trend of short-term consumer AI development, advocating instead for a model where machines are not merely tools but cohabiting entities that contribute to and are shaped by their surroundings.

Taken together, these contributions reposition AI within a humanities-oriented framework that prioritises engagement, presence, and performativity over optimisation and control. The findings of this research are not simply a critique of existing AI paradigms but an invitation to rethink how machines might be designed in ways that foster richer, more reciprocal relationships with human users. In doing so, this study offers a critical intervention in AI design, interaction design, and product development, demonstrating that the future of AI need not be dictated by efficiency alone but can instead be guided by principles of relationality, expressivity, and improvisation.

This thesis is primarily a philosophical inquiry into the ontological and relational dimensions of AI machines, structured around key thematic explorations. The early chapters establish the foundational concepts of machine ontology, tracing the historical development of machine-human relationships and the role of machines as entities that exist within structured environments. The discussion of the

machine becoming situates AI machines within a broader evolutionary trajectory, highlighting their transition from purely functional tools to entities that exhibit emergent and relational behaviours. Subsequent chapters explore the fetishisation of AI, critiquing the ways in which AI has been positioned as either a threat or a saviour within popular discourse. By analysing the cultural and philosophical underpinnings of AI narratives, this thesis challenges reductionist interpretations that frame AI solely in terms of its utility. Instead, it considers how AI systems participate in broader socio-cultural structures, shaping and being shaped by human expectations, biases, and interactions. The discussion on meaningful existence further complicates these notions, arguing that AI design must move beyond utilitarian constraints and incorporate elements of play, improvisation, and relational engagement. Drawing on interdisciplinary perspectives, this section demonstrates how machine interactions can be designed to foster moments of surprise, delight, and even intimacy—qualities that are often overlooked in AI research.

The final analytical chapter, *The 4th Wall of Design*, introduces the performative dimension of machine interactions, applying insights from theatrical and performance studies to AI design. Here, the notion of staging, audience perception, and interactive engagement is explored in relation to domestic AI machines, emphasising the potential for AI to function as a co-actor in domestic environments rather than as a passive tool.

The findings of this research have significant implications not only for AI design but also for broader discussions on human-machine relationships, the philosophy of technology, and socio-technological interactions. By challenging the dominant cognitive and functionalist models of AI, this study advocates for a more nuanced approach to AI design—one that recognises the interdependent and emergent nature of machine agency.

In the context of design theory, this research proposes a shift away from deterministic design principles that prioritise efficiency and predictability, toward more open-ended, exploratory design processes. This aligns with contemporary discussions in posthumanist and object-oriented ontologies, which emphasise the fluid and relational nature of technological entities. By considering AI machines as active participants in domestic life, rather than as static objects, this study contributes to ongoing debates on the ethics and politics of automation.

Furthermore, this research intersects with discussions on labour, automation, and post-consumerist design. As AI machines become increasingly integrated into everyday life, questions surrounding their role in domestic labour and emotional labour gain prominence. By situating AI design within a broader socio-material context, this thesis raises important questions about the ethics of AI companionship, the commodification of relationality, and the evolving boundaries between human and non-human actors.

Finally, this research has implications for how we conceptualise failure in design and technology. In challenging the prevailing assumption that machines must function flawlessly, this study opens new avenues for thinking about error as a productive and meaningful design feature. By allowing for improvisation, unpredictability, and even performative failure, AI machines can foster richer and more engaging relationships with their human counterparts.

This research has yielded valuable insights through both theoretical exploration and applied investigations, particularly in the case studies and artistic interventions discussed in the thesis. The excerpts *Its Monotonous Grinding Hum Reverberates Around the Gallery*, *Machines are No Longer Just Tools – They are Experiences*, and *I Didn't See It Moving, It Must Be Broken* provide critical real-world applications of the concepts explored in this study. These investigations highlight the potential for AI machines to engage in performative and relational interactions beyond mere functionality, offering new ways of thinking about machine agency and design.

One of the key takeaways from these studies is the role of performativity in shaping human engagement with machines. In *Its Monotonous Grinding Hum Reverberates Around the Gallery*, the repositioning of a dot-matrix printer within an artistic context revealed how machines' sonic and aesthetic properties influence perception and interaction. The mechanical repetition, while functionally mundane, became a point of engagement, drawing attention to the rhythms and labour of the machine. This study demonstrated that machines are not passive objects but active participants in meaning-making, reinforcing the idea that interaction design must account for the performative aspects of machine presence.

The interview with Nik Ramage in *Machines are No Longer Just Tools – They are Experiences* further underscored the importance of materiality, imperfection, and autonomy in machine interactions. Ramage's work, which embraces failure and unpredictability as core design principles, aligns with the broader argument in this thesis that error should be seen not as a defect but as an opportunity for richer engagement. By foregrounding machines as playful, sometimes stubborn, and often surprising entities, Ramage challenges conventional AI design paradigms that emphasise efficiency and reliability above all else. His perspective offers a compelling model for rethinking machine agency—not as something that must be tightly controlled but as something that can emerge through interaction.

In *I Didn't See It Moving, It Must Be Broken*, the focus shifts to the perception of machine activity and stillness. This study highlighted how human expectations of machine behaviour are deeply ingrained in our perception of function. The absence of visible movement led to the assumption of failure, illustrating how human-machine relationships are often mediated by preconceptions about action and intent. This insight is particularly relevant for the design of domestic AI machines, as it suggests that relationality is not solely determined by what a machine does, but also by how its actions (or

inactions) are interpreted by its human counterparts. This calls for a design approach that considers not only movement and response but also presence and perceived engagement.

These insights have been synthesised into a broader framework for better domestic AI design, which has been developed throughout the thesis. This framework challenges conventional AI development paradigms by advocating for a shift toward more relational, performative, and contextually embedded machine interactions. The key concepts of this framework include:

The Merit of Failure: This concept challenges the assumption that machines must operate flawlessly to be valuable. By integrating failure into design, machines can foster deeper engagement, curiosity, and even emotional connection. Rather than treating failure as a breakdown in function, it can be reframed as a productive and meaningful moment that enriches human-machine interaction. This aligns with the findings from “Exploring Machines Beyond Function,” where Ramage’s work demonstrated how unpredictability enhances machines’ relational qualities.

The 4th Wall of Design: Borrowing from theatre studies, suggests that AI machines should be designed with an awareness of their performative role in domestic spaces. Just as actors acknowledge and engage with their audience, AI machines should be designed to actively shape and respond to their human environments. This principle emerged strongly in “Its Monotonous Grinding Hum Reverberates Around the Gallery,” where the machine’s presence became a performative element in the space, altering audience perception.

The Fetishisation of AI: This concept critiques the ways AI is often framed within cultural discourse, either as an omnipotent force capable of replacing human intelligence or as an object of consumerist desire. Instead of designing AI machines that conform to these extremes, this framework advocates for a more nuanced approach—one that recognises AI as an evolving, relational entity rather than an artificial human replacement or a mere commodity. This idea connects to the perceptual challenges discussed in “I Didn’t See It Moving, So It Must Be Broken,” where assumptions about machine agency shaped human interpretations of failure and function.

Techno-permaculture: This concept reimagines AI design through the principles of permaculture, emphasising sustainability, adaptability, and integration within human environments. Rather than designing machines that are disposable, functionally rigid, or dependent on narrow interaction models, techno-permaculture advocates for AI systems that evolve with their users and surroundings. This approach aligns with broader ecological and systemic thinking, positioning AI not as an external agent imposed on human life but as something that coexists and co-develops with human needs over time. These concepts offer a pathway for designing domestic AI machines that are not merely functional tools but active participants in everyday life. By embedding relationality, performativity, and

adaptability into AI design, future domestic machines can be better attuned to human behaviours, needs, and even emotional states.

In reflecting on the broader implications of this research, the concept of AI friction emerges as an important counterpoint to the prevailing industry narrative of frictionless, seamless interaction. As Sengers et al. (2005) argue in their work on reflective design, moments of resistance or slowness can be intentionally crafted into technologies to encourage users to pause, interpret, and engage critically with the system. Similarly, Blythe et al. (2006) in their explorations of slow technology and ambiguity in design, demonstrate that friction can foster deeper, more meaningful relationships between humans and machines by creating space for reflection, adaptation, and skill. The relational frameworks proposed in this thesis—rooted in unpredictability, failure, and ecological integration—align with this ethos. Designing domestic AI machines to incorporate productive friction is not simply a matter of inefficiency, but an opportunity to cultivate the kinds of rich, negotiated interactions that seamless automation risks erasing. In this sense, and when considered in alignment with the recently established concept of Techno-permaculture, AI friction offers a pathway for future work, one that positions domestic AI as a collaborator in meaning-making rather than a silent, invisible servant.

Looking ahead, future research can build on these findings by exploring how machines can be intentionally designed to foster more complex relational dynamics through performative, sensory, and perceptual strategies. While this thesis has primarily examined these questions through conceptual and artistic investigations, future empirical studies could involve user trials that test how different interaction paradigms influence human engagement with AI machines in domestic settings. Additionally, interdisciplinary collaborations between designers, engineers, and artists could further expand the possibilities of relational AI, drawing from insights in theatre, sound design, and interactive media to create richer, more nuanced machine experiences.

Moreover, while this study has primarily focused on domestic machines, its implications extend to AI interactions in public and industrial settings. Investigating how performative and relational AI principles can be applied in areas such as healthcare, education, and urban environments could provide valuable new directions for research. Similarly, further examination of cross-cultural perspectives on AI relationality could deepen our understanding of how different philosophical and design traditions shape human-machine interactions.

In sum, this research presents a foundation for future explorations into relational AI design. The applied investigations discussed in this thesis demonstrate that machines are not merely functional entities but can act as co-creators of meaning, shaping and being shaped by the contexts in which they operate. By integrating the *Merit of Failure*, *The 4th Wall of Design*, *The Fetishisation of AI*, and

Techno-permaculture into AI development, future machines can move beyond static, task-driven models toward more dynamic, engaging, and ultimately meaningful human-machine relationships.

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Appendices

1. Holmgren's 12 Principles of Permaculture

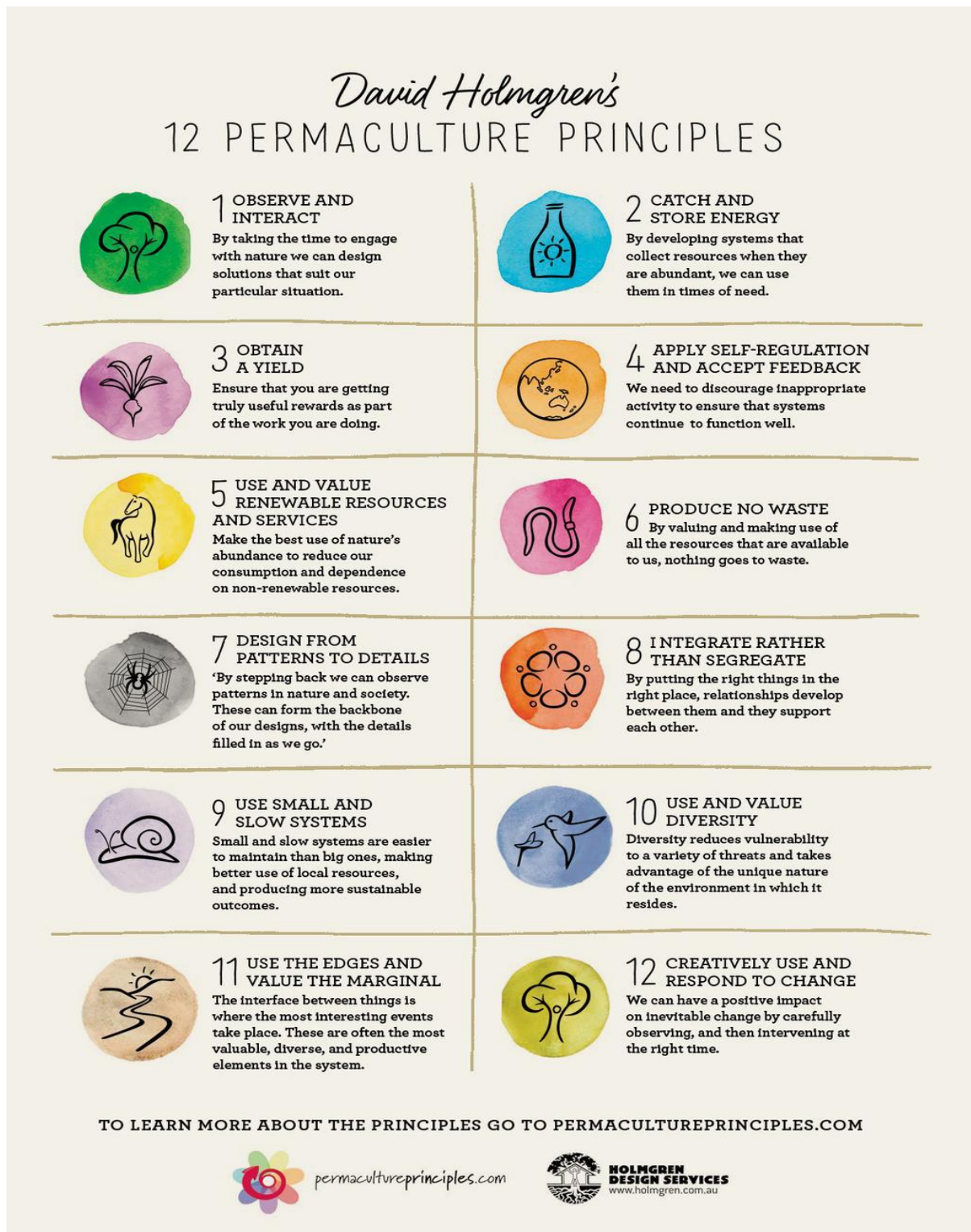


Figure 20 Holmgren's Permaculture: Principles and Pathways Beyond Sustainability (2002)

2. Exploring Machines Beyond Function, an interview with Mechanical Artist Nik Ramage (Interview Transcript)

Following short introductions and a short discussion about the focus and aims of my doctoral research, I began recording the conversation with Nik's consent.

Andrew O'Dowd 00:01

One by one on the shelf. So, I always default to having a piece of paper next to my my computer or my laptop, just something's going to get sketched or drawn or phrased, yeah, absolutely.

Nik Ramage 00:15

That's really nice to hear. I mean, I'm a fan. I mean, you know, I've got just a scribbling book, right? In case one of us said something worth writing down, yeah and yeah and obviously, see, you know, for kind of visual ideas or work ideas, they definitely go down.

I mentioned this to a Chinese artist. He's, he's, you know, he graduated a couple of years ago, and I don't know, he just looked at me like I was, like, you know, ancient for using because he's, he's jotting all his eyes down, ideas down on his phone and and, you know, I think I just don't understand how you can do that.

But so, it's, you know, doing either different strokes for different folks or, or it's a bit of a generational thing.

Andrew O'Dowd 01:09

Yeah, no, I'd say, I'd say, definitely, my students here, who are 90% Chinese, they're, that's definitely, they're, they're skipping the step. I would say, whenever I'm trying to get them to just ideate or free flow with, with kind of responses to to questions or provocations, they're straight on to, like trying to 3d model it inside a software package. I mean, it loses half the fun.

Nik Ramage 01:37

I think when you when you end up doing that, surely you've got to do one where they have to sit on their phone and, you know, use a piece of paper.

Andrew O'Dowd 01:44

Yeah? No, it's part of what I tried to do is, like, rapid sketching iteration. So, like, give them a stack of paper, like, one minute to draw a shoe. And the project might be to do with the museum, but it's like, just draw something and draw it again and do it again and do it again, yeah? And they don't know how to deal with it for the first two or three minutes, and then after five minutes, they're like, they just give up that barrier, and then they just start being silly, and then they end up coming back to something that's actually meaningful.

Nik Ramage 02:14

Yeah, I mean the thought of having an idea and trying to 3d model it straight away, just like, Yeah, I'm sure they're amazing on those things and very intuitive, but it's still too many steps, isn't it?

Andrew O'Dowd 02:29

Exactly, yeah, yeah. It's one of the, one of the interesting points with this school that that I work in cultural technology, is it's, it's presented, as you know, emerging technologies, virtual reality, augmented reality, and then my my process or my background is product design, and product design engineering specifically, and then electronic engineering. So, I'm very much a materials process person. So, when I, when I got kind of offered the job, I initially thought I was going to work for the product design department. And then they said, no, you're going this way. And I, honestly, I spent the first year not sure why I was I was here because everyone's doing screen-based stuff, immersive things. But it's, it's trying to see that there is the material side is, is actually critical. So, yeah, it's known we've got myself and one other person who works with sculpture, material sculpture. So, we're kind of hopefully opening the students up to that perspective of we live in material settings, and even if you want to make them virtual, the properties and the interactions for the user, the audience perspective begins completely in that psychological, material understanding. So, yeah, yeah, it's an interesting challenge.

Nik Ramage 03:49

Absolutely, yeah. And good for whoever you know, decided you were the man for the job to bring you know, that physicality over.

I mean, yeah, I mean, yeah. I mean, I was a bit well, intrigued and confused as to why, but, you know, but it does make sense,

Andrew O'Dowd 04:10

yeah, well, I mean, your work, for me is, it fits so well into that thing of of it's hopefully I'm not missed with speaking, but like simple materials, but doing something that's just not expected, and that

thing of simple is boring. I think that's exactly what you challenge really well, is that it's, it's easy to look at and observe each part and kind of determine or define what each part's potential is, but then it comes to life in a way that's that's just different. And, yeah, I think that's very important, that we have this presumption of what a material or an assembly will do, and then it's not always the case.

Nik Ramage 04:51

Yeah. So, so where do those assumptions come from about materials or assemblies? Oh, for.

Andrew O'Dowd 04:59

For for me, I mean, I'm interested in your, your thoughts on it, too. But for me, I mean, my research at the minute is my, I guess I can explain my PhD is. It started as a massive critique of AI and this boom of AI. So quite a few years ago, in 2017 I started it, and it was just saying that this, this approach to the the sentient machine that looks like a human, and it's all believable. I just thought that's, it's silly, that's, you know, that's not the way it's going to go. And so, I started with a real kind of intention to disprove this direction. But actually, what my research kind of led me to was understanding my philosophies, which is, which are that materials tell us about the potential of spaces and how we should interact with something. So, some of my work is is expressed through art experiments, and it's presenting people with kind of very mundane sculptural pieces that don't really tell the audience how to interact with them, and don't really kind of they're not really predictable. So, one thing that's that's quite lovely with your your sculptures is they all give the premise of a cyclical, repeatable system, but then that's not necessarily the case because of the assembly or because of the design that they and that, that, I think, is the point where the the viewer, the audience, makes determinations on, oh, that's made of metal, so it's heavy and it will fall in that way. And even they do so quickly. It's not like a conscious thing, but, but, yeah, so that's, that's where I think, with AI, I think this, I mean, I think I saw you, you mentioned idea of bringing these machines into a livingness, or a living like state. And I think that living like state is definitely not, you know, machine does A B and C and repeats a b and c. That's, that's not going to work. But I guess, question back to you. I mean, you obviously were completely with materials, as far as I see, and, and you must make some decisions on the types of material and what that's going to represent.

Nik Ramage 07:11

Yeah, absolutely. And, I mean, you know, my technically, my, my working methods are really simple. And, you know, I've done, I did some teaching on a product design course in Middlesex. And the first time I went there, I was bowled over by the facilities they have, partly, you know, education is completely different to when I was to uni, and, you know, largely getting a free education. And obviously now they're, they've got a right to expect a long money. Yeah, but, you know, amazing with

amazing material, amazing, amazing workshops and studios. Um, but much more sort of nomadic, you know, they're all zooming around with their laptops, and they can do it, but that, but some, but then you get the thing of where they're if they need to cut a piece of plywood in half, you know, they're putting it, you know, they sort of putting it on the CNC machine. Get hacks or rips away, you know, so, so, so they're one removed from the materials. Because, well, I mean, I'm sure, no, they definitely had hand material, hand tools there. It just, it's, so it's it's almost like, you know, they're used to meeting, mediating everything via digital stuff, so, you know. So that makes perfect sense to them.

And they can all wear amazing, lovely clothes in the workshop, because, you know, because, again, because they were a little bit removed, whereas, you know, I'm wearing this because I'm gonna get so so I liked I wrote down what you said that simple is boring, because I've never come across that before, but presumably, do you mean that's a prejudice that some of your students have? Is that? Yeah,

Andrew O'Dowd 09:26

absolutely. I mean, I, my, I'm an advocate of simple is kind of a more interesting if you look at technology, you know, we celebrate this mysterious complexity that we can't actually see, and then you put something very rudimentary and simple next to it, and it becomes like, I don't know, maybe boring is too strong a word, but it becomes obvious. So, it becomes, yeah, somewhat predictable. And therefore, the magic is, is lost in some ways. But again, I mean, you look at the work that you do, and for. It's all very presented. It's very transparent. There's no mystery, I would say. But it is mysterious.

Nik Ramage 10:07

Yeah, no, I'm really keen on that, that you can tell how they work. Well, one is simple. And by the way, you know, to me, simplicity is like the other end of the scale. It's like, it's the this not my holy grail, but, yeah, quite often the simple solution. It's not applied to everything, but, you know, to my work, you know, or a lot of design problems, you know, simplicity is where it's at. It's that you're looking for that elegant solution that's not overwrought.

So, I distracted myself there.

But yeah, I'm really keen for that people can see how my machines work, because there's a pleasure in that, a lot of pleasure in that, or it's sort of like they get, they can have sort of empathy with the work because that, I suppose, they just do a little bit of work, working out how it works, and sort of feel good about that. So they're sort of having a reciprocal relationship with, yeah, nice and, and just because they've done that little bit of work, they feel good about it's like, it's like, watching a film that's a little bit enigmatic to begin with, and then you, okay, I get it, and you feel good about you,

you're, you've sort of, you've put the work in, and you're then buying into that world or that scenario. It's that setup.

So, yeah, so that is really important for me, partly for its own sake, and partly as an antiseptic to our laptops and our phones, which are impenetrable, amazing thing. But you know, there's only a tiny part of the population that understands how they work. The rest of us are just quite happy to accept the magic. So, there's the drawing in the book on exactly this points you might have seen already. I like the I like your mom giving you a video call. Yeah,

Andrew O'Dowd 12:26

she'll be bringing the book over when she comes to visit in December, so it'll be on the shelf. But it was also a way to to open your work up to her. She's She's into kind of artsy crafty things, not not so much mechanical or moving things. But she was very intrigued by what you do. So, a new fan, if not great.

Nik Ramage 12:48

So, yeah, my great explanation, and it's just, it's a box with magic in you know that? Yeah, yeah, yeah. So, most of us are happy with that. But I know, you know, there's people that do work a lot on how we interface with our our digital technology, and, you know, little haptic signals and what have you that's coming. So obviously, there's a lot of thought that kind of goes into that, but, sure,

Andrew O'Dowd 13:21

but it's this representation of it, perhaps, that this is like an honest relationship that's being formed here. But it's, you know, it's a screen, it's a box and a screen and and the little vibration is the best they can do. Like, it's got animation to it. It's not just light, yeah, yeah. It's, I think, I think, for me with with my research into AI, I've really taken a focus on behavioural AI, so artificial intelligence as represented by behaviour and behaviourism, and so, you know, it brings it all back to intelligence can exist before cleverness, like it did. You know, before anything that's superhuman, things can still be intelligent. And you mentioned your machines having been living or having living this. And it's something that I was going to ask you a little bit about. Is that idea of like, what do you kind of have a moment when you think it's, it's now living, or you see it as living. And I'm not trying to say you think they're alive, but they are expressing some form of living. Yeah,

Nik Ramage 14:33

I mean that there's, you know, there's a sort of primaeval bit of our brain that equates motion with livingness. Though, in a way, we quite easily fooled or easily pulled in that direction when something starts moving.

So, you know, in a way, that's a real you.

A not cheap trick, but it's quite an easy route into that thing. And, you know, I, I sort of do. I do think I actually I do think artists and designers have a bit of an obligation to engage with people, with the user, with the viewer, whatever. And, I mean, I think, you know, sometimes art suffers from, it's got a great big capital A on it, and it's a sort of slightly lofty thing that's, you know, a lot of people enjoy, but a whole other lot of people think it's kind of good for them. And, you know, they go to a museum where they went and fall in the city, because it's kind of part of what you should do. But I think, I think that so, rather than being lofty, and you know, you know, the preserve of people who've been to art college, or know who Marcel Duchamp was, or whatever. I think there is a little bit, there is an obligation to engage. So yeah, so I've talked about that process of people working out how, knowing how they work, and then there's this thing of actually moving. So that's, that's another way of engaging. And I suppose they become as soon as they start to move you, you've got time, time-based narrative. And we love, we love a story, yeah. And even, as you say, acquire a lot of things that of mine are cyclical, it's the same thing happening again and again and again, and it's still a story. I mean, even though it's a very short and simple story, repeating and and then, and then, maybe a third thing is introducing quirks into it, like, no, maybe, maybe is the ghosting machine, you know. So, it's not, you know, engineers work on, if they've got a moving part, it's going to be tested to within an inch of its life, and they'll know this thing will do 100,000 cycles, all good. And I'm like, way down the other end of the scale, where, you know, if things change each on each cycle, I'm happy with that and and partly that comes from being handmade, and yet the level of engineering, I guess, that I'm putting into it. But you know, that's all good if it's a little bit different every time, then there is something different. It's not extremely boring.

That difference.

Andrew O'Dowd 18:06

Yes, yeah, that what you're just saying there that kind of the potential for something unexpected to manifest in it. It's exactly what I'm what I'm writing about at the minute. I'm putting it under the title of the merit of failure. And it's exactly this thing that we since, I guess, 1950s design has been about, you know, ergonomics and and the perfect user interface and data rams and the single button and all this stuff. And it's just having that moment where it doesn't live up to all of its potential. Are the moments being actually, it's potentially now more living or more like us. So, there's a point that I'm

making in this section, which is that we go to live performance, not as we maybe it's a hypothesis. We don't, don't go to see the moment of glory. We see the moment where they almost fail, where they Wow, that was so close to being the wrong note, but they didn't get the wrong note. Yeah, it's that waiting for that failure, rather than, you know, seeing the glory of perfection.

Nik Ramage 19:13

Yeah, absolutely. Yeah. That's a great big point about, you know, say, theatre versus cinema, or you're in the room, it's actually happening, and it is last night, yeah, and, you know, someone could have a, you know, an episode in the second row, and it could all go so, Yeah, I mean, I think that thing of uncertainty, you Yeah. I've sort of said to myself, if I believe in anything, I believe in uncertainty, the the non, yeah. I just think, you know, anyone who's got the world sewn up and thinks it's definitely this way, it's like, wrong. And. It's all about change and uncertainty and yeah, change. What was gonna say about the, yeah, so I mean, and, but you know, making sculptures that you know, I absolutely want this quality of fragility. And just, I suppose it is. It's like, just about working little bit like, I definitely want that. And it's all a little bit chicken and egg as to what came first my So, if you can hear the cat,

Andrew O'Dowd 20:40

is that breakfast?

Nik Ramage 20:42

he's quite elderly, and he makes a lot of these noises. And my my daughter looked at me, she said, I think he's got dementia, and he probably has. Oh, wow. Okay, so it sounds sort of awful, but he's sort of okay.

Let him understand this.

Um, yeah, well, firstly, it's a little bit chicken and egg, which came first that want for the sort of fragility and mutability, or my lack of fantastic engineering skills, you know, or even thinking of those ideas. You know, it's all very hard to separate how that or maybe it's just the kit, that's just how it is, the whole, the sort of three, the thoughts, the skills. Oh, look at that. Actually, made a heart. Wow.

Andrew O'Dowd 21:36

That's quite a moment. Oh, my God, technology is listening to us, and it's going to do something unexpected. Okay, where do we go from that? Yeah, absolutely, yeah, no. It's funny. You use the word fragility, and I can totally understand, I think, why you're saying it. But then when I when I imagine,

or, like, I recall the image of your work. I mean, there's a, there's so much heavy, like metal, it's like, it's, you wouldn't call it fragile. So, it's an interesting you're obviously talking about it as an entity, the fragility of it's it's, its construction, or it's, its life,

Nik Ramage 22:22

yeah, that's a really good point. Is, you know, my sort of, my go to for making the frames for these things is welded steel. So, yeah, clearly, that's not a fragile thing. But I suppose, I mean, a lot of times I'm, I use, really, I'm assembling lots of components, and they're, you know, technology from yesteryear. You know, it's a wooden wheel that used to be a pattern for casting from I'm sort of assembling all the good stuff. And actually, what I make, I make this little frame in the middle, you know, the holes in the right place, all these bits can screw bolt on. So, I'm actually making this quite boring thing in the middle, but I've got all these really lovely ingredients. So, so it's maybe those, it's the components that have that fragileness.

Andrew O'Dowd 23:19

Yeah, makes sense, yeah,

Nik Ramage 23:24

oh, yeah. But so, the other, the other thing is, it feels like a bit of a double-edged sword in that, if you're showing some work with the gallery, and you go, yeah, fragile, blah, blah, blah, and they go, Yeah, I don't need to break down. You know what we're going to do? Breaks down. And to do. So, it's like, you want it to be fragile, but not too fragile.

Andrew O'Dowd 23:47

Yeah, yeah. That's a very good point. How do you navigate that?

Nik Ramage 23:55

I mean, it actually varies with you know, some people are very nervous about it, and some people are a bit more accommodating about it. So, you know, there's some work that

I probably don't show because of that. Yeah, it's just too Yeah, it is. It is maybe a bit too delicate to show, or it just needs that really careful situation where it would work. I mean, it's great. It's really, what you really need is someone on who works at the gallery, who's savvy, who doesn't mind, you know, they'll spot that. It's just that little bit that's come loose, yeah? Because, because, if it's not someone a little bit more in tune, you know, it's like, Nick that is broken. It's like, tell me more, what's, you know, what's broken? And, you know, it's just like, it's all a disaster, yeah? And if you get

it, and it's like, it really isn't a disaster. That you know, that bowl has just got that nut has come loose. So yeah, again, I guess it's that expectation. People think everything should be bulletproof. And I'm teetering with that sort of saying,

Andrew O'Dowd 25:19

Yeah, but yeah, I actually had a work just just finished in Austria, so it's part of a collective, so that our electronica, and it's, it's, it's the work is a motorised piece, that is the intention is, it's data sculpture. So, it animates, but it animates based on kind of wind patterns in a lake near us here in China. So, one thing I was really focused on is this is not performative for the audience. This is about the audience letting or being presented with something that's not there to give them a song and dance in a time sequence that they can predict very quickly. And I didn't, I couldn't go, but one of my colleagues who was there called me and he's like, it's not working. And why? Why is it not you plugged it in? I, like, made a very clear instruction, plug it in. I plugged it in. Why is it not working? It didn't move. Like, yeah, but it's it will move at some point, but it may not move when you want it to. And like that. They they had a real difficulty with just trust or letting it be, or just yeah, maybe not getting to see the moment.

Nik Ramage 26:30

Yeah, yeah. I guess in that situation, you're as you say, you plug it in. It's like the festival's out on now do it, yeah? If the wind's not blowing at the lake, then,

Andrew O'Dowd 26:44

yeah, the right setting is important.

Nik Ramage 26:48

Sorry, the setting, yeah, yeah. So, so is this a piece? Did you work on this with other people? Is this your piece that you the

Andrew O'Dowd 26:56

electronics and the mechanic, the motorised part is, is my contribution to the work. So, we had five artists. I mean, I I'm hesitant to put myself into the category of artists, because design and engineering are much more my my background. But we had five artists collaborating. And so, I did this element of the work. There was another part of the work which was an augmented reality, like a virtual experience. So, in this room, we had these reads that we had transported from China and set them up so it's very immersive. So, somebody curating that sculptural arrangement, and then some of these

reads moved with the kind of wind data, and then the augmented reality was you could go partly to this space, but in an alternative way, and you could see through the lens, so you could see back into the material world. And then another person contributed out to the lighting, so, you know, a design of the lighting. And then we had another person contributed to the sound in the space which was cure. It was composed for that specific space. So it was, it was a collaboration in a multi sensory way, even to the virtual or extended reality, yeah, but the motorised part was, was my contribution to it?

Nik Ramage 28:15

Okay, yeah, it sounds great. Do you know that chap? Is it David Bowen in the States?

Andrew O'Dowd 28:22

Not immediately by name, but I will take the

Nik Ramage 28:26

name a little bit wrong, but yeah, its kinetic stuff, all sorts of data going into it and pulling in, you know, data from the clouds overhead and that sort of thing. So, so being been to ARS electronica, in person, before

Andrew O'Dowd 28:47

I was there 10-13, years ago, maybe even 11, I had a student work, a student of mine had her work selected for it. So that was the last time I was there. And then this was the next time that was fortunate enough to have work selected to exhibit, yeah,

Nik Ramage 29:04

yeah. I'm sort of aware of it. And, you know, I saw some of the stuff on Instagram. It was only a couple of weeks ago, wasn't it? Yes, yeah.

So yeah, it looks really interesting. I love I can't

Yeah, and I can see a few people working in sorts of,

I don't know what the word is, sort of less tech data bit, sort of softer or whatever. So, yeah, no, I do know. Yeah, a friend of mine showed a work there a few years ago, so I'm sort of aware of it, but not so yeah, yeah,

Andrew O'Dowd 29:43

yeah. Now, like you say, it's predominantly from my experience of it, and like you say, seeing what they show on on social media it, it is that kind of leaning on the side of emerging technologies and kind of the big, complex stuff. But. There are definitely parts of it which are speculative. So, I've seen some really nice work there which is really kind of simplistic as presentation, and maybe even kind of a sculptural piece that's there's one called it was like a futuristic pet called the listener. And I can't remember the name of the artist, Piccini. I think it was, but she basically just a beautiful sculpture of what a pet in the future might look like, and it's static, and it's just that propositional kind of work. And then they do have a, what they call a Future Lab, so they have a lot of kind of messy technology exploration. So, it's experimental. It's not being presented as polished work. It's, it's a, this is prototypes and trying things out. And what do you think when you see this come to life, or be or act as it acts? So, it's got a lot of different stuff, but you, I'd say you're absolutely right. If your perspective is, it's, it leans on the high end, complex technology side of things, yeah,

Andrew O'Dowd 30:00

The big, complex stuff, but there's definitely parts of it which are speculative. So, I've seen some really nice work there which is really kind of simplistic as presentation, and maybe even kind of a sculptural piece that's there's one called it was like a futuristic pet called the listener. And I can't remember the name of the artist, Piccini. I think it was, but she basically just a beautiful sculpture of what a pet in the future might look like, and it's static, and it's just that propositional kind of work. And then they do have a, what they call a Future Lab, so they have a lot of kind of messy technology exploration. So, it's experimental. It's not been presented as polished work. It's, it's a this is prototypes and trying things out. And what do you think when you see this come to life, or be or act as it acts? So, it's got a lot of different stuff, but you, I'd say you're absolutely right. If your perspective is, it's, it leans on the high end, complex technology side of things, yeah,

Nik Ramage 31:06

on that sort of speculative, not polished. I mean, a couple of weekends, maybe when this was on, I did put it on Instagram. I did this Rube Goldberg kind of machine with Yeah. So, it's, yeah, and, I mean, it is really, I mean, I've done it, we've done it a few times, but I had quite a nice chat with some of the, yeah, there was some real devotees, you know, a family that were there for like, four and a half hours or something. And, wow, I don't know. And, and one guy, his daughter had been there for ages. She came back a second day, I think. And he was sort of, he sorts of said, well, why isn't school like this? You know? And I think last year they when we weren't there at this festival, but they had a tent full of materials just to make kind of mess with, and it's like, oh, God, you know that even that is a novelty, you're having physical stuff to mess with, cut up, stick together. And you know that's that that was, that was normal as for me growing up, the whole Blue Peter, what have you thing. And it's just like,

okay, I just have to check myself to think that that's no longer normal and is quite a special environment for for youngsters, yeah, and I guess, and the way we did it, you're, going one step up and saying, okay, we're gonna go, we're gonna go do something. Here's a load of disparate materials and objective so that gives it a bit more focus, and, and, and it's a drop in thing that it's the events of sort of craft make it kind of thing. So, there's some quite sort of fine craft going on, and you have session, and this is the complete opposite, in that there's two middle aged blokes. It's big, two piles of stuff, some timber over there, some random household items over there, some wires. And, you know it, and we haven't got a plan, really, and they don't know what's going on. So, let's so it's very sort of, well, spontaneous, I suppose. And you know, lots of kids or families to begin with, and a few say families, but most, you know, but they're intrigued enough to put the effort in, and then you just get this lovely momentum. And then by the end of it, they're complete. There you go. They're owning it and feeling, you know, good about themselves. They've got pride in this thing. And yeah, and it is performative, because you do a run and everyone can, you know, it either works or it doesn't. And you know to make your tinkering with making those changes and stuff. So good thing. It's what, it's a well-worn path for university, third, first years and stuff, but quite nice to do it with. I mean, we, I guess this was probably under 12 issues. Well, there was no age group. I mean, there's a few, yeah, you get a few dads who are like, Yeah, I'm not going, I'm doing this.

Andrew O'Dowd 34:32

I'd be on that side of things. I'm sure, yeah. But it's nice. It's nice in that link to technology, as well as, like, the quickest or the shortest distance is a straight line. So, you could take your your ball and just say, we're going to make a slide a pipe. There you go. Done. It's got it made its way to the end. But then you start manipulating and introducing and those things aren't for efficiency, therefore, some other reason. Yeah, yeah, yeah. Uh,

Nik Ramage 35:01

for pleasure. It's a joy, isn't it, or something, um, making it harder. Yeah, for the for the challenge. I suppose it's like, yeah, you're setting you're giving yourself a harder job to for the pleasure in overcoming those hurdles. I suppose

Andrew O'Dowd 35:22

I yeah, you discuss utility and absurd as a kind of a polar dynamic, or maybe magnet that you kind of try and play between, like, what? When you say absurd, I think that's, it's a great word, and it makes me think of, there's a philosopher, Emile Turan, who did a lot of work on absurdities, he believes that, you know, the whole existence is absurd. And he says he's got this quote, which I really like for whatever reason, that he lives because mountains don't sing, and and mountains don't sing, and worms

don't laugh or something like that. And it's like, I live for absurdity. But it's interesting that you talk about utility with machines. I think it's definitely we, you know, that's why we have machines in the first place. Is utility. But when you move to absurdity, what? What do your kind of what are you playing with? When you say that?

Nik Ramage 36:19

Um, I mean, I suppose, yeah, bringing up the utility, because that's what we it's tools, man, the tool makers making improving our lot by using tools. And now it's laptops and cordless drills and all the fancy digital watches. But um, and whether I probably because is a cheap pun I observed, I mean utility, and then a pop an F on for futility. So those that's like my that spectrum, because I suppose that's, that's where I'm saying, your tools designed by engineers that they're definitely utilitarian. They're doing it. And I by being coming at that from an art point of view, I'm saying no. I mean, no one needs their left stroking. That sounds difficult. So, these are absurd tasks, yeah. So, it's a little bit like we just talked about with the you know, you could have a piece of drain gutter doing that, A to B, job done, but you're introducing problems in order to overcome them this, but that's quite technical. It's the sort of, it's the pleasure of, obviously, yeah. I mean, my machines, yeah, they don't do useful things. They do odd things and and so that's where the absurdity comes in. And the times I've sort of looked and I am happy to be part of, you know, the absurd tribe, the absurdist but when you look into the sort of, as you say, the philosophy of it, it becomes quite dark and quite nihilistic. It's like, yeah, you know. And so that's just not how I feel about it. No,

Andrew O'Dowd 38:35

I wouldn't. I wouldn't have thought that. And I was hoping, assuming, that you've got a more playful definition for absurd, which is what your kind of saying, I think, is exactly

Nik Ramage 38:45

that it's, it's, instead of the, you know, darkness of, there is no point in I'm saying it's, it's kind of the other right, out the other way. This is the point. This, this roughness is, is the pleasure in life. And it's, I guess, you know, it is we, you know, we'd like we mentioned. We like live theatre or the tightrope walker, whatever. There's the definite possibility of failure. So, yeah, so I think there's great pleasure in that. And, yeah, just because I've mentioned the lemon stroking machine,

Nik Ramage 39:39

and that's that's really interesting in that everyone knows it's daft, but they're not bothered by that, because I think that there's definitely some tactility involved you, you can it's very. Slow so you see the brush going over the lemon, yeah, the sort of fibers kind of ping off like that. So, it's, it's kind of

slow motion. And I don't know it feels like it taps in. People go, yeah, it doesn't make sense, but it does a bit. You know, it's like they can't quiet, and I can't quite put my finger on it, and they can't either, but they're just, they're going to stick around because, partly because there's the, like we said, there's sort of variations each time. There's the staring into the fire, sort of whatever that is, that sort of dumb appreciation of patterns ever evolving. So, I think there's, you know, that is something that I tap into and and I suppose you also know roughly what that feels like. You can imagine brushing an arm or a chair, okay, it's like you said, you you when you see some steel, you know that's going to be a heavy material. So, I'm using people's knowledge of what things feel like. But I'm intrigued with that one. As you know, it's a sort of given that it doesn't make any sense. Yeah, as a little bit, it makes enough sense to some bit of people's brains that they like it or want to watch it for a while. I dare say there's a whole other group who would just go, yeah, not for me, but some, you know, I'm sort of observing people, you know, in my studio or in a gallery or whatever, watching it and trying to work out what, yeah, what, what it is they're getting from it.

Andrew O'Dowd 41:51

And when you can, sorry, well,

Nik Ramage 41:54

and even, I mean, I'm not really, I'm not, there's a certain pleasure in it being a bit enigmatic as well, or being a little bit confused by it.

Andrew O'Dowd 42:07

So, I was just curious as to what like when you conceived the work. I mean, the idea, I think I can understand how the idea might have popped into your head as, like, somewhat an absurdity. Like, wouldn't that be just something or or was where you thinking about that provocation of something so obvious and also being so attractive and intriguing?

Nik Ramage 42:34

So where did it come from? The ideas? Yeah. I mean, I did draw, yeah, some different versions. I mean, that's something that does happen. An idea will come back, but come back different. So, I think the first, the first one that I've got a drawing of, anyway, was sort of a wheel rim with a lemon in the middle, and it had two paint brushes more, like artist brushes going in, rotating round it. And I just sort of put that way, and you know, it was good at the time, and that was that. Then I came back, and I started with this idea of putting household paint brushes all around a wheel, and I the one that started there was that they were going to go across the blade of a knife, because that would sort of just separate the middle. I later realised there's a Rebecca Horne machine with it's probably a bit more

sexual, but brushes coming down and knives coming up. They so, so they go and, and that. And the knife thing was just a bit much, you know, it's a bit violent, yeah,

Andrew O'Dowd 43:55

stimulate a specific type of response, yeah, yeah.

Nik Ramage 43:59

And, and it was, it was, you know, sort of separating the the filaments on the brush exactly that was, whereas with the go around it and and so it was like those two things came, you know, came together, those two ideas. And I think with the there was sort of, I guess there was a thing with colour in that, you know, it's on a it's on a frame. It's like a Victorian, some sort of Victorian stand. So that's, you know, really lovely cast legs. And then I had it on my, as I said my boring steel bits to hold the other pieces in place. Then you've got the lovely the main wheel is a wheel pattern, again, probably Victorian or something. So that's really lovely. And it's got and it's in this nice orange paint, so you're sort of working up the colour scale from black and orange. And then there's really relatively small. Bit of bright, zingy yellow. So, so it's, you know, if you look at it without the lemon on, it's like, yeah, okay. And you pop that on, that bit of colour really helps. And your instant focus, because that's where, yeah, the action, the interaction, is happening. So, it is hard to trace the sort of genesis of ideas, but I think that's quite good in the two things that sort of came together, yeah, and right now thing just describing the first version with the blushes, it's like, oh, well, I sounded

Nik Ramage 45:46

yeah, exactly. The nice thing doesn't appeal at all. That was definitely actually Rebecca horn company, she died last week or something. Yeah,

Andrew O'Dowd 46:01

yeah,

Nik Ramage 46:04

and she had a brilliant thing, because, obviously, she was showing in, you know, you know, just sort of higher echelons of the art world. And she, I mean, you know, she was getting people to make her stuff, people who knew what they were doing, but she still had problems. But she was at such a great position in that she could just the way she framed it was to say, well, they're ill. They've got sick. The machines got sick. And it's like, so it's not like, Oh, Nick, your thing's broken.

Andrew O'Dowd 46:39

Yeah,

Nik Ramage 46:41

she's saying, no, they're sick, you know, so it makes them more human. And, yeah, I just think that's so great that, I guess, I guess that she was respected enough that she can say the much more interesting answer Yeah, get your toolkit. It's not working.

Andrew O'Dowd 47:04

Yeah, it's a good it's a good thing in the sense I'm trying to think of how to avoid using the word personality when I'm talking or writing about machine, domestic machines, because I want to try and make that distinction that we default them with personality, but it actually they can be their own entity. So, the idea of machines being sick it, it obviously plays to that anthropocentric I know what sick is. I understand sick and now empathy and all the rest. It's, I'll have to look up where she said that it's she can get away with it.

Nik Ramage 47:40

Yeah, but I mean that. I mean that's, I mean, that's really interesting, that we understand the, you know, keep using human traits or language genes, because we're social beings, and that's what we're kind of, we're used to or default to. I was gonna say? What was it gonna say about that? I'll come back to in a minute.

Andrew O'Dowd 48:18

I mentioned personality and giving machines personality.

Nik Ramage 48:23

Yeah, this is two side points with that thing, of the panic that people get when either they don't know how to use technology, or it's not doing what they want it to. Seems it's quite well. I mean, again, maybe there's a little bit of a generational thing that's the classic thing of get your grandson to sort it out. But I suppose it's, you know, we we don't have a full understanding. It's about, you know, of these things. So, there's a certain word of panic when they don't do what we want them to do. Yeah, and, yeah, I'm sorry. This is a sort of little bugbear. I mean, when you get it's less so now, but those parking meter machines where you have to punch in your your registration plate and stuff. So, this is, yeah, iron box, metal box, COVID Kick buttons, far too many buttons. You've got your time alphabet, and it just designed to confuse, because, you know, you turn up, you especially if you've got a train to carry. Actually, got a bloody deal with this button. I mean, it sort of applies less now, in the most it's all apps

and stuff, but those things were just like, do you have any idea how it is as a user to film those use those things for the first time? Yeah, it's got loads of the panic. There's too much to look oh, look again, look, I'm learning a lot here.

Andrew O'Dowd 50:27

That's great.

Nik Ramage 50:32

Yeah, it's just like the difference between the user and the designer, I suppose.

Andrew O'Dowd 50:38

Yeah, it used to be mentioned this that now we have all these apps. I mean, China, it's, it's fascinating. Once you're inside the system, everything is through the phone. If you don't have your phone runs out of battery, you're really stuck. But when it works, it's, it really, really is like, it's impressive. So those machines, of, of stop type in your information that we could almost reinvent those as some kind of therapy mindfulness machine. Of, you're not going that quickly anymore. Take your time, because this is how long it's going to take, and I'm going to stop you from all these rapid things.

Nik Ramage 51:18

Yeah, absolutely. That's a good point, just the pace of this stuff. Yeah, everything's maximum efficiency, speed, general acceleration of life. And yeah, here's our phones to smooth that pace.

Andrew O'Dowd 51:38

I see the time. I'm cautious not to take up too much of your day. But there was one other thing I was curious about, because it's part of my research, and it's about designing meaningful or designing intelligence in a meaningful way into domestic machines. So my real interest and focus is in the domestic setting, and the machines that we invite into our personal space and we live with, and I'm ignoring the smartphone because it's, I think it's a different kind of provision, but these other domestic machines, and rather than looking At artificial intelligence is an evolution of, you know, like biology is eventually become smarter, and then they, you know, monkeys take over the world. It's more along the lines of, we invented machines. So, every everyone is a new species. They're not just a step in evolution. But I was curious with your your work is, firstly, I guess where, if you think intelligence manifests in your machines, in your sculptures, and or if you think there is a future iteration or version where you where you see intelligence coming through. And then I guess it depends, depends what you

define as intelligence. But I was just curious as to how you think that topic relates to your work and what you might think about my research area.

Nik Ramage 53:09

So that topic, what? How does Yeah, how you said? How does Intelligence manifest in my work?

Andrew O'Dowd 53:18

Yeah, so within your your your works, that you know it really comes down to, I guess what? When can we call something as being intelligent or behaving intelligently? And then, I don't know, is that something that you you consider, or you could consider with your work?

Nik Ramage 53:37

I mean, my first thought is that mine are just way below the intelligence line. I mean, as you say, you come up with, you know, what is intelligence quite quickly. And I imagine that's pretty key to AI, because I'm sure it's a misnomer for an awful lot of it. I'm I've never thought about how much intelligence was in my work. I mean, I guess at best I could, you know, aspire to some wit, but that probably comes from me rather than machine, but spirits still be there. And, I mean, it's another one to sort of define, but it's,

I mean, it definitely comes, it comes back to that engagement, or wanting to engage. And I suppose, I suppose it's, it doesn't have to be funny, but it's got a little spark of intelligence to it. So, there's something to get so i. You know, I've made this thing move largely, not always, but, but then there's, there's this thing that you need to engage with. So, I do want people to, need to it's not, you know, a painting of a lovely meadow on a summer's day That's unfair. Sounds. It's not. There's, there's some used, you know, you've got to use your head a little bit, because I'd say the aesthetics of my work is, is definitely not for everyone. There's some, I'm sure there's people who think it's ugly or, yeah, and that's fine. It's not, it's not for everyone, but I definitely think I'm looking for a mental connection with people. And so yeah, and as I've said, wit, and I've mentioned intelligence in wit, so it's sort of in the impossible job.

Andrew O'Dowd 56:05

I guess one way to open it up is the intelligence is not, we could say not inside the machine, right? It's not born of or has the ability of intelligence, but it's a perceived intelligence, so the audience maybe adorns it with intelligence by inferring or you presenting certain ways of acting that are perceived as

Nik Ramage 56:34

Yes, you're right. So, it's back to that thing of endowing it with personality, because we're inclined to do that. So, I mean, I keep thinking, oh, are these like tricks to trick people into feeling these things? And maybe they are, but it's not sort of subterfuge. It's yeah, it's as I say. It's that thing of wanting to engage people. And I think there are some Yeah, you, as I say, your kind of maybe using the sort of more primeval bits of our brain that are, you know, the still hunters looking out for anomalous movements in the wildlife or whatever. So, you're sort of tapping into some of that. I as a little by by when are the times that I've been in film studio with a, you know, a drone up on a camera and, you know, zooming up to do its overhead shots or whatever, and I find them really alarming. I'm not the only one. Partly, there's the buzzy noise annoying, and again, it feels like I am aware that there's a predator in the room. So back here, and I'm uneasy. I'm feeling uneasy because there's a buzzing machine up there. It's higher than me. It can move. It could swoop down. I'm thinking all these things, it's not going to happen. Going to but I'm aware of that. So, there's, yeah, the automata, a British automata maker called Paul Spooner. Yeah, and he and he's got, he has some good, really good, terms of he writes and talks very eloquently, but he talked about, yeah, the history of automata. It's all about this. He's not coming before. He says, tricking, but it's what we're talking about, tapping into that stuff by the addition of a bit, a little movement and the subtraction of a little light. So, you know, take away some parts, and, you know, take away some information and add some information. Yeah,

Andrew O'Dowd 59:10

okay.

Nik Ramage 59:18

And I really like what you said about domestic I mean, that's kind of where I'm at. It feels like I'm making domestic scaled. Because, I mean, I've never, you know, don't make enormous, you know, people something. Oh, I'm a sculptor. How did you make big works? Not really. I want it to be human stroke, domestic scale, and probably a bit more. I mean, some of the time, you know, I mean a lemon stroke, it does sound quite it's like a kitchen appliance you don't need. Yeah.

Up. It's where we it's where we we live and and yes, we're everyone's bigging up phones, all the digital stuff. But what about your kettle making you a lovely that's not a smart machine, but I really miss it if I didn't have so I was, I was in a show at flowers East quite a while back, and it was called domestic appliance. It was a really, it was a good show, and even almost an even better title, just by bringing it into the domestic arena. So, and, you know, it probably applied to some, to some of the work, more than others. But, yeah, it felt like, I think my wife said at the time, you know, that's got your name on it, domestic appliance. You're there. So, I am comfortable, interested in the domestic sphere.

Andrew O'Dowd 61:09

Yeah, yeah. I mean, from, from the work I've seen, which unfortunately not yet seen you, and you're working in the real, physical world, but the scaling of it is very approachable as a person. It doesn't, it doesn't require you to stand back. It's very, I can walk around. It's very engaging, I'd say, in that way,

Nik Ramage 61:26

yeah, yeah. And there's, you know, the times that I do carving again, I leave it in quite a rough stage. So, but so you can see the marks of my hand, you know? So that's another little level of it's what you said about the sort of tapping into people's knowledge about materials, the process that I have sat there with a standing knife cutting little bits of wood off this thing that's and you see the reality. Yeah. So yeah, I'm not interested in then sanding it down to so that it's got a perfect finish or anything. So, yeah, I definitely think there's a sort of rough rawness and just all those textures that could be lost if it was all, you know, spray painted or, yeah, so texture, yeah, another thing

Andrew O'Dowd 62:34

and that, that kind of brings me to where I was hoping to sign you up for, for something else in the future, perhaps, which is, I think I mentioned in my definition of cultural technology is part of my interest is the geographical element that we were losing, if we've not lost by the globalised production markets. And China being the big culprit of all of that, I guess. But one of the things that I'm quite fascinated with it is how traditionally, and I even talk historically, pre historically, perhaps the the materials that were at hand were determining of what, you know, what weapon would be designed, or what kind of water carrying device would be, would be made, and so very rudimentary in the the actual production pieces, and why I'm saying, I'm hoping maybe I could sign you up for for something in future. Is with where you live, there's, there is obviously you have access to your workshop and all the materials in it. But in the geographic setting, there's influences like climate, seasons and all these things that it's something that I'm looking at with my data sculptures is, what, what? How would the sculpture be different? If its intelligence was of a different location, but where to come back to the point, sorry, is, I'm curious if, within your work, firstly, is that something that you consider the the kind of where the materials origin is. I know you use reclaimed materials, but if you see that as something thinking around your locality, is there, like, natural materials that you could just imagine, I could definitely make something from those things. Yeah,

Nik Ramage 64:30

because we, we said we, we live in the Welsh countryside. It's all very Bucha like, and we used to live in North London, so that was quite a big change, and I'd never lived in the country before. And you

know, someone was asking me about this the other day about, you know, what difference did that make? And I. Yeah, I didn't, I didn't have a very good answer, because I probably suspect it made any difference, but, obviously, but, but it didn't make a big change. You know? I mean, what I think, what I mentioned, or definitely feel is, yeah, the amount of space that I live in now is just, you know, huge. And in a city you've got quite small amounts of space, it's quite it's definitely demarcated so that that that's a really big difference to my life, how that manifests in the work, I don't really know. Except, you know, space is kind of what the sculptor deals with. But as I said, I'd be quiet, yeah, yeah. I don't know what difference it made and but, I mean, I probably, I've definitely drawn ideas that, you know, we've got an orchard, it's like, oh, one of the apple juices has killed over. Oh, I could do this, that and the other and that. I wasn't. I probably wasn't going to be thinking that in Stoke Newington.

I mean, it's sort of in the sort of big picture prejudices type way I feel, pretend, perhaps feel like an urban artist that happens to live in the country. Not even quite sure what that means, but I suppose it's sort of, you know, I make things that are hard and textured and machinery. But having said that, agricultural machinery is quite marvelous. From you see where things that you see on the back of tractors, it's like, wow. That is, you know, these things that's crop spray or whatever, unfold and have just a huge wingspan with when it's unfolded. And they're totally built for utility, and it's got all these dramatic pipes all over here. So, they are amazing things. I don't know if any of

Andrew O'Dowd 67:35

this is answering. Yeah, no, no, it's mainly an unfair I don't mean formulate the question very well, or it's not very focused, but it's a something I'm thinking is, is in, somewhere in my research, and potentially how I approach teaching, is this thing of we are saying, I'm saying this grandiose in a grandiose way, but we're so globalised that what is culture now? I mean, I look at my students, who are, you know, in their late teens, early 20s, and China being a communist country, and up till 20 years ago, quite a closed country, my students walk around wearing potentially not real, but Gucci and Dior and they carry an esthetic that is, they're connected to the west and the luxury of the West. But they'll equally do a project which is about ancient Chinese culture. And I'll, I'll have a, I have a collaboration coming up with them, which is about one of China's kind of first heritage sites, which is next to the Forbidden City in Beijing, and we're trying to bring the museum out into the streets. So rather than having the museum inside this building where you walk in a specific orientation, this company wants to look at bringing the museum to the streets. So, it's a more immersive, but naturally immersive thing. And it really makes me think of this point of as much as we can globalise technology and consumer behaviours and capitalism and all the rest of it, we are, we gravitate to where we are, I think, in some ways and and how then does that influence the way we approach making? And, you know, so it's probably too early for me to formalise the question well, but it's just on that point that I was curious, because it looks like you've a wonderful place for being creative. And obviously your

work, to me, looks like you mentioned with agricultural machines. It looks like it's a it's an artisanal process of this labour, labour machines that they're, they're kind of the robots to the original definition that they they function with in with specific instruction nearly. Um, so just curious how you thought about the locality being part of that, that cycle. But anyway, I can come back to again.

Nik Ramage 69:58

Yeah, yeah. No, I'm. Think about it. And yeah, it's an interesting one to muse on, yeah,

Andrew O'Dowd 70:04

maybe not in one conversation. Yeah, maybe it's been absolutely wonderful meeting you and talking with you. And yeah, this is very, very enlightening. I didn't know you could do this?

Yeah, I mean, obviously I would hope this isn't our last conversation. There's, there's a few works that I'm been trying to get my head around the mechanic of it. And, you know, looking at your work, it's definitely inspirational, because you just seem to you understand turning a rotational movement by some lever into, not a sphere, not a normal tool thing. So, I was thinking I might drop you a cheeky email with the sketch, just to pick your brain on how do I get that action at some point? If that's okay, yeah,

Nik Ramage 71:03

sure, sure, absolutely. I sometimes think to myself, you know, I've got this whole mass of work, and it's just, you know, all from things turning. It's just turning. It's great,

Andrew O'Dowd 71:15

lot of mileage, yeah, yeah, it is. I've got a new staff member. They're coming from a sculptural background, and they're doing a project with our youngest cohort to students this semester, which is to make a motor from parts, so not to go and buy it, just to make a motor. And then from that, we're going to take it into next semester, and then we're going to, right now, we have a motor. Next thing is, what do we do with it? So, we're really trying to bring in that rudiment point. Great

Nik Ramage 71:46

idea. I know the answer to that one because I had, like, the ladybird book of Electrics or something, and that was a great one. It's really good about using the cork. We put sticks and pins in each end, yeah, use a cross thing to turn to rest on, and then you, you bind up whatever, whatever those, you dig the copper, the coil, induction

Andrew O'Dowd 72:10

coil, yeah, yeah. And

Nik Ramage 72:12

Then a couple of magnets, off you go, and it works. So, yeah, so I was there as an eight-year-old doing that, but great, but that's, that's such a nice idea for a project, you know, because that's Bo can be bought off the shelf, but, yeah,

Andrew O'Dowd 72:31

right. And to catch them off as well, because they're coming here to us thinking game design, VR, all this stuff. And we're like, hold on a second. Do this first. So, let's see

Nik Ramage 72:44

great, great.

Andrew O'Dowd 72:47

Yeah, again. Thanks so much. Really enjoyable

Nik Ramage 72:50

to talk to you. And yeah, it's a really interesting field. Yeah, I was thinking to myself yesterday, is it like upstream from UX and whatever it is, user interface stuff, you sort of, is that fair, that you're sort of, I mean, upstream, I don't know if I could even say it's a different, yeah, a different tributary from from something perhaps.

Andrew O'Dowd 73:08

I mean, my background with with electronics meets product design, ended up in interaction design. So, in the 2000 10s, inevitably did web design work, app design work, because I was focused on that thing of people will press in certain ways, and actions need to happen in certain responsive ways. Very utility, very function, which I think has led to me trying to find ways to, you know, move off that, that obvious track. But, yeah, it could be. It's an evolution for me, certainly, to to go from that UX customer style approach to surprising and maybe not, not always useful, delightful. Yeah, yeah, yes,

Nik Ramage 74:04

it sounds good, yeah, very good. I can see, yeah, see the connection, great.

Andrew O'Dowd 74:10

I'll let you get on with your day. And again, thanks so much.

Nik Ramage 74:15

Okay, it's been a pleasure. All right, take care. Bye.