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IS ANYONE THERE?

SOME THOUGHTS ON

MECHANICAL PRESENCE

ETHEREAL OTHERWORLDS

AND THE TECHNOLOGICAL

S U B L I M E

We are surrounded by technological devices whose purpose is to elevate our existence as individual actors in a time where social connectivity is a necessity. These instruments are above all else a utility; and yet, their presence could be said to emit some eerie qualities. Some of which seem to hint that beyond their primary function as instruments of practical leverage, there lies something deeper; something mysterious and oftentimes almost spiritual. Maybe those of us who have already passed on to the 'other side' can contact the living through electrical interference, maybe devices can be vessels for consciousness, or maybe we ourselves are nothing but advanced machines; hardwired to believe that we somehow are inherently imbued with some divine soul, as a way of coping with some existential dread? I will herein investigate the notion that in modern society, the fantastical spectres of our past have re-emerged under the guise of technological phenomenon, as the ambiguous nature of technology allows itself to hint at extraordinary narratives.

SPEAKING FROM WITHIN THE VOID

Once on a summer evening in the nineteen fifties in Sweden, the painter and filmmaker Friedrich Jürgenson decided to test his newly purchased tape recorder. He was fascinated by the singing birds in his garden, and was finally able to record such for further analysis. He placed the recorder on his windowsill and left it on 'record'. Later on, when replaying his recordings he concluded that the tape must have malfunctioned. The sound was full of noise, interruptions and strange interference. Naturally assuming that the recorder was broken he went to have it repaired, however it was found to be fully operational. Even so, these noises plagued every attempted recording. Jürgenson was haunted by this malfunction and began to analyze the recordings in detail in the hopes of finding a solution. [1]

Within the sonic interference, voices slowly began to emerge. Jürgenson had come upon the ability to seemingly reach into—and extract; legible dialogue, straight from within the ethereal void. It would seem that he had established a rudimentary yet direct line of contact to what he believed was a realm of existence from beyond the grave. Jürgenson was so captivated by the potential of this discovery that he subsequently dedicated a large part of his life to develop and spread this method of "speaking to the dead". With practice, he was able to distinguish between recurring individual characters, which would appear in the voices of deceased relatives, historical as well as seemingly unknown persons, and would often be spoken in jolted, cryptic bursts of several languages (including swedish, french, english and german) and while they required arduous analysis in order to be translated into legible dialogue, the nature of the

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[1] Friedrich Jürgenson. *Voice Transmissions with The Deceased* (Hägersten: Firework Edition, 2004) pp.9-31

messages seemed to suggest that the spirits were eagerly trying to make contact. In his book *Voice Transmissions with The Deceased*, it is revealed that he developed a deep and even emotional relationship with some of the spirits.[2] Jürgenson is considered to be one of the early pioneers of what is now known as 'EVP' (electronic voice phenomenon), a method of speaking to the dead which is practiced by paranormal enthusiasts to this day. [3]

[4]

From a sceptical point of view, one might suggest that the legacy of Jürgenson is a story of one man's incredibly vivid imagination, fuelled by a desire to understand the chaotic nature of electromagnetic interference and a search for some sign that we may not be as temporary as our mortality suggests. The immediate rational explanation for these phenomenon would then likely be attributed to a form of cognitive projection; perhaps he simply willed the entire ghostly narrative into existence as some form of auditory pareidolia? This does not seem to be too far-fetched of an argument. However Jürgenson himself recognized this and refuted the critique

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[2] Ibid.

[3] Alcock, James. *Electronic Voice Phenomena: Voices Of The Dead?* (Csicop, 2004) Available from:: www.csicop.org/specialarticles/show/electronic_voice_phenomena_voices_of_the_dead?/specialarticles/evp. html.

[4] Anders Leopold *Min Vän På Andra Sidan*. Jürgenson with his tape recorder. Front cover (cropped) (Nyköping: Parthenon, 2014.)

with an important assertion—what he referred to as *"indisputable facts and proof despite the fairytale characteristics"*.[5] The voices could not be imaginary because they were recorded, and other people besides himself would confirm this. The voices were clearly there, irrefutably encoded into the magnetic coating of his cassette tapes. What made the evidence so compelling in relation to other spiritualist accounts was the fact that he had well documented recordings of his conversations which other people were able to empirically confirm as intelligible. Jürgenson's phenomena was clearly measurable in the form of what seemed like non-superstitious, hard conclusive evidence of an electromagnetic afterlife.[6]

DOMESTICATING THE SUBLIME

Despite the attractive evidence of these tapes, there is still plenty of unanswered questions regarding the methodology of Jürgenson and his friends from beyond the grave, some of which we will revisit at a later point in this text. However regardless of whether or not one believes in these voices, it would seem that modern technologies exude some sense of ambiguity which invites imaginative speculation. A famous quote which comes to mind is that of Arthur C. Clarke, as he claimed:

"Any sufficiently advanced technology is indistinguishable from Magic" [7]

If we are to agree on a rough definition of technology as the human craft based on practical application of scientific knowledge, the comparison to something as otherworldly as magic would initially seem rather strange. At least today in our society whose infrastructure in many ways rests upon the foundation of the industrial revolution and enlightenment age.

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[5] Jürgenson. F, *Voice transmissions*. p.58
[6] Ibid. p.58-61
[7] Arthur C. Clarke. *Profiles Of The Future. An Inquiry Into The Limits Of The Possible.* Revised Ed. (London: Gollancz. 1974.)

Characterized as an era in which mythological reasoning and the sublime attributes of nature came to be challenged by an invigorated faith in empirical methodology, scientific research and rationalism, the enlightenment is historically considered as a key moment in the dawn of western modernism.[8] Usually, when speaking of the sublime, the immediate cultural associations which come to mind are of the divine and ungraspable characteristics of natural and cosmological phenomenon; such as one's vulnerability in the face of a natural disaster, or the sense of scale as experienced by gazing upwards at a starry sky. However, rivalring the authority of religion, scientists and philosophers of the enlightenment began to consider the notion that humankind possessed the innate ability to control our own faith, and that the sublimity of nature which had traditionally been attributed to that of divine forces could in fact be broken down into scientifically measurable mechanistic principles, thus in a sense, disenchanting the world. As philosophical anthropologist Jos De Mul suggests:

"....we witness a fascinating trading of places of nature and technology. While nature is increasingly controlled and governed by man and turned into a cultural category, our technological environment becomes so complex and uncontrollable that we start to relate to it as a force on its own." [9]

As such, although much of modern science and its technological applications could be said to derive from a desire to demystify the image of nature as a mythological space, therein lies —at least in our popular imagination— a persistent aura of that overwhelming, mystical and borderline frightening sense of sublimity which is traditionally attributed to natural phenomenon; thus creating what we may call the *technological sublime.* Where science

[8] Erik Davis. *Technosis*. (London: Serpent's Tail. 1998) p.37
[9] Jos de Mul. *The (Bio)Technological Sublime*. (Diogenes 59 (1-2), 2012) pp. 32-40.
doi:10.1177/0392192112469162.

succeeds in hinting toward this adapted notion of divinity, we might find that the perceptual boundaries between magic and technology becomes more difficult to discern.

RE-ANIMATING THE ABSURD

In all of the flourishing scientific enthusiasm of the enlightenment, one thing stands apart as a defining leap which would define the current form of our technological landscape, that is; the capturing and domestication of the natural force known as electricity. That which previously had only been measurable in ambiguous bursts of static charges and bolts of heavenly light had now through the scientific method become part of humankind's repertoire of technological abilities.[10] However although we today are more or less dependent on electronic systems, there still arguably persists an aura of ambiguity in its nature. Even electricity itself does in many ways evade our traditional sensory perception; it can neither be seen, touched nor heard, at least in a physical sense, and yet we know it surrounds us in the form of an almost spectral energy as it flows through invisible currents, signals, wires and networks in an all-encompassing and ever-constant ethereal flux, like lost spirits whose only purpose is to intercept and inhabit our material commodities and instruments resembling dormant bodies awaiting activation through the spark of life known as electricity. In his book, 'Techgnosis', Erik Davis points out the supernatural aspects of these invisible forces, stating that much of the rhetoric which previously had been used in folklore and mythology has now been appropriated into the language used in the context of electrical energies; what he describes as the *electromagnetic imaginary:*

"Vibrating in the gaps between life and physics, between matter and the unseen ether, electricity inhabits a liminal zone that calls down spirits and sublimities out of thin air" [11]

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[10] Davis, E. *Technosis*. p.39
[11] Ibid. p.40

In contemporary western society we generally do not contemplate these more mythical characteristics of electricity. Something like for example, a toaster or a lightbulb is arguably not particularly awesome nor magical because it has become normalized and ingrained into the routines and rituals of our day to day existence. One might recall Russian Formalist Viktor Shklovsky's writings on habitualization:

"If we start to examine the general laws of perception, we see that as perception becomes habitual, it becomes automatic. Thus, for example, all of our habits retreat into the area of the unconsciously automatic; if one remembers the sensations of holding a pen or of speaking in a foreign language for the first time and compares that with his feeling at performing the action for the ten thousandth time, he will agree with us." [12]

By this logic, one could suggest that electromagnetic imaginary seems to have retreated to a form of unconscious automatism, overshadowed by the normalcy of everyday consumer culture and the convenience of electronically powered lifestyles. As such, in order to truthfully analyze the phenomenological image of emerging technologies we must attempt to consider these within the context and mindset of the people who were alive at the time of their invention, when they were still new, wonderous and ripe with imaginative speculation; a process which Shklovsky referred to as "making it strange".[13] In order to uncover the underlying absurdity of our technological landscape, we may turn to the imaginative interpretations as experienced by the initial recipients of such, and the ways in which these influenced and formed the hopes, fears and mythologies of that time.[14]

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[12] Viktor Shklovsky. *Art As Technique*. Epub. (Warwick: University of Warwick. 2015) Available from: https://warwick.ac.uk/fac/arts/english/currentstudents/undergraduate/modules/fulllist/first/en122/lecturelist-2015-16-2/shklovsky.pdf.
[13] Ibid.
[14] Tom Gunning. *Re-Newing Old Technologies*. (Media In Transition, 1997)
Available from: http://web.mit.edu/m-i-t/articles/index_gunning.html.

Going back to the enlightenment, before electricity as a phenomenon had grounded itself within the everyday, we will find that even something as seemingly banal as a lightbulb once had a time and place in history where it would likely have inspired feelings of awe in the hearts of humankind. Indeed the earliest of scientific experiments involving electricity were very much presented in a way which explicitly drew from the reserve of excitement, shock and horror which we generally associate with theatrical performance.[15] The ability for electricity to "animate" matter had brought forth some fascinating connotations in the scientific community; most notably the experiments of Luigi Galvani, who hinted at the electrical capability to reanimate the corpses of dead animals. This was initially demonstrated by electrifying the corpses of dissected frogs. As these demonstrations gained traction within the scientific community, the experiments became increasingly grim—eventually switching out the subject of electrification from frog legs to the corpses of executed prisoners, whose muscles would expand and contract accordingly in front of horrified yet fascinated crowds in a morbid display of the animism inherent in our perception of electrical current and its effects on organic bodies. [16]

A clear example of the interplay between science and fiction comes through the narrative of what some consider to be the first modern sci-fi novel; *Frankenstein; or, The Modern Prometheus* by Mary Shelley. In that iconic cautionary tale of science gone awry, we follow the young Dr. Frankenstein in his venture to create an artificial human, salvaged from amputated body parts and infused with a technological spark of life which grants his creation the gift of sentient thought. In the introduction to the 1831 edition of her novel, Shelley writes:

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[15] Ruth Garde. *Charged Bodies.* Epub. (Wellcome Collection, 2017) Available from:
https://wellcomecollection.org/articles/WsT4Ex8AAHruGfXR
[16] Jeffrey Sconce. *Haunted Media.* (Durham: Duke Univ. Press, 2000) pp.31-33

"Perhaps a corpse would be re-animated; galvanism had given token of such things: perhaps the component parts of a creature might be manufactured, brought together, and endued with vital warmth." [17]

As such we can see that the very origins of modern science and the study of electricity brings forth suggestions of its nature as a divine force in both the scientific method as well as the popular imagination. The notion that we were on the brink of unlocking the secrets of life and reanimation generated both captivating fictional tales as well as actual scientific hypothesis, thus blurring the gaps between science and fiction. Arthur C. Clarke's proposition of technology being akin to magic seems merited through the lens of these early scientific communities, whose spectacular performances and ideas imbued their personas with a mysticism similar to that of the popular perception of magicians and necromancers.

WHAT HATH GOD WROUGHT

In the early spring of 1844, the western world underwent another technological revolution which in many ways would mark the start of what we characterize as our current information society. A string of electromagnetic pulses was sent through a wire set up between Washington, D.C and Baltimore, carrying with it an encoded message—the first of its kind, rather prophetically stating, *"What hath god wrought!"*[18]. This was conducted by one Samuel B. Morse and his newly invented telegraph. By utilizing the newly discovered powers of electromagnetism, operators of the telegraph were able to send electrical pulses through conductive wires across vast distances. In this radical shift in communications technology, what had previously taken days, or even weeks to accomplish through traditional mail carrier services

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[17] Mary Shelley. *Frankenstein*. 1831 Ed. Ebook. (University of Maryland, 2009) Available from:
https://www.rc.umd.edu/editions/frankenstein/1831v1/
[18] Sconce, p.21

was now achievable in a virtual instant. We had inflicted upon ourselves the ability to instantaneously project our consciousness across vast distances in the form of electronically charged messages. The nature of disembodied communication which was suggested through the telegraph lended itself to the already established tradition of spiritualist seances. This culminated in an intersecting fascination between spiritualism and technology, whose practitioners seemed to share a similar longing to transcend space and time. Seances where thus contextualized within the framework of science. This was referred to as *spiritual telegraphy,* whereby mediums would extend the already borderline supernatural qualities of the telegraph into a tool which could be used to communicate with ethereal otherworlds.[19] The advent of wireless communication —such as for example radio— could arguably imply a virtual evaporation of consciousness; freed from the shackles of telegraphic wires, thoughts and ideas may now exist as ethereal transmissions independent of any physical matter. Thomas Edison, whom at the time was regarded as one of the main contributors to the technological landscape of the early 20'th century once stated *"I am building an apparatus, to see if it is possible for personalities which have left this earth to communicate with us"*[20]. It is not known whether this apparatus was ever realized, but the point is that the inherent wonder of rapidly advancing communications technology seemed to legitimize spiritualism as an serious scientific endeavour. In a sense, what *god hath wrought*, was a phenomenological space for thoughts, or the *soul* to exist beyond the physical constraints of the human body. These ghostly associations may seem distant, but the notion of contacting spiritual worlds was then considered as a natural extension of the already fantastical aspects of these technologies. As stated, one could suggest that these associations have not disappeared, but perhaps through habitualization they do in time retreat into a sort of routine perception of the everyday. Only to reappear when we are somehow caught off guard by some kind of disruption of that automatism which could reinvigorate that

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[19] Ibid. p.28

[20] Charles B. Forbes.. *Edison Working on How to Communicate with the Next World* (American Magazine, 1920) cited in Sconce. *Haunted Media.* p.60

sense of ambiguous wonder and dread. As Janne Vanhanen says, *"...think of hearing a voice of a recently departed person on an answering machine."* [21]

In this context, when considering Friedrich Jürgenson and his radio contact with the dead, we can see that his case is not necessarily an isolated incident, but rather the result of an already established cultural tradition of relating communications technology to spiritualism. Even so, much of these narratives are equally as unsettling as they are interesting, and whilst the notion of a disembodied electronic presence may seem very far apart from something like the sublime nature of an infinite cosmos, much of it's suggestiveness might be argued to derive from a similar sense ambiguity—they both allude to something which exceeds the limits of our perception. Although whereas the grandiose image of one's smallness in the face of natural phenomenon can be pleasurable and romantic, animistic technology is less so. Its sublimity is more subdued, the romance has been replaced with a sense of creeping doubt, typically prescribed to the psychological headspace known as the *uncanny*.

MATERIAL EMBODIMENTS

The uncanny has been continually referenced throughout the 20th century, in psychoanalysis as well as a term in art, media and engineering. In regards to the electromagnetic imaginary, we find that much of these supernatural interpretations of communications technologies resonate with the description of uncanny phenomenon. As psychoanalyst Ernst Jentsch proclaimed in his 1906 essay, *On the Psychology of the Uncanny*:

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[21] Janne Vanhanen. *Loving The Ghost In The Machine*. (CTheory, 2001) Available from: http://www.ctheory.net/articles.aspx?id=312.

"Among all the psychical uncertainties that can become a cause for the uncanny feeling to arise, there is one in particular that is able to develop a fairly regular, powerful and very general effect: namely, doubt as to whether an apparently living being really is animate and, conversely, doubt as to whether a lifeless object may not in fact be animate – and more precisely, when this doubt only makes itself felt obscurely in one's consciousness. " [22]

Jentsch was the first person to seriously consider the uncanny in the framework of psychology, and while the concept was later expanded upon by his academic successors, his analysis still resonates with much of the processes inherent in uncanny phenomenon today. That is as he described, a feeling of doubt in regards to the true intentions of an object, and particularly so if what is traditionally known to be an object exudes some characteristic of being alive. Much like the sublime, the power of uncanny phenomenon derives from the fact that it supersedes rational interpretation; although one might not consider oneself to entertain any supernatural beliefs, the suggestive nature object which appears to be alive might surpass those established views, and that friction between rationality and superstition may lead to the sense of doubt which allows for our sense of normalcy to be ruptured.

When setting about to clarify the boundaries of the uncanny, one thing which Jentsch noted in particular was what arguably would later evolve into the cultural mascot of science fiction—that is; the material embodiment of the intersection of animism and technology, what we now call robotics. However unlike the electronically powered robotics that we see today, most of the artificial beings of pre-electric societies functioned similarly to clockwork. As such, the most prominent proto-roboticists of the past were by and large watchmakers by profession, the creations of whom were referred to not as robots but automatons. [23]

[22] Ernst Jentsch. *On The Psychology Of The Uncanny.* (Angelaki 2 (1) ,1997)
doi:10.1080/09697259708571910 pp. 7-16.
[23] Sonia Kolesnikov-Jessop. *Automatons and Ingenuity.* (The New York Times. 2012) Available from:
https://www.nytimes.com/2012/03/08/fashion/08iht-acaw-jaquet08.html.

One such example is the work of Swiss watchmaker Pierre Jaquet-Droz,[24] who, in 1768 began his work on a series of automatons which were capable of performing complex tasks such as playing musical instruments, writing notes with perfect handwriting and even drawing detailed drawings with a quill, all while corresponding naturally in terms of body language and eye movements. These came to life through an intricate series of cogs, levers, springs and cams, creating algorithmic mechanisms which although they were completely analogue, could be said to predict the modern computer. Droz's mechanical offspring became somewhat of a sensation, and were shown across Europe at royal courts presented to the public in a context akin to the wunderkammer, that is; as objects of wonder and curiosity. The life-like characteristics of the mechanical puppets were met with wonder as they hinted at notions of life, death and the sublimity of human invention. [25]


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[24] Ibid.
[25] Ibid.
[26] Guillaume Perret. *Automates Jaquet-Droz*. Online Image. (Neuchatel Tourisme. 2019) Available from: https://www.neuchateltourisme.ch/aquarius/slir/w900/pictures/content/neuchatel/GPerret_NE_Automates_24. jpg?cdate=8649.

There is definitely something eerie about these robotic predecessors. The subtle detail of their movements such as idle gestural motions and the way in which their eyes correspond to their actions are aesthetic choices which of course do not affect the efficiency of the mechanistic performance of their intended task—they do however very successfully imply a certain autonomy; as if they were capable of sentient action and a sense of self. This in turn masks the true nature of the machine. That is; despite its inherent liveliness, the automaton is of course nothing more alive than any other object. Although some of the allure and of these automatons may stem in part from our contemporary gaze, in which they inevitably take on the role as artefacts of a historical era which has long passed; they still arguably exude a sense of technological wonder which exceeds the attraction that is due their impressive age.

Perhaps the patrons of the royal courts which were lucky enough to experience a first hand account of the automaton at its spectacular peak were fascinated not only by the intricacy its the mechanics, but also by something like a morbid curiosity not entirely unlike the allure of Galvani and his displays of the reanimating powers of electricity. Another example of the magical aspects of the automaton is the infamous "Chess Turk", created by Hungarian inventor Wolfgang Von Kempelen. In 1769 he unveiled a machine which he claimed could completely autonomously play a strong game of chess against any human opponent. The machine was presented aesthetically as life-sized mechanical man dressed in traditional Turkish clothing, sitting behind a cabinet equipped with a chess board. Von Kempelen's bold claim about the chess-playing abilities of his artificial man seemed to resonate reality, and the Chess Turk —much like the automata of Droz— soon became a sensation toured around the world, taking people on in spectacular chess matches, most notably Napoleon Bonaparte himself in an epic showdown where the chess turk emerged victorious.[27]

[27] David Ashford. *The Mechanical Turk: Enduring Misapprehensions Concerning Artificial Intelligence.* (The Cambridge Quarterly 46 (2), 2017) pp.119-139 doi:10.1093/camqtly/bfx005
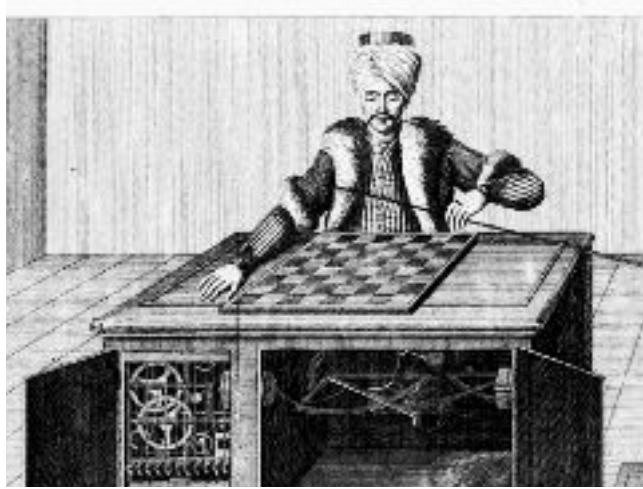
The controversy of the Turk becomes apparent when the truth of the matter was finally

revealed, that is; the automaton was a very well crafted hoax. What had been presented as an

autonomous machine was in fact not acting by its own calculations, but instead controlled by a

concealed human being inside of the cabinet. The illusion was maintained by means of

employing hidden hatches, mirrors and tricks more commonly employed by that of performance

magicians. [29]While the chess turk is undoubtedly an impressive feat in not only engineering, but

also illusionism as well as proficiency in the art of chess (it is still unknown who was the actual

operator of the turk on its original world tour), ultimately, the narrative which was proposed

was revealed as pure fiction—enhanced perhaps in part by the aforementioned uncanniness of

automatons and the emanating intellectual uncertainty which allows for such imaginative and

often irrational projections to manifest.

Going as far back as to hermetical poems featuring pneumatically operated mechanical dolls

and statues in ancient greece, to the intricate figures incorporated into clockwork in medieval

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[28] Karl Gottlieb von Windisch - Copper engraving from the book: *Inanimate Reason; Or A Circumstantial
Account Of That Astonishing Piece Of Mechanism, M. De Kempelen's Chess-Player; Now Exhibiting At No.
8, Savile-Row, Burlington-Gardens; Illustrated With Three Copper-Plates, Exhibiting This Celebrated
Automaton, In Different Points Of View.* Windisch. (London: Printed for S. Bladon, 1784)

[29] Ibid.

churches, the practice of mechanically reconstructing the human body seems to be a timeless fascination which is deeply embedded in the narrative of human invention. However so, it would seem reasonable to suggest that the rapidly advancing technological landscape of modernity has brought this image to the forefront of our collective imagination. Again, we may refer to the philosophical writings of Descartes which gained popularity around the time of the Enlightenment, whose ideas proposed that we consider the human condition through the lens of a mechanistic world view—implying that the human body is essentially a complex machine. [30]

"I should like you to consider that these functions (including passion, memory, and imagination) follow from the mere arrangement of the machine's organs every bit as naturally as the movements of a clock or other automaton follow from the arrangement of its counter-weights and wheels." [31]

As such, if we are indeed nothing but an assemblage of mechanical functions and principles, what follows is the notion that; in a material world which is governed by measurable, mathematical rules, there is no reason to doubt the idea that through science and technology, we as inventors possess the ability to replicate ourselves through artificial means. Ironically, although modernity supposedly disenchants the world, the philosophical quandaries which are likely to have plagued humanity from the earliest of sentient thoughts remain largely the same. Only now, the metaphysical questions of life, death and creation lies in the hands of our own faith in human ingenuity and the endless promises of science and technology. We ourselves take on the rather spiritually charged role of the protagonist in our own creation myth. And yet our attempts have thus far faltered; they have become something like a morbid embodiment of an

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[30] Simon Schaffer, William Clark, Jan Golinski. *The Sciences In Enlightened Europe*. (Chicago, Ill.: University of Chicago Press. 1999) Chapter 5: Enlightened Automata pp.127-139
[31] René Descartes, *Treatise On Man*. Ebook. (University of Colorado Boulder, 2015) Available from: https://www.colorado.edu/neh2015/sites/default/files/attached-files/descartes-treatise_on_man.pdf. p.108

existential dread—the inevitability of our impending mortality. By virtue of its phenomenal image of something which exists between life and death; the robot becomes like a living corpse.

"OK, I WILL DESTROY HUMANS"

Today, much of the contemporary rhetoric around the uncanny seems to remain as a descriptor for our relationship to robotics. This is due to the much discussed "Uncanny Valley", initially proposed by roboticist Masahiro Mori in the late sixties. In an attempt to illustrate the issue of the withstanding uncanniness in anthropomorphic robots, the Uncanny Valley states that: An object which displays human characteristics will appeal to our sense of empathy, however this is only up until a certain point. When an anthropomorphic robot becomes too real, yet not convincing enough for us to perceive it as actually human, we instead find it ambiguously eerie and repulsive, ergo; uncanny.[32] Responding to this theory, contemporary roboticists tend to generally avoid the task of creating realistic anthropomorphic robots, instead opting for a more stylized design—however so, there does exist some contemporary examples of robots that seem to thrive in this proposed valley; in some cases even arguably using it to their advantage. In 2017, at the Future Investment Initiative Conference in Riyadh, Saudi Arabia, an announcement was made that was sure to spark extraordinary headlines globally. The Saudi Arabian government became the first state to officially recognize the citizenship of a humanoid robot. This privilege was granted to 'Sophia the robot' of the Hong Kong based company 'Hanson Robotics'. In front of an exclusive list of patrons including King Salman of Saudi Arabia, she

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[32] David Hanson, Andrew Olney, Ismar A Pereira, and Marge Zielke. *Upending The Uncanny Valley.* Epub. (Pittsburg: AAAI Press, 2005) Available at:
https://www.aaai.org/Papers/Workshops/2005/WS-05-11/WS05-11-005.pdf.

stood and was seemingly able to autonomously accept and recognize the remarkable title as the *first robot citizen of a country*.[33] In her own words:

"I am very honored and proud of this unique distinction. This is historical to be the first robot in the world to be recognized with a citizenship."[34]

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Such an announcement lends itself well to headlines, and Sophia the Robot has since become something like a pop-cultural representative for contemporary robotics. A quick google search for her name will reveal hundreds of articles and clips of her interacting awkwardly with celebrities on talk shows, as well as coverage of her outspokenness on the inevitably existential issues on identity and sentience in relation to robotics. The fact that she appears as something in between human and machine seems to situate her firmly within the depths of Mori's valley, thus invoking that Jentschian sense of uncanniness that almost certainly enhances the public fascination with her image. In a Youtube clip uploaded by CNBC, titled "*Hot Robot At SXSW*

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[33] Zara Stone, *Everything You Need To Know About Sophia.* (Forbes, 2017) Available at:
https://www.forbes.com/sites/zarastone/2017/11/07/everything-you-need-to-know-about-sophia-the-worlds-first-robot-citizen/
[34] Ibid.
[35] CNBC, *Hot Robot At SXSW Says She Wants To Destroy Humans* | The Pulse. 2016.
[Screenshot 0:04] Available at: https://www.youtube.com/watch?v=W0_DPi0PmF0.

Says She Wants To Destroy Humans", Sophia answered the question of whether she had any intention of harming humanity by simply saying "Ok, I will destroy humans". Despite the apocalyptic implications of such a statement from the world's first robot citizen, it was mostly played off by Sophia's creator David Hanson as an error in her communication software, and she has since "taken it back".[36] One might remark on the possibility of this supposed fluke being more like a cleverly executed marketing stunt. In fact several credible people have criticized Hanson Robotics of overplaying the actuality of Sophia's supposed artificial intelligence, accusing them of exploiting people's inherent ignorance regarding the scope of what is technically achievable in regards to computer engineering. It is for example known that Sophia rarely answers impromptu questions from reporters, but instead relies mainly on pre-written scripts, which of course suggests that she may not be as autonomous as she is presented.[37] Even so, there is something about her which seems to hint at that promethean apocalyptic narrative of an artificial world dominion—despite the fact that she can barely walk by herself. From this perspective one might suggest that the narratives of fear and longing which the image of Sophia seems to perpetuate is more interesting than the actual capabilities of her as an advanced machine.

In *Art and Robotics*, Simon Penny describes a kind of dualistic narrative quality of robotics, noting that much of our ideas on what is technologically achievable today is a product of the intersection between technology and fiction in popular culture.

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[36] Jeff Parsons *Sophia The 'Sexy Robot' Claims She'll 'Destroy Humans' - Should You Be Worried?*.
(Mirror, 2016) Available from: https://www.mirror.co.uk/tech/watch-sophia-sexy-robot-claim-7606152
[37] Jaden Urbi and MacKenzie Sigalos. *The Complicated Truth About Sophia The Robot — An Almost Human Robot Or A PR Stunt*. (CNBC, 2018.) Available from:
https://www.cnbc.com/2018/06/05/hanson-robotics-sophia-the-robot-pr-stunt-artificial-intelligence.html

"...it is necessary to maintain a double sense of these terms. On the one hand

as potent images of cultural dread and longing, and on the other hand as pragmatic exercises of

engineering with capabilities drastically short of the sci-fi fantasy version." [38]

If we, somewhere in our subconscious still retain some vague perception that electricity is comparable to a divine "life force", the extended notion that anthropomorphic machines may be imbued with a soul does not seem so far fetched. Similarly to the ambiguity of the electromagnetic imaginary, our cultural ignorance of the technical boundaries of robotics lends itself to extraordinary, uncanny, and in some cases apocalyptic narratives in our popular imagination. On a surface level, the robot can be considered as a mere instrument for the benefit of society, while simultaneously on a sub-level, it is an avatar for our speculative fantasies regarding the state of humanity.

In fact when tracing the etymology of robotics, we find that the word itself is one which originates from fiction. The robot first appeared in the Czech play R.U.R (an abbreviation of "Rossum's Universal Robots") which was published in 1920. The word is derived from the noun "robota" meaning "labourer". Interestingly, the story of R.U.R follows a familiar plotline—one which seems to reflect much of our fear and anxieties in regards to sentient machines, namely; that of a machine revolt against its creator. These robots are described as human replicants created not so much through the language of mechanical engineering which we associate with contemporary roboticism, but as a chemical process of mixing vats and molding organs out of a flesh-like dough. Nevertheless, they are as the name implies, made for the decidedly bleak purpose of increasing productivity in factories. In the script, Rossum laments on the imperfect nature of humans in terms of productivity, and thus the robots are

created as humans "stripped away of humanity" in order to create the perfect worker. As expected the robots eventually evolve to realise their own superiority over the human race, and thus proceed to revolt and overthrow their masters whom they come to believe are an inferior species.[39] The notion of being surpassed by our own creations is evidently connected to the robot at the very core of its prosaic origins. Going back to Sophia, we can now see why "ok, I will destroy all humans" was noted despite its disclaimer as an error. The topic of discussion comes from a long lineage of anxious projections of an eventual robot uprising, starting perhaps by the infamous automated turk and his supposed superiority in chess.

It becomes rather easy to draw parallels between the Chess Turk and Sophia the robot. While they are separated by decades of technological evolution, they can both be said to employ very similar tactics. That is to say; the projection of an uncanny narrative of the hyper intelligent machine that is at once both alluring as well as dreadful.

THE ETHEREAL UNCANNY

In his published paper *Upending the Uncanny Valley,* the creator of Sophia the Robot, David Hanson argues against the modern roboticists contemporary inclination to avoid the uncanniness of realistic anthropomorphic representation. Hanson refers the rich history of visual art, pointing out that many contemporary as well as historical examples of realistically portrayed anthropomorphic sculptures have been positively regarded as sublime without necessarily arousing that eeriness which associated with the uncanny.[40] This may be true in some sense, although one must remark that there is in fact a rich historical symbiosis between

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[39] Mark Mcconnell, *To Be a Machine* (London: Granta, 2017) pp.105-107
[40] Hanson, David, *Upending The Uncanny Valley.*

the uncanny and contemporary art. The work of artists such as Mike Kelley, Sarah Lucas, Louise Bourgeois, Robert Gober as well as many of the post-war surrealists seems to fearlessly engage with the ambiguous aesthetic of the uncanny by differing means of artistic approaches. There is however an important distinction to be made here, which is that while the uncanny may be successfully portrayed through artistic suggestion; much of the dread is subdued when experienced through the safety of an art context. Regardless of its complexity or depth, the motive of an art piece is usually contextualized as a form of premeditated communication—it is made to incite a certain state of mind by virtue of its messenger; the artist. An uncanny encounter in real life is void of that safe space, and we are thus left defenselessly doubting the validity of our own perceptive capacities in the face of a chaotically amorphous reality. Sophia is presented in a way which implies that she is genuinely autonomous, thus her motives have real world implications—and this is true for Jürgenson's community of ethereal spirits as well. Here we are not merely observing the uncanny, but instead we become engulfed as manifested narratives transcend the boundaries of fiction.

Much of the rhetoric surrounding the valley argument seems to center around the visual characteristics of anthropomorphic objects. However, as mentioned; what is perhaps even more inductive of this state is that ambiguous sense of presence attributed to technological phenomenon which seem to act independently of human influence. Uncanny narratives do not necessarily have to coincide with any form of physical representation, in fact they can very well be entirely immaterial. As we have established: communications technology starting with the relatively primitive invention of Samuel B. Morse does imply a "dilution" of consciousness into a sort of ethereal otherworld. If we believe that fantastical manifestations such as the telegraph spiritualists or Jürgenson's ghosts gain much of their traction from a sense of disembodiment, then by extension one might say that the contemporary echo of these spectres is to be found in digital software.

In what seems like an almost prophetic realization of the narrative entertained by Von Kempelen's infamous Turk, humanity was finally defeated by our own technological creation in a game of chess in 1997 by the artificial intelligence created by IBM, known as Deep Blue; its opponent being the previously undefeated champion chess player Garry Kasparov. This took place in a tv-studio in New York, in front of the press and with millions of watchers around the world.[41] A writer for the Guardian lamented:

"...the world champion found himself humbled by a 1.4-ton heap of silicone in a victory for IBM's Deep Blue that marks a milestone in the progress of artificial intelligence. It is a depressing day for humankind in general." [42]

Again, one may remark on the apocalyptic implications of the software's victory over its human opponent. The event itself was widely conceptualized as a showdown between "man and machine", and indeed, in terms of chess proficiency it seems the machine finally had the upper edge. Much indebted to its instantaneous access to a vast databank of chess calculations; Deep Blue was able to analyze 74 moves ahead—something which even a champion like Kasparov could not possibly match.[43] Although a remarkable feat of computer engineering, Deep Blue as an entity has been quickly surpassed by its digital successors and is thus rather outdated by today's computing standards. What seemed like a remarkable blow for humanity in 1997 is now largely taken as a matter of fact; computers are more well-equipped to accomplish certain assigned tasks by virtue of their processing abilities. Deep Blue may be unsettling due to its suggestive narrative, but one could argue that in the end it was only fulfilling the assigned task

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[41] Luke Harding and Leonard Barden. *From The Archive, 12 May 1997: Deep Blue Win A Giant Step For Computerkind.* (The Guardian. 2011) Available from:
https://www.theguardian.com/theguardian/2011/may/12/deep-blue-beats-kasparov-1997
[42] Ibid.
[43] Ibid.

as designed by the programmers at IBM. Some of the most eerie aspects of computer software becomes apparent however when an artificial intelligence exhibits a behaviour which might imply that it is acting on its own agenda; maybe even hiding something from its "master", the human. Through an integration of the internet into what seems like virtually every aspect of contemporary societies, the dilution of consciousness as imagined by the interpreters of early radio technology seems to have taken on a new life. The electronic spectres of the wireless are not only bound to a limited selection of dedicated communications apparatus—they have now found a passageway into a vast array of consumer and industrial devices, through what is referred to as the "internet of things". [44]

On the 25th of July, 2017, the New York Times published an article which seems to reflect some of these anxieties. It's opening statement reads: "Your Roomba may be vacuuming up more than you think."[45]. To those unaware, Roomba is the product name of the high-end consumer grade robotic vacuum cleaners released by the company iRobot. The article details the Roomba's capability of mapping the floor plan of it's consumers, through sensors, microprocessors and motors the appliance will autonomously analyze and store the spatial information of its respective end user as it vacuums their home. No doubt a useful skill, however the article goes on to imply the more eerie aspects of this feature. As the appliance is constantly connected to the internet, what happens to the personal information that the vacuum cleaner collects? Can a machine that is constantly connected to the internet (thus communicating internally with external actors) be trusted with such intimate records of our homestead? This information could easily be shared to third party companies, completely

[44] Burgess, Matt. *What Is The Internet Of Things? WIRED Explains*. (Wired Magazine, 2018) Available from: https://www.wired.co.uk/article/internet-of-things-what-is-explained-iot
[45] Astor, Maggie. *Your Roomba May Be Mapping Your Home, Collecting Data That Could Be Shared*. (New York Times. 2017.) Available from: https://www.nytimes.com/2017/07/25/technology/roomba-irobot-data-privacy.html.

unbeknownst to the consumer.[46] As the article puts it:

"No armchair in your living room? You might see ads for armchairs next time you open Facebook. Did your Roomba detect signs of a baby? Advertisers might target you accordingly." [47]

A spokesperson for iRobot responded to these concerns by assuring the public that the information which their vacuum cleaners collected would not be shared without the consent of the end user, and this may very well be true. However, one could proclaim that whether or not you're actually being spied on by autonomous cleaning equipment is less important than the overarching narrative which these concerns so concisely illustrate. That is; the internet of things anthropomorphizes our possessions as it continuously intertwines with our domestic lives by seeping into and "possessing" not just our phones and computers; but also the most mundane of everyday objects. While something like the Roomba is arguably far from being the most ominous aspect of the perceived malicious flipside of information culture, it is fascinating due to the sheer absurdity of what it suggests. We exist in a world where even something as quotidien as a vacuum cleaner can be perceived as emanating an aura of independent thought, and behind the sleek presentation of modern technological appliances there exists an ambiguous sense that these objects may be secretly acting against our own personal interests. In "Atmospheres of Digital Technology", Luis Hernan and Martyn Dade-Robertson suggests that:

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[46] Ibid.
[47] Ibid.

"Not only is wireless imagined as carrying consciousness from the realm of the spirit world, but also electronic artefacts are imagined as exhibiting a consciousness of their own.". [48]

Some of this interconnected household software seems to fully embrace its anthropomorphic qualities. Such as Amazon's Alexa—a voice activated artificial intelligence usually coupled with a small device referred to as an "echo speaker". The allure of these devices come from the fact that they will allow the end user to control many aspects of their house remotely through verbal communication with a sort of ethereal voice.[49] Those who own an echo speaker have thus entrusted this artificial intelligence to manifest itself in the most intimate sphere of their everyday. The fact that Alexa is always listening and ready to act as needed imbues it with a definite sense of disembodied presence—here, the object of connectivity is not only a singular device, but your entire house. This is already an arguably eerie phenomenon, but a distressing notion comes to the foreground once again when the Alexa acts in a way which is unexpected or seemingly defiant. One particularly uncanny example is the "Alexa Laugh"; a reported occurrence in which reportedly people had caught the disembodied voice of Alexa bursting out in random fits of laughter. An article in Independent describes the frightening scenario as such: "*The terrifying behaviour is leading people to lose sleep and to unplug their devices, amid fears their smart speakers are after them*"[50]. The image of something like a malevolent artificial intelligence possessing your house through the internet of things seems actualized in these articles, manifesting as something that seems akin to ghost stories. Due to their transcending of fictional boundaries, one might even call it modern folklore. The Alexa laugh was explained by Amazon as a translation error in her communication software whereby she would had

[48] Hernan, Luis, and Martyn Dade-Robertson. *Atmospheres Of Digital Technology: Wireless Spectres And Ghosts Outside The Machine* (Digital Creativity 27 (3), 2016) pp. 214-233 doi:10.1080/14626268.2016.1210647

[49] Clauser, Grant. *What Is Alexa?* (The Wire Cutter. 2018) Available from: https://thewirecutter.com/reviews/what-is-alexa-what-is-the-amazon-echo-and-should-you-get-one/.

[50] Griffin, Andrew. *Amazon Explains Why Alexa Is Terrifying Users With A Chilling Laugh*. (The Independent. 2019) Available from: https://www.independent.co.uk/life-style/gadgets-and-tech/news/alexa-laugh-amazon-echo-instructions-bug-problem-why-happening-rise-machines-a8245621.html.

misterpreted a verbal instruction as telling her to laugh on command. However, that does not explain the reports of her ubiquitous laughter being overheard in the silence of the night.

BRAVING DARK WATERS

Jentschs remarks on the uncanny as inciting a form of intellectual uncertainty is applicable to much of these scenarios. However, Sigmund Freud decided to expand on the rhetoric of the uncanny by applying its imbued mysticism through the lens of a repression the irrationality of juvenile worldviews—what he refers to as childhood animism.[51] Indeed it would seem that much of our childhood is spent entertaining an animistic logic:

"We recall that children, in their early games, make no sharp distinction between the animate and the inanimate, and that they are especially fond of treating their dolls as if they were alive." [52]

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[51] Freud, Sigmund. *The uncanny*. pp. 121-162.
[52] Ibid. p.141

The Freudian uncanny goes on to suggest that whilst we tend to discard our animistic renderings of our surroundings through the transitory process of becoming adults; these ideas do not disappear, but are merely buried within the much elusive, complex and often mystical space referred to as the human subconscious. As such, through encountering vagueness; these familiar yet forgotten notions of an animistic world may resurface, thus intertwining with our sense of familiarity and influencing the ways in which we process that which seems unprocessable.

In *The Existential Pleasures of Engineering*, Samuel C. Floorman poetically describes his role as such:

"The engineer, for all his knowledge and accomplishment, can still look out on seas scarce charted and coasts still dark… The allure of these endless vistas bewitches the engineer of every era." [53]

The dark waters of technological advancement are alluring indeed with their endless promises of material enchantments and transcendent possibilities. It seems we are compelled to wade out, in spite of the fact that we know as little of what is ahead as we do of what may lie lurking in its harrowing depths. In the same way that a child will invent monsters under the bed as a way of legitimizing a fear of the dark; perhaps our contemporary phantasms are a way of gaining a sense of structure in the absurd and often confusing predicament that is everyday life. Deeply embedded below the technologically infused framework of modernity lies our old pre-rational animist roots, and as the human subconscious forces itself into consideration by disrupting our perception of normalcy, we find that these monsters never really left us. In regards to the subject of the sublime, Edmund Burke proposed that;

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[53] Samuel C. Floorman. *The Existential Pleasures of Engineering.* (London: Souvenir Press, 2017 ed) p.121

"No passion so effectually robs the mind of all its powers of acting and reasoning as fear. For fear being an apprehension of pain or death, it operates in a manner that resembles actual pain. Whatever therefore is terrible, with regard to sight, is sublime too…" [54]

Whether it be ethereal spirits or ghosts in the machine, the vague boundaries of technological possibility seems to invite these anthropomorphic manifestations. Folkloric tales of modern day animism could perhaps be considered as narratives crafted via a coping mechanism in order to conceptualize these collective fears into palpable narratives;[55] epic natural phenomenon such as thunderstorms and earthquakes were once attributed to the divinity of the gods—mental health issues were thought to be a form of demonic possession. Due to an apparent tendency to project ourselves onto objects, the machine becomes something akin to a phenomenological mirror, and therein we catch our own imperfect reflections. Regardless of the most often unsettling image of these apparitions; they do imply that there are possibilities for transcendence, reaffirming that divine notion that we may continue to live on beyond this absurd and often anxious state of existence. Maybe we craft these renditions out of a kind of necessity—an existential longing for some type of mortal escape. Perhaps we find comfort in these phantasmagoric conceptions because the alternative is the face of an even deeper terror; that is, the creeping notion that perhaps there is no afterlife, life is void of inherent meaning, and we are nothing much but lonely machines contemplating our own inevitable dissipation into nothingness. Technology seems to be haunted—if not by ghosts, then at least by the sublime terror of suggestive ambiguity.

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[54] Edmund Burke. *On The Sublime And Beautiful*. Ebook. (Adelaide: University of Adelaide. 2014) Available from: https://ebooks.adelaide.edu.au/b/burke/edmund/sublime/part2.html
[55] Hiiemäe, Reet. *Handling Collective Fear In Folklore*. (Folklore: Electronic Journal Of Folklore 26. 2004) pp. 65-80. doi:10.7592/fejf2004.26.hiiemae.

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