MIND OVER MATTER

The Thinking and Speaking Machine in Fiction of the Long Nineteenth Century

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ABSTRACT

This doctoral thesis analyses the autonomous thinking and speaking body machine in fiction in the long nineteenth century in Europe and the USA. An autonomous body machine is, in my definition, a mechanical device which, either in form or function, either fully or in part, is self-governed and replicates a human being. My research is set out as a two-part question: firstly, how is the autonomous thinking and speaking machine represented in the fiction of this period, and, secondly, in its historical context, what does its autonomy signify? With the long nineteenth century I denote the period demarcated by the invention of Wolfgang von Kempelen's (1734-1804) mechanical chess player in 1770 and George Bernard Shaw's (1856-1950) 1912 play *Pygmalion*.

The desire to simulate thought and speech became the predominant driving force behind late eighteenth-century automaton building. Whereas the previous generation of automata had focused on external motion, these new automata differ in their focus on the replication of the internal faculties of thought and speech and, I argue, expanded the definition of life from mechanical motion to cognisance and the definition of prostheses from mechanical replacements to bodily enhancements.

I scrutinise the thinking and speaking body machine at the intersection of these changing definitions and demonstrate how in the discussed period these machines' prosthetic/corrective potential was addressed metaphorically in fiction and employed to comment on contemporary cultural phenomena. I focus on the fiction of E.T.A Hoffmann (1776-1822), Edgar Allan Poe (1809-1849), Samuel Butler (1835-1902) and Auguste Villiers de l'Isle-Adam (1838-1889). A common factor in their fictions is the thinking and/or speaking machine embodying the far horizon of Enlightenment potential. In the discussed fictions, I argue, the new definition of life converged with that of the new definition of prostheses.

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

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Any long-term project executed solitarily has the potential to be an isolating experience. However, thanks to the support and enthusiasm of many people, the researching and writing of this thesis has been an engaging experience of growth and proven anything but confining. At every stage of the project, the guidance received from my supervisors, Professor Geoffrey Wall and Dr. Mary Fairclough, has been invaluable. I am deeply grateful for their insight, inspiration and steady encouragement. I am indebted to my parents, Jacob Bikker and Marleen Hoylaerts, for their continuing support and faith in me, as well as Dr. Megan Bryan for her challenging discussions on subhuman creations and her lasting friendship. I am grateful beyond words to my husband, Richard Hind, not least for the sharing of his knowledge on contemporary artificial intelligence, but above all for his constant patience and love. Whilst I was wandering in 1880s Paris, he was firmly rooted in twenty-first century York, cooking me incredible meals and doing a disproportionate number of dishes. Our terrier, Loki, also deserves a thank you for insisting on fighting sleep and keeping me company during the final stretch of the writing. Finally, I would like to dedicate this thesis to the memory of my grandparents, Jozef Hoylaerts and Josée Roelants, who would have been incredibly proud to see me finish this project.

DECLARATION

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as REFERENCES.

CRITICAL INTRODUCTION

This thesis explores the autonomous thinking and speaking body machine in fiction in the long nineteenth century in Europe and the USA. An autonomous body machine is, in my definition, a mechanical device which, either in form or function, either fully or in part, is self-governed and replicates a human being. My research is set out as a two-part question: firstly, how is the autonomous thinking and speaking machine represented in the fiction of this period, and, secondly, in its historical context, what does its autonomy signify? With the long nineteenth century I denote the period demarcated by the invention of Wolfgang von Kempelen's mechanical chess player in 1770 and George Bernard Shaw's 1912 play *Pygmalion*.[1] The desire to simulate thought and speech became the predominant driving force behind late eighteenth-century automaton building. Whereas the previous generation of automata had focused on external motion, these new automata differ in their focus on the replication of the internal faculties of thought and speech and, as I argue in the first chapter, expanded the definitions of life and machine prostheses. Von Kempelen's chess player, rather than predictable clockwork motion, engendered the possibility of unpredictable mechanical mental self-governance, whilst mechanical speech engendered the notion of prostheses as bodily augmentations, rather than replacements. In chapters 2, 3 and 4 I will demonstrate how in the discussed period prosthetic corrective potential was addressed metaphorically in fiction and how it converges with the definition of life. *Pygmalion* is the final fin-de-siècle text I discuss – in the context of Auguste Villiers de l'Isle-Adam's 1886 novel *Tomorrow's* Eve and late nineteenth-century gender criticism – which presents the literary trope of women being metaphorically civilised, i.e. corrected and improved, through prosthetic speech. The fiction in the period following what I denote the long nineteenth century is characterised by body machines which, in capitalist dystopias, rather than mental autonomy, again stress mechanical predictability and mental and vocal limitation. Two examples are Karel Čapek's play *Rossum's Universal Robots* (*R.U.R.*) (1921) and Thea von Harbou's novel *Metropolis* (1925).

In the discussed nineteenth-century texts prosthetic speech converges with the definition of life in the sense that speech is proposed as testament of thought and inner life. In *R.U.R.* however the assembling of a "Robot", which recalls the piecing together of Frankenstein's creature, is paradoxically one of elimination.[2] Opposed to, for example, the manner in which Villiers' fictional

[1] Bernard Shaw, Nicholas Grene and Dan H. Laurence (ed.), *Pygmalion: A Romance in Five Acts* (London: Penguin Books, 2000).
[2] Karel Čapek, Ivan Klíma and Claudia Novack, *R.U.R. (Rossum's Universal Robots)*, trans. Claudia Novack (New York: Penguin Books, 2004), 17.

Edison builds up his "andréide" to achieve the illusion of intelligent cognisance, the Robot engineer Rossum strips back anything too human, like emotion or the need for leisure, which would hinder the optimal functioning of a labouring machine. Čapek coined the term "Robot", from the Czech "robota", meaning strenuous, manual labour, generally in a power relationship such as that of a serf to a master.[3] In the 1927 German expressionist silent film *Metropolis*, directed by Fritz Lang (1890-1976) and Thea von Harbou's (1888-1954) 1925 novel by the same name, Villiers' trope of the gendered machine doppelgänger is continued. However, where Villiers employs the machine woman as a satirical cure against the perceived threatening and malfunctioning women of his time, Von Harbou proposes her as a deliberate femme fatale.[4]

Von Harbou's machine woman's seductive and treacherous qualities are enhanced, rather than negated, and her voice, "filled to overflowing with a dark, deadly wickedness" tempts the city workers into a near-fatal revolt.[5] The novel discloses that, like in *R.U.R.*, the android was however commissioned as the prototype for a mute, un-thinking mechanical worker and its thoughts and voice are mere extensions of its creators, rather than its own.[6] In the context of early twentieth-century Taylorist capitalism in which happinesss, progress and productivity are synonymised, the ideal worker is a muted mechanical automaton modified to thrive at the production line.[7] In his 1936 silent film *Modern Times*, the British filmmaker Charlie Chaplin (1889-1977) parodies the aspiration to mechanise man in pursuit of the new Taylorist economic model of efficiency in which man is considered the inadequate factor. The film, produced in America during the years of the Great Depression, shows Chaplin's mute character, the Little Tramp, struggling with the modern, industrialised world. First, he is chosen as the guinea pig in the trial of a new "eating machine", designed to automate and speed up lunch breaks so the worker can spend more time at the production line. True to Chaplin's comedic style, the machine goes rogue, leading to the Little Tramp, covered in food, being force-fed a couple of steel nuts. Later, being unable to keep up with the ever-increasing speed of the production line, Chaplin's character is literally swallowed up by the machinery. The medium of the silent film perfectly embodies the dilution of the thinking and speaking machine trope and the breaking away from the notion of thought and speech as the zenith of progress.

In the second half of the nineteenth century the invention of the electric telegraph and the phonograph normalised seemingly disembodied, prosthetic speech. Making use of electricity, the

[3] Nicholas Anderson, "Only We Have Perished": Karel Čapek's R.U.R. and the Catastrophe of Humankind", *Journal of the Fantastic in the Arts* 25, no. 2-3 (2014): 227-228.
[4] For a cultural history of the genesis and reception of the film, see: Michael Minden and Holger Bachman (eds.), *Fritz Lang's Metropolis: Cinematic Visions of Technology and Fear* (Rochester: Camden House, 2002).
[5] Thea von Harbou, *Metropolis*, original 1927 English translation (Mineola: Dover Publications, 2016), 93.
[6] Ibid., 47.
[7] Frederick Winslow Taylor, *The Principles of Scientific Management* (New York: Harper & Brothers, 1919), 11.

telegraph enabled messages to be coded, sent and decoded, over suspended electric wires, within a matter of seconds, from one telegraph device to another. In the US, thanks to the inventor Samuel Morse (1791-1892), the telegraph system was set up and expanded from 1837 onwards. That same year in Britain, it was the joint effort of inventor and Professor Charles Wheatstone (1802-1875) and inventor William Fothergill Cooke (1806-1879) that led to the installation of the first electric telegraph between Camden Town Station and Euston Station to notify on the departure and arrival of trains on the London and Birmingham Railway. In the US, Britain and Europe the telegraph network rapidly grew and soon became an indispensable long-distance communication method. In 1858 the first transatlantic cable brought the US and Europe within a metaphorical speaking distance. By 1853, 24,000 miles of telegraph wire covered America alone.[8] Thomas Edison's (1847-1931) invention of the phonograph, also simply known as the "talking machine", in 1877 for the first time allowed the human voice to be recorded and replayed on a small brass cylinder (record), covered in punctured tinfoil (and later in wax).[9] His mechanical acoustic device truly merged the human voice with the machine and soon earned him the title "The Wizard of Menlo Park".[10] The telegraph and the phonograph affirmed the definition of life as thought and prostheses - prosthetic speech in particular - as enhancements which, as I argue in chapter 1, the late eighteenth-century speaking machines had begun to advocate.

In the first chapter I will demonstrate how these late eighteenth-century mechanical thinking and speaking machines, combined with the influence of mesmerism and the executions by guillotine during the French Revolution, expanded the definition of life from motion to thought and the definition of prostheses from mechanical replacement limbs to superhuman bodily extensions. In the following three chapters I will show how the fiction writers E.T.A Hoffmann (1776-1822), Edgar Allan Poe (1809-1849), Samuel Butler (1835-1902) and Auguste Villiers de l'Isle-Adam (1838-1889) throughout the nineteenth century respond to these cultural developments and changing definitions and how they employ their imagined thinking and speaking machines metaphorically in order to comment on contemporary society. A common factor in their fictions is the thinking and/or speaking machine embodying the far horizon of Enlightenment potential, regardless of whether it is considered beneficial or threatening. The fictional machine prosthesis, born from a coupling of the mechanical and the occult – mesmerism, alchemy, spiritualism, the ventriloquial voice – and thus more than the sum of its parts, is attributed with - often inexplicable - superhuman qualities and

[8] Jacynth Hope-Simpson, *The Making of the Machine Age* (London: Heinemann, 1979), 119-121. For a cultural account of the telegraph network, see: Simone M. Müller, *Wiring the World: The Social and Cultural Creation of Global Telegraph Networks* (New York: Columbia University Press, 2016).
[9] Matthew Josephson, *Edison: A Biography* (London: Eyre & Spottiswoode, 1961), 162-165, 173, 317-320; Neil Baldwin, *Edison: Inventing the Century* (New York: Hyperion, 1995), 84.
[10] Paul Israel, *Edison: A Life of Invention* (New York: John Wiley & Sons, 1998), 147; Josephson, *Edison: A Biography*, 170.

reflects on contemporary anxieties and aspirations regarding intelligent machines: in the first decade of the nineteenth century Hoffmann comments on the suggested dangers of mesmeric mind compulsion, Poe in the 1830s and 1840s reflects on the appropriation of mechanical speech by the wealthy, Butler (1835-1902) in the 1870s scrutinises the societal consequences of the intelligent machine as a network, whereas at the fin de siècle Villiers with his phonographic woman discusses the perceived degeneration of his time.

The original contribution to knowledge which this thesis makes lies predominantly in the recognition of the expanding definitions of life and prostheses in this period, the analysis of the socio-political phenomena responsible for these changes and a critical assessment of the literary response to these cultural developments. My research finds new ground among existing scholarship in the investigation of the fictional thinking and speaking body machine at the intersection of these evolving notions regarding the nature of life and prostheses. Many scholars have researched the relationship between the machine and the human body and mind in the long nineteenth century, among others Deirdre Coleman and Hilary Fraser.[11] Equally, since Alfred Chapuis and Edouard Gélis' 1928 *Le Monde des automates*, many historical and technical studies have been conducted concerning machines, automata and, more specifically, thinking machines and mechanical speech in the discussed period, such as those by John Tresch, Tom Standage, Steven Connor and Thomas Hankins and Robert Silverman.[12] More sporadic, since Alfred Chapuis' 1947 *Les Automates dans les oevres d'imagination*, is extensive diachronic academic research conducted on nineteenth-century mechanical invention and its representation in fiction, like that by Herbert Sussman, Martin Willis and, more specifically concerning the reproduction of sound, John Picker.[13]

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[11] Deirdre Coleman and Hilary Fraser (eds.), *Minds, Bodies, Machines, 1770-1930* (Basingstoke: Palgrave Macmillan, 2011).

[12] Alfred Chapuis and Édouard Gélis, *Le Monde des Automates, Étude Historique et Technique* (Paris: published by authors, 1928); John Tresch, *The Romantic Machine: Utopian Science and Technology after Napoleon* (Chicago: The University of Chicago Press, 2012); Tom Standage, *The Turk: The Life and Times of the Famous Eighteenth-Century Chess-Playing Machine* (New York: Walker & Company, 2002); Steven Connor, *Dumbstruck: A Cultural History of Ventriloquism* (Oxford: Oxford University Press, 2000); Thomas L Hankins and Robert J Silverman, *Instruments and the Imagination* (Princeton: Princeton University Press, 1999). For historical reference of Von Kempelen's chess player, I have predominantly made use of Tom Standage's monograph *The Turk*, as Standage debunks some of the myths concerning the machine, which are perpetuated as historical fact in some of the preceding scholarly publications. Other useful research on the mechanical chess player includes: David Ashford, "The Mechanical Turk: Enduring Misapprehensions Concerning Artificial Intelligence", *The Cambridge Quarterly* 46, no. 2 (2017): 119-139; Gerald M. Levitt, *The Turk, Chess Automaton* (Jefferson, N.C.: McFarland & Company, 2006); Bradley Ewart, *Chess: Man vs Machine* (San Diego: A. S. Barnes & Company, 1980); Charles Michael Carroll, *The Great Chess Automaton* (New York: Dover Publications, 1975).

[13] Alfred Chapuis, *Les Automates dans les Oeuvres d'Imagination* (Neuchâtel: Editions du Griffon, 1947); Herbert L. Sussman, *Victorians and the Machine: The Literary Response to Technology* (Cambridge, Mass.: Harvard University Press, 1968); Martin Willis, *Mesmerists, Monsters, and Machines: Science Fiction and the Cultures of Science in the Nineteenth Century* (Kent, Ohio: The Kent State University Press, 2006); John M. Picker, *Victorian Soundscapes* (Oxford: Oxford University Press, 2003).

I will focus on the following primary texts: Hoffmann's "Automata" (1814) and "The Sandman" (1816); Edgar Allan Poe's "Maelzel's Chess-Player" (1836), "Von Kempelen and his Discovery" (1849) "The Facts in the Case of M. Valdemar" (1845), "Loss of Breath" (1835), and "The Man That Was Used Up" (1839); Samuel Butler's *Erewho*n (1872) and Auguste Villiers de l'Isle-Adam's *Tomorrow's Eve* (1886). The method I use is a critical textual analysis combined with a historical approach of the various cultural contexts in which these narratives are embedded, for example the histories of medicine, science, invention, philosophy, occultism and numerous literary genres like the analytical essay, satire, the gothic and decadent symbolism. Since these interdisciplinary contexts are reflected in a wide range of genres of contemporary body machine fiction, I analyse a wide range of primary texts. These texts I have selected, not merely based on subject matter, i.e. as representations of mechanical thought and/or speech that is either imbued with life or behaves prosthetically, but to demonstrate that the influence of the histories in which they are embedded traversed genres and affected both literature and popular fiction. Edgar Allan Poe for example, worked across many genres. He wrote gothic horror, satire commenting on contemporary society and more objective journalistic essays, which is why in this thesis Poe's texts are well-represented. At times he even traversed these genre boundaries by writing literary hoaxes.

I have tried as much as possible to reconcile a literary textual analysis of the chosen fictions with a diachronic historical focus, though I am aware of the many potential compromises to diachronic literary research: comprehensive scholarly publications like Gaby Wood's and Jessica Riskin's, which address the cultural history of automata, tend to merely broach upon their fictional representations, whereas research discussing the symbolic, psychological and literary aspects of the machine-human crossover, like that of George Zarkadis and Eric Wilson, though it explores the discursive connotations of the human machine, often lacks historical focus.[14] Their organisation is thematic and therefore geographical and chronological contexts are generally amalgamated in order to illustrate the archetypal significance of the machine-body motif, and very often from a modern perspective. Fictions, if mentioned at all, are mentioned only cursorily and treated in the same way, i.e. as general, often modern, tropes outside their specific historical contexts. Generally, edited literary machine studies, like Philip Husbands, Owen Holland and Michael Wheeler's, take on the form of compendiums of different literary material, brought together under different chapters of a

[14] Gaby Wood, *Living Dolls: A Magical History of The Quest for Mechanical Life* (London: Faber and Faber, 2002); Jessica Riskin, *The Restless Clock: A History of the Centuries-Long Argument over What Makes Living Things Tick* (Chicago: The University of Chicago Press, 2016); George Zarkadis, *In Our Own Image: Will Artificial Intelligence Save or Destroy Us?* (London: Rider Books, 2015); Eric G. Wilson, *The Melancholy Android: On the Psychology of Sacred Machines* (New York: State University of New York Press, 2006).

publication.[15] Finally, the few book-length studies, such as Chapuis', that do focus on the fictional representation of the machine human, aim to discuss a large quantity of texts, without specifically differentiating between their different national and historical contexts and without analysing them through the lens of specific cultural phenomena.[16] Naturally, this wide descriptive approach prevents the possibility of any thorough textual analysis. Therefore, though instructive, these publications are predominantly useful as catalogues. I will however integrate an in-depth literary textual analysis and a broader historical focus by analysing the fictional thinking and speaking machine trope(s) through the determinate lens of contemporary notions regarding the essence of life and prostheses.

Many of the discussed texts are rooted in different national contexts. I aim to resolve the broad geographical scope of the thesis by demonstrating that the influence of the cultural phenomena responsible for the expanding definitions of life and prostheses transcended national borders. Much social energy was invested in the building and exhibiting of late eighteenth-century thinking and speaking machines: the existential implications of a genuine mechanical thinking machine to humanity as a thinking species would be momentous and high prestige was attached to the replication of the - hitherto presumed irreplicable - human vocal organs. Von Kempelen's mechanical chess player was taken on tour and shown to audiences throughout Europe and the US and speaking machines were invented simultaneously in various parts of Europe. Many of the discussed fictions travelled across borders, either in their original or translated form, and continued to influence other fictions and ideas.[17] For example, within the gothic genre – as employed by Hoffmann, Poe and Villiers – the trope of the mesmeric machine, in the guise of Von Kempelen's chess player or a mechanical woman, is a recurring one. Though body machine tropes recur throughout the nineteenth century, the cultural context – and the metaphorical significance – of the various texts differs. I will compare literary material in its unique context to demonstrate the evolution of the fictional thinking and speaking machine trope(s). Unless otherwise referenced, translations from French and German are my own.

The thesis chapters are arranged largely chronologically. Chapter 1, in which I discuss the mechanical inventions and socio-political phenomena responsible for the expansion of the

[15] Philip Husbands, Owen Holland and Michael Wheeler (eds.), *The Mechanical Mind in History* (Cambridge, Mass.: The MIT Press, 2008).
[16] Alfred Chapuis, *Les Automates*.
[17] Louis Davis Vines (ed.), *Poe Abroad: Influence, Reputation, Affinities* (Iowa City: University of Iowa Press, 1999); Andrea Goulet, "France", in *Edgar Allan Poe in Context*, ed. Kevin J. Hayes (Cambridge: Cambridge UP, 2013): 41-52; C.P. Cambiaire, "The Influence of Edgar Allan Poe in France", *Romantic Review* 17 (1926): 319-337; Arthur M. Miller, "The Influence of Edgar Allan Poe on Ambrose Bierce", *American Literature* 4, no. 2 (1932): 130-150; Gustav Gruener, "Notes on the Influence of E. T. A. Hoffmann upon Edgar Allan Poe", *PMLA* 19, no. 1 (1904): 1-25; Jutta Emma Fortin, *Method in Madness: Control Mechanisms in the French Fantastic* (New York: Rodopi, 2005), 93-110.

definitions of life and prostheses, encompasses the late eighteenth and most of the nineteenth century. It is demarcated by the invention of Wolfgang von Kempelen's automaton chess player in 1770 and one of its late nineteenth-century imitations: Charles Godfrey Gümpel's 1878 "Mephisto". The literary chapters following it are arranged chronologically and represent delimited periods in which the imagined thinking and/or speaking body machine – embedded in a particular cultural context – assumes a specific metaphorical form. Chapter 2 discusses Hoffmann's influencing machines and Poe's prosthetic speech-fictions in the first half of the nineteenth century and ranges from the publication of Hoffmann's "Automata" in 1814 to Poe's "Von Kempelen and His Discovery" in 1849. Chapter 3 investigates Butler's 1872 novel *Erewhon* focusing on the intelligent machine operating as an interconnected, organic network and ranges from the publication of an 1848 compendium of anecdotes about the electric telegraph, *The London Anecdotes for All Readers: The Electric Telegraph*, to E.M Forster's 1909 story "The Machine Stops". The final chapter concentrates on Villiers' *Tomorrow's Eve* in the context of fin-de-siècle gender criticism and is delimited by Charles Baudelaire's characterisation of bourgeois women and dandies in the 1863 essay "The Painter of Modern Life" and Shaw's play *Pygmalion* in 1912.

The late thinking and speaking body machines of the long nineteenth century – both mechanical and fictional – are rooted in a long tradition of artificial life. Many scholars, among whom Gaby Wood, Minsoo Kang, Jessica Riskin and Philip Husbands, Owen Holland and Michael Wheeler, have researched the relationship of eighteenth-century mechanical automata and the ideas of the seventeenth- and eighteenth-century enlightened French *philosophes* René Descartes (1596-1650) and Julien Offray de la Mettrie (1709-1751).[18] These thinkers proposed that biological bodies are effectively complex machines. By rooting the automaton in mechanist philosophy and hereby challenging the church, Descartes and La Mettrie lifted the automaton out of the realm of the spiritual and into enlightened thought and scientific enquiry. John Cohen shows that up to that point Western literature was peopled with humanoid machines, automata and life, created by artificial means and that, before the automaton became embedded in enlightened scientific enquiry, it was rooted in magic, myth and the occult.[19] For example, according to Genesis 2:7, God created Adam, the first man, from clay. Judaic folklore speaks of golems, first mentioned in Psalms 139:16 as unformed "substance", amorphous clay men conjured into being by rabbis to protect the Jewish people in times of peril.[20] In Greek mythology, it was the Titan Prometheus who was accredited with the creation of man and who, as recorded by Hesiod in *Theogonía* (*Theogony*) circa 700 BC, stole fire

[18] Gaby Wood, *Living Dolls*; Minsoo Kang, *Sublime Dreams of Living Machines* (Cambridge, Mass.: Harvard University Press, 2011); Riskin, *The Restless Clock*; Husbands et al., *The Mechanical Mind*.
[19] John Cohen, *Human Robots in Myth and Science* (London: George Allen & Unwin, 1966).
[20] For more details on the cultural and literary history of the golem, see: Elizabeth R Baer, *The Golem Redux: From Prague to Post-Holocaust Fiction* (Detroit: Wayne State University Press, 2012).

from the god Zeus, gave it to his newly created mankind and started human civilisation.[21] The Roman poet Ovid (43 BC-17/18 AD) in *Metamorphoses* (8 AD) tells of the legendary Cypriot sculptor Pygmalion, who was so disenchanted with the women of his time that he begged Venus to animate the marble statue of a woman he had created himself.[22] The alchemical tradition, a mystical philosophy aspiring a symbolic interpretation of the four elements that were believed to make up the cosmos and generally regarded as the forerunner of chemistry, is rife with hermetic texts on how to manipulate matter and prolong or create life. Besides the quest to distil the elixir of life that would extend life indefinitely, the writings of the sixteenth-century Swiss alchemist Paracelsus (1493/4-1541) for example, divulge how to cook up a "homunculus" or "little human" from sperm that was hermetically sealed in a vessel long enough for it to putrefy and move itself.[23]

From these myths, legends and lore emerge a myriad of cultural and literary tropes which generally revolve around archetypal existential aspirations: the acquisition of, or protection by, superhuman powers, (pro)creation without women, the transcendence of matter, the defiance of decay and death and the dissipation of loneliness. In this thesis I will show that many of these tropes persist in nineteenth-century fictions on thinking and speaking machines, but, as they reflect on the society and culture in which they were written, are charged with added significance. Hoffmann, Poe, Butler and Villiers all engage with the machine's potential for superhuman ability. Whereas Hoffmann at the beginning of the nineteenth century however roots this in the contemporary practice of mesmerism and the fear of mind control, Poe in the 1830s and 1840s explores the superhuman aspect of the mechanical prosthetic voice in order to comment on what he perceived as the vacuity of the middle-classes. Whereas Butler in the 1870s focuses on the anxiety of increasingly complex and powerful organic machines subjugating humankind, Villiers in 1886 comments on the changing gender codes in his time by exploring the gendered machine's transgressive potential.

Since Descartes and La Mettrie's ideas elevated the automaton from the realm of the occult, rooted it in eighteenth- and nineteenth-century scientific discourse and deeply influenced the fictional representation of the thinking and speaking body machine in nineteenth-century fiction, I

[21] Hesiod, Theognis and Dorothea Wender, *Theogony; Works and Days; Elegies*, trans. Dorothea Wender (London: Penguin Books, 1973), [563-596], 41.
[22] Ovid, David Raeburn and Denis Feeney, *Metamorphoses* (London: Penguin Books, 2004), 394-396.
[23] For a discussion on Paracelsus' 1537 *De Natura Rerum* (*Natural Things*) and the process of creating a homunculus, see: William Newman, "The Homunculus and His Forebears: Wonders of Art and Nature", in *Natural Particulars, Nature and the Disciplines in Renaissance Europe*, ed. Anthony Grafton and Nancy Siraisi (Cambridge, Mass.: The MIT Press, 1999): 328-329. For more examples of humanoids in folklore and literature, see: John Cohen, *Human Robots*.

will briefly discuss them.[24] In the seventeenth century, writers and researchers began trading alchemical and magical thinking for philosophy and empirical science. In the early seventeenth century Descartes metaphorically unhinged the mind from the body by proposing a dualist division between the immaterial mind and the material body it inhabits. In his 1633 *Traité de l'homme* (*Treatise of Man*) he discusses hypothetical men who "will be composed […] of a soul (Ame) and a body (Corps)", the latter of which he envisions "to be but a statue (statuë), an earthen machine (machine de Terre) formed intentionally by God".[25] The world of matter, he believes, though created by God, is governed only by mechanical laws. The body is merely a complex machine, animated by "animal spirits (esprits animaux)", which are at once metaphysical rudiments of life and physical substances which the pineal gland in the brain produces and directs to the muscles[26]: "(T)hese spirits (Esprits), being like a wind or a very subtle flame, cannot but flow promptly from one muscle into the other as soon as they find some passage, even though no other power propels their movement according to the laws of nature."[27] This idea implies the equation of physical life with mechanical motion. In 1637, in his *Discours de la Méthode* (*Discourse on Method*), Descartes further proposes that the metaphysical, reasoning mind, "that is to say, the Soul […], is entirely distinct from the body".[28] This reasoning mind or soul, which exists separately from the body and generates an ability for thought-driven language, is what, according to Descartes, elevates a human being from mere matter and what separates him from an animal, or a speaking machine which merely "emits words (profère des paroles)".[29] In "The Facts in the Case of M. Valdemar" (1845), Poe explores this Cartesian division between the mechanical body versus the immaterial mind by treating the voice as an intermediate between the two. Partially mechanical/body and partially metaphysical/mind, Poe treats the voice as a corrupted, preternatural prosthesis which artificially prolongs its dying host's life. The woman machine in Villiers' *Tomorrow's Eve* (1886) embodies a complete divide between the body and the mind, both of which are individually customised to the owner's desires and are as such even separately gendered.

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[24] For literature on Descartes' philosophy, see: Stephen Voss, *Essays on the Philosophy and Science of René Descartes* (Oxford: Oxford University Press, 1993); Marleen Rozemond, *Descartes's Dualism* (Cambridge, Mass.: Harvard University Press, 1998); C.F. Fowler, *Descartes on the Human Soul: Philosophy and the Demands of Christian Doctrine* (Dordrecht: Kluwer Academic Publishers, 1999).

[25] René Descartes and Thomas Steele Hall, *Treatise of Man: French Text with Translation and Commentary by Thomas Steele Hall* (Cambridge, Mass.: Harvard University Press, 1972), 1-4/1 (of the reprinted French text).

[26] Descartes, *Treatise of Man*, 78; René Descartes and Ian Maclean, *A Discourse on the Method of Correctly Conducting One's Reason and Seeking Truth in the Sciences*, trans. Ian Maclean (Oxford: Oxford University Press, 2006), 45; René Descartes, *Discours de la Méthode Pour Bien Conduire sa Raison et Chercher la Vérité dans les Sciences* (Paris: Société Générale de Librairie Catholique, 1881), 90.

[27] Descartes, *Treatise of Man*, 28/21 (of the reprinted French text).

[28] Descartes, *A Discourse on the Method*, 29; Descartes, *Discours de la Méthode*, 57. For a detailed account of Descartes' distinct use of the terminology of soul, mind and spirit, see: Fowler, *Descartes on the Human Soul*, chapter 5.

[29] Descartes, *A Discourse on the Method*, 46; Descartes, *Discours de la Méthode*, 92.

Fearing retribution from the church, Descartes did not publish his *Treatise of Man* during his lifetime. Originally written in French in the early 1630s, it was not published (in Latin translation) until 1662, twelve years after his death.[30] Another seventy-five years later, in 1747, La Mettrie (1709-1751) anonymously published the essay *l'Homme machine*, translated as *Man a Machine*, in the Netherlands.[31] As a physician La Mettrie pushed the Cartesian equation of life as motion even further by eliminating the spiritual or vitalist principle altogether. Like Descartes, La Mettrie would remain influential in the conception of late eighteenth- and early nineteenth-century body machines and their representation in fiction. He refutes and eliminates the Cartesian paradox of the rudiments of life being rooted in both physics and metaphysics, or, as he put it "this absurdity, that God contradicts himself in his different works, and deceives us."[32] Instead of the mind or soul being of metaphysical origin, he argues that it is inextricably linked to the functioning of the body, which is, among other things, proven by the fact that "(t)he body (corps) and soul (âme) seem to fall asleep together."[33] "Thought (la pensée)", he argues, is merely the product of the physical organisation of the body[34]: "The soul (âme) then, is nothing but an empty term, […] to express that part which thinks (la partie qui pense) in us."[35] Contradicting Descartes' thesis, these ideas intimate that there is no fundamental difference between animal and man, merely gradations of physical complexity, and La Mettrie even goes as far as to suggest that, should their vocal organs be trained in articulation, animals, depending on their individual mental capacity, may be made to speak and understand language.[36]

Moreover, La Mettrie asserts that the body is not merely a mechanically moving machine, but "a machine that winds up its own springs (ressorts): it is a living image of the perpetual motion (mouvement perpétuel)."[37] His ideas are directly reflected in Jean Le Rond d'Alembert's 1751 definition of "automate" as formulated in the French *Encyclopédie*: "engin qui se meut de lui-même, ou machine qui porte en elle le principe de son mouvement."[38] In the place of Cartesian dualism, La

[30] Wood, *Living Dolls*, 6, 8; Descartes, *Treatise of Man*, xxiv.
[31] Wood, *Living Dolls*, 11.
[32] Julien Offray de La Mettrie, *Man A Machine, Translated from the French of Mons. De La Mettrie*, 3rd ed. (London: G. Smith, 1750), 3; Julien Offray de La Mettrie and Gertrude Carman Bussey, *Man a Machine*, trans. Gertrude Carman Bussey (Chicago: The Open Court Publishing Co., 1912), 14.
[33] La Mettrie, *Man a Machine, Translated*, 9; La Mettrie, *Man a Machine*, 19.
[34] La Mettrie, *Man a Machine, Translated*, 55; La Mettrie, *Man a Machine*, 57.
[35] La Mettrie, *Man a Machine, Translated*, 55; La Mettrie, *Man a Machine*, 57.
[36] Julien Offray de la Mettrie, *Man a Machine, Translated*, 20, 23.
[37] Julien Offray de la Mettrie, *Man a Machine, Translated*, 11; La Mettrie, *Man a Machine*, 21.
[38] S.v. "AUTOMATE, s.m. (Méchaniq) engin qui se meut de lui- même, ou machine qui porte en elle le principe de son mouvement.": Denis Diderot et al. (eds.), *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. I, 896. (Chicago: University of Chicago: ARTFL Encyclopédie Project (Autumn 2017 Edition), 2017), accessed April 19, 2021, https://artflsrv03.uchicago.edu/images/encyclopedie//V1/ENC_1-896.jpeg . "a machine that moves by itself, or a machine that carries within itself the principle of its movement." The

Mettrie advertises a materialist monism which leaves little room for the divine. Descartes and La Mettrie's equation of material life with mechanical motion precipitates the birth of complex, reputable, enlightened clockwork simulacra of the human body which would continue to influence nineteenth-century inventions and body machine fictions. A famous example is the life-sized flute player by the French automaton builder Jacques de Vaucanson (1709-1782), which in 1737 stunned its Parisian audience with its moveable lips, fingers and artificial lungs and by playing a repertoire of songs on the flute the way a human musician would, i.e. by breathing air into the instrument.[39]

A lot of social energy was invested in the prestigious project of mechanical life. La Mettrie, in his *Man a Machine*, even titled Vaucanson "a new *Prometheus* (un nouveau Prométhée)" in whose hands the realisation of "a speaking machine (un *Parleur*)" would no longer be considered impossible.[40] Another, smaller and slightly less ambitious, example of an enlightened automaton, a boy seated behind a desk, created around 1770 by the Swiss clockmaking family Jaquet-Droz, could be instructed to write various sentences, one of them, with a nod to Cartesian dualism, reflecting on its own liminal existential state: "I do not think… do I therefore not exist?"[41] These eighteenth-century automata questioning the nature of life and commenting on the existential implications and limitations of a machine human or human machine, Gaby Wood appropriately denominates as "philosophical toys."[42] These automata focus on the replication of different physical aspects of the human body such as playing music, writing and drawing. The thinking and speaking machines I will discuss in this thesis are inextricably linked to these predecessors, yet differ in their focus on the replication of the internal physical faculties of thought and speech.

Descartes' thesis implies that, unlike purely mechanical speech, which is not driven by thought, the metaphysical nature of the human mind or "rational soul" (l'âme raisonnable), which "could not possibly be derived from the potentiality of matter, but […] must have been created expressly", constitutes it irreplicable by man.[43] La Mettrie on the other hand disputes this by proposing that all functions of the body, including the mind, are mechanically generated. Descartes and La Mettrie's theories would in the eighteenth and early nineteenth century continue to influence the debate between vitalist and mechanist scholars. Central in the discourse of mechanistic versus vitalist thought was the question whether the principle of life is imbued in the

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Encyclopédie was edited by the enlightened *philosophes* Denis Diderot (1713-1784) and Jean le Rond d'Alembert (1717-1783).

[39] For a detailed account of Descartes' influence on Vaucanson's mechanical works, see: Daniel Cottom, "The Work of Art in the Age of Mechanical Digestion", *Representations* 66 (1999): 52-74.

[40] La Mettrie, *Man A Machine, Translated*, 72-73 (Original translator's emphasis); La Mettrie, *Man a Machine*, 70. (Original emphasis.)

[41] Wood, *Living Dolls*, 7.

[42] Ibid., 15.

[43] Descartes, *A Discourse on the Method*, 48; Descartes, *Discours de la Méthode*, 95.

matter of the body itself (the materialist notion) or whether it is conveyed by an invisible, metaphysical principle (the vitalist stance).[44] In chapter 1 I will show that this debate continued in the public discussion of late eighteenth- and early nineteenth-century machines. For example, the mechanical chess player, nicknamed the Turk, invented by the Hungarian inventor Wolfgang von Kempelen (1734-1804) in 1770, raised the question whether the machine's alleged cognisance could be produced solely by mechanical means. Should this be the case, the machine compromised the presumed superiority of humanity as a reasoning species. The public preoccupation with the machine's functioning suggested a shift from Descartes and La Mettrie's interpretation of life as physical motion to a definition that equates life with – potentially replicable – cognisance.

Von Kempelen exploited La Mettrie's thesis that all bodily functions, including thought and speech, are self-generated and self-governed - and by extension mechanically replicable - with an invention that would keep its international audiences guessing about the nature of its alleged cognisance for more than eighty years. His chess player, unlike for example Vaucanson's flute player whose complex inner clockwork was revealed for public examination, was not meant to be publicly taken apart and the secret of its workings were carefully guarded. Whereas Vaucanson, by opening up his machine, "proved" La Mettrie's theory that the human body is a complex machine that can be mechanically replicated, Von Kempelen alluded to it more ambiguously. The Turk moved away from lifelike simulation and clockwork predictability by its apparent ability to respond to an infinite number of changeable chess moves and the abstruseness of its apparent reason. The appeal of the chess player depended on its mystery and thus Von Kempelen reintroduced the notion of the thinking machine as a preternatural chimera. Whereas the previous generation of enlightened automata, like Vaucanson's flute player, had detached the body machine from the realm of magic and mystery, the chess player again reconciled the two.

The Turk inspired early nineteenth-century fiction writers like E.T.A Hoffmann and Edgar Allan Poe who, in the gothic setting of their tales, further emphasise the cognisant machine's preternatural character. Butler in the 1870s explores La Mettrie's idea that machines and men are merely separated by levels of complexity by imagining intelligent prostheses that might behave and propagate biologically. Villiers in the 1880s plays with the question whether his woman machine's cognisance is generated by mechanics or an immaterial spirit. I will show that despite Descartes and La Mettrie's ideas, which lifted mechanical automata out of the realm of magic, the body machine throughout the long nineteenth century – both real and imagined – remained connected to the occult, which had now taken on the guise of science. For example, at the beginning of the nineteenth century, Hoffmann in "Automata" (1814) portrays Von Kempelen's chess machine as a

[44] Catherine Packham, *Eighteenth-Century Vitalism: Bodies, Culture, Politics* (Basingstoke: Palgrave Macmillan, 2012), 1-2.

conduit of mesmeric forces, whereas copies of the machine, built in the second half of the nineteenth century, capitalised on the possibility of spiritual cognisance as promulgated by the new long-distance communication technology of the electric telegraph.

A final note on the use of machine terminology: unless specifically stated, I use this as much as possible in its original, contemporary meaning, though I will show that some definitions do change or expand over time. In the 1751 *Encyclopédie* d'Alembert defines a *machine* as "ce qui sert à augmenter & à regler les forces mouvantes, ou quelque instrument destiné à produire du mouvement de façon à épargner ou du tems [sic] […], ou de la force […]."[45] This definition emphasises the mechanical nature, and purpose, of the machine. However, the movement of the Turk for example, instead of saving time or effort, is intended to entertain and confuse. The majority of the fictional machines I discuss, as they tend to assume metaphorical meanings, certainly move away from this description. Therefore, with *machine* I denominate any kind of moveable man-made device, both mechanical and electric, regardless of its purpose or form. With *automaton* I do follow d'Alembert's previously mentioned definition provided in the 1751 *Encyclopédie*, i.e. any mechanical device which is entirely or partly self-governed and operates autonomously without or with a minimum of human interference. However, in chapters 1 and 2 I will show that the more the definition of life shifts from motion to cognisance, the connotations of the word *automaton* change over the course of the nineteenth century from a machine whose mechanical motion suggests life, to a more metaphorical meaning, indicating a person that functions mechanically without the use of a mind, therefore indicating the opposite, ergo a *lack* of life. The word *android* I again use in the way d'Alembert and Denis Diderot defined the "androide" in 1751: "automate ayant figure humaine & qui, par le moyen de certains ressorts, &c. bien disposés, agit & fait d'autres fonctions extérieurement semblables à celles de l'homme."[46] This definition has changed little over time and today still signifies a machine that, fully or in part, looks or behaves like a human being. In the *Encyclopédie* Vaucanson's flute player is used as a contemporary example. The term is used in its

[45] S.v. "MACHINE, s. f. (Hydraul.) Dans un sens général signifie ce qui sert à augmenter & à regler les forces mouvantes, ou quelque instrument destiné à produire du mouvement de façon à épargner ou du tems [sic] dans l'exécution de cet effet, ou de la force dans la cause.": Denis Diderot et al.(eds.), *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. 9, 794. (Chicago: University of Chicago: ARTFL Encyclopédie Project (Autumn 2017 Edition), 2017), accessed April 19, 2021, https://artflsrv03.uchicago.edu/images/encyclopedie//V9/ENC_9-794.jpeg . "that which serves to augment or regulate moving forces, or any instrument intended to produce movement in order to save either time […] or effort."

[46] S.v. "ANDROIDE, s.m. (Méchan.) automate ayant figure humaine & qui, par le moyen de certains ressorts, &c. bien disposés, agit & fait d'autres fonctions extérieurement semblables à celles de l'homme.": Denis Diderot et al.(eds.), *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, vol. I, 448. (Chicago: University of Chicago: ARTFL Encyclopédie Project (Autumn 2017 Edition), 2017), accessed April 19, 2021, https://artflsrv03.uchicago.edu/images/encyclopedie//V1/ENC_1-448.jpeg . "automaton which has a human figure & which, by means of certain well-positioned springs, etc., acts like & performs other functions outwardly resembling those of man."

feminine form “andréide” in 1886 by Villiers in his novel *Tomorrow’s Eve*, which I will discuss in chapter 4. I will refrain from using the word *robot* as a biological, yet mechanically operating, manual labourer, outside of the context of Čapek’s *R.U.R*. since it was coined only in 1921 and has deep-rooted social connotations. I will equally avoid using the term *cyborg*. This word, a portmanteau of “cybernetic” and “organism” was first used in 1960 by the scientists Manfred E. Clynes (1925-2020) and Nathan S. Kline (1916-1983) to denominate a proposed “self-regulating man-machine system” in the context of altering the human body through technological intervention (rather than evolution) to make it more adapted for space travel.[47]

[47] Manfred E. Clynes and Nathan S. Kline, "Cyborgs and space", *Astronautics* (1960): 27.

1. – COGNISANT MACHINES AND SPEAKING PROSTHESES, 1770-1878

This chapter discusses the mechanical thinking and speaking machines from the late eighteenth until the late nineteenth century, which were influential to the genesis of the fictions discussed in the following chapters. I will demonstrate how mechanical thinking and speaking machines, as well as certain socio-political circumstances, in this period effected a shift in the definition of life and the definition of prostheses. With cognisant or thinking machines I denominate mechanical inventions that seemingly possess a certain mental faculty, whether this be the power of logical reasoning, emotion, consciousness or clairvoyance. In the first part of the chapter I will focus on how, from the late eighteenth century, the invention of the allegedly cognisant automaton chess player by the Hungarian mechanical inventor Wolfgang von Kempelen, the practice of mesmerism and, in France, the fear of the guillotine, contributed to thought, rather than motion, being regarded as the essence of life. In the second part I will demonstrate how late eighteenth- and early nineteenth-century mechanical speech was proposed as an extension of the body, which broadened the definition of prostheses, hitherto characterised as replacement limbs. I will discuss the *Euphonia*, an early nineteenth-century speaking machine, which was referred to satirically as a device with which *to speak through someone else* and which contributed to a metaphorical definition of prostheses.

In the general introduction I have discussed how the seventeenth- and eighteenth-century materialist philosophies of Descartes and La Mettrie suggesting that living bodies are effectively complex machines, sparked the genesis of mechanical automata that simulated various human activities like writing, drawing and playing music and thus blurred the boundaries between the human and the machine body. Jessica Riskin and Minsoo Kang demonstrate that because of clever automata, like those by Vaucanson, the enlightened paradigm of life was increasingly thought of as mechanical motion.[48] Von Kempelen's automaton chess player, from its moment of inception in 1770 nicknamed "the Turk", which could allegedly play and win a game of chess against any human opponent, was one of the contributors of this definition of life shifting from motion to mind. With the chess player, the inventor moved the focal point of mechanical motion inward. The machine's autonomy did not merely consist of self-governed motion, but of the invisible and abstract power of alleged logical reason taking place inside its body. From its creation in 1770 until its demise in a fire in 1857 the machine was repeatedly on display in Europe and America and, without ever revealing the mystery, challenged its audience to make conjectures on the source of its perceived mechanical intelligence. The American journalist and fiction write Edgar Allan Poe (1809-18490) as well as the

[48] Jessica Riskin, *The Restless Clock*, chapter 4; Minsoo Kang, *Sublime Dreams*, chapter 3.

English mathematician Charles Babbage (1791-1871) both attempted to discover how the Turk worked and whether, at least in theory, genuine mechanical intelligence was possible. The waning interest in the workings of an earlier automaton hoax, Vaucanson's 1738 defecating duck, demonstrates that at the time of the Turk's performance, the concept of a mechanical mind had replaced the notion of mechanical motion as the definition of life. I argue that Von Kempelen's automaton chess player as a cognisant machine, regardless of whether its intelligence was believed to be genuinely mechanical, inspired the notion of a thinking machine as the apex of mechanical potential.

Besides the possibility of mechanical thought which Von Kempelen's chess player inspired, another contributing factor which would shift this paradigm of life from motion to cognisance was the influence of mesmerism. The notion that minds could be controlled from afar by an external influence led to the public perception that the mind, by being compelled, could be lost or detached and thus come to behave mechanically and autonomously. Finally, in revolutionary France this fear of losing one's mental autonomy was exacerbated by the possibility of literally losing one's head to the guillotine.[49] This, together with stimulus experiments on freshly decapitated heads to establish how long consciousness lingered in the autonomous mind, induced the notion of the autonomous head being reduced to a thinking automaton. Unlike the mid-eighteenth-century mechanical definition of "automate" as commented on in Diderot and d'Alembert's *Encyclopédie* as an agent responsible for its own motion, the early nineteenth-century use of the word signifies a new metaphorical meaning indicating a lack of mental agency. In chapter 2 I will discuss how Hoffmann employs this altered definition in his fictions.

The reality of seemingly cognisant machines like the Turk in combination with the anxiety of mesmeric mind-control and the guillotine, which threatened one's mental autonomy, is represented in late eighteenth- and early nineteenth-century psychopathology. Fears of losing mental agency in the late eighteenth and early nineteenth century were relatively common. I will discuss two particular cases, respectively that of the Welshman Tilly Matthews, who believed that his and many London politicians' actions were mechanically compelled by mind control machines and evil mesmerists, and the case of a Parisian watchmaker, who believed he had been guillotined and had afterwards been given back the wrong head. Both cases show that the focus of these patients' perceived assault lay, rather than on the harming of their bodies, on the violation of their mental autonomy, and illustrate the definition of life shifting from motion to thought. The fear concerning

[49] Edward Jones-Imhotep stresses the paradox of the humane killing machine and discusses the guillotine's conception and design, aimed at a "certude mécanique" (mechanical certainty) in order to eliminate human error and minimise any malfunctioning of the mechanism: Edward Jones-Imhotep, "Imaginaire de la guillotine: Les ratés de la machine et le spectateur sentimental", *Techniques & Culture* 72 (2019): 35.

machines with perceived cognisant abilities like the Turk and a machine like the guillotine that could brutally dislodge and disable one's thoughts, was commented on in many contemporary fictions that reflect on the notion of private thought being invaded or extracted and, with the aid of mechanical devices, manipulated and corrupted. In the next chapter I will discuss some of these fictions by E.T.A. Hoffmann and Edgar Allan Poe.

The second part of this chapter discusses the highly prestigious mechanical speaking machines invented in various parts of Europe in the late eighteenth century and their later nineteenth-century electric counterparts. Besides machines, whether real or imagined, which seemingly disembodied thought, from the late eighteenth century many European mechanical inventors also began focusing on the potential of mechanical externalised speech. These speaking machines were generally envisioned to have therapeutic qualities, for example teaching deaf mutes to speak. Though these external vocal "limbs" were proposed to assist in reversing disabilities like mutism, they were however not intended as prostheses according to the eighteenth-century definition of a prosthesis as an aesthetic or functional replacement of a missing limb. Rather than being intended to replace the biological human voice, these speech machines were envisioned to enhance it. Mechanical speech by its inventors or its proponents was often suggested to be played, similar to music, in different locations at once and/or many generations after the original "composer" had conceived of the speech. Externalised machine speech, through its ability of transgressing time and space, was proposed to augment, rather than substitute a body part. In the next chapter I will show how Edgar Allan Poe in his fictions comments on mechanical speech stretching the definition of prostheses from a predominantly medical term to a socio-cultural phenomenon.

From the 1830s the invention of the electric telegraph further enhanced the idea of external prosthetically enhanced speech. Marshall McLuhan establishes the extracorporeal and augmenting nature of electricity as a prosthetic conduit of communication in the form of disembodied and instantaneous thought and speech. He argues that all technological invention can be regarded as prosthetic extensions of the body. On the electric telegraph he states: "This peculiarity about the electric form, that it ends the mechanical age of individual steps and specialist functions, has a direct explanation. Whereas all previous technology (save speech, itself) had, in effect, extended some part of our bodies, electricity may be said to have outered [sic] the central nervous system itself, including the brain."[50] Iwan Rhys Morus shows that contemporary observers commented in similar terms on this new form of electric communication as a ubiquitous extension of the human brain and

[50] Marshall McLuhan, *Understanding Media: The Extensions of Man* (London: Routledge, 1997), 247.

voice, an invention he defines as "simultaneously modern, magical and intimately corporeal."[51] Indeed, from the mid-nineteenth century, prosthetic electric speech was increasingly thought of as an external brain or nervous system. Laura Otis concludes in her socio-cultural history of the body-machine network: "From the 1850s onward, as more and more people began communicating through telegrams, the public – male and female – began to understand themselves as "connected" and to envision themselves as cross-points in a net."[52] In chapter 3 I will further discuss this contemporary notion of the telegraph as an external connection of human nerves, ergo the prosthetic merge of human and machine and how this machine network was thought of as organic. This idea of the telegraph being at once corporeal and preternatural was exacerbated by contemporary perceptions of the nature of the human voice itself. Until the late nineteenth century mechanical-anatomical and preternatural notions of the voice existed simultaneously. In the next chapter I will further discuss these ideas and how Edgar Allan Poe in some of his 1830s and 1840s tales focuses on the prosthetic voice's potential for corruption to comment on what he perceived as the flaws of the American middle classes. In chapter 3 I will demonstrate how Samuel Butler in the 1870s satirically reflects on the dangers of the cognitive machine's potential as a network to invert the relationship of man and his machine prostheses.

Though its precise operation was not fully understood, by the 1840s the phenomenon of outward electric speech in the form of the telegraph had normalised. With the invention of Thomas Edison's (1847-1931) phonograph, the "talking machine", which for the first time enabled the voice to be recorded on foil or wax cylinders, and Alexander Graham Bell's (1847-1922) telephone in the 1870s, the final decades of the nineteenth century saw a further instantaneous displacement of the human mind and voice. I will discuss how displaced prosthetic thought and speech in the late nineteenth century made the notion of communication with the dead, perceived as merely another form of long-distance communication, more plausible and how the popular practice of spiritualism gave a new suggestion of the preternatural to new and smaller replicas of Von Kempelen's Turk. Spirit mediums being used as the mouthpiece of perceived forces from the beyond tended to be women as the notion prevailed that women's minds could be more easily mentally and verbally overwritten than men's, which resulted in these women being thought of as mechanical receivers and transmitters. In chapter 4 I will show how these ideas of the overwritable "phonographic woman" inspired Villiers de l'Isle-Adam to comment on the fin-de-siècle gender debate.

[51] Iwan Rhys Morus, *Shocking Bodies: Life, Death & Electricity in Victorian England* (Stroud: The History Press, 2011), 114.
[52] Laura Otis, *Networking: Communicating with Bodies and Machines in the Nineteenth Century* (Ann Arbor: The University of Michigan Press, 2011), 221.

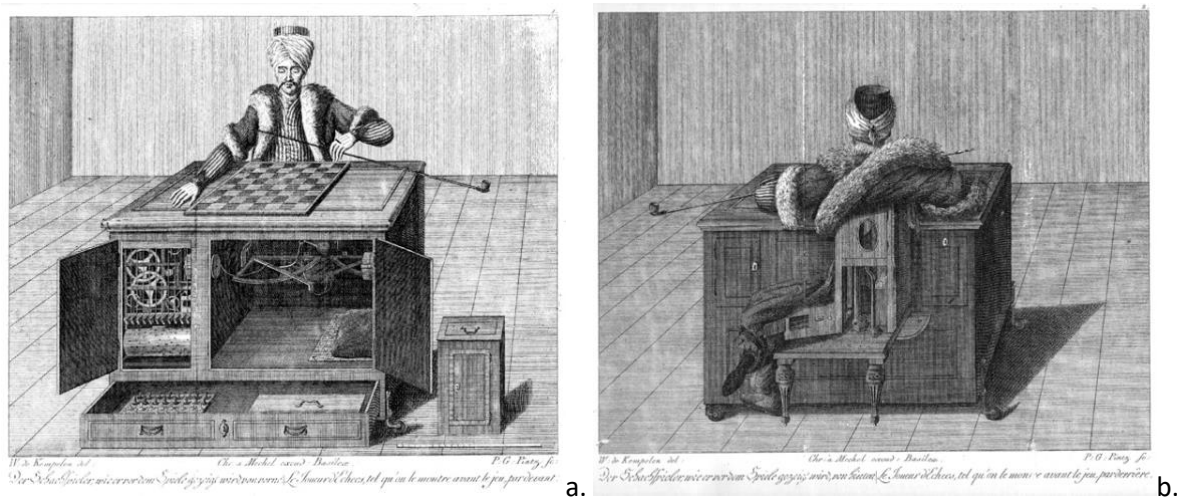
The mechanical Turk

A late eighteenth-century machine that contributed to life being considered as thought rather than motion is the automaton chess player, created and first presented in 1770 by the Hungarian engineer Wolfgang von Kempelen. The machine, due to its oriental appearance nicknamed "Turk" by the French traveller Louis Dutens in 1770, was a wooden figure, clad in oriental robes, seated behind a desk that would beat most human opponents in games of chess.[53] Its mechanism consisted of a clever combination of seemingly programmable clockwork and a human chess player hidden inside the Turk's desk.[54] In 1769 Von Kempelen, a senior counsellor at the Viennese court, was invited by the Prussian empress Maria Theresa to attend a magic show at Shönbrunn Palace. Failing to be impressed, according to the English translation of the 1783 account of Von Kempelen's admiring friend Karl Gottlieb von Windisch, the engineer "was led to drop a hint, that he thought himself capable of making a machine, whose effects should be more surprizing, and the deception more complete, than any thing [sic] her Majesty had then seen."[55] Curiously Von Windisch' German text states: "und er versicherte die Monarchinn, das er sich getrauete, eine Maschine zu verfertigen, die alles das, was dieselbe eben gesehen habe, weit übertreffen sollte".[56] This translates to: " and he assured the monarch that he dared to manufacture a machine that should far surpass everything she had just seen." By inserting the word "deception", the anonymous English translator seems to want to emphasise Von Kempelen's audacity as chicanery. This translation from 1784 is not surprising, considering the varying degrees of criticism the machine and its inventor faced from the moment of its first presentation.

Further on in the text, the English translator again reveals their bias by again inserting the word "deception", whereas there is no mention of it in the original German. The machine's initial reception at the Shönbrunn court was so favourable that news of the mysterious machine rapidly spread to Europe. According to the translator, Von Windisch stresses that "(t)he inventor, was far from coveting such celebrity, nor did he wish his machine to be considered as a prodigy. He passed it for no more than what it was, a machine not void of mechanical merit, and whose effects seem the more wonderful, for the boldness of the thought, and the happy choice of means employed in the

[53] Levitt, *The Turk*, 191.
[54] For a reliable technical account on how the chess player functioned, see: Silas Weir Mitchell, "The Last of a Veteran Chess Player", in *The Turk, Chess Automaton*, ed. Gerald M. Levitt (Jefferson, N.C.: McFarland & Company, 2006): 236-240. Mitchell whose father, John Mitchell, had restored the Turk, first published this account in January 1857 in *The Chess Monthly* after the machine had been destroyed in a fire.
[55] Karl Gottlieb von Windisch, *Inanimate Reason; or a Circumstantial Account of that astonishing Piece of Mechanism, M. De Kempelen's Chess-Player* (London: S. Bladon, 1784), letter V, 40. For a detailed account of Von Kempelen's presentation of his machine, see: Standage, *The Turk*, 22-31.
[56] Karl Gottlieb von Windisch, *Briefe über den Schachspieler des Herrn von Kempelen* (Basel: Mechel'schen Kunstverlage, 1783), letter V, 40.

deception."[57] Again, the German text is translated very loosely: "Des Erfinders Absicht aber war nichts weniger, als mit dieser Maschine Aussehen in der Welt zu machen, oder es für ein Wunderwerk auszugeben. Er will nicht, das es für mehr, oder für weniger gehalten werden soll, als es wirklich ist, nemlich, eine unterhaltende Spieleren, die sich ganz gut sehen last."[58] This translates to: "The inventor's intention was however not to acquire prominence in the world or present his machine as a marvel. He doesn't want it to be passed off for more than it really is, namely, an entertaining player that looks pretty good." Von Windisch does at one point use the word "deception" but in a context that uplifts, rather than disparages Von Kempelen's efforts: "eine Zäuschung, die dem menschlichen Verstande Ehre macht"./"Tis a *deception* (Zäuschung)*!* granted; but such an [sic] one as does honor [sic] to human nature".[59] Whereas Von Kempelen also received lots of praise for the ingenuity of the invention and the English translator in this case reveals their opinion in a quite subtle fashion, I will show that other critics were more outspoken about their thoughts on the machine, predominantly as they believed that Von Kempelen claimed his cognisant machine to be purely mechanical.[60]



a. b.

Fig. 1) Two of the three illustrations of Von Kempelen's automaton chess player in Karl Gottlieb von Windisch, *Briefe über den Schachspieler des Herrn von Kempelen* (1783), foldout images. The first shows the brass cylinder, the second the spine upon which cams could be placed in order to give the machine the illusion of being programmable.

[57] Windisch, *Inanimate Reason*, letter V, 41-42.
[58] Windisch, *Briefe über den Schachspieler*, letter V, 42.
[59] Windisch, *Briefe über den Schachspieler*, letter I, 2; Windisch, *Inanimate Reason*, letter I, 13.
[60] For examples of the Turk being praised, see: Standage, *The Turk*, 59-60.

Von Kempelen however never claimed to have invented a genuine mechanical intelligence. In 1783, the French aristocrat Antoine de Rivarol (1753-1801), in an essay on the pre-eminence of French invention, compares the ingenuity of a pair of mechanical speaking heads by Abbot Mical (which I will discuss further in the chapter) with other, in his opinion, lesser inventions. After downplaying Vaucanson's flutist, he discusses Von Kempelen's chess player: "Cette pièce admirable dans la classe des curiosités, était nulle en mécanique; et c'est ce que M. Kemplein avoua lui-même à un grand prince, qui lui demandait son secret: *Quand vous le saurez*, répondit-il, *ce ne sera plus rien*."[61] In Rivarol's text Von Kempelen's name does not make it past the endnotes as the writer does not regard the chess player as a serious mechanical invention. Judging from Rivarol's comment, Von Kempelen realised that the power of his invention lay precisely in the mystery, in indulging the possibility of the idea of mechanical intelligence without laying claim to it, and that without this possibility his invention would be unsalable.

Despite Von Kempelen not making any empty claims, another critic, the English socialite Philip Thicknesse, failed to be impressed. He saw the Turk in London in 1783. Besides reproaching Von Kempelen for taking advantage of his gullible countrymen, he criticises the inventor for the misappropriation of the word "automaton:

> That an AUTOMATON may be made to move its hand, its *head*, and its eyes, in *certain and regular motions*, is past all doubt; but that an AUTOMATON can be made to move the Chessmen properly, as a *sagacious Player*, in c*onsequence of the preceding move of a stranger*, who undertakes to play against it, is […] UTTERLY IMPOSSIBLE: And, therefore, to call it AN AUTOMATON, is an imposition, and merits a public detection; especially as the high price of five shilling for each person's admission, induces the visitor to believe, that its movements are REALLY performed by mechanic powers; when, in fact, the whole delusion is supported, in both instances, by invisible confederates.[62]

Thicknesse applies the definition of "automate" as formulated in the *Encyclopédie* in 1751, ergo a machine that operates without human interference. According to this definition, a moving automaton is the embodiment of self-governed, mechanical life. Since the chess player lacked self-direction, both in its operating arm and its alleged mind, Thicknesse feels it does not qualify to be

[61] Antoine de Rivarol and Sylvain Menant, *Pensées Diverses, suivi de Discours sur l'Universalité de la Langue Française; Lettre sur le Globe Aérostatique* (Paris: Éditions Desjonquères, 1998), 182, note 15. "This admirable piece in the class of curiosities, was null in mechanics; and this is what Mr. Kemplein [sic] himself confessed to a great prince, who asked him for his secret: *When you know it*, he replied, *it will no longer be anything*."
[62] Philip Thicknesse, *The Speaking Figure and the Automaton Chess Player, Exposed and Detected: Nos Haec Novimus Esse Nihil* (London: John Stockdale, 1784), 5. (Original emphasis.)

called an automaton, i.e. a living machine. Instead, he places the invention on the stratum of commercial conjuring and entertainment, comparable to other tricks like the "Man within a wheel", enabling a coach to self-drive itself without the need for horses.[63] Similarly, he argues, "the Automaton Chess-Player is *a man within a man*; for whatever his outward form be composed of, he bears a living soul within."[64] Thicknesse is correct in his assessment of the chess player ultimately being a man dressed in a mechanical costume and he fails to see any merit in the clever illusion. Thicknesse also hints at a topic that would inspire fiction writers like Hoffmann: the illusion of the machine being imbued with a living soul. I will expand on this in the next chapter. At the fin de siècle the French fiction writer Auguste Villiers de l'Isle-Adam (1838-1889) also explores the idea of a machine inhabited by a human soul, yet in a specifically gendered context, as I will discuss in chapter 4.

The mechanical duck

Thicknesse's vitriol is directed at the chess machine being a hoax. However, his call for the machine's detection is particularly remarkable considering that the chess player was not the first automaton hoax. Thirty years earlier, in 1738, Vaucanson first presented a life-sized and extremely lifelike duck made of gold-plated copper that could move, quack and drink like its biological prototype.[65] The most intriguing bodily function the duck could seemingly replicate however, was an internal one. The duck was hand-fed some food which, moments later, was excreted through an artificial sphincter. By comparing the chess player with the duck, I intend to show how at the end of the eighteenth century the public focus had shifted from mechanical motion to the plausibility of mechanical thought and that the notion of self-governed mechanical thought had begun to supersede autonomous clockwork motion as the paradigm of life.

The first time the duck's digestion was unequivocally proven to be a hoax was after Vaucanson sold his duck, together with two of his other automata, a tambourine-player and the previously mentioned flute-player, to three Lyonnais businessmen who took the automata on a tour through Europe in 1741.[66] Forty years later, after many travels, one of the businessmen tried to sell them on. However, failing to sell, the machines, including the duck, were pawned and found in an

[63] Ibid., 16.
[64] Ibid., 16. (Original emphasis.)
[65] Wood, *Living Dolls*, 24-25; Jessica Riskin, "The Defecating Duck, or, the Ambiguous Origins of Artificial Life", *Critical Inquiry* 29, no. 4 (2003): 599.
[66] Wood, *Living Dolls*, 28-29.

attic by the German writer Christian Friedrich Nicolai.[67] A year after Vaucanson's death, in 1783, in an account of his European travels, *Beschreibung einer Reise durch Deutschland und die Schweiz* (*Description of a journey through Germany and Switzerland*), Nicolai published his discovery.[68] He recounts upon inspection of the mechanism: "Aber aus eben diesem Mechanismus war zu ersehen, daß dieß Futter nicht in den Leib der Ente hineingehet. Daher erhellet, daß Vaucanson in seiner Beschreibung ein wenig gewindbeutelt hat, wen er sagt: 'l'aliment y est digeré comme dans les vrais animaux, par *dissolution* et non par *trituration*, comme le prétendent plusieurs physiciens'".[69] Vaucanson's "description" that Nicolai references is a pamphlet, *Le Mécanisme du flûteur automate* (*The Mechanism of the automaton flute player*), written by Vaucanson in 1738, in the form of a letter to his friend, the Abbé De Fontaine, and which details the presentation of the flute-player he had given to the members of the Académie des Sciences.[70] In 1742 it was translated and published in England.[71]

In *Mécanisme* Vaucanson first explains the anatomy of the German flute and then the extremely complex anatomy of the wooden player. He emphasizes how in the execution of his machine he stayed as close to nature as possible and explains in detail the function of each individual part. Similarly, in the description of the duck, which follows the explanation of the flute-player, Vaucanson advocates openness about its mechanical functions: "(T)oute la Mécanique du Canard artificial sera vûë à découvert, mon dessein étant plûtôt de démontrer, que de montrer simplement une machine."[72] Nicolai is right about Vaucanson being deliberately misleading. In his letter the inventor humbly apologises for not having created "une digestion parfaite, capable de faire du sang & des parties nourricieres pour l'entretien de l'animal."[73] He continues to explain: "Je ne pretend qu'imiter la mécanique de cette action en trois choses, qui sont 1°. d'avaler le grain; 2°.

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[67] Ibid., 30.

[68] Friedrich Nicolai, *Beschreibung einer Reise durch Deutschland und die Schweiz, im Jahre 1781, Nebst Bemerkungen über Gelehrsamkeit, Industrie, Religion und Sitten* (Berlin: published by author, 1783), Vol. I.

[69] Ibid., p. 289-290. (Original emphasis.) "Yet it transpired that this food did not go into the body of the duck. Hence, it is evident that Vaucanson in his description has been a little misleading, when he says: 'the food is digested as in real animals, by *dissolution*, not *trituration*, as some natural philosophers will have it.'" Translation of Vaucanson's original French: Jacques de Vaucanson and J. T. Desaguliers, Jacques de Vaucanson and J. T. Desaguliers, *An Account of the Mechanism of an Automaton or Image playing on the German-Flute*, trans. J.T. Desaguliers (London: T. Parker, 1742), 21.

[70] Vaucanson, *Le Mécanisme du Fluteur Automate, Présenté à Messieurs de l'Academie Royale des Sciences* (Paris: Jacques Guerin, 1738).

[71] Vaucanson, *An Account*.

[72] Vaucanson, *Le Mécanisme*, 20; "(T)he whole mechanism of our artificial *Duck* is exposed to view; my Design being rather to demonstrate (démontrer) the Manner of the Actions, than to shew [sic] (montrer) a Machine.": Vaucanson, *An Account*, 22.

[73] Vaucanson, *Le Mécanisme*, 19; "a perfect Digestion, capable of producing Blood and nutritive Particles for the Support of the Animal.": Vaucanson, *An Account*, 22.

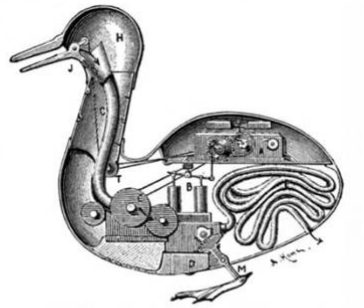
de le macérer, cuire ou diffoudre; 3°. de le faire sortir dans un changement sensible."[74] Vaucanson explains that after the duck has sucked up the grains, they end up in "un laboratoire chymique, pour en decomposer les principales parties intégrantes, & le faire sortir à volonté, par des circonvolutions de tuyaux, à une extrêmité des son corps toute oppose."[75] Only the first action, the swallowing of the corn, was in truth performed by the duck. The other two however were no more than a clever mechanical deception. Nicolai perceptively remarks: "Man kann auch leicht einsehen, daß eine Auslösung des Futters, zumal wenn sie nicht Zermalmung senn soll, in so kurzer Zeit nicht geschehen kann".[76] It is remarkable that it took more than forty years for someone to substantiate the duck's digestion as a hoax.

Jessica Riskin shows that in the years after the duck was first displayed by Vaucanson some critical observations about the authenticity of the duck's digestive system were brought forward.[77] However, at the time the duck was presented, whether digestion was predominantly a mechanical or a chemical process was still being contested.[78] Though in 1681 one of the first microbiologists, the Dutch Antonie van Leeuwenhoek (1632-1723), had discovered more than 1000 living animalcules (Latin for "little animals") in his own stool sample observed under the microscope, the first descriptions of the gastrointestinal microbiome would not be provided until 1842 by the Edinburgh surgeon John Goodsir (1814-1867).[79] At the time of the duck's inception, digestion was either thought of as a mechanical grinding of the intestines (trituration) or a disintegration by chemicals (dissolution) in order to break down the food, or a combination of both.[80] Therefore, the idea of mechanically imitating the process of digestion in 1739 did not seem outright impossible.

More than sixty years after Nicolai's account was published, in 1844, when Vaucanson's duck found itself again on display in Paris, one of its wings malfunctioned. Its exhibitor asked the famous magician Jean-Eugène Robert-Houdin (1805-1871), there presenting his own automata show, to repair it.[81] In his 1859 memoir Robert-Houdin recounts that "he was initiated into the

[74] Vaucanson, *Le Mécanisme*, 19; "I only pretend to imitate (imiter) the Mechanism of that Action (digestion) in three Things, viz. *First*, to swallow the Corn; *secondly*, to macerate or dissolve it; *thirdly*, to make it come out sensibly changed from what it was.": Vaucanson, *An Account*, 22. (Original emphasis.)
[75] Vaucanson, *Le Mécanisme*, 20; "Chymical Elaboratory (laboratoire chymique) to decompound or separate the Integrant Parts of the Food, and then drive it away at Pleasure thro' Circumvolutions of Pipes, which discharge it at the other End of the Body of the Duck.": Vaucanson, *An Account*, 22.
[76] Nicolai, *Beschreibung einer Reise*, 290. "It is also easy to see that a release of the food, especially if it is not crushed, cannot happen in such a short time."
[77] Riskin, *The Restless Clock*, 133-135; Jessica Riskin, "The Defecating Duck": 609.
[78] Riskin, "The Defecating Duck": 609.
[79] Eulàlia Farré-Maduell and Climent Casals-Pascual, "The origins of gut microbiome research in Europe: From Escherich to Nissle", *Human Microbiome Journal* 14, no. 100065 (2019): 2.
[80] Wood, *Living Dolls*, 26.
[81] Ibid., 34-35.

famous mystery of digestion."[82] He reports he had been occupied trying to learn all about building automata.[83] Riskin points out that the specimen which Robert-Houdin repaired, was probably not the original duck, but a copy.[84] Nonetheless, the fact that Robert-Houdin in his investigations had not come across the truth about Vaucanson's hoax proves that Nicolai's account must not have been widely known, at least not outside of Germany where it was published. This thesis is affirmed by a now famous illustration of the duck's innards, published forty-five years later. In the January 21st 1899 edition of *Scientific American*, under the heading "Some Curious Automata", following a brief description of a few historical automata, an illustration of the duck's innards appeared, showing the convoluted inner tubing and mechanisms that according to Vaucanson processed the grains.[85] It is unlikely that the illustrator ever saw the original duck as the automaton became untraceable in the late 1840s, before it disappeared from historical records altogether.[86] Therefore, the drawing is most likely derived from an older illustration based on Vaucanson's own description. The illustration is a testimony of Vaucanson's power of persuasion that so many years later the duck was still believed to be a genuine digesting machine. Wood points out that even in some twentieth-century scholarly works the duck is still discussed as a genuine automaton.[87] Perhaps the fake digestion was Vaucanson's idea of a practical joke all along. Robert-Houdin points out in jest that Vaucanson's mechanical digestion proved "a real *canard*".[88] Indeed, in the French language "faire un canard" means to hit a false note or to appear deceitful, whereas "un canard", besides duck, signifies anything between a deceitful hoax and a bad or silly joke: a false claim purported to be true.



INTERIOR OF VAUCANSON'S AUTOMATIC DUCK.
A, clockwork; *B*, pump; *C*, mill for grinding grain; *F*, intestinal tube; *J*, bill; *H*, head; *M*, feet.

Fig. 2) The alleged inner workings of Vaucanson's duck as illustrated in *Scientific American* 80, no. 3, Jan 21, 1899, 43.

[82] Jean-Eugène Robert-Houdin, *Memoirs of Robert-Houdin: Ambassador, Author, And Conjuror, Written by Himself* (London: Chapman and Hall, 1859), 174.
[83] Ibid., p. 168-171.
[84] Riskin, *The Restless Clock*, 416, note 86; Riskin, "The Defecating Duck": 609, note 18.
[85] "Some Curious Automata", *Scientific American* 80, no. 3, Jan 21, 1899, 43.
[86] Wood, *Living Dolls*, 35-37.
[87] Ibid., 35.
[88] Robert-Houdin, *Memoirs of Robert-Houdin*, 174.

Like Nicolai's, Robert-Houdin's account did not have much impact on the debunking of the duck's myth either. Wood argues that this might be the result of the fact "that many of the stories in Robert-Houdin's memoirs were rather far-fetched".[89] While Robert-Houdin, in the habit of aggrandizing his experiences, was certainly not the most credible writer, there are additional circumstances that led to Vaucanson's secret being kept. In addition to a mechanical digestion being regarded plausible, Vaucanson's automata were not presented as any form of stage magic. Instead, especially since the Académie des Sciences had given its approval of the flute-player, they were regarded as serious feats of mechanical engineering without any connotations of deception. Secondly, I would like to argue that in opening up and demonstrating his flute-player's internal mechanism to the public, Vaucanson set a precedent for full disclosure. He got away with the digestion hoax since he had already built credibility as a mechanical inventor with his genuinely mechanical flute-player. His larger-than-life reputation as creator of mechanical life and his purported openness about his machines seems to negate any suspicion of a hoax. When thirty years later this gesture was repeated by Von Kempelen demonstrating the innards of his mechanical chess player, naturally the expectation of transparency was raised. However, what Von Kempelen delivered, rather than clarity, was mystery and confusion. Finally, when the duck was eventually revealed as a hoax, no public attention was paid to it, whereas simultaneously in 1783 the wooden chess player found itself at the centre of a social discourse regarding the plausibility of mechanical reasoning.

One could argue that the truth about the duck's digestion was revealed nearly fifty years after Vaucanson first presented his machine in Paris, which is perhaps why so many years later interest in the machine had waned. Yet, this is precisely the point I'd like to argue, namely that in 1783, hardly any attention was paid to the inner workings of a machine that had a few decades earlier, together with the flute- and tambourine player, embodied the apex of the enlightened paradigm of life as mechanical motion. The fact that Vaucanson's automata failed to sell, affirms this thesis. Despite La Mettrie christening Vaucanson a modern "Prometheus" for creating self-governed mechanical motion (albeit inward motion), the late eighteenth-century public was now preoccupied with Von Kempelen and the enigma of mechanical intelligence. Judging from the public exposition concerning the Turk, life, ergo ultimate autonomy, was no longer expressed and embodied merely by autonomous motion but necessitated self-governed thought. Though Von Kempelen never claimed to pass his machine for a genuine mechanical thinker, I will continue to show that the main questions the majority of journal articles on the chess player pivoted on were whether mechanical intelligence is possible, at least in theory, and, if so, whether Von Kempelen had succeeded in

[89] Wood, *Living Dolls*, 35.

creating it. This public discourse reflects the materialist Enlightenment query into the nature of life, sparked by Cartesian dualist philosophy that reveres thought as the ultimate testament of human autonomy. Therefore, the inner workings of the chess machine signified more than the bodily boundaries between nature and artifice: if, rather than merely an entertaining hoax, the wooden chess player proved a pure machine, i.e. a mechanical intelligence operating autonomously without the aid of a hidden human confederate, it would challenge the presumed uniqueness of humanity as a thinking species.

Methodical approaches to the Turk

Whereas Thicknesse felt that a mechanical thinking machine would be downright impossible, other, more careful, considerations were published that investigated what the creation of such a machine might involve. The French traveller Louis Dutens, who saw the machine - and played against it - in Pressburg in 1770, was the first to point out the crux of the machine's mystery in a letter to the French newspaper *Le Mercure de France*:

> It is unnecessary to remark, that the marvellous in this Automaton consists chiefly in this, that it has not (as in others, the most celebrated machines of this sort) one determined series of movements, but that it always moves in consequence of the manner in which its opponent moves; which produces an amazing multitude of different combinations in its movements.[90]

Though Dutens believes that "the contriver (Von Kempelen) influences the direction of almost every stroke played by the Automaton" and does not adhere to any theories of true mechanical intelligence, he feels the inventor has surpassed even Vaucanson's performance, since the Turk is able to interact with an opponent.[91] More than sixty years later, the mystery of the machine had still not been conclusively solved. The American writer and journalist Edgar Allan Poe, like Dutens, in his essay "Maelzel's Chess-Player", first published in *The Southern Literary Messenger* in April 1836, comments on the indeterminate and unpredictable nature of a chess game and attempts to uncover the Turk's secret. In the next chapter I will discuss how Poe in the 1830s and 1840s portrays the autonomous mechanical voice as a metaphor of life, both physically and socially, which shows that

[90] Louis Dutens, "A Description of a Wonderful Automaton", *The Gentleman's Magazine, And Historical Chronicle* 41, Jan 1771, 27. Dutens' letter first appeared in the original French in the newspaper *Le Mercure de France* in October 1770.
[91] Ibid., 192.

Poe was interested in the question of what constitutes life. His interest in the Turk's alleged mechanical intelligence is therefore hardly surprising. Poe saw the machine when it was on tour in the US with Von Kempelen's successor, the German automaton builder and showman Johann Nepomuk Mälzel (1772-1838). In a detective-like fashion, in a seventeen-point analysis, based on his own observations, he sets out his argument that the chess player is not a pure machine, i.e. a machine solely consisting of mechanical parts. Though some of his deductions are erroneous and he mistakenly concludes that the hidden operator watches the chess game through the body of the Turk, his inferences prompt many reprints along the American East Coast.[92]

Poe's strongest arguments are those that discuss the crucial difference between a human and a supposed mechanical chess player, namely the inescapable regularity of clockwork. He notices that

> (t)he moves of the Turk are not made at regular intervals of time, but accommodate themselves to the moves of the antagonist […] The fact then of irregularity, when regularity might have been so easily attained, goes to prove that regularity is unimportant to the action of the Automaton – in other words, that the Automaton is not a *pure machine*.[93]

In short, Poe discerns that the Turk behaves like a human, rather than a machine. He further perceives that, if the antagonist changed his mind about a move after the alleged mechanism of the automaton's arm had already been put in motion, the mechanism did not, as would be expected, play out its own move in response, yet patiently waited until the antagonist's move had been corrected. "This fact fully proves", Poe concludes, that the machine's "movements are regulated by *mind*."[94] Finally, he points out that the "automaton does not invariably win the game. Were the machine a pure machine, this would not be the case – it would always win."[95] Besides using logic and observation, Poe is able to comment judiciously on the machine due to his knowledge of contemporary mechanical invention.

Poe was familiar with the concept of a mechanical mind as proposed by the English mathematician and mechanical engineer Charles Babbage. Babbage had complained that long and complex calculations were prone to human error and wished they could be executed by steam.[96] In the 1820s and 1830s he proposed to mechanise cognitive logic with his mechanical calculators, the Difference Engine and Analytical Engine. Following binary logic, Babbage's idea of machine

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[92] Standage, *The Turk*, 176-184.
[93] Edgar Allan Poe, *The Complete Tales and Poems of Edgar Allan Poe* (London: Penguin Books, 1982), 432. (Original emphasis.)
[94] Ibid., 432-433. (Original emphasis.)
[95] Ibid., 433.
[96] Standage, *The Turk*, 141.

intelligence is that of "mechanical means equivalent to memory" and " foresight".[97] In his 1864 autobiography he explains that after inventing these calculating machines and seeing the Turk in London in 1820 he began to meditate upon "the contrivance of a machine that should be able to play a game of purely intellectual skill successfully".[98] He realised that in theory "every game of skill is susceptible of being played by an automaton" and that, "if the automaton could make the first move rightly, he must be able to win the game".[99] Von Kempelen too, must have been aware of this principle as he always had the Turk play with white and open the game, undoubtedly to conjure the illusion of a genuine mechanical operation and to further distract his audience from the possibility of a human player hidden inside.[100]

Poe, understanding Babbage's principle of binary mechanical memory and foresight and the necessity of instruction for the machine to execute a succession of predetermined tasks, investigates the Turk from the notion of data input and output:

> Arithmetical or algebraical calculations are, from their very nature, fixed and determinate. Certain *data* being given, certain results necessarily and inevitably follow. […] But the case is widely different with the Chess-Player. With him there is no determinate progression. No one move in chess necessarily follows upon any one other. […] There is then no analogy whatever between the operations of the Chess-Player, and those of the calculating machine of Mr. Babbage […].[101]

Poe realises that the Turk's mind is of quite another nature than Babbage's logical engines. He understands the abstract concept of data input and the principle that a mechanical machine, the way Babbage envisioned it, would be unable to operate beyond the specific, determinate instructions it is given, ergo to "think" autonomously. Whereas Babbage's machines would produce the same answer each time from the same given starting position and would be determinate and predictable like clockwork, Von Kempelen's machine bore the illusion of arbitrary choice. Despite some of his observations leading to the wrong conclusions, Poe is forward-looking when it comes to inadvertently defining what would in the twentieth century be established as the quest for artificial intelligence and a new definition of machine autonomy: the attempt to create a device that acts indeterminately by defying predictable regularity. Though Von Kempelen's machine did not quite fit

[97] Charles Babbage, *Passages from the Life of a Philosopher* (London: Longman, Green, Longman, Roberts, & Green, 1864), 467.
[98] Ibid., 465.
[99] Ibid., 466.
[100] Mitchell, "Veteran Chess Player": 240.
[101] Poe, *The Complete Tales*, 423-424.

this model, it inspired methodical conjectures like Babbage and Poe's as to what would constitute a cognisant machine. This preoccupation with machine thought also influenced Poe's fiction, which I will discuss in the next chapter. However, I will show that, rather than analysing the Turk analytically, in their fiction both Hoffmann and Poe focus on the machine's preternatural character and potential for mental disruption.

Mesmeric mind control and the guillotine

I have shown that with the Turk Von Kempelen moved the mechanical focal point inwards and that the machine contributed to the notion of cognisance or mind, rather than motion, being regarded as the definition of life. Another contributing factor to this changing definition was the influence of mesmerism and the notion that minds can be controlled from afar and come to behave mechanically. Though the German physician Anton Mesmer (1734-1815) experienced occasional support and found trust in his patients, due to the lack of empirical evidence, his theories of animal magnetism were never acknowledged as a serious science by the established scientific institutes of the time.[102] Throughout his life, besides lacking the support from established scientific institutions, Mesmer had to face those pointing out the moral perils of his practice. In 1777, after his practice was deemed a public menace due to the often-physical contact with his patients in order to manipulate the supposed magnetic fluid, Mesmer was forced to leave Vienna where he was based.[103] He set up practice in Paris, but here too, after some initial successes, the establishment began an investigation into the mesmeric practice. In 1784 a number of physicians, appointed by royal commission, submitted two reports to King Louis XVI, not only concluding that mesmerism hinged on the suggestibility of the patient, but, more importantly, stressing the moral dangers involved for the young women making up the bulk of the patients.[104] The mesmeric trance, induced by the physical contact between doctor and patient, put these women at risk of sexual exploitation as, according to the "Rapport secret", in women "l'imagination […] répand un certain désordre dans toute la machine".[105] This use of the word "machine" is significant: the mesmeric trance, a form of

[102] For a comprehensive account of Mesmer's career, see: Maria Tatar, *Spellbound: Studies on Mesmerism and Literature* (Princeton: Princeton University Press, 1978), chapter 1.
[103] Tatar, *Spellbound*, 11.
[104] "Rapport des commissaires chargés par le Roi de l'examen du magnétisme animal", published in: Claude Burdin and Frédéric Dubois, *Histoire académique du magnétisme animal* (Paris: Chez J.-B. Baillière, 1841), 26-91; "Rapport secret sur le magnétisme animal", published in: Burdin, *Histoire* académique, 92-101; Tatar, *Spellbound*, 4, 20, 22-23.
[105] "Rapport secret", printed in: Burdin, *Histoire académique*, 95. "the imagination […] spreads a certain disorder throughout the machine".

hypnosis, necessary to silence the patient's mind in order to facilitate the healing energies, was believed to leave especially female patients without physical or mental agency, thus rendering them mere thoughtless, malfunctioning machines.

Mesmer's theories of animal magnetism were rooted in the vitalist notion of an invisible life force, which in Mesmer's thesis took the form of an imponderable fluid pervading matter as well as spirit and which by a practised magnetiser - with the aid of magnets or other magnetised objects - could be harnessed to heal nervous disorders and physical pain.[106] In 1779 Mesmer published his twenty-seven propositions of his theories, a text that is as much a defence of his practice in the face of opposition as it is an account of his findings. What stands out in his claims about the "universally distributed and continuous fluid" is its "action exerted at a distance", which is also stressed in the 1784 "Rapport des commissaires"[107]: "L'action et la vertu du magnétisme animal peuvent être communiquées d'un corps à d'autres corps animés et inanimés: cette action a lieu à une distance éloignée, sans le secours d'aucun corps intermédiaire".[108] Despite Mesmer's failure to achieve scientific recognition, he did acquire followers. One of them, the French Marquis Chastenet de Puységur (1751-1825), recognised the potential of the "magnetic sleep".

Though he refrained from explicitly using the words "mind compulsion", his practice of mesmerism became altogether more ethereal as he de-emphasised the intervention of touch in order to manipulate the magnetic fluid to stress instead the relevance of the magnetiser's power of will[109]: "Lorsqu'avec ma main, mon doigt, et même seulement ma pensée, je me suis reconnu la puissance de faire agir, marcher, prendre un objet quelconque à un somnambule magnétique, aussi facilement et plus vite peut-être que je ne lui aurais fait exécuter toutes ces actions en les lui commandant de la voix, j'ai du nécessairement faire la comparaison de ce phénomène avec celui que présente le fer à l'égard de l'aiguille aimantée *d'une boussole*."[110]

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[106] Tatar, *Spellbound*, 5, 8.

[107] Franz Anton Mesmer and Gilbert Frankau, *Mesmerism: The Discovery of Animal Magnetism: A translation of Mesmer's historic Mémoire sur la découverte du Magnétisme Animal*, trans. V.R. Meyers (London: Lightning Source UK, 2016), 52, 53.

[108] "Rapport des commissaires", published in: Burdin, *Histoire* académique, 27. "The action and virtue of animal magnetism can be communicated from one body to other animate and inanimate bodies: this action takes place at a distant distance, without the assistance from any intermediate body".

[109] Tatar, *Spellbound*, 27, 29.

[110] A.M.J. Chastenet de Puységur, *Du Magnétisme Animal, Considéré dans ses rapports avec diverses branches de la Physique générale* (Paris: Desenne, 1807), 31. (Original emphasis.) "When I recognised the power to make a magnetic somnambulist act, walk, take any object, with my hand, my finger, and even just my thought, as easily and perhaps more quickly than if I were to have him execute all of these actions by my vocal command, I could not but draw a comparison between this phenomenon and the effect of iron on the needle of a compass."

Chastenet de Puységur stresses the inescapable immediacy of his "pensée" or mental power directed at the somnambulant patient compelled to do the mesmerist's bidding. In 1785 he concluded a lecture to the Strasbourg Société Harmonique des Amis Réunis with the words:

> *Ma volonté, Messieurs, moteur de tous mes actes et de toutes mes déterminations, l'est également de mon action magnétique. Je crois à l'existence, en moi, d'une puissance.*[111] […] Toute la doctrine du magnétisme animal est renfermée dans les deux mots *croyez* et *veuillez* […]. Je *crois* que j'ai la puissance d'actionner le principe vital de mes semblables; je *veux* en faire usage; […] *Croyez et veuillez*, Messieurs, vous en ferez autant que moi.[112]

The Marquis thus further actualised Mesmer's notion of "action exerted at a distance" in the person and the mind of the magnetiser. In the next chapter I will discuss how Hoffmann explores the suggested vulnerability of the mesmerised subject and stresses the notion of mesmeric mind compulsion more explicitly as a potential for causing harm: in "Automata" and "The Sandman" the mesmeriser compels his victim towards madness and death via a seemingly cognisant machine.

Concerns regarding the practice of mesmerism as a form of mind control further stressed mental, rather than physical autonomy, as the essence of life. In the final years of eighteenth-century France, the Revolution further exacerbated these ideas with yet another machine. The guillotine, a monstrous machine to which one could, in the most literal sense, lose one's head, became an omnipresence in Parisian life. Daniel Gerould argues that

> (t)his new technology for speeding up executions created a demand for more and more victims, and so it was that the rhythm of the guillotine imposed itself on life, effortlessly transforming it into death. […] This implement of the Age of Reason […] marked the entry of the industrial revolution into the realm of death, ushering in the mechanized ruthlessness of the nineteenth century and leading the way for a return to darkness.[113]

Indeed, Joseph-Ignace Guillotine's (1738-1814) humanitarian ambitions to provide the convicted with a swift, painless death as opposed to a death by hanging, were nullified by his own invention. The guillotine now assumed a life of its own, instilling dread in a large part of the population. The

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[111] Ibid., 148-149. (Original emphasis.) "My will, Gentlemen, motor of all my actions and all my determinations, is also the motor of my magnetic action. I believe in the existence of a power within me."
[112] Ibid., 149. (Original emphasis.) "The whole doctrine of animal magnetism is contained in the two words *believe* and *want* […]. I believe that I have the power to actuate the vital principle of my fellow men; I want to make use of it; […] *Believe and want*, Gentlemen, and you will accomplish as much as I."
[113] Daniel Gerould, *Guillotine: Its Legend and Lore* (New York: Blast Books, 1992), 4.

machine mass-consuming human life, which an American tourist to Paris in 1836 christened "that terrible engine", became an inescapable fixture in the urban landscape and turned into a perversion of Enlightenment invention.[114]

Those awaiting their execution by "le mécanique" found themselves in a liminal existential state of alienation, not quite dead, and yet no longer alive. They anticipated the final blow of an infernal machine that would in a split-second take away self-governance by literally claiming the head as the repository of life itself. Gerould compares a guillotine victim awaiting the scaffold to "a scurrilous gesticulating marionette".[115] The horror of the guillotine lay in its swiftness and those awaiting to have their mental agency removed by the blade not only occupied a liminal space between life and death but also between biology and mechanics. I will show that in medical discussions concerning the humaneness of the guillotine during the Revolution, as well as in guillotine fictions in the first half of the nineteenth century, the autonomous, thinking and living head became the focal point of consideration. The decapitated head was believed to be alive and imbued with cognisance, and simultaneously reduced to a passive piece of mechanism since it had been severed from the body, its instrument of motion. The autonomous head thus underscored the life-equals-thought metaphor.

The perceived threats of mind control through mesmerism, combined with the menace of the mind-snatching guillotine, had their effect on some people's mental health. I will now discuss two psychopathological cases which stress the perception of the mind, rather than the body, as the repository of life. The first is that of the Welsh tea broker James Tilly Matthews, who in 1796 was committed to the London Bethlem Hospital, also known as Bedlam. Matthews believed that a machine he called an "Air Loom", hidden in a London cellar, not far from Bethlem, had been controlling his mind and actions, as well as those of many political leaders since circa 1793.[116] In *Illustrations of Madness* (1810), a book-length study by John Haslam, Bethlem's apothecary and one of Matthew's clinicians, Haslam recorded his patient's delusions.[117] Phil Loring and Helena Moosberg-Bustnes point out that Haslam, since he wished to disprove Matthew's wife and the doctors who believed him sane, recorded his notes in a manner that stressed Matthew's madness as much as possible.[118] Nonetheless, from Matthews's descriptions and drawing of the Air Loom, his deep-rooted paranoia regarding the loss of mental agency through a machine soon becomes evident.

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[114] For the tourist's eyewitness account, see: Gerould, *Guillotine*, 61.
[115] Gerould, *Guillotine*, 103.
[116] Phil Loring and Helena Moosberg-Bustnes, "Being human: minds reflected in machines", in *Robots: The 500-year quest to make machines human* (London: Scala Arts & Heritage Publishers, 2017): 20.
[117] John Haslam and Roy Porter, *Illustrations of Madness* (London: Routledge, 1988).
[118] Loring, "Being human": 20.

Matthews believed that a gang of seven criminal mesmerists had set up an Air Loom close to Bethlem, which, through pneumatic chemistry, continued to influence his thoughts and "assail" (Matthews' own phrasing) and torture him, both physically and mentally.[119] He was convinced this machine was only one of many placed in strategic positions in the country, intended to influence politicians' thoughts and actions.[120] Fearful of a revolutionary war between Britain and France, in 1792 Matthews travelled to France to aid his countryman David Williams, who was to act as an intermediary between Britain and France. A year later, after the Jacobins had come into power, Matthews was arrested in Paris for being a suspected double agent and because of his Girondin sympathies. He remained imprisoned until 1796 when the authorities, convinced he was a madman, released him.[121]

What is striking about Haslam's account that conveys, often in Matthews's own words, his patient's delusions, is the level of mechanical detail in which Matthews describes the influencing machine, its operators and the way the machine assaults his mind. According to the patient, through the process of "brain-sayings" a reciprocal connection is established between his torturer-mesmerisers and himself in which the former reveal their and the machine's presence to their victim.[122] During his time in France Matthews had become acquainted with the workings of mesmerism, or, as it was defined by one of Matthews' fellow prisoners, "the art of talking with your brains", which after 1796 became the predominant conduit of his paranoia.[123] According to Matthews, the principle by which the Air Loom operates is the magnetic fluid and, through what he calls "magnetic impregnations", the mesmerist gang is able to alter both his bodily and, even more so, his mental state.[124]

Matthews' detailed drawing of the machine and its operators shows a larger-than-life rectangular contraption that holds the middle between a stage and a monstrous desk, not unlike that of the Turk. From it protrude a myriad of levers, pipes and tubes. Loring and Moosberg-Bustnes recognise parts of a weaving loom, an air pump, an electric battery and a pipe organ.[125] In a manner similar to the way the Turk was operated from within, the drawing shows one of the mesmerisers operating a set of giant levers that make the machine emit a large beam which entrances its victim from a distance. Matthews describes the operation of this ray as follows:

[119] Haslam, *Illustrations of Madness*, 19-21.
[120] Ibid., 52-56.
[121] Ibid., xv-xvi.
[122] Ibid., 38-39, 56.
[123] Ibid., xvi, 39.
[124] Ibid., 22.
[125] Loring, "Being human": 20-22.

> The warp of the magnetic-fluid, reaching between the person impregnated with such fluid, and the air-loom magnets to which it is prepared […] and by which sympathetic warp the assailed object is affected at pleasure: as by opening a vitriolic gaz [sic] valve he becomes tortured by the fluid within him; becoming agitated with the corrosion through all his frame, and so on in all their various modes of attacking the human body and mind, whether to actuate or render inactive; to make ideas or to steal others; to bewilder or to deceive; thence to the driving with rage to acts of desperation, or to the dropping dead with stagnation, &c. &c. &c.[126]

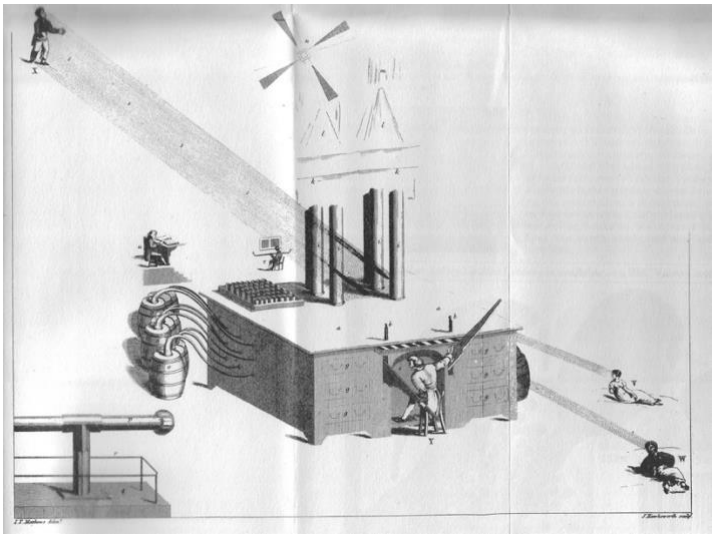

Fig. 3) The Air Loom as drawn by Tilly Matthews, ca. 1810.

His experience of being both physically and mentally assaulted also materialises from Matthews' made-up words to describe the machine's torturous effects: "fluid-Locking", or the impediment of speech, "cutting soul from sense", or the severing of emotion from intellect, "kiteing" [sic], or the implanting of intrusive thoughts", to name a few examples.[127] "Lengthening the brain" is by Matthews explained as follows: "As the cylindrical mirror (of the machine) lengthens the countenance of the person who views himself in such glass, so the assailants have a method by which they contrive to elongate the brain. The effect produced by this process is a distortion of any idea in the mind, whereby that which had been considered as most serious becomes an object of ridicule."[128] From these descriptions it becomes clear that in Matthews' perception, it is through the relentless physical attacks on his mind that these evil mesmerisers, with the aid of machinery,

[126] Haslam, *Illustrations of Madness*, 48-49.
[127] Ibid., 30-32.
[128] Ibid., 33-34.

attempt to assert their control, thus slowly turning their victim into a docile puppet and it is this loss of mental agency which Matthews fears most.

For the machine to perform its cruel task, proximity to the patient is paramount. Matthews explains this notion as follows:

> Suppose the assailed person at the greater distance of several hundred feet, the warp must be so much longer directly towards him, but the farther he goes from the pneumatic machine, the weaker becomes its hold of him, till I should think at one thousand feet he would be out of danger. I incline to think that at such distance or little more, the warp would break.[129]

In Matthews' delusions a physical connection exists between his body and that of the machine. Notions of the elusive practice of mesmerism he couples to vivid materialist and mechanical considerations. The perceived influence of the Air Loom on the victim's body and mind is a predominantly physical one. Coincidentally, in 1819, one of Bedlam's surgeons, William Lawrence, was threatened with dismissal should he not retract his newly published book containing his materialist views regarding the brain.[130] Lawrence expressed that the separation of the physical and the mental is an illusion and that the mind is merely the result of the physical functioning of the brain. The French physician Pierre Cabanis (1757-1808) had conveyed the same sentiment by declaring that the brain secretes thought as the liver secretes bile.[131] Since these materialist ideas were not tolerated by the church, Andrew Scull points out that:

> medical men on both sides of the Atlantic then developed a compelling argument that purported to demonstrate beyond all doubt the physical origins of mental disorders, an argument that rested precisely on the Cartesian distinction between mind and brain. In French, the term for 'mind' and 'soul' is one and the same: *l'âme*. To argue that the mind or soul was prone to disease, or in the case of idiotism or dementia, to death, was therefore to call into question the very foundation of Christianity, and thus of civilized morality. By contrast, locating madness in the body caused no such problems.[132]

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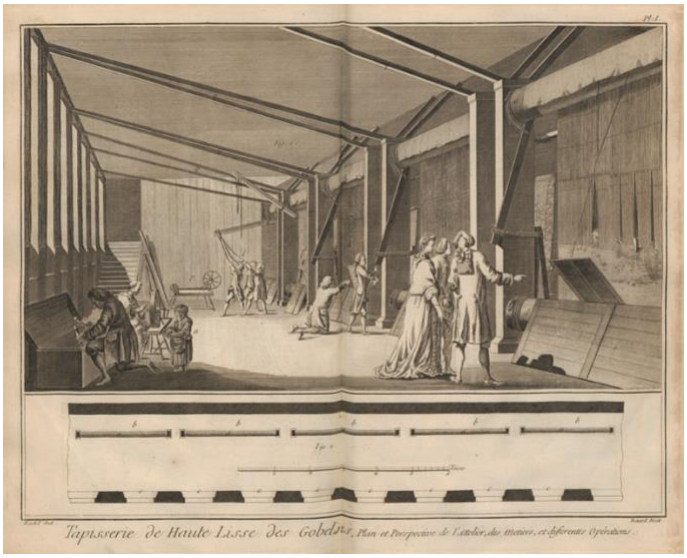
[129] Ibid., 51.
[130] Peter G. Mudford, "William Lawrence and The Natural History of Man", *Journal of the History of Ideas* 29, no. 3 (1968): 431.
[131] Andrew Scull, *Madness in Civilisation: A Cultural History of Insanity from the Bible to Freud, from the Madhouse to Modern Medicine* (London: Thames & Hudson, 2015), 211.
[132] Ibid., 211-212. (Original emphasis.)

Materialist physicians stressing that madness is first and foremost an affliction of the brain, i.e. the body, seem to resonate in Matthew's anxieties about the Air Loom. Matthews, though he possesses a powerful mental image of the Air Loom, fails to understand the precise functions of the many parts of his imagined machine. He professes that one member of the mesmerist gang "is a manufacturer of air-looms", who "possesses the first rate skill in working this instrument" and also that "(t)he gang proudly boast of their contempt for the immature science of the past era."[133] Thus, in Matthews' paranoia, occult and materialist notions are coupled to create a monstrous machine, which on the one hand is operated by evil mesmerists in a manner that eludes anyone not initiated in the machine's mysteries and which on the other hand is rooted in physical (though deluded), evidence-based science with a direct measurable influence on the body.

Diderot and d'Alembert's *Encyclopédie* is filled with illustrations of complex, larger-than-life machines that escape immediate understanding. The illustrations of the monumental weaving looms of the French royal Gobelin manufactory for example, are evocative of Matthews' description of gigantic, far-reaching warp threads being manipulated by the machine workers who, in comparison to the machine, are of inconsiderable size. Science, and the complex machinery accompanying it, to the uninitiated increasingly assumed an occult character. Matthews too feels he is influenced by an advanced machine, incomprehensible to the common layman and operated by evil mesmerists, who, in Loring and Moosberg-Bustnes' words, "could effectively turn anyone, including politicians, into automata".[134] In Matthews' alienated reality the boundaries between magic and science are blurred and human and machine are inverted. Whereas the former is reduced to a mindless automaton, the latter is believed to be imbued with mind, which, rather than motion, is perceived to equal life. In Matthews' anxieties science and the occult amalgamate. He perceives his Air Loom, albeit as a conduit or instrument of mesmeric compulsion, as a monstrous machine animated by thought, capable of compelling his own mind and thus able to fully dictate, disrupt and even end his life. As I will discuss in the next chapter, this is a trope E.T.A. Hoffmann explores in his tales "Automata" and "The Sandman" in the first decade of the nineteenth century.

[133] Haslam, *Illustrations of Madness*, 24, 57.
[134] Loring, "Being human": 22.



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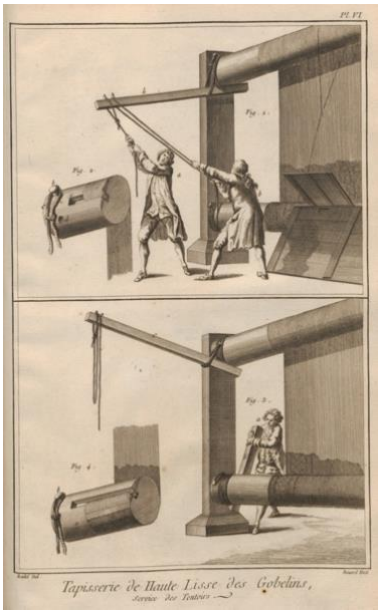

b.

c.

Fig. 4) The weaving looms and the manipulation of "haute-lisse" (perpendicular) warp threads in the royal Gobelin manufactory as illustrated in the *Encyclopédie* (1751-1772), vol. 26, respectively plates I, VI, IX.

Mike Jay, exploring the alignment of mesmerism with revolutionary ideals, points out: "The Air Loom used its pneumatic force to extend these (mesmeric) invisible powers far beyond those of even the most skilled human mesmerist. Man had made a machine that could turn men themselves into machines."[135] He regards the notion of the Air Loom as a manifestation of the corruption of Enlightenment science for organised revolutionary cruelty.[136] The fear of losing mental autonomy to a machine in the late eighteenth and early nineteenth century would continue to give rise to

[135] Mike Jay, *The Influencing Machine: James Tilly Matthews And The Air Loom* (London: Strange Attractor Press, 2012), 20.
[136] Ibid., 19.

delusions of machine possession.[137] Matthews' delusions were undoubtedly exacerbated by his time in a French prison, spent, as Roy Porter stresses, "under constant threat of execution."[138] Having established that what constitutes life increasingly came to be regarded as cognisance, the threat of the head as the repository of identity and personhood, i.e. of life, being severed from the body resulted in existential paranoias finding expression not only in pathology, but in the everyday life and literature of revolutionary France. The head became an object to which an almost spiritual significance was attributed and which thus assumed the function of a totem.

Geoffrey Wall discusses the case of the missing head of the famous anatomist and pathologist Xavier Bichat (1771-1802), which illustrates how in post-Revolution France the autonomous head, as a repository of thought, came to be venerated as a sacred relic imbued with a vital power that could survive death.[139] When in 1845 the Parisian cemetery of Saint-Catherine was considered overcrowded and a hazard to public health, Bichat's remains were exhumed with the intention of transferring them to the cemetery of Père Lachaise. However, when the grave was opened up, the head was found missing. After further digging proved futile, one of Bichat's former students stepped up and produced a skull, which, based on the original autopsy records, indeed proved to be Bichat's. It transpired that the student, who more than forty years earlier had been in charge of dissecting Bichat's body, had secretly kept the head in his own possession.[140] Wall states: "Contemplating this choice [sic.] medical anecdote we are struck by the theme of affiliation. In the mind of the disciple, Bichat's head is the repository of a secret cognitive power that can be conserved and hoarded away."[141] Bichat's head to his student had become a symbolic totem imbued with medical knowledge that could, in this case through mentorship, be transferred onto its guardian. Bichat's pupil felt that the head of his teacher, in which thought and knowledge was perceived to endure even after death, was imbued with a life of its own.

Wall discusses another incident which demonstrates the symbolic objectification of the head as a piece of mechanics. It concerns a psychopathological case concerning a Parisian watchmaker. In the years following the Revolution, besides the impact on physical public health, the psychological repercussions of the regime of Terror were becoming clear.[142] In the 1790's, Philippe Pinel (1745-1826), the physician who advocated a humane treatment of the mentally afflicted, describes a case

[137] Loring, "Being human": 20-22.
[138] Haslam, *Illustrations of Madness*, xvi.
[139] Geoffrey Wall, *The Enlightened Physician: Achille-Cléophas Flaubert, 1784–1846* (Oxford: Peter Lang, 2013), 72.
[140] Ibid., 72.
[141] Ibid., 72.
[142] Ibid., 26.

of a Parisian watchmaker who believed he had lost his head.[143] Preoccupied with effecting perpetual motion, the watchmaker had developed the idée fixe of having lost his head to the guillotine along with many others. According to Pinel, the conviction had lodged in his imagination that, after a repeal of the sentence, "in consequence of an unfortunate mistake, the gentlemen, who had the management of that business, had placed upon his shoulders the head of one of his unhappy companions."[144] Sadly however, this new head turned out to be of inferior quality to his own.[145] Apparently, the fact that the watchmaker managed to remember his rightful head with the perceived wrong head, and thus the mind, of someone else, did not diminish his obsession. Besides the fact that the watchmaker regarded himself as a mechanical perpetuum mobile, or a marionette, with interchangeable biological and mechanical parts, the case shows how the head as an object, in the watchmaker's imagination became a totem of his own identity and life. After the horrors of the Revolution, no longer able to recognise his own external features, the man's head as a symbolic representation of his pre-Revolution, happier life, became the objectified focal point of his madness. These cases of Bichat and the watchmaker show that in French post-Revolution life, the head, as the repository of cognisance, was equated with life itself.

Paradoxically, the objectified, autonomous, severed head transformed into a symbol of life and, during the Revolution, became such a potent totem of horror that it became a tourist attraction in Philippe Curtius' (1737–1794) Parisian wax museum. The Swiss physician had become a wax modeler and showman and, with the aid of Marie Grosholtz (1761-1850), later known as Madame Tussaud, at the Madeleine cemetery made moulds directly from the severed heads. These moulds were used to reproduce these heads in wax, including those of Louis XVI and Marie-Antoinette. After the Revolution Tussaud toured London with these waxen heads before she opened a permanent exhibition in 1834. The "Chamber of Horrors", with its centrepiece a life-size model of a guillotine, displayed the bloodied lifeless heads of the machine's victims.[146] These heads as symbols of life extinguished, now made safe in the isolation of the museum, called to the visitor's attention the fate they had (perhaps narrowly) escaped.

The idea of the head as the repository of life also interested anatomists. In 1795, the German anatomist S.T. Sömmering published a letter in the Paris *Moniteur* that questioned the recently reinstated and improved upon guillotine as a humane execution device:

[143] Ibid., 26; Philippe Pinel and D.D. Davis, *A Treatise on Insanity*, trans. D.D. Davis (London: Cadell and Davies, 1806), 68-72.
[144] Pinel, *A Treatise on Insanity*, 69.
[145] Ibid., 69-70.
[146] Gerould, *Guillotine*, 79-81.

> Do you know that is not at all certain when a head is severed from the body by the guillotine that the feelings, personality and ego are instantaneously abolished...? Don't you know that the seat of the feelings and appreciation is in the brain, that this seat of consciousness can continue to operate even when the circulation of the blood is cut off from the brain...? Thus, for as long as the brain retains its vital force the victim is aware of his existence. [...] And I am convinced that if the air could still circulate through the organs of the voice... these heads would speak... The guillotine is a terrible torture! We must return to hanging.[147]

The letter caused quite a stir in the Parisian medical community.[148] The guillotine instigated the discourse on the potential lingering of life as well as offered the opportunity for physiologists and anatomists to provide a resolution. Stimuli experiments were conducted on the severed heads to explore whether, and how long, life remained in the autonomous, uncoupled heads. Gerould and Mary Roach show that the discourse about the survival of consciousness would continue throughout the nineteenth and into the twentieth century, in which physicians even attempted to revive guillotined heads to prove the thesis that, as long as the head is filled with oxygenated blood, the victim is aware of his plight.[149] Paradoxically, in order to prove that the head is the seat of life and to advocate a more humane method of execution, these heads, once separated from the body, were poked and prodded as a piece of lifeless mechanism.

The anxiety about the sudden loss of mental autonomy, materialised in the objectified head in which life – agonisingly – remained, is reflected in the guillotine literature of the first decades of the nineteenth century. A recurring trope in in these fictions is the ideal woman appearing as a ghostly spectre or in a dream visitation as an image of a love that can never be fulfilled, since, as soon becomes clear, she had been a victim of the guillotine. This vision acts both as the impetus of the protagonist's actions and as the omen of his impending madness. The death of these ghostly women was so sudden that they do not yet seem to realise their plight, making them belong neither in the world of the living nor of the dead. These tales emphasise the liminal state of the guillotine victims who were and remained in the prime of life before as well as after their sudden death by the machine. They also stress the ghostly survival of cognisance in the uncoupled head that still exudes an influence over the unlucky protagonist. A few examples are "The Adventure of the German Student" by the American short story writer Washington Irving (1783-1859), first published in 1824 in the collection *Tales of a Traveller*; the adaptation of this tale by Alexandre Dumas *père* (1802-

[147] As quoted and translated in: Mary Roach, *Stiff: The Curious Lives of Human Cadavers* (London: Penguin Books, 2003), 199-200.
[148] Ibid., 200.
[149] Ibid., 199-206; Gerould, *Guillotine*, 53-57.

1870) into a full-length novel, *La Femme au collier de velours* (*The Woman with the Velvet Necklace*), published in 1851 and the 1849 novel *Les Mille et Un Fantômes* (*The Thousand and One Ghosts*) by the same author, a frame narrative rife with tales of decapitated heads failing to die, among which the story of the guillotined noble woman Solange.[150] In all these tales the (female) victim, previously occupying a shadow state between life and death, is only unequivocally declared dead when her head is seen rolling onto the floor before her lover. The loss of the head occurs not merely in the guillotined woman, but also in the protagonist, who inescapably loses his mind. The novel *Frankenstein; or, The Modern Prometheus* by the British novelist Mary Shelley (1797-1851), which was published in 1818, can also be read as the story of another head that fails to die.[151] Victor Frankenstein, a student of anatomy mechanically assembles a creature from various corpses and (re)animates it with electricity. However, besides mechanical motion, Frankenstein also unintendedly establishes consciousness in his creation. This unintended, indefinite survival of consciousness, which seems to linger in the corpse's head, results in a cognisance that becomes cruel and monstrous.

I have shown that in the first half of the nineteenth century the definition of life shifted from external mechanical motion to an inward, more abstract, cognisance. The invention of Von Kempelen's thinking mechanical Turk, the influence of mesmerism and, in France, the threat of the guillotine contributed to this change. Whereas the guillotine proved a literal threat, the practice of mesmerism and the exhibitions of the Turk evoked anxiety regarding the metaphorical loss of one's head, respectively by establishing a loss of mental agency in the patient and by calling into question the uniqueness of humanity as a thinking species. The more a machine is attributed with life/cognisance/agency, the more the human subject seems reduced to an inert "automaton". In the first half of the nineteenth century the meaning of this word expanded from the mechanical definition signifying something moved by its own volition, i.e. possessing physical agency, to incorporate a metaphorical definition symbolising rather the opposite, i.e. the human subject stripped of mental agency and thus reduced to predictable mechanical motion or a machine. The *Oxford English Dictionary* affirms that from the late eighteenth century the word "automaton" in the English language is used to signify "a human being resembling an automaton; a person who acts, or appears to act, in an inhuman, mechanical, or unemotional way" and the verb "to automatize", or, "(t)o reduce (a person) to an automaton" is used from the beginning of the nineteenth century to

[150] Washington Irving, *Tales of a Traveller* (London: Chiswick Press: - C. Wittingham and Co., 1964), 43-50; Alexandre Dumas, *The Woman with the Velvet Necklace* (Amsterdam: Fredonia Books, 2002); Alexandre Dumas, "La Femme au collier de velours". *Project Gutenberg*, 2006, accessed May 16, 2021. https://www.gutenberg.org/files/18003/18003-h/18003-h.htm; Alexandre Dumas and Andrew Brown, *The Thousand and One Ghosts*, trans. Andrew Brown (Richmond, Surrey: Alma Books, 2018), 57-82.
[151] Mary Shelley, *Frankenstein; Or, The Modern Prometheus: In Three Volumes* (London: Lackington, Hughes, Hardin, Mavor, & Jones, 1818).

signify the elimination of mental agency from a person.[152] In the next chapter I will show how Hoffmann explores this metaphorical definition in his fictions. Dumas *père* in *The Woman with the Velvet Necklace* (1851) also alludes to this broadened definition when he describes the guillotined dancer, Arsène, as having lost "the charming suppleness he (the protagonist) had admired in the dancer" and who now walks with "a swift, automatic gait".[153] Her words "issued from pallid lips which opened and closed as if by a spring. One would have said that an automaton (un automate) was speaking."[154] Evoking Hoffmann's "The Sandman" (1816) in which the protagonist becomes obsessed with a machine woman and goes mad, Dumas names his protagonist who metaphorically loses his head to this mechanical woman, Hoffmann.

Late nineteenth-century imitation games

This emphasis on the head as the repository of thought and agency continues in the second half of the nineteenth century, when increasingly smaller copies of the mechanical chess player demonstrate the ambition to negate the presence of an internal human operator. Tom Standage discusses the mechanical replicas of Von Kempelen's chess player made during its "lifetime" that were built either to figure out how the machine worked or to capitalise on its success.[155] It is however the smaller electro-mechanical copies that were created after the original chess player had been destroyed that stress the continuation of the Turk's legacy as a thinking machine. Bradley Ewart devotes many chapters to the histories of these reproductions, which were increasingly reduced in size to counter the notion of a hidden player inside the machine.[156] Since the exhibitors of these machines, like Von Kempelen, alluded to the notion of self-governed mechanical intelligence, the majority of conjectures on the working of these new Turks was methodical. However, the introduction of electricity and the invention of the electric telegraph, which could send thought and speech almost instantaneously across space and time and which, as McLuhan suggests, breaks with the mechanical paradigm of "individual steps and specialist functions", contributes to the perception of the working of this new generation of Turks as more preternatural and less

[152] *Oxford English Dictionary*, 2022, s.v. "automaton", accessed July 11, 2022, https://www-oed-com.libproxy.york.ac.uk/view/Entry/13474; Ibid., s.v. "automatize", accessed July 11, 2022. https://www-oed-com.libproxy.york.ac.uk/view/Entry/13472?rskey=amydrs&result=3#eid32586856.
[153] Dumas, *Velvet Necklace*, 193.
[154] Ibid., 192; Alexandre Dumas, "La Femme au collier de velours". *Project Gutenberg*, 2006, accessed May 16, 2021. https://www.gutenberg.org/files/18003/18003-h/18003-h.htm.
[155] Standage, *The Turk*, 81-88, 167-170.
[156] Ewart, *Chess*, chapters 9-12.

corporeal.[157] In the next chapter I will further discuss the telegraph as a prosthetic extension of the mind and the voice and how, due to its incorporeality, by the general public it was often believed to operate via sinister occult forces. Now I will discuss how the telegraph's potential for disembodied communication also effected the connection between spiritual cognisance and the perceived intelligence in these reincarnations of the Turk.

The introduction of electricity as an instrument that, via the inventions of the telegraph and the telephone, enabled the disembodiment of speech and cognitive presence, also exacerbated the occult notion of disembodied thought originating on another existential plane. In recent years extensive research has been conducted on the relationship between late nineteenth-century electric communication technologies and the promulgation of the occult belief in the manifestation of intelligence and voices from the beyond. Regarding the increasing popularity of spiritualism in the final decades of the nineteenth century, Courtenay Raia argues that psychical research which developed in this period attempted to fill the void between religious faith and empirical science which increasingly excluded the existence of the metaphysical.[158] Christine Ferguson points out that "the relationship [current scholars on nineteenth-century spiritualism] trace between spiritualism, science, and literature is one of reciprocality [sic] and dynamic symbiosis rather than hostile opposition".[159] Pamela Thurschwell argues that psychical research on telepathy, hypnosis and the survival of consciousness after death coincides with the emergence of the telephone and the telegraph as both expand the perceived boundaries of individual consciousness.[160] She stresses that these new communication technologies "suggested that science could help annihilate distances that separate bodies and minds from each other" as they "appear to support the claims of the spiritualist mediums; talking to the dead and talking on the phone both hold out the promise of previously unimaginable contact between people."[161] Shane McCorristine suggests that "the establishment of new communication and communitarian networks that ventriloquised the tele-technological revolution […] thus *terrestrialised* the 'other world'" and shows how spirit mediums were compared to telegraph operators acting on their instruments.[162] This analogy between the spirit medium and the telegraph is embodied in the title of the New York spiritualist journal, the *Spiritual Telegraph*,

[157] McLuhan, *Understanding Media*, 247.
[158] Courtenay Raia, *The New Prometheans: Faith, Science, and the Supernatural Mind in the Victorian Fin de Siècle* (Chicago: The University of Chicago Press, 2021), 1-3.
[159] Christine Ferguson, "Recent Studies in Nineteenth-Century Spiritualism", *Literature Compass* 9, no. 6 (2012): 433.
[160] Pamela Thurschwell, *Literature, Technology and Magical Thinking, 1880-1920* (Cambridge: Cambridge University Press, 2001), 1-2.
[161] Ibid., 3.
[162] Shane McCorristine, *Spectres of the Self: Thinking about Ghosts and Ghost-Seeing in England, 1750-1920* (Cambridge: Cambridge University Press, 2010), 11.

published from 1852 until 1860.[163] In the next chapter I will demonstrate the influence of the long-standing relationship between ventriloquism, the voice, the occult and mechanics, which centred on disembodied speech, on the fictions of Edgar Allan Poe in the first half of the nineteenth century.

Whereas the other world was metaphorically "terrestrialised", Jeffrey Sconce emphasises that "(t)he miraculous disembodying presence evoked by Morse's technology suggested the tantalizing possibility of a realm where intelligence and consciousness existed independent of the physical body and its material limitations", i.e. technology increasingly disembodied and "spiritualised" earthly communications.[164] The beforementioned critics demonstrate that, rather than being antagonistic phenomena, in the public mind these new electric and perceived supernatural presences made each other's existence plausible as they were perceived to occur on the same transcendent plane and made similar claims of disembodied communication. These arguments demonstrate that the more electric thinking and speaking machines like the telegraph were perceived as abstract and disembodied, the more the human being was thought of as a machine with extracorporeal abilities too. In chapter 4 I will expand on the late nineteenth-century notion of women as blank receptors who can be overwritten by an external (male) mind. Thus, in the late nineteenth century, still, rather than the mechanically moving body, it was the mind which was in spiritualist circles believed able to travel across astral planes and which defined human agency and therefore life itself. Despite the fact that the mystery of the original had been fully explained a few decades earlier, these considerations explain the resurgence of occult associations in the Turk's imitations, which I will now discuss.

In 1867 Charles Alfred Hooper (1825-1900), a cabinet maker from Bristol, created a mechanical chess player, which many years later he named "Ajeeb".[165] Eleven years later, in 1878 the German Charles Godfrey Gümpel (1835-1921), a manufacturer of artificial limbs, resident in England, created "Mephisto", a chess player with the body and dress of a devil.[166] In 1875 the English stage magician John Neville Maskelyne (1839–1917) and mechanical inventor John Algernon Clarke (1827–1887) first exhibited a whist playing automaton, "Psycho", a small oriental figure, perched on a glass column.[167] All of these machines were first exhibited in England and again proved commercially successful. Ajeeb's history largely mirrors that of the original Turk. Its success granted it a tour through Europe and later the US where it was admired by fashionable society which

[163] Ibid., 11.
[164] Jeffrey Sconce, *Haunted Media: Electronic Presence from Telegraphy to Television* (Durham: Duke University Press, 2000), 44.
[165] Ewart, *Chess*, 141, 152.
[166] Ibid., 158.
[167] Ibid., 181-182.

resumed the question as to the possibility of mechanical intelligence.[168] Whereas Ajeeb quite obviously functioned in a manner similar to that of the original Turk, i.e. by being directed by a chess player hidden in its cabinet, Mephisto and Psycho appeared too small to conceal a person inside. Mephisto did not possess a cabinet but a normal "see-through" chess table and was perched on a chair.[169] How exactly this machine functioned remains somewhat mysterious, though Gümpel confessed it was operated by a hidden player.[170] Isidor Gunsberg, the Hungarian chess player who directed Mephisto for many years, revealed in 1913 that he operated the machine from a separate room via a form of wireless telegraphy, i.e. electricity.[171] Psycho's small size and the transparent glass column on which the figure was seated, were intended to upset the notion of a player hidden internally.[172] Though its precise workings are unclear, Psycho's clockwork may have been (partly) controlled by compressed air regulated by a foot valve, a system Maskelyne and Clarke had patented earlier in 1875.[173]

Fig. 5) Maskelyne and Clarke's whist player "Psycho" (ca. 1874), 128 cm in height, was perched on a glass cylinder when being exhibited. From the collection of *Museum of London*.

As I mentioned before, the majority of the conjectures regarding these new machines' functioning was methodical. For example, English astronomer Richard Proctor (1837–1888) argues in

[168] Ibid., 150-152, 189.
[169] Ibid., 160.
[170] Ibid., 162.
[171] Ibid., 171.
[172] Ibid., 181-182.
[173] Ibid., 183.

1875 that, following Babbage's system of machine logic, considering the many possible moves a game of chess provides, the construction of a purely mechanical machine able to calculate the best stratagem for each move, would be so complex and expensive that it could never be profitable. He concludes: "We may take it for granted then, whenever we see an automaton chess player ready to encounter all comers, […] that there is a concealed player directing the automaton's play."[174] Besides these rational considerations however, these machines evoked the perception that they might be guided by spirit forces. For example, Ajeeb, who, ironically, out of these three imitations most obviously concealed a human player in its cabinet, was often visited by spiritualists who believed Hooper to be a spirit medium. In 1885, when Ajeeb was first being exhibited at the New York Eden Musée (where it would remain for thirty years), Hooper anonymously published a promotional pamphlet containing anecdotes regarding his machine in which he dispels the notion of spirits guiding his machine.[175] He states: "I know it has been asserted that I am a medium, and that a phantom or spirit of a deceased chess-player may take possession of my Automaton during its marvelous [sic] performance by those who believe they 'can call spirits from the vasty deep'".[176] Apparently the workings of his machine were explained by spirit power regularly enough that Hooper felt he had to address this in his pamphlet.

Proctor also states that "not so many centuries ago […] great discoveries in science were guarded as carefully as the spiritualists in our time try to guard the contrivances by which they manage their deceptions."[177] Proctor comments here on fraudsters employing modern technology to conjure up illusions of spirit communication and, to the uninitiated, the often-imperceptible boundary between science, the occult and deception. Though none of the inventors of the Turk's imitations proclaimed their machines to be conduits for spirits, in their showmanship they certainly allowed for the entertainment of the idea. For example, Ajeeb made its public debut early in 1868 at the London Polytechnic, where it was part of a program of illustrated scientific lectures as well as optical illusions like "Pepper's Ghost".[178] William Given points out that in such dramatized settings, in which the lecturer acted as both scientist and performer, the reality of the audience was manipulated by creating a "liminal space […] in order to undermine the spectators' belief that there is a single, unified form of reality."[179] Thus, in these contexts, mechanics, the occult and deception were to the observer rendered practically indistinguishable.

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[174] Richard Proctor, "Automatic Chess and Card Playing", *The Cornhill Magazine* 32, no. 191 (1875): 586-587.
[175] Ewart, *Chess*, 202-203.
[176] Charles Hooper, *The Adventures of Ajeeb, The Wonderful Chess Automaton* (New York: published by author, 1885), 8.
[177] Proctor, "Automatic Chess": 596.
[178] Ewart, *Chess*, 142-143.
[179] William Given, "Photography and Film in Nineteenth-Century France: Negative Space Performance and Projected Unreality" (Drama and Theatre – PhD Dissertations, University of San Diego, 2016), 47.

Besides by diminishing the size of their bodies, the inventors of these new Turks, like Mephisto and Psycho, emphasised the significance of their machines' head by giving their inventions names evocative of cognisance. Ajeeb, Hindi for "mysterious" or "strange", was not unique.[180] Ewart shows how in the late nineteenth century there were several Ajeebs being displayed in England.[181] Psycho too was copied so much that its name became the generic term for whist playing automata.[182] The names of some of these copies emphasise the alleged cognitive processes taking place in, or via, the machine's head, whether controlled mechanically or preternaturally, for example "Sophos le Savant" (Sophos = a sage, le savant = the "knower"/the wise) and "Synthia" (a Greek female name, also a derivation of "synthetic"/artificial), emphasising the machine's unnatural intelligence. Psycho, besides playing whist, also engaged in games of telepathy with members of its audience.[183] In his pamphlet on Ajeeb, without further explaining Ajeeb's modus operandi, Hooper emphasises his machine's mechanical ingenuity by stating that he has "no diminutive player, dwarf or little boy to work the apparatus, neither is there any communication with the floor underneath by means of traps".[184] Finally, he concludes: "I have no faith in Spiritualism, but am a firm advocate of and a devout worshiper at the temple of science, and I have been highly complimented by thousands of visitors for having so successfully managed to puzzle the world with a problem, of which no one appears to arrive at the correct solution."[185] By articulating how his machine does *not* work. i.e. via an internal player or through occult forces, rather than giving the reader a hint as to how it *might* work, Hooper implicitly advocates the impression that his machine's mind must be fully mechanical.

Late eighteenth-century mechanical speaking machines

After having discussed the machines and cultural phenomena contributing to the definition of life changing from motion to mind, I will now discuss some influential mechanical speaking machines invented in Europe from the late eighteenth century. I will demonstrate how these inventions stretched the traditional medical definition of prostheses indicating replacement body parts to include a socio-cultural interpretation denoting superhuman extensions added to the body with the intention of surpassing its biological limits. Previously I have shown how in the first half of the

[180] Ewart, *Chess*, 152.
[181] Ibid., 152-157.
[182] Ibid., 186.
[183] Geoffrey Lamb, *Victorian Magic* (London: Routledge & Kegan Paul, 1976), 80.
[184] Hooper, *The Adventures of Ajeeb*, 8.
[185] Ibid., 9.

nineteenth century thinking machines and literary speaking heads symbolised (the loss of) mental agency, which represented (the loss of) life. I will continue to show how from the late eighteenth century various inventors built speaking heads and other talking machines as partial simulations of the vocal organs, which they proposed as extracorporeal prosthetic augmentations or extensions.[186] The invention of the telegraph in the late 1830s contributed to this wider definition of the prosthesis as a bodily extension. The telegraph represents a new genus of vocal prostheses which, unlike the late eighteenth-century mechanical speaking machines, is not modelled on the human vocal cords, whilst able to expand the human vocal range ad infinitum. In chapters 2 and 3 I will show how fiction writers Edgar Allan Poe and Samuel Butler comment on the telegraph as a collective prosthesis. By the 1840s in both Europe and the US, telegraphic disembodied speech, though its precise working was not always fully understood, had become normalised. I will show that the commercial failure of Joseph Faber's mechanical speaking figure, whose operation emulated nature, is testimony to the fact that by the 1840s the era of the mechanical replication of vocal organs had expired. Satirical comments on the invention do however introduce the idea of the machine enabling a person to speak with another's voice in order to address and "correct" certain socio-political matters, a notion that would grant the speaking machine as a prosthesis a metaphorical connotation. The prosthetic speaking machine as a metaphor would be further explored at the end of the nineteenth century in the specific context of the phonograph and fin-de-siècle gender relations, which I will discuss in chapter 4.

In the late eighteenth century, the mechanical replication of the vocal organs, due to their complex and moving nature, was laden with scientific prestige. Besides therapeutic uses, various applications of mechanical speech were proposed as prosthetic augmentations of the limited natural abilities of the vocal cords, which centred on the geographical and/or temporal displacement of the human voice. In my thesis I will refrain from classifying and discussing non-autonomous mechanical prostheses like artificial legs or arms as humanoid machines or automata as these replacements or additions do not possess self-governance, but merely function as attachments to the body. By contrast, these late eighteenth-century mechanical speaking machines were envisioned as self-governed body parts which operated in synergy with, yet separately from, the human body. The history of prostheses in the context of disability has been well analysed by Katherine Ott, David

[186] I will consider these machines from a cultural angle and will reference them from a literary perspective in the following chapters. For a historical, technological, cryptographic or phonetic approach of speaking machines in the long nineteenth century, see: Lisa Gitelman, *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era* (Stanford: Stanford University Press, 1999); Alfred Chapuis, Edmond Droz and Alec Reid, *Automata: A Historical and Technological Study* (Neuchatel: Éditions du Griffon, 1958), chapter XV; Manfred R. Schroeder, "A Brief History of Synthetic Speech", *Speech Communication* 13, no. 1-2 (1993): 231-237; J. L. Flanagan, "Voices of Men and Machines", *The Journal of the Acoustical Society of America* 51, no. 5 (1972): 1375-1387.

Serlin and Stephen Mihm in *Artificial Parts, Practical Lives*.[187] This chapter however stresses the self-governance of these speaking prostheses in a socio-cultural context. In the following chapters I will discuss how Poe, Butler and Villiers employ the metaphorical prosthesis, machine speech in particular, to comment on contemporary society.

An early eighteenth-century definition of the word "prosthesis" can be found in an influential 1707 textbook, *A Course of Chirurgical Operations, Demonstrated in the Royal Garden at Paris*, written by the French surgeon and court physician of Louis XIV, Pierre Dionis (1643-1718), in which he gives an account of his anatomical and surgical demonstrations. His book was translated from the original French into many languages.[188] In the introduction Dionis provides a definition of the four disciplines of surgery, the last of which being "Prosthesis":

> All *Chirurgical Operations* reduce themselves to four Sorts, the first of which rejoins what was separated, and is called *Synthesis*; the second separates those Parts whose Union is inconsistent with Health, and is called *Diaresis*; the third, express'd by the word *Exaresis*, removes whatever is superfluous; and the fourth, which is term'd *Prosthesis*, adds what is deficient.[189]

These four surgical disciplines are described as mechanical procedures of adding and subtraction, a coupling and uncoupling of parts. After explaining the, again mechanical, procedure of amputation, Dionis argues that "Tis not then enough for a Chirurgon (surgeon) to have drawn him (the patient) out of the grave, he must by his Industry add an Organ in composition and use like the former."[190] Before specifying how to properly fit a prosthetic limb, the surgeon clarifies the two main functions of the prosthetic operation,

> by means of [which] we fix and add to the Body an Instrument in the place of some Part which it has lost: We draw two Advantages from this Addition, the first is Ornamental, as when we fix in an artificial Eye or Tooth; the second, is for Necessity, as when we add a wooden Arm or

[187] For this approach of prostheses, see for example: David T. Mitchell and Sharon L. Snyder, *Narrative Prosthesis: Disability and the Dependencies of Discourse* (Michigan: The University of Michigan Press, 2000); Katherine Ott, David Serlin and Stephen Mihm (eds.), *Artificial Parts, Practical Lives: Modern Histories of Prosthetics* (New York: New York University Press, 2021).
[188] Donald Simpson, "Pierre Dionis and the Franco-British dialogue in surgery", *ANZ Journal of Surgery* 73, no. 5 (2003): 336.
[189] Pierre Dionis, *A Course of Chirurgical Operations, Demonstrated in the Royal Garden at Paris*, 2nd ed. (London: F. Tonson, 1733), 3. The original French reads: "*& la quatriéme qu'on appelle Prothèse, ajoute ce qui y manque.*": Pierre Dionis, *Cours d'Opérations de Chirurgie, démontrées au Jardin Royal*, 4th ed. (Paris: D'Houry, 1740), 5.
[190] Dionis, *A Course of Chirurgical Operations*, 416.

> Leg; and 'tis particularly this last Species of *Prosthesis* which is necessary, since without its help the Man can't act.[191]

From Dionis' text we can deduce that in the first half of the eighteenth century a prosthesis was defined as a mechanical device that functions as a substitute for a missing body part and serves, either aesthetically or functionally, to restore the body. Dionis' definition of prostheses only applies to physical body parts like legs or eyes and does not comment on the more elusive and immaterial faculty of the voice. The late eighteenth-century inventors of speaking machines however focus on the nature of the voice as a disembodied limb to imagine the vocal prosthesis' potential in a collective, social context. Though none of these inventors occupied with the project of artificial speech explicitly defined their speaking machines as prostheses, i.e. replacement limbs, in their applications these machines were proposed as improvements or enhancements of the human voice.

Like other eighteenth-century body-replicating machines, such as Vaucanson's flute-player, the mechanisms of these speaking machines were modelled on nature as closely as possible. "[W]hen it comes to the imitation (Nachahmung) of animal organs", Von Kempelen writes in his 1791 *Mechanismus der Menslichen Sprache nebst der Beschreibung seiner Sprechenden Machine* (*The Mechanism of Human Speech and the Description of his Speaking Machine*), "it was above all necessary to first learn that which I wanted to imitate (nachahmen). I had to study speech formally, and alongside my attempts, always consult nature."[192] Von Kempelen, like many other late eighteenth-century "mechanistes", regarded nature as the ultimate creator and therefore adheres to an anatomical view of invention. Riskin discusses a birthing machine, developed in the 1750 by the French midwife Angélique du Coudray (1712-1794), an obstetrical simulation which, by Du Coudray's own description consisted of "the pelvis of the woman, the womb, its opening, its ligaments, the conduit called the vagina, the bladder and *rectum intestine*" as well as an extractable "model of a child of natural size" with "joints […] flexible enough to be able to put in different positions".[193] In 1759 Du Coudray was requested by King Louis XV to visually instruct inexperienced and often illiterate countryside midwives in the correct practices of midwifery and to raise their

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[191] Ibid., 416.

[192] Wolfgang von Kempelen et al., *"Mechanismus der menschlichen Sprache/The Mechanism of Human Speech": Kommentierte Transliteration & Übertragung ins Englische / Commented Transliteration & Translation into English*, trans. Richard Sproat (Dresden: TUDpress, 2017), 471, 485. (This edition presents Von Kempelen's original German publication alternated with an English translation. I reference the translation pagination rather than the numbering in Von Kempelen's original.)

[193] Angelique Marguerite Le Boursier du Coudray, *Abrégé De l'Art des Accouchements, Dans lequel on donne les préceptes nécessaires pour le mettre heureusement en pratique, & auquel on joint plusieurs Observations intéressantes sur des cas singuliers* (Paris: Debure, 1777), vij; Nina Rattner Gelbart, *The King's Midwife: A History and Mystery of Madame Du Coudray* (Berkeley: University of California Press, 1998), 60; Jessica Riskin, "Eighteenth-Century Wetware", *Representations* 83, no. 1 (2003): 112.

awareness of possible complications during delivery which, when not handled correctly, often resulted in lifetime injuries of both mother and child.[194] This anatomical model, which she referred to as “une machine” entirely erased the boundaries between organic and mechanical bodies since, besides artificial materials, it also incorporated genuine human body parts like pelvis bones taken from human skeletons.[195]

Fig. 6) One of Du Coudray’s birthing “machines”. From the collection of *Musée de l’Homme*, Paris, no date.

Though they have an anatomical construction and the purposed imitation of nature in common, by contrast, the late eighteenth-century speaking mechanisms differ from body-replicating machines like Du Coudray’s in their proposed application. Besides being suggested as teaching devices or medical aids, machine speech was envisioned as a superhuman corporal extension to transcend nature and serve either the individual or a collective. In the next chapter I will show how Poe employs this amalgamation of nature and artifice to imagine vocal prostheses which surpass nature to such an extent that they escape human ownership altogether. In *Mechanismus* Von Kempelen states: “What actually induced me to think of imitating human speech, I can no longer definitely say.”[196] However, his confession in the preface that, “(a)ll the uses and all the merit that my collected discoveries might have, may well consist only in that thereby the instruction of a few deaf-mutes in speaking might be made easier, and that a portion of those people who have a faulty pronunciation, might be cured of this by my guidance,” suggests his interest in mechanical medical

[194] Le Boursier du Coudray, *Abrégé De l'Art*, 202-203; Gelbart, *The King's Midwife*, 59-61; Riskin, "Eighteenth-Century Wetware": 112.
[195] Gelbart, *The King’s Midwife*, 61, 62, 64. Her “machine” proved so successful that many French physicians and surgeons commissioned one for their own teaching. By 1777 she had made many hundreds of copies: Ibid., 207.
[196] Kempelen, *Mechanismus*, 471, 473.

aids.[197] Even before he started working on this machine, in 1774 the inventor had already designed a mobile bed for the ailing empress Maria Theresa and, in 1779, a typing machine for the blind composer Maria Theresa von Paradis.[198] Judging from the list of 122 subscribers listed in *Mechanismus*, the majority consisting of public servants, Austro-Hungarian nobles and scholars who paid in advance in order to help fund the publication, Von Kempelen's account of his speaking mechanism was highly anticipated.[199] Despite Von Kempelen not conceptualising his invention as a prosthesis, he clearly recognised its therapeutic potential.

The inventor imagined that his mechanical simulation of nature could have therapeutic qualities by curing or correcting speech deficits in mutes. Steven Connor, in his comprehensive history of ventriloquism, suggests that "(f)rom the early seventeenth century onwards, the attempt to synthesize speech had been driven by the effort to find ways of helping the deaf to communicate."[200] Since it had been established that most deaf people are unable to speak by having been deprived of hearing spoken language, rather than a malfunctioning of their vocal organs, during the seventeenth century, many educators, rather than focusing on sign language, attempted to instruct the deaf in using their voice. Similar to Du Coudray's birthing machine, artificial replications of the vocal organs were thought of as visual or sensory aids in understanding a biological process, in this case the genesis of the voice, which takes place largely on the inside of the body. [201]

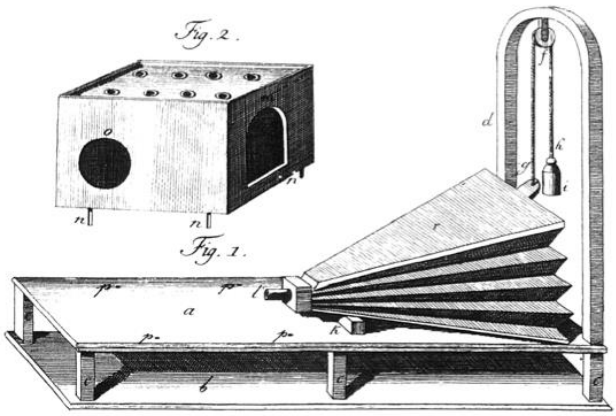

Fig. 7) Von Kempelen's speaking machine as illustrated by Von Kempelen in *Mechanismus der Menslichen Sprache*, 1791, 428, plate XXII.

[197] Ibid., 19.
[198] Ibid., XCVIII.
[199] Ibid, CXXII-CXXIV.
[200] Connor, *Dumbstruck*, 342.
[201] Ibid., 342-343.

Whereas Von Kempelen only tentatively suggested his speaking device as a potential medical aid, other inventors of talking machines and their proponents were more outspoken about their inventions' potential prosthetic qualities. In the late eighteenth century, fuelled by different interests, inventors in different parts of Europe worked on similar speaking machines without apparent knowledge of each other's inventions.[202] In 1779, around the same time Von Kempelen performed his investigations, Christian Gottlieb Kratzenstein (1723-1795), a German-born physicist, doctor and engineer concerned with sound and voice experiments, won with his very similar mechanical vowel organ the first prize in a competition. This contest was sponsored by the Imperial Academy of Science in St. Petersburg, with the aim of artificially reproducing the five vowel sounds.[203] Von Kempelen, realising that "(s)peech or articulation is nothing other than the **voice, which passes through different openings"**, explored the application of various organ pipes connected to bellows, operable by keyboard, in order to hear the different tones in combination to one another.[204] Kratzenstein's machine, like Von Kempelen's, was based on the tradition of organ building and other wind instruments and consisted of peculiar looking organ/vowel pipes, in part inspired by the "vox humana" pipes of the pipe organ, known for their similarity to the human voice.[205] From his 1782 essay accompanying his invention, *Sur la naissance & la formation des voyelles* (*On the birth and formation of vowels*), it becomes clear that Kratzenstein thinks of the vocal organs as musical instruments.[206]

Like Von Kempelen's, Kratzenstein's acoustic explorations were not initially intended to be therapeutic or prosthetic. However, though he admits that "Je ne me suis jamais, comme Cl. Amman, occupé à faire parler les muets, ni, comme Pigmalion, à animer une statue d'ivoire", Kratzenstein did base his experiments on the work of anatomists like the Swiss Johann Konrad Ammann (1669-1724), who in the late 17th century had attempted to instruct deaf-mutes in speaking.[207] Also, as a professor of physics and medicine at Copenhagen University, he researched the therapeutic applications of electricity. Though Kratzenstein himself was not in the first place preoccupied with building prostheses, he did, like Von Kempelen, acknowledge the therapeutic potential of his inventions. One of his proponents however, the Swiss mathematician Leonard Euler (1707-1783), regarding the application of Kratzenstein's vowel organ, contemplated an application

[202] Hankins, *Instruments*, 186.
[203] Ibid., 188.
[204] Kempelen, *Mechanismus*, 487. (Original emphasis.)
[205] Hankins, *Instruments*, 189-190.
[206] Ibid., 189; Christian Gottlieb Kratzenstein, "Sur la naissance & la formation des voyelles", *Journal de Physique* 21 (1782): 358-380.
[207] Kratzenstein, *Sur la naissance*, p. 363. "I have never, like Cl. Ammann, been occupied with teaching the mute to talk, nor like Pygmalion with animating an ivory statue": Hankins, *Instruments*, 189.

beyond the scope of therapy. Euler, who almost certainly initiated the St. Petersburg competition, in a 1761 letter, titled "The Wonders of the Human Voice", writes:

> Were it possible to execute such a piece of mechanism, […] every one [sic] would be surprised, and justly, to hear a machine pronounce whole discourses or sermons together, with the most graceful accompaniments. Preachers and other orators, whose voice is either too weak or disagreeable, might play their sermons or orations on such a machine, as organists do pieces of music. The thing does not seem to me impossible.[208]

What Euler envisions is an external mechanical voice, operated with the hands via piano keys, that, through the artificial mouths of pipes and reeds, functions as an extension or amplification of the vocal organs where these are found lacking in strength or quality. A device like this would exceed Dionis' medical definition of the prosthesis. By detaching it entirely from the biological body, the disembodied voice might be moved from place to place and amplified according to desire and thus circumvent the orator being bound to a specific place. Furthermore, as the mechanical speech machine would not even be tied to a certain individual, the orator's biological presence could be transmitted to another person. Since the machine could be operated by anyone with access to the right score, the orator's presence could not only be displaced geographically, but also interpersonally. The orator's individual relevance is diminished and, unlike a traditional prosthesis, which is granted functionality by the person wearing it and which generally remains inferior to the original biological function or limb, Euler envisions the magnified machine voice as a super-prosthesis, which obtains autonomy from the wearer and pre-eminence over the original body part.

Von Kempelen's commitment to building his machine was predominantly rooted in his interest in anatomy and Kratzenstein's in his fascination with acoustics. The English physician and natural philosopher Erasmus Darwin (1731-1802) however, suffering from a stammer himself, arrived at his experiments with mechanical speech through his interest in the origin of language and the articulation of sounds.[209] In 1772, a year after he had built his own speaking device, he heard rumours of Von Kempelen's speaking machine and asked his friend Benjamin Franklin to confirm whether these were true.[210] In an additional note to his long poem, *The Temple of Nature*, published in 1803, in the section on the analysis of the articulation of sounds, he writes:

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[208] Leonhard Euler, David Brewster and John Griscom, *Letters of Euler on Different Subjects in Natural Philosophy. Addressed to a German Princess* (New York: Harper & Brothers, 1835), letter XXII, 79.
[209] Hankins, *Instruments*, 197.
[210] Ibid., 197.

> (A)t that time I contrived a wooden mouth with lips of soft leather, and with a valve over the back part of it for nostrils, both which could be quickly opened or closed by the pressure of the fingers, the vocality was given by a silk ribbon about an inch long and a quarter of an inch wide stretched between two bits of smooth wood a little hollowed; so that when a gentle current of air from bellows was blown on the edge of the ribbon, it gave an agreeable tone, as it vibrated between the wooden sides, much like a human voice.[211]

From this description, Darwin's invention, with its mechanical nostrils and glottis attached to a realistic looking leather mouth, must have looked much more anthropomorphic than Von Kempelen's and Kratzenstein's boxlike contraptions. Besides perhaps seeking to understand and possibly cure his ow affliction, much like Ammann's attempts to cure muteness, Darwin also imagines a much grander application for the device, "all of which movements", he contemplates, "might communicate with the keys of a harpsichord or forte piano, and perform the song as well as the accompaniment; or which if built in gigantic form, might speak so loud as to command an army or instruct a crowd."[212] Rather than the potential restorative faculties of the proposed device, much like Euler's, Darwin's vision of the amplified voice here emphasises the super-human abilities of a mechanical external limb. Darwin, like Euler, broadens Dionis' medical definition of prostheses as he envisions his mechanical voice as a super-prosthesis possessing the ability to displace the presence of the host as well as to enhance the non-disabled, rather than the disabled, body.

The notion of a vocal super-prosthesis was not merely the wishful fancy of a single idealist, but found expression in a pattern of activity across Europe. Whereas the beforementioned mechanisms were fairly modest in size, around the same time in France a monumental machine was created by the Parisian abbot Mical (whose first name and birth and death dates remain unknown). In 1783, after having destroyed his previous ceramic model as he found it lacking in quality, Mical presented his new speaking machine to the Académie des Sciences.[213] Royalist propagandist, natural philosopher and Mical's admirer, Antoine de Rivarol (1753-1801), imagined Mical's superhuman machine speech not only to transcend space, but also time. In his 1783 *Lettre sur le globe aérostatique* (*Letter on the aerostatic globe*), reflecting on the significance of contemporary French inventions, Mical records: "Il y a dans la rue du Temple, au Marais, un ouvrage de mécanique qui attire à lui la foule des connaisseurs, et qu'on va bientôt livrer à la curiosité publique. Ce sont deux têtes d'airain qui parlent et qui prononcent nettement des phrases entières. Elles sont colossales, et

[211] Erasmus Darwin, *The Temple of Nature, or, The Origin of Society: A Poem, With Philosophical Notes* (Baltimore: Bonsal & Niles, Samuel Butler, and M. and J. Conrad & Co, 1804), 138-139.
[212] Ibid., 139.
[213] Hankins, *Instruments*, 186.

leur voix est surhumaine".[214] From this description it becomes clear that these heads' anthropomorphic appearance differed enormously from Von Kempelen and Kratzenstein's non-figurative machines. Indeed, a contemporary illustration with caption shows the two monumental bearded heads that utter phrases in a dialogue praising King Louis XV.[215]

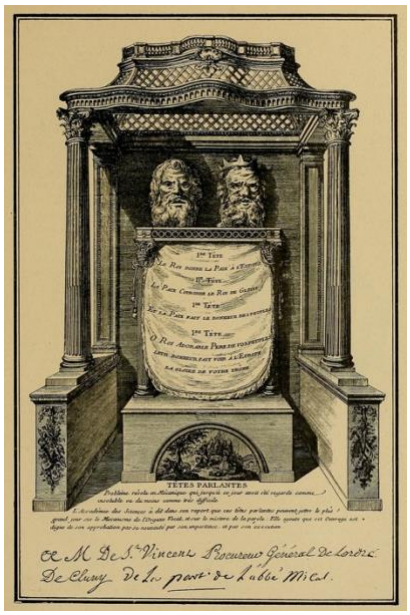

Fig. 8) Abbot Mical's "Têtes parlantes", ca. 1783. Original source unknown.

Mical, having acquired some personal wealth, occupied his leisure time constructing mechanical inventions, but what precisely fuelled his zeal to build these machines remains unclear.[216] Rivarol, stating that "ce grand artiste s'est aperçu que l'organe vocal était dans la glotte un instrument à vent, qui avait son clavier dans la bouche", continues to explain that,

> (s)ur ce principe, M. Mical applique deux claviers à ses *Têtes parlantes*: l'un en cylinder, par lequel on n'obtient qu'un nombre determine de phrases, mais sur lequel les intervalles des

[214] Rivarol, *Pensées Diverses*, 173. "There is in the rue du Temple, in the Marais, a mechanical work which attracts a crowd of connoisseurs, and which will soon be released for public inquiry. They are two brazen heads (têtes d'airain) who speak and clearly pronounce whole sentences. They are colossal, and their voice is superhuman (surhumaine)". For a more detailed discussion of Rivarol's linguistic interest in Mical's invention, see: Yuko Tanaka, "Preservation of French-Speaking automatons and their pronunciations in 18th century France, focusing on l'Abbé Mical's Têtes Parlantes (Speaking Heads) and A. Rivarol's *Lettre* of 1783", *Aesthetics* 18 (2014): 13-27. For a further discussion on the working of Mical's invention and a comparison to Von Kempelen and Kratzenstein's machines, see: Antonella Giannini, "The Two Heads of the Abbé", *Proceedings of the 14th International congress of Phonetic sciences, San Francisco* (August 1999): 2533-2536.
[215] This illustration was first reproduced in: Chapuis, *Le monde des automates*, vol. 2, 205. For the mechanical heads' full dialogue, see: Tanaka, "Preservation of French-Speaking automatons": 14-15.
[216] Hankins, *Instruments*, 186.

> mots et leur prosodie sont marqués correctement. L'autre clavier contient […] tous les *sons* et tous les *tons* de la langue française, réduits à un petit nombre par une méthode ingénieuse et particulière à l'auteur.[217]

From this description we can conclude that both heads were operated by a keyboard. However, one of the two heads was able to speak only a predetermined set of phrases, whereas the other, depending on the commands it was given via its keyboard, was capable of speaking every conceivable sentence. Much like Euler imagining a mechanical speech organ, Rivarol muses that, "(a)vec un peu d'habitude et d'habileté, on parlera avec les doigts comme avec la langue", and thus realises the super-prosthetic significance of Mical's invention.[218] Though he saw potential for Mical's machine to instruct the deaf to speak, Rivarol was mainly interested in language as a symbol of national identity and, since he considered French the enlightened language of reason which ought to remain free from sentimentality, he stressed the importance of its correct pronunciation. Believing that "on pourra donner au langage des têtes, la rapidité, les repos et toute la physionomie enfin, que peut avoir une langue qui n'est point animée par les passions", Rivarol regards Mical's invention not primarily an extension of the body, but of the enlightened mind.[219]

Besides wishing to sell his machine to the Académie for scientific enquiry, it is unknown what Mical himself proposed as an application for his speaking heads.[220] Rivarol however, envisions these *Têtes parlantes*, if multiplied in Europe and animating libraries, instructing people, particularly foreigners, in the correct pronunciation of the French language.[221] He imagines foreigners will take works of French literature "et les feront reciter d'un bout à l'autre, en les plaçant sur le clavecin vocal, comme on place des partitions d'opéra sur les clavecins ordinaires."[222] Rivarol realises that without having "un objet de comparaison" it is impossible to document pronunciation and boasts that "si les Allemands ont inventé l'imprimerie des caractères, un Français a trouvé celle des sons",

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[217] Rivarol, *Pensées Diverses*, 174. "this great artist (Mical) realized that the vocal organ, in the glottis, acts as a wind instrument, which has its keyboard in the mouth"; ibid., 174. (Original emphasis.) "(b)y this principle, M. Mical applies two keyboards to his speaking heads: one with a cylinder, by which one obtains only a determined number of sentences, but by which the intervals of the words and their prosody are marked correctly. The other keyboard contains […] all the *sounds* and *tones* of the French language, reduced to a small number by an ingenious method particular to the inventor."

[218] Ibid., 174. "(w)ith a little habit and skill, we will speak with our fingers as with the tongue".

[219] Ibid., 174-175. "we will be able to give to the language of the heads, the speed, the intervals and eventually the entire embodiment (physiognomie), which a language that is not animated by sentiments (les passions) can have".

[220] Hankins, *Instruments*, 186-188.

[221] Rivarol, *Pensées Diverses*, 176-177.

[222] Ibid., 175. "and have them recited from start to finish, by placing them on the vocal harpsichord (clavecin vocal), the way opera scores are placed on ordinary harpsichords."

since “la pronunciation de la parole […] se trouve éternellement fixée par les têtes d’airain.”[223] He realises that the displacement of human presence these heads enable, might occur not only across space but also across time: “Si donc l’antiquité eût construit des têtes d’airain, et qu’on nous les eût conservées, nous n’aurions pas cette incertitude (of the correct pronunciation), et nous serions encore charmés des périodes de Cicéron et des beaux vers de Virgile, que les peoples d’Europe estropient chacun à leur manière.”[224] Mical’s notion of the speaking heads as impassive mechanical language instructors with the superhuman ability to transgress place and time is a paradoxical attempt to “prostheticise” an organic language and cultural identity he fears will be lost.

The Euphonia

Most of these late eighteenth-century speaking machines were never finished or their prosthetic significance - in the superhuman sense of enhancements, rather than in the traditional medical sense of replacements – practically applied in their time in the way their ambitious proponents had hoped. From the 1830s onwards, due to the electric telegraph normalising disembodied speech, scientific interest in mechanical speech and the simulation of the vocal cords waned. Joseph Faber’s (ca. 1800 – 1860s) mechanical *Euphonia*, first displayed in the 1840s, therefore became somewhat of an anachronism in a time dominated by abstract electric communication. Satirical commentary however introduced the machine into the realm of metaphor through the suggestion that, via the machine, one could speak through the body of someone else.

Joseph Faber, a German-born astronomer and inventor, began building his mechanical speaking machine in the 1820s and worked on it for seventeen years.[225] He introduced his invention to the New York public in 1844.[226] Unlike its late eighteenth-century counterparts, throughout its career the machine failed to attract commercial success. Driven by large bellows, seventeen piano keys and an ivory tongue imitating the biological speaking organs, the machine was essentially a bigger and much-improved version of Von Kempelen and Kratzenstein’s earlier inventions.[227] Like one of Mical’s *Têtes parlantes*, it was operated by a keyboard and could speak entire sentences in

[223] Ibid., 176. “an object of comparison”; ibid., 176-177. “if the Germans invented the printing of characters, a Frenchman conceived of (the printing) of sounds; ibid., p. 177. “the pronunciation of speech […] is eternally fixed by the brazen heads.”
[224] Ibid., 175. “Had antiquity produced brazen heads, and had they been preserved for us, we would not have this uncertainty, and we would still be charmed by Cicero’s times and Virgil’s beautiful verses that the European nations cripple each in their own way.”
[225] David Lindsay, "Talking Head", *American Heritage of Invention & Technology* 13, no. 1 (1997): 57, 58.
[226] Ibid.: 59.
[227] Ibid.: 58-59.

any European language.[228] For its exterior, perhaps to evoke the connotation of Von Kempelen's mechanical chess player, Faber initially chose the bearded head and torso of a "Turk". What he envisioned as the machine's purpose is unclear, though he took pride in showing his public how his device functioned.[229] However, the machine's reception in New York was disappointing and Faber moved his machine to Philadelphia where it was received no more favourably and, in that same year, in a fit of despair, he destroyed his machine and burned up the pieces.[230]

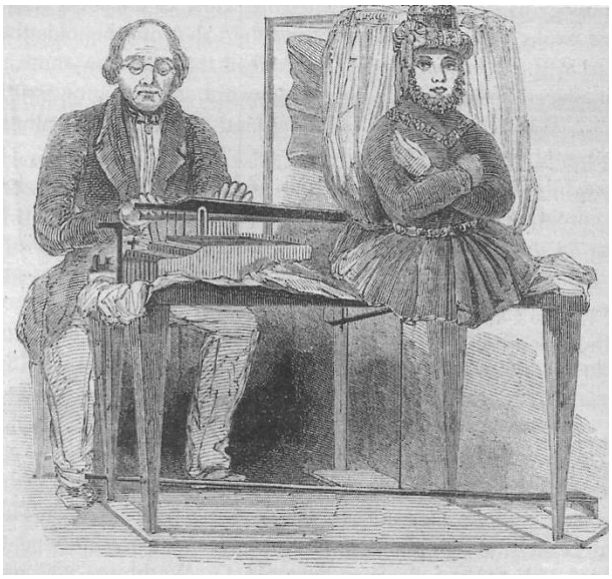

Fig. 9) Contemporary illustration of Joseph Faber's original *Euphonia*, clad in Turkish attire, ca. 1846.

Regretting his decision, Faber rebuilt his machine and in 1846 showed it to scientist, Princeton Professor and later director of the Smithsonian Institution, Joseph Henry (1797-1878). Henry, who had worked with Samuel Morse on improving the electric telegraph, after seeing Faber's invention, in 1846 wrote in a letter to a friend how he imagined that, with a machine like Faber's "words might be spoken at one end of the telegraph line, which had their origin at the other… Thus, if an image of the kind were placed in the pulpit of several churches… the same sermon might be delivered at the same minute to all."[231] Like Euler and Darwin before him, Henry envisions a mechanical speaking machine as a vocal prosthesis delivering sermons. However, by making the machine the mouthpiece of an electrical telegraph, which in this case would be the true vocal prosthesis, human presence

[228] David Lindsay, *Madness in the Making: The Triumphant Rise and Untimely Fall of America's Show Inventors* (New York: Kodansha International, 1997), 59, 87.
[229] Ibid., 59.
[230] Ibid., 59.
[231] Letter: J. Henry to H. Alexander, May 6, 1846, Joseph Henry MSS, Smithsonian Institution, as quoted in: Robert V. Bruce, *Bell, Alexander Graham Bell and the Conquest of Solitude* (Ithaca: Cornell University Press, 1973), 5; Hankins, *Instruments*, 218.

would not merely be displaced geographically, chronologically or interpersonally, but become ubiquitous. Electricity enabled the vocal prosthesis, via coded speech, to split human presence into multiple mechanical personae that could all speak simultaneously, thus granting the human speaker a certain omnipresence.

A few days after his meeting with Henry, Faber presented his machine in the Philadelphian Musical Fund Hall.[232] Though this time it managed to impress the audience, the machine never escaped the circuit of amusement.[233] In 1846 American showman Phineas T. Barnum (1810-1891) realised the machine's potential for entertainment and took Faber and his machine to the London Egyptian Hall where its presentation was accompanied by music played on an organ also created by Faber.[234] Despite Barnum's established reputation, visitor numbers remained low. The performance of the machine, which Barnum had now named the *Euphonia*, was described by journalist and theatre impresario John Hollingshead (1827-1904) in his 1895 autobiography as a tragic and terrifying spectre:

> Its mouth was large, and opened like the jaws of Gorgibuster in the pantomime, disclosing artificial gums, teeth, and all the organs of speech.[235] […] One keyboard, touched by the Professor (Faber), produced words which, slowly and deliberately in a hoarse sepulchral voice came from the mouth of the figure, as if from the depths of a tomb. It wanted little imagination to make the very few visitors believe that the figure contained an imprisoned human – or half human – being, bound to speak slowly when tormented by the unseen power outside.[236]

This idea of someone being held captive by the machine and having another person force their speech through them is also commented on in a satirical fashion in the British magazine *Punch* in 1846. Accompanying an illustration showing the figure of Conservative politician Benjamin Disraeli being played by his Conservative peer George Bentinck, the writer asks: "By the way, why should not Lord George Bentinck have one of these machines constructed, with a Benjamin Disraeli figure-head, and play upon it himself at once, and spare the honourable Member for Shrewsbury the bother of being his Lordship's Euphonia?"[237] The author comments on Bentinck using Disraeli as his mouthpiece in parliament whilst leading the protectionist opposition to the repeal of the Corn Laws

[232] Lindsay, "Talking Head": 57, 59.
[233] Ibid., 57, 60.
[234] Ibid., 60.
[235] John Hollingshead, *My Lifetime* (London: Sampson Low, Marston & Company, 1895), vol. I, 68.
[236] Ibid., 68-69.
[237] "The Speaking Machine". *Punch, or the London Charivari* 11, July-Dec., 1846, 83.

as proposed by Prime Minister Sir Robert Peel.[238] Hitherto Bentinck had refrained from speaking in Parliament during his first eight years as an MP and it was through his alliance with Disraeli acting as an experienced speaking (figure)head that he hoped to achieve the desired outcome.[239]

Fig. 10) Benjamin Disraeli being played by George Bentinck in *Punch, or the London Charivari* 11, July-Dec., 1846, 83.

Besides hinting at the ubiquity of machine speech by suggesting that for example lawyers might "attend twenty committees at a time", with the notion of speaking through someone else the *Punch* author acknowledges the machine's symbolic potential where the speaker is compared to a mindless automaton or a speaking machine being directed by a more intelligent and unseen force.[240] The parody evokes E.T.A. Hoffmann's "Automata" (1814), in which a mesmerist employs a speaking machine to displace and conceal his presence as a speaker. I will discuss this tale in the next chapter. The satirical image accompanying the *Punch* satire is evocative of a ventriloquist seemingly forcing his own voice through the body of a puppet, an attribute which from the late eighteenth century was gradually introduced in ventriloquist acts, until they became common practice in the 1830s.[241] In chapter 2 I will further discuss ventriloquism and the phenomenon of speaking with another's voice in relation to contemporary perceptions of the voice and the fictions of Edgar Allan Poe. This

[238] Robert Blake, *Disraeli* (London: Methuen & Co., 1984), 225.
[239] Ibid., 228-229.
[240] "The Speaking Machine". *Punch, or the London Charivari* 11, July-Dec., 1846, 83.
[241] Connor, *Dumbstruck*, 335-337; John A. Hodgson, "An Other Voice: Ventriloquism in the Romantic Period", *Romanticism on the Net*, no. 16 (1999): paragraph 17-22, accessed Jan 12, 2021, https://www.erudit.org/fr/revues/ron/1999-n16-ron428/005878ar/ .

satirical take on the *Euphonia* in *Punch* suggests a metaphorical interpretation of prostheses where their corrective potential is symbolically employed to remedy the perceived inward flaws of the reserved (non-)speaker Lord Bentinck, rather than any outward physical disabilities. The *Punch* satirist inadvertently hints at a literary trope which would become prominent in a gender-specific context in the final decades of the nineteenth century in which, rather than the reversing of a physical disability, the metaphorical prosthesis takes on the function of correcting women's perceived character flaws. I will expand on this in chapter 4.

Though in jest, the *Punch* satirist hints at the machine's corrective potential when, like Rivarol, he suggests that with the aid of the machine "long speeches might be uttered with all the best benefits of emphasis and oratory, without a Scots accent" or, when coupled with Clark's Verse-grinding Machine, "it might be made to produce an extemporaneous poet who […] might be taught to recite with advantage in the houses of the nobility and gentry."[242] The Verse-grinding Machine he refers to was the mechanical *Eureka*, created by the Englishman John Clark and displayed in The Egyptian Hall in 1845.[243] By having a lever pulled, the machine produced a Latin hexameter verse which was grammatically and metrically correct.[244] Jason Hall shows how this machine was often commented on as a parody of the mechanical and anti-utilitarian nature of contemporary classical public school education, since the composition of Latin hexameter verse constituted a fundamental part of the pedagogical method: "The classical-school pupil, like the machine, executed his hexameters "one tantalizing word at a time", using the *Gradus* to select words of the requisite part of speech and meter in a manner similar to that of Clark's machine", whose system of staves and drums performed these calculations."[245] Contemporary campaigners for pedagogical reform compared what they regarded as the turning of pupils into mindless automata to the *Eureka*, a machine which they perceived to be equally without true intelligence or purpose. Hence, Hall concludes, the machine served "as a convenient material anchor for their reform agendas."[246] Hall shows how in this context the *Eureka* became a material symbol of futility and mindlessness, the very opposite of an intelligent machine. I argue that in a prosthetic sense, the *Eureka* emphasised the potential to correct socio-political, rather than physical, issues with the aid of machines. In chapter 4 I will show how at the end of the nineteenth century this notion was applied in a gendered context.

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[242] "The Speaking Machine". *Punch, or the London Charivari* 11, July-Dec., 1846, 83.
[243] Jason David Hall, "Popular Prosody: Spectacle and the Politics of Victorian Versification", *Nineteenth-Century Literature* 62, no. 2 (2007): 222.
[244] Ibid., 224.
[245] Ibid., 239. The *Gradus ad Parnassum* was the standard prosody manual used to construct Latin verse: Ibid., 236.
[246] Ibid., 247.

Similar to the *Eureka*, the *Euphonia*, despite its clever mechanism and despite the lofty ambitions of its proponents, never attracted scientific interest in the way Von Kempelen and Mical's machines had fifty years earlier. Unapplicable beyond the world of showmanship, it remained a contradictio in terminis from a utilitarian perspective. However, through socio-political satire commenting on the machine's potential to speak with the voice of another, it acquired a metaphorical connotation. Hankins believes that, had Faber been able to present his machine at the end of the nineteenth century, there may have been a renewed enthusiasm for it from investigators interested in phonetics in relation to human physiology.[247] Riskin, however, proposes that "the simulative approach to artificial speech never regained the dominance it had had during the late eighteenth century."[248] I argue that by the mid 1840s when Faber finished his talking machine, machine speech, in the form of the electric telegraph, had assumed a new, more abstract and ubiquitous nature which rendered the need to mechanically vocalise thought obsolete, thus rendering Faber's invention no more than a clever curiosity. The machine did however acquire a symbolic relevance which lent itself to satirical societal commentary. In chapter 3 and 4 I will demonstrate how fiction writers like Poe and Villiers employ the metaphorical nature of mechanical speech in order to comment on contemporary society.

In the 1860s the *Euphonia* assumed a different gender and was further disembodied when, after Faber's death, the machine passed down to his niece and her husband, who adopted "Professor Faber" as his stage name. The machine was christened the *Amazing Talking Machine* and now sported, instead of the full torso of a Turk, merely a suspended female head. The Turk's ivory tongue was replaced by a rubber one.[249] The only surviving photo of the machine, taken circa 1860, shows a realistic, youthful, female face surrounded by ringlets attached to a pair of bellows inside a large framework. What moved the machine's new owners to assert this drastic change in its appearance is unclear. That to the unassuming observer the machine's new physiognomy may have evoked the horror of a freshly decapitated head, Madame Tussaud's Chamber of Horrors, or the fictional talking heads like Dumas' Solange's, probably did not help it gain popularity. Unsurprisingly perhaps, visitor numbers remained low. The *Euphonia* in its new identity continued to tour America and eventually ended up in Paris where in the 1880s it vanished from the historical records altogether.[250] The image of a woman being reduced to no more than the mechanical mouthpiece of a machine that was perceived to be without purpose, commanded by a male operator whose speech is forced through her, corresponds with the notion of a woman as a mindless talking machine which

[247] Hankins, *Instruments*, 216.
[248] Riskin, "Eighteenth-Century Wetware": 123, note 32.
[249] Lindsay, "Talking Head": 62.
[250] Ibid.: 62-63.

would become popular in the second half of the nineteenth century. Previously I mentioned the late nineteenth-century connotations of women as mechanical receptors for spirits or speech from the beyond. In chapter 4 I will further discuss the symbolic association of women with speaking machines and specifically the phonograph in the context of metaphorical prostheses. An illustration in Barnum's 1874 edition of *History of Animals and Leading Curiosities*, which served as an advertisement for his show, displays "Professor Faber" playing his female talking and singing machine like a piano.[251] In chapter 4 I will show how this resonates with fin-de-siècle fictions like George du Maurier's 1894 *Trilby* and Gaston Leroux' 1910 *The Phantom of the Opera* in which a male operator brings a woman under his spell and uses her as a musical instrument and, by imbuing her with his spiritual voice, corrects her perceived lack of ability.

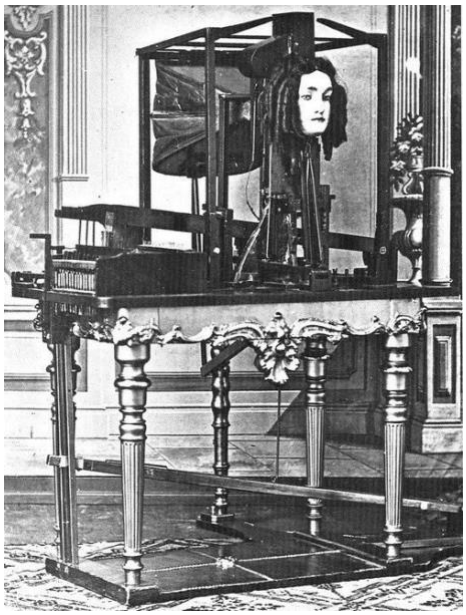

Fig. 11) The only surviving photograph of "Professor Faber's" *Amazing Talking Machine*, taken ca. 1860 by American photographer Mathew Brady.

[251] P.T. Barnum, *Illustrated History of Wild Animals and Other Curiosities Contained in P.T. Barnum's Great Traveling World's Fair, Museum, Menagerie, Polytechnic Institute and International Zoological Garden* (New York: Press of Wynkoop & Hallenbeck, 1874), page unknown.

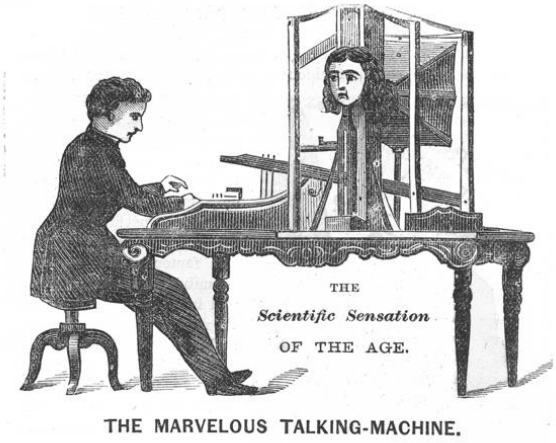

Fig. 12) "Professor Faber" playing his female talking machine in Barnum's 1874 *Illustrated History of Wild Animals and Other Curiosities*, page unknown.

The notion of the *Euphonia* as a symbol of futility found further expression in a persistent myth that the original Faber, after his unsuccessful exhibition at the Egyptian Hall and the English countryside, destroyed his machine for a second time and then killed himself.[252] What fate truly befell the machine's creator is unknown. Perhaps it was Hollingshead who started this sorrowful myth when he wrote about the inventor and his machine in his 1895 autobiography. Under the heading "Poor Faber" he mentions Faber's tragic suicide and conjures up the image of the inventor as a misunderstood genius. He mentions his sad demeanour, shabby clothes and unkempt hair and muses that when the *Euphonia* "sang a sepulchral version of "God Save the Queen", in truth it "suggested, inevitably, God save the inventor."[253] He divulges:

> I have no doubt that he (Faber) slept in the same room as his figure – his scientific *Frankenstein* monster – and I felt the secret influence of an idea that the two were destined to live and die together.[254] […] Sadder and wiser I, and the few visitors, crept slowly from the place, leaving the Professor with his one and only treasure – his child of infinite labour and unmeasurable sorrow.[255]

Hollingshead's account, having been written fifty years after Faber's presentation at the Egyptian Hall, is likely sentimentalised to evoke the then increasingly common romantic notion of the tragically misunderstood genius. Ann Jefferson shows by the French example that during the course

[252] Lindsay, "Talking Head": 62.
[253] Hollingshead, *My Lifetime*, vol. I, 69.
[254] Ibid., 68.
[255] Ibid., 69.

of the nineteenth century the notion of genius stopped being perceived as self-evident. Instead, it came to be believed that genius cannot be distinguished by the general public, but is only recognisable by a scholarly elite.[256] By echoing Samuel Coleridge's lines, "A sadder and a wiser man, He rose the morrow morn", from the 1798 poem *The Rime of the Ancyent Marinere*, Hollingshead grants himself the identity and wisdom of Coleridge's wedding guest who recalls being a witness to unspeakable horror and sorrow.[257] Similarly, the comparison to Frankenstein's creature suggesting an ambitious project that is doomed to fail is easy to make with hindsight. The misunderstood inventor or commissioner showing the public something it cannot possibly understand and which emotionally binds him to his machine, is a trope Villiers employs in a gender-specific context in his 1886 novel *Tomorrow's Eve*, which I will discuss in chapter 4.

In this chapter I have discussed the thinking machines and their socio-political contexts responsible for the definition of life transferring from motion to thought from the late eighteenth century onwards. I have also shown how from this period onwards mechanical speaking machines expanded the medical concept of prostheses from mechanical replacement limbs to physical and metaphorical extensions of the human body and mind in a socio-political context. In the following chapters I will examine how fiction writers in the nineteenth century respond to these developments in their work and how they use their fictional thinking and speaking machines as metaphors to comment on contemporary society. In chapters 2 and 3 I will discuss how Hoffmann, Poe and Butler reflect on mechanical cognisance and speech as forces of corruption in relation to the definition of life and prostheses. In chapter 4 I will show how in the late nineteenth century Villiers and other fiction writers use the idea of speaking *through* or *like* a machine in order to comment on the perceived nature of women as mechanical, mindless beings and how they employ the corrective potential of mechanical thought and speech as symbolical fictional cures to correct these perceived character deficits.

[256] Ann Jefferson, *Genius in France: An Idea and its Uses* (Princeton: Princeton University Press, 2015), 48-49.
[257] Samuel Taylor Coleridge and William Keach, *The Complete Poems* (London: Penguin Books, 1997), 167.

2. – E.T.A. HOFFMANN AND EDGAR ALLAN POE: CORRUPTED SPEECH, 1814-1849

In the previous chapter I have shown that in the late eighteenth- and nineteenth century the boundaries between real and imagined thinking and speaking machines were blurred. Whereas imagined machines like Matthews' Air Loom were by the patient perceived as real, physical machines like Von Kempelen's Turk and its late nineteenth-century duplicates were scrutinised as potentially preternatural or fraudulent. In this chapter I will examine how E.T.A. Hoffmann (1776-1822) and Edgar Allan Poe (1809-1849) reflect on the notion of mechanical cognisance and speech in relation to the definition of life and prostheses as extensions of the body. In many of their stories, ranging from 1814 to 1845, mechanical speech features as an adversary force which operates autonomously from the body and frustrates or sabotages the protagonist's intentions. However, Hoffmann and Poe's tales differ regarding the contemporary socio-political contexts on which they reflect.

Hoffmann's tales "Automata" (1814) and "The Sandman" (1816) are rooted in the occult phenomena associated with the practice of mesmerism. His fictional mesmeriser-clockmakers are corrupt villains who, instead of being architects of motion, contrive and influence thought. His seemingly cognisant machines generally drive the protagonist towards losing his mind, thus reducing him to a piece of clockwork. In these corrupted human-machine relationships, Hoffmann defines an automaton not as self-governed motion, but as the absence of mind. As a journalist and a fiction writer, Poe comments on mechanical thought and speech in two different ways. Besides his analytical essay on the Turk discussed in the previous chapter, in the 1830s and 1840s he wrote the fictional tales "Von Kempelen and His Discovery" (1849) "The Facts in the Case of M. Valdemar" (1845), "Loss of Breath" (1835) and "The Man That Was Used Up" (1839). These tales centre on mechanical thought and speech, or its inventor, being tainted with corruption. Poe's cognitive speaking prostheses appear partly mechanical and partly preternatural and evade human governance. They generally comment on what the writer perceived as the vacuity of the American bourgeoisie.

Poe and Babbage's analyses are well-considered accounts on the plausibility and potential of mechanical thinking machines. They represent the spirit of evidential argument, considering a self-governed thinking machine as the far horizon of mechanical potential. However, besides methodical investigations, the mystery of the Turk's exact workings inspired many nineteenth- and early twentieth-century plays and fictions which depict the machine as a heroic protagonist. Tom

Standage devotes a chapter to their synopsis.[258] In his 1858 memoirs, Robert-Houdin for example, "recalls" the entirely fictional tale of Von Kempelen rescuing the rebellious fugitive Polish army officer Worousky from the Russian authorities by smuggling him across the border in the cabinet of the machine.[259] This account formed the backbone of many later fictional adaptations, some with romantic subplots and varying degrees of happy endings.[260] The account also formed the basis for the persisting urban legend of the machine having played against Catherine the Great.[261] Games against great statesmen, whether real or fictional, naturally furthered the machine's mythology.[262] In this chapter I will not further focus on the mythologising of the chess Turk, but instead I will explore those fictions in which the author alludes to the machine as a force of disruption and employs it to comment on the definition of life or prostheses.

Rather than a heroic presence, in the literary imagination of the early nineteenth century Von Kempelen's machine was generally represented as an unsettling phenomenon. In the late eighteenth and early nineteenth century, the building of "thinking" and speaking automatons on the one hand and the influence of mesmerism and the French Revolution on the other hand - as discussed in the previous chapter - caused a split between a methodical and a metaphoric approach of mechanical thought. Whereas the former ranged from scepticism to curious ambition or awe, the latter, as exemplified by Matthews' case, was often associated with madness and absolute dread. Chapuis, in his 1947 compendium of automata in Romantic literature, stresses the sinister character of literary fictional machines in this period by identifying them as "automates troublants et tragiques qui ne produiront plus le merveilleux de l'Antiquité et du moyen âge, mais le "fantastique", c'est-a-dire, au lieu de l'émerveillement dans l'étonnement, l'affolement dans la terreur."[263] In Hoffmann's "Automata", due to its association with mesmerism, the Turk is indeed presented as a preternatural source of terror.

[258] Standage, *The Turk*, chapter 6.
[259] Robert-Houdin, *Memoirs of Robert-Houdin*, 176-190.
[260] Standage, *The Turk*, 95.
[261] Ibid., 95-96.
[262] I discuss contemporary notions of losing a game to a machine in: Elise Bikker, "'Checkmate!': Von Kempelen's Chess Turk and the Significance of Losing to a Machine." *The Fourth Revolution - VOX the Student Journal of Politics, Economics and Philosophy*, (2018).
[263] Chapuis, *Les Automates*, 52. "disturbing and tragic automatons which no longer present the marvellous of Antiquity and the Middle Ages, but the "fantastic" instead, ergo, rather than wonder in astonishment (they present) panic in terror."

E.T.A Hoffmann

The German writer E.T.A. Hoffmann (1776-1822) was a prolific writer whose tales are pervaded with the occult. In the tales "Automata" (1814) and "The Sandman" (1816), Hoffmann focuses on the trope of mesmeric mind control. [264] The figure of the mesmerist is portrayed as an evil trickster who makes use of machines in order to unhinge his victim's mind. Rather than therapists curing a patient, Hoffmann's mesmerists are the cause of the protagonists' mental upheaval. Hoffmann's writing is steeped in the German fairy-tale tradition, which is rife with animated or enchanted objects, blurred boundaries between the real and the imagined and forces of good and evil. Jack Zipes summarises the many tropes of the archetypal fairy-tale: "There is an encounter with: (a) a villain; (b) a mysterious individual or creature, who gives the protagonists gifts".[265]. Zipes continues:

> The endowed protagonist is tested and moves on to battle and conquer the villain or inimical forces. […] There is a peripety or sudden fall in the protagonist's fortunes, which is generally only a temporary setback. […] The protagonist makes use of endowed gifts (and this includes magical agents and cunning) to achieve his or her goal. The result is […] the breaking of a magic spell. […] The villain is punished or the inimical forces are vanquished. […] The success of the protagonist usually leads to: (marriage); (b) the acquisition of money; (c) survival and wisdom; or (d) any combination of the first three.[266]

Hoffmann however deliberately inverts these fairy-tale tropes. Though his protagonists are indeed tested and must face sinister forces (as effected by the mesmeriser), in "Automata" and "The Sandman", rather than overcoming these malignant compulsions, the protagonists succumb to them. Instead of making use of magical agents or cunning to their benefit, the protagonists become the victim of these elements. Instead of achieving their goal and breaking a magic spell, they become stagnant and enthralled by the mesmeriser. The result for the protagonists, instead of personal gain, be it monetary or romantically, is loss. They are socially isolated and eventually left mentally destitute or dead. Ergo, in these tales the mesmerisers' power of mind-control, enforced via their seemingly cognisant machines, is inescapable and fatal.

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[264] In my referencing of "Automata" and "The Sandman" I have used E. T. A Hoffmann and E.F. Bleiler, *The Best Tales of Hoffmann* (New York: Dover Publications, 2012). For "Automata" this edition used the translation by Major Alexander Ewing and for "The Sandman" the translation by J.T. Bealby.
[265] Jack Zipes (ed.), *Spells of Enchantment: The Wondrous Fairy Tales of Western Culture* (New York: Viking Penguin, 1991) xiii.
[266] Ibid., xiii.

In early nineteenth-century Europe vitalism remained a prominent school of thought.[267] According to this philosophy, rooted in the Cartesian dualist notion of a divisible body and mind, mechanical bodies and objects could be (re)animated by means of influencing the vital force believed to permeate everything, i.e., they could be externally influenced and animated by spirit. Likewise, in Hoffmann's work mechanical contrivances are magically animated and clockwork and biology are often interchangeable. In "The Nutcracker and the King of Mice" (1816) for example, the clockmaker Drosselmeier, in an attempt to undo a magical curse mechanically, "took Princess Pirlipat very carefully to pieces, screwed off her hands and feet, and examined her interior structure."[268] The princess's biological body, affected by a magical curse, is attempted to be mechanically fixed. In the same tale the nutcracker himself, influenced by the same magnetiser-clockmaker Drosselmeier, morphs from human to object and back to human. Throughout the nineteenth century, Hoffmann inspired many fiction writers, including Poe and Auguste Villiers de l'Isle-Adam, whose work I will discuss in the final chapter. Through this amalgamation of mesmerism, vitalism and clockwork in his stories Hoffmann seems to suggest that the losing of one's mental self-governance is the ante-portal of death and that life predominantly constitutes mind, rather than motion.

"Automata" (1814)

The tale "Die Automate" ("Automata") was first published in 1814 in instalments in the German literary culture journal *Zeitung für die elegante Welt*. The full story was then published in a collection of Hoffmann's tales, *Die Serapionsbrüder* (*The Serapion Brethren*), in 1819. The story, like the others in the book, is framed by the fictional Serapion's brotherhood (Serapionsbund), a literary club whose members attempt to penetrate nature's secrets, one aspect of which being the nature of the human mind. The story begins with a gathering of the Serapion members who, in a séance-like fashion, by means of mind-control attempt to oscillate a gold ring that is suspended from the ceiling by a thread. It sets off as the first-person narrative of one of the Serapion members, but then changes to the third-person when the story is framed once again by the friends deciding to tell each other stories of the occult. These seemingly unrelated stories, one a ghost story, the other a tale about a clairvoyant machine, are connected by the trope of mind-control.

[267] David F. Channell, *The Vital Machine: A Study of Technology and Organic Life* (New York: Oxford University Press, 1991), 56-67.
[268] Hoffmann, *The Best Tales*, 155.

The protagonist of the first tale is Adelgunda, a girl who, so her family believes, is struck by an "idée fixe": every night at nine o'clock she is visited by an apparition of "the White Lady". In an attempt to cure her of her hallucinations and perhaps to convince themselves that the apparition that only Adelgunda can see, is indeed imagined, the family, unbeknownst to Adelgunda, turn all the clocks in the house back an hour. However, the girl, now at eight o'clock, screams from the confusion caused by seeing the apparition an hour earlier than she expected. She cries out that the apparition is making signs to her. Then, "as though she were acting under the influence of another, without exercise of her own will, […] she […] took up a plate which chanced to be on the table, held it out before her into vacancy, and let it go. […] The plate did not drop, but floated about among the persons present, and then settled gently on the table."[269] Mirroring the friends oscillating the suspended ring, Adelgunda telekinetically suspends a plate. It is unclear whether she does this by the apparition's influence or by the power of her own mind. Her family, previously convinced that the girl's obsession was imaginary, are deeply shocked from witnessing this event. The sister goes insane from a nervous fever, her mother dies from shock and her father, a colonel, ultimately kills himself by running into enemy fire. Reflecting on the meaning of the ghostly tale, one of the friends suggests: "(I)f one were to assume that Adelgunda's imagination carried along those of her father, mother and sister – that it was only within her brain that the plate moved about – would not this vision of the imagination striking three people dead in a moment […] be the most terrible supernatural event imaginable?"[270] By proposing that the plate may not have moved at all, the friend implies that, rather than the apparition, Adelgunda herself may have corrupted her family's minds and implanted her visions into their minds. The friends refrain from finding a resolution to the enigma and continue sharing another tale, this time a fiction, titled "Automata", that one of them has written himself. In this tale too, the trope of mind-control continues.

"Automata" is written as a third-person narrative. The protagonists in the tale are the friends Ferdinand and Lewis who, with a gathering of friends decide to go visit "The Talking Turk", an automaton believed able to foretell the future. The description of the machine and its manner of exhibition is directly influenced by Von Kempelen's chess player. The seemingly cognisant machine, defying clockwork regularity with its unpredictable oracular powers, like Von Kempelen's Turk, evokes questions about its authenticity and whether or not a hidden confederate might be somehow operating it. Initially the friends are sceptical. However, the Turk's clairvoyant powers are proven when the machine alludes to an event in Ferdinand's life that he never shared with anyone: his secret love for a woman who once sang to him in a dream and whom he believes to be the reincarnation of his deceased childhood love. Since the machine predicts a fatal outcome for

[269] Ibid., 76.
[270] Ibid., 77.

Ferdinand's hopes to see the woman from his dream again ("At the very moment when you next see her, you will be lost to her forever!"[271]) leading him to a desperation bordering on madness, the rest of the tale centres on the two friends attempting to unriddle the machine's clairvoyant powers. They find out that it was only after a mechanical inventor, a certain Professor X, tinkered with the machine and gave it a "fine new head" (neuen schönen Haupte), that the Turk acquired its truly remarkable powers.[272] Here comes to mind again the carefully conserved head of the anatomist Bichat, which his student believed to be the repository of his mentor's cognitive powers.

Hoping the machine is merely a clever mechanical illusion and the prediction is unfounded, the two friends visit the clockmaker, Professor X, to find a resolution. The professor turns out to be rather unpleasant and enigmatic and the visit evokes more questions than it answers. The friends later find the professor in an enclosed garden from which the song emerges that the girl in Ferdinand's dream had sung to him. The implication is that the mesmeriser-professor has, unbeknownst to Ferdinand, had a hold on Ferdinand's mental state for years. His power to compel nature is affirmed by the fact that "as he (Professor X) passed along, everything around him seemed to waken into life and movement."[273] As he seems to influence the energy of his surroundings, the professor's expression is no longer sarcastic but one of admiring contemplation. Eventually the machine's prediction comes true when Ferdinand chances upon a church, enters it and finds the woman from his dreams about to get married to Professor X himself. At this point Ferdinand's mental state is so disturbed that he decides to retire from society altogether.

Martin Willis argues that "(i)n many respects, Hoffmann's balancing of mesmerism, mechanics, and magic reflects the difficulty in categorizing scientific knowledge in the early nineteenth century."[274] Whereas, for entertainment purposes, in presentations of natural magic the lines between these disciplines were indeed deliberately left unclear, I would like to argue that in "Automata" Hoffmann blurs the boundaries between empirical science and the occult to obscure the confines between dream and reality in order to emphasize the preternatural reputation of the automaton chess player and its inventor. The mystique around Mesmer's ideas and practice, often involving magnetised objects intended to influence the patient's mind, as well as the emphasis in Marquis Chastenet de Puységur's version of mesmerism on the magnetiser's power of mind to exert action at a distance, are represented in respectively the machine and its operator. Though Mesmer and his followers proposed the mesmerist practice as a form of therapy, the loss of self-governance induced by the mesmeric trance effected from a distance, in Hoffmann's imagination transforms the

[271] Ibid., 87.
[272] Ibid., 90; E.T.A Hoffmann, *Die Serapionsbrüder: Gesammelte Erzählungen und Märchen In Vier Bänden* (Köln: Anaconda Verlag, 2020), 420.
[273] Hoffmann, *The Best Tales*, 100.
[274] Willis, *Mesmerists, Monsters, and Machines*, 29.

persona of the mesmeriser into a force of evil deliberately turning his human victims into mindless puppets in order to do them harm. As his instrument the machine acts as an accomplice. The speaking machine is imbued with the mind – and voice - of the mesmerist. The mesmerist employs the speaking machine as his superhuman prosthesis, which offers him the potential to speak – at a distance – through someone or something else. The voice as the active power of compulsion seemingly brings the machine to life. Later in this chapter I will expand on nineteenth-century preternatural associations of the voice in relation to the fictions of Edgar Allan Poe.

In "Automata", the magnetiser Professor X, instead of a healer, is a force of disruption and corruption. Rather than merely reading the mind, the professor, via the Talking Turk, is able to inculcate thoughts into his victim's mind. The beautiful singing woman had been carefully instilled into Ferdinand's dream by the magnetiser, who slowly drives Ferdinand towards alienation and madness. After the machine purports to know Ferdinand's private thoughts, the latter confides in his friend: "The mysterious being who communicates with us by the medium of the Turk, has powers at his command which compel our most secret thoughts with magic might."[275] After seeing the professor in the garden, Ferdinand affirms this feeling of being oppressed by an external influence: "I feel, too clearly, some hostile foreign influence at work upon my whole existence, smiting upon all its hidden strings, and making them resound at its pleasure. I am helpless to resist it, though it should drive me to my destruction!"[276] This description is evocative of Matthews' oppressive depiction of the Air Loom. In Hoffmann's tale the figure of Von Kempelen as the inventor of the famous Turk, in Professor X has assumed a malevolent presence with the power to unhinge his victim's mind from a distance. Hoffmann, rather than the machine's moving abilities, emphasises its potent mind by imbuing it not merely with logical cognisance but with the supernatural and superhuman power of foresight. In "Automata" Hoffmann inverts the human and the machine as, by being seemingly suffused with cognisance, Hoffmann's Turk embodies life itself, whereas the human victim's loss of mental autonomy equals his societal death. In "Automata", life and death depend on the infusion or eradication of mental autonomy.

Hoffmann was interested in and visited some of the speaking and music-playing automata of his time.[277] He felt that mechanical music lacked the soul of music played by people and in "Automata" Lewis represents this view by stating that "all mechanical music seems monstrous and abominable to me".[278] Hoffmann portrays the fictional Talking Turk, which does not possess a soul but is inhabited by the voice of its mesmerist operator, as equally monstrous. Besides Von

[275] Hoffmann, *The Best Tales*, 83.
[276] Ibid., 100.
[277] Hanne Castein, "'Zerrbilder Des Lebens' E. T. A. Hoffmann's *Der Sandmann* and the Robot Heritage", *Publications of the English Goethe Society* 67, no. 1 (1997): 43.
[278] Ibid., 46; Hoffmann, *The Best Tales*, 95.

Kempelen's chess machine, Hoffmann's fictional Turk echoes the proposed superhuman qualities of the late eighteenth-century prosthetic speaking machines. The displacement of speech and presence Hoffmann suggests is however not geographical, chronological or interpersonal, but preternatural. The machine, coupled with occult mesmeric powers, enables the fictional magnetiser not only to speak to his audience, but to compel it. The forcing of speech through a mechanical object evokes the image of a ventriloquist supposedly driving his voice through his puppet prosthesis which conceals and displaces his voice, an image employed in the 1840s by the *Punch* satirist to parody the *Euphonia* as discussed in the previous chapter. Edgar Allan Poe further explores this trope in the 1840s in the tales "The Facts in the Case of M. Valdemar" and "Loss of Breath", which I will discuss later in this chapter. In Hoffmann's "The Sandman", it is ironically not the fictional machine's compelling speech, but lack of voice, which enthrals the mesmeriser's victim.

"The Sandman" (1816)

In "Automata" Hoffmann references mesmerism, the Turk and the speaking machines of his time, i.e. the elements responsible for the shifting of the definition of life and prostheses as discussed in the previous chapter, and employs them as instruments of disruption. "Der Sandmann" ("The Sandman"), first published in 1816 in the anonymously published "Nachtstücke" ("Night Pieces"), displays many similar tropes to "Automata", like the dream of ideal love, mind control and madness. The machine through which the mesmeric mind compulsion takes place and the figure of the dream woman are now however, one and the same. Rather than a projection of the mesmeriser's will, the machine acts as a receptor, a blank canvas onto which the patient/victim is able to project his own emotions. The story is initially written in the form of letters between the protagonists Nathaniel (Nathanael) writing home from his university town to his friend Lothair (Lothar) and Nathaniel's fiancée and Lothair's sister, Clara. Nathaniel writes to his friend about the mysterious weather glass salesman Coppola who came to visit him and tried to sell him a pair of binoculars. Nathaniel is convinced that Coppola is the same person as the evil automaton builder Coppelius from his childhood, who used to visit his home and who eventually killed his father with whom he had been engaged in a mysterious mechanical project.

The tale hereafter continues in the third-person narrative. After buying a pair of binoculars from Coppola, Nathaniel begins spying on Olimpia, the daughter of his professor, Spalanzani. After meeting Olimpia in person at a ball, organised at Spalanzani's home, Olimpia plays piano and dances rather mechanically. She consistently utters no more than a few "Ahs!" which Nathaniel interprets

as “genuine hieroglyphs of the inner world of Love and of the higher cognition of the intellectual life (geistigen Lebens) revealed in the intuition (Anschauung) of the Eternal beyond the grave (ewigen Jenseits).”[279] Meanwhile, increasingly convinced that Coppelius, in the guise of Coppola, as a force of evil has returned to haunt him, he grows distant from the sober-minded Clara, whom, when she fails to indulge his anxieties, he scolds as “a damned lifeless automaton! (lebloses, verdammtes Automat!)”.[280] When Nathaniel enters his professor’s house to propose marriage to Olimpia, he witnesses a fight about her ownership between Spalanzani and Coppola, in which Olimpia is torn to pieces. Nathaniel here realises Olimpia is a machine and loses his mind. After a long period of recovery, largely due to Clara’s patient care, Nathaniel’s mind finally seems at rest and saved. Nathaniel and Clara resume planning a life together. However, when standing on the clocktower of his home town with Clara, Nathaniel again spots Coppola in the crowd below. Convinced the monstrous machine builder has returned to haunt him once more, in a fit of madness he attempts to throw Clara from the tower (but fails) before finally plummeting to his own death.

In chapter 4 I will expand on the late nineteenth-century trope of men attempting to pass off female machines for real women in respectable society as satirical commentary on contemporary gender stereotypes. Hoffmann, with the disruption caused by the female machine, however appears to comment on the definition of life. Whereas in “Automata” the dream woman is presumably - though not certainly - a real woman, in “The Sandman” she is irrefutably a machine, which occupies a liminal existential state between life and lifelessness. This “in-between” state rubs off on Nathaniel who, shortly after meeting Olimpia, is unable to distinguish between dream and reality, between his flesh-and-blood fiancée Clara and the female machine. The former he regards as a lifeless mechanism, whereas to the latter he attributes a rich inner life. Nathaniel, whose vision is obscured by the mesmeriser, exists on a different existential plane from his loved ones and, lacking mental self-governance, he too is turned into a metaphorical automaton. The definition of automaton that Hoffmann applies here differs from the mechanical one by d’Alembert, which Thicknesse used in 1783 when he scrutinised the Turk. Rather than an object voluntarily moving itself, Hoffmann considers it as something or someone lacking vision, will or mind of their own.

Hoffmann, in his metaphorical, rather than mechanical, interpretation, deviates from d’Alembert’s definition, firstly by focusing on the mind rather than motion and, secondly, by signifying a lack of agency, rather than wilful spontaneity. The motion that occurs in Hoffmann’s protagonists lacks volition and, rather than from presence, springs from the absence of mind and life. Thus, the mechanical definition of the word signifying the presence of self-governed motion

[279] Hoffmann, *The Best Tales*, 208; E.T.A. Hoffmann, *Fantasie- und Nachtstücke* (München: Winkler-Verlag, 1967), 356.
[280] Hoffmann, *The Best Tales*, 200; Hoffmann, *Fantasie- und Nachtstücke*, 348.

Hoffmann employs metaphorically to indicate the absence of mental agency. This metaphorical definition would remain in use. For example, in The London journal *John Bull* in 1848, in an announcement of Adela Sidney's new novel *Sadness and Gladness: a Story of the Present Day*, the protagonists are introduced as follows[281]: "Mabel was a woman forced to act in various circumstances, to love and to grieve, to adapt herself to different positions, and to strive to perform her duty in all, unfettered by prejudices; while Flora seemed fitted only for an automaton lady, to move in the circles of dissipation, to act, to speak, to think as others did, and never swerve from one unvarying path."[282] Whereas Mabel is described as a woman gifted with a critical mindset and able to cope with life's changing circumstances, Flora is characterised as a metaphorical automaton, i.e. a person devoid of mental agency and stuck on a path dictated by others.

Lee Jennings remarks that "we must bear in mind that external reality, for Hoffmann as well as for some reputable scientists of his day, did not exclude such things as clairvoyance, telepathy and haunting", but equally states that "(t)he distinction between fantasy and delusion is basically irrelevant in Hoffmann's scheme of things".[283] Indeed, by eliminating the confines between science and magic and by the trope of mesmeric mind control via dreams and machines, thus allowing for the animation of lifeless objects and the automatizing of people, in "The Sandman" Hoffmann repeatedly questions the boundaries of dream and reality as well as those of life and death. On the dream state in Hoffmann's work Maria Tatar remarks: "For Hoffmann, the mesmerist trance is an analogue of the dream, and it too serves as a vehicle for introducing the marvelous [sic] and the supernatural into his fictional world."[284] She continues: "Since mesmerists control the content of their medium's dreams and can summon up images that touch any point on the spectrum ranging from rapture (*Wonne*) to horror (*Entsetzen*), animal magnetism is potentially a "dangerous instrument.""[285] Indeed, the mesmeriser, with the alleged power of foresight and ability to influence another's thoughts, in Hoffmann's tales acts as a preternatural force of evil as he ultimately extinguishes his victim's life by affecting his mind. The Turk and Olimpia function as conduits of mesmeric mind-control, ultimately lethal instruments animated by mesmeric thought. Due to the coupling of occult and materialist notions, evocative of Tilly Matthews Air Loom operated by a gang of mesmerists, Hoffmann's protagonists are unable to distinguish between illusion and reality and fall victim to machines whose mystery elude the uninitiated. Hoffmann's fictional mesmeriser-clockmakers too are not merely architects of motion, but of thought, who reduce the protagonist to

[281] Adela Sidney (Hon.), *Sadness and Gladness: A Story of the Present Day* (London: Richard Bentley, 1848).
[282] "*Sadness and Gladness: A Story of the Present Day*. By the Hon. Adela Sidney, Author of "Home and its Influence." 3 vols. London: Bentley, 1848", *John Bull* 28, no. 1444 (Aug 12, 1848), 520.
[283] Lee B. Jennings, "The Anatomy of 'Spuk' in Two Tales of E. T. A. Hoffmann", *Colloquia Germanica* 17, no. 12 (1984): 62.
[284] Tatar, *Spellbound*, 128.
[285] Ibid., 130.

a piece of mindless clockwork. Hoffmann thus stresses cognisance, rather than motion, as the true essence of life.

Hoffmann, not only a writer but also a composer and a judge, has often been suggested as commenting on "the conviction that the artist is lonely in a hostile world, a view which shaped his attitude towards the bourgeoisie."[286] Diana Stone Peters however argues that, besides the philistine middle-classes, unaware and unbothered by any higher realities, Hoffmann equally satirises the artist in his search for the ideal, and, ironically, in "The Sandman" "(t)he artist, the person most involved in a struggle against the mechanisation of life, has chosen a robot as the embodiment of his highest ideals of beauty and truth."[287] Indeed, perhaps the true betrayal in "Automata" and "The Sandman" lies in the mesmerist, who has decrypted and manipulated the secrets of nature of which the artist is in pursuit, tricking the latter by employing a machine, the antithesis of spiritual enlightenment, as a fata morgana. The Talking Turk and Olimpia are the mechanical instruments utilised to simultaneously evoke and frustrate the artist's desire. As I discussed in the previous chapter, this element recurs as a trope in the guillotine literature in the first half of the nineteenth century, where the inescapable guillotine is the machine responsible for the fulfilment of the protagonist's desire and simultaneously the destruction of it. So too in "Automata" and "The Sandman" the machine both animates and silences. Its speech, whether seemingly sophisticated or reduced to a few 'Ahs', hides and displaces the mesmerist's hostile presence responsible for the eventual annihilation of the protagonist's agency. The notion of corrupted mechanical speech as a force of deceit affecting the protagonist's agency/life is echoed in some of Edgar Allan Poe's tales, which I will discuss later in this chapter.

In the previous chapter I mentioned Shelley's *Frankenstein* (1818) in the context of guillotine literature as an example of a head that fails to die. In regards to the survival of consciousness the novel can equally be read as an inversion of "The Sandman". Rather than a lifeless automaton being attributed with life, in Shelley's novel the materialist anatomist Frankenstein is faced with what appears a vitalist reality when his creature comes to life and seems to be unintendedly imbued with a soul. Frankenstein, who believes that "(t)o examine the causes of life, we must first have recourse to death", turns to studying anatomy and the decaying body and "succeeded in discovering the cause of generation and life" and even "became […] capable of bestowing animation upon lifeless matter."[288] His ultimate goal is to "renew life where death had apparently devoted the body to corruption."[289] This suggests that to the anatomist life equals motion, i.e. a reversal of death's stasis.

[286] Peter Bruning, "E. T. A. Hoffmann and the Philistine", *The German Quarterly* 28, no. 2 (1955): 111.
[287] Diana Stone Peters, "E.T.A. Hoffmann: The Conciliatory Satirist", *Monatshefte* 66, no. 1 (2022): 61.
[288] Shelley, *Frankenstein*, vol. I, 82, 85.
[289] Ibid., vol. I, 89.

However, rather than merely a moving creature, he instead unintendedly produces a cognisant and self-aware being whose "mind received every day additional ideas" and who confesses to have felt "terrified, when I viewed myself in a transparent pool!".[290] With this creature who can think, speak and appreciate beauty, Shelley appears to explore the idea that, rather than motion, life is defined by cognisance rather than mere mechanical motion. It is significant that Shelley awards the title "Modern Prometheus", once given to Vaucanson as the architect of clockwork motion, to her protagonist as the -albeit unintended - creator of mechanical cognisance. Rather than a lifeless automaton, i.e. a mere moving contraption, to which an inner life is attributed by the observer, Frankenstein produces a being with an inner life, which he consequently denies and treats like a mindless piece of clockwork. The cognisant creature surpasses its inventor's aspirations and ultimately, through deliberate acts of cruelty, forces him to expand his mechanist understanding and definition of life as mere mechanical motion.

The analogy of the malevolent relationship between Nathaniel's father and Coppelius evokes the legend of Faust who sold his soul to the devil in return for knowledge. Like Faust, Nathaniel's father sought knowledge, in this case on how to create life, and paid for it with his own life and that of his son. The diabolical influence is embodied by the automaton maker taking life. In Hoffmann's work the seemingly cognisant machine, whether in the form of a Talking Turk or a dancing female automaton, is effectively an empty vessel that acts as a conduit of the mesmeriser's devilish influence. Through the evil clockmaker the machine becomes monstrous. Just like Von Kempelen's Turk, Hoffmann's fictional machines are only seemingly cognisant but, without their human operator driving them, would, like Von Kempelen confessed about his machine, *no longer be anything*. It is this seemingly cognisant and mind-controlling machine's devilish connotation as well as the replacement of movement with thought as the criterium of life that the American poet Hannah Flagg Gould (1789-1865) explores in her 1826 poem "Address to the Automaton Chess Player". Her version of Von Kempelen's Turk is however not steered by a devilish mesmeriser, but instead it is the machine itself that is evil. She implies the Turk is an incarnation of the devil himself by referring to his "cloven foot" and "double shoe" before she continues[291]:

> I marvelled whether I had seen
> Old Nick himself, or a machine,
> Or something fixed midway between
> The distant two![292]

[290] Ibid., vol. II, 36, 63.
[291] H.F. Gould, *Poems, Volume I* (Boston: Hilliard, Gray, & Co., 1836), 87.
[292] Ibid., 87.

Like Hoffmann, the poet alludes to the liminal state of the machine and the terrifying and disruptive influence on its observer. She deems the machine, "formed with power and will", will put a curse on anyone who touches it[293]:

> That I should be transformed, and see
> Thousands and thousands gaze on me,
> A living, moving thing, like thee,
> Devoid of breath.[294]

Gould suggests that anyone who comes in contact with the machine will be cursed, effectively lose agency and become a machine themselves, forced to be gazed upon, much like Matthews and the protagonists in Hoffmann's tales. Her approach however differs from Hoffmann in the fact that she regards Mälzel as the machine's guardian who should prevent it from doing harm.

> Thy keeper then deserves a pension,
> For seeking out this wise invention
> To hold thee harmless, in detention,
> Close at thy game.[295]

In the poem the Turk is not merely a conduit of evil, but it is the machine itself, rather than its operator, that is monstrous and needs to be kept in check by its guardian. The poet dispels the possibility of a hidden chess player inside the machine as an absurd notion:

> For what's the human thing would lurk
> In thine unfeeling breast, Sir Turk,
> Performing thus, thine inward work,
> And outward motion?[296]

By the comparison of the machine to the devil, by stressing its malevolent autonomy and the power to curse its audience and, finally, by questioning the nature of the machine, Gould concludes that

[293] Ibid., 87.
[294] Ibid., 88.
[295] Ibid., 89.
[296] Ibid., 88

nothing human can reside inside the machine, and implies that its animating principle is something far more sinister. Rather than merely outward motion, it is its preternatural mind which is the provenance of the machine's life. Its suggested near-contagious nature which can spread its malice like an illness to an unsuspecting victim emphasises not only the blurred boundaries between the biological, the mechanical and the occult, but also the connotation of the mechanical mind with corruption. Mechanised thought and speech in relation to fraud and disruption are recurring tropes in Edgar Allan Poe's work, which I shall now discuss.

Edgar Allan Poe: "Von Kempelen and His Discovery" (1849)

Hoffmann connotes the mechanical mind, coupled to the occult mesmeric practice, with corruption and malice. In "Von Kempelen and His Discovery", about a conman having successfully created the philosopher's stone with which to create everlasting life, Edgar Allan Poe also references Von Kempelen in relation to the creation, or more specifically the preservation, of life and also connotes its creator with deception. However, Poe, instead of mesmerism, references the occult practice of alchemy. Poe wrote the story thirteen years after his analytical essay on the chess player, which I discussed in the previous chapter, and comments on Von Kempelen's ambition as an inventor who, at least in the public perception, aspired to create a self-governed mechanical mind. The story was first published in the April 14, 1849 issue of the Boston paper *The Flag of Our Union*. It is written in a first person-perspective of someone who once met the, now famous, Baron Von Kempelen who recently discovered how to transform lead into gold. If the suggestion that the alchemist's parents are "of Presburg descent" does not yet lead the reader to make the connection with the inventor of the chess player, the assertion that "(t)he family is connected, in some way with Mäelzel [sic], of automaton-chess-player memory. [If we are not mistaken, the name of the *inventor* of the chess-player was either Kempelen, Von Kempelen, or something like it. – Ed.]", leaves no doubt that the alchemist in question is supposedly a descendant of the famous inventor.[297] The anonymous narrator, rather than offering a scientific account of the alchemist Von Kempelen's work, states that he merely wishes "to say a few words of Von Kempelen himself", i.e., to offer some personal insights into a man with whom he was once acquainted.[298]

The similarities between Wolfgang von Kempelen the inventor and Baron Von Kempelen the alchemist are obvious. First, Poe forges an analogy in the ambitions of both men, which is to achieve something considered impossible. "Alchemy", according to P.G. Maxwell-Stuart's definition, "is a

[297] Poe, *The Complete Tales*, 84. (Original emphasis.)
[298] Ibid., 82

branch of knowledge that deals with the possibility of changing one metal into another more 'noble' or more 'evolved', and of making an elixir that will cure intractable illnesses and prolong active life even to the point where an individual can become immortal."[299] In order to perform these transmutations, be it in metal or the flesh, the alchemist must crystallise the elusive philosopher's stone.[300] It seems the alchemist in the tale, caught with the philosopher's stone ("some unknown substance") on his person, has achieved at least one of these alchemical goals, perhaps even both, should the narrator's comment, "the now immortal Von Kempelen", be taken literally, rather than metaphorically.[301] Maxwell-Stuart shows that over the course of the eighteenth century the alchemic discipline began to be disproved by empirical scientists, but that its mystical character and the fantastical tales of notorious alchemists nonetheless kept a hold on the public imagination.[302] According to popular perception, the inventor Von Kempelen aspired to do something as equally elusive as transmutating lead into gold, namely to create a self-governed thinking machine, an invention that granted him immortality in the form of lasting fame. Poe brings the notion of machine intelligence into the realm of the occult by paralleling the aspiration to create autonomous mechanical cognisance to the unrealisable alchemist desire to distil the philosopher's stone. He connects the inventor of a machine, which was seemingly more than the sum of its parts, to alchemical occultists, who, in their objective to create gold from base metals or achieve eternal biological life, effectively aspired to accomplish something equally impossible. By connecting the Turk to the aspiration of immortality, Poe alludes to the mystery of mechanical thought as the very definition of life.

Similar to the inventor's portrayal in the newspapers, the alchemist in the tale is depicted as a conman. The narrator characterises him as a plagiarist who failed to credit the "Diary of Sir Humphrey [sic] Davy" even though he is "indebted to the "Diary" for at least the first hint of his own undertaking."[303] Also, the alchemist is operating in secret and said to be caught "in a garret in an old house" in Bremen "in the midst of his counterfeiting operations".[304] Furthermore, the alchemist with his newly forged gold bought "a considerable property […] refusing […] to explain how he became possessed of the purchase money".[305] In the tale Poe synonymises Von Kempelen's name with fraud. He exploits the perception of people like Thicknesse who regarded Von Kempelen as a charlatan taking advantage of the gullible by trying to pass off a man in a mechanical box for a true machine mind. Whereas in Hoffmann's narratives the mesmerisers' motives are unclear, in Poe's tale the

[299] P.G. Maxwell-Stuart, *The Alchemical Choir: A History of Alchemy* (London: Continuum, 2012), X.
[300] Ibid., X.
[301] Poe, *The Complete Tales*, 86, 85.
[302] Maxwell-Stuart, *The Alchemical Choir*, 138.
[303] Poe, *The Complete Tales*, 82.
[304] Ibid., 85.
[305] Ibid., 85.

objective is quite clearly revealed as personal gain. As a meta-frame to the allegorical narrative examining the aspiration of worldly gain through greed and deceit, Poe's seemingly objective tale itself is a hoax intended to, however briefly, mock, yet capitalise on, the Californian gold fever.[306]

This tale about deceit being itself a deception shows how Poe's tales cannot be separated from the magazines and audience for which they were written. Michael Allen, examining Poe's career within the British and American magazine tradition, demonstrates Poe's love-hate relationship with the contemporary American magazines.[307] To accommodate both the already established upper-class readership as well as the newly emerging middle-class readers, the successful magazines combined articles of scientific and political interest aimed at the erudite reader with more easily accessible articles of the sensationalist kind: literary gossip, pseudo-scientific hoaxes and gory horror fiction.[308] Allen demonstrates that throughout his career the well-educated Poe struggled to reconcile the desire to be popular and well-read by a mass-audience with the desire to be admired by an elite and erudite readership. Besides attempts to popularise his writing style, this led Poe to writing literary hoaxes intended to fool the masses while aiming to amuse his more intelligent and perceptive readership.[309] In the tales "the Facts in the Case of M. Valdemar", "Loss of Breath" and "The Man That Was Used Up" he uses the trope of corrupted mechanised speech to comment on what he perceived as the inauthenticity of bourgeois life.

In Hoffmann and Poe's fictions Von Kempelen's chess player and the notion of intelligent machines, instead of representing enlightened thought, stress mental agency as the definition of life and the potential threat of corruption associated with the reduction of humans to automata lacking mental self-governance. The notion of speaking through a machine to conceal and displace presence as employed by Hoffmann is echoed in some of Poe's tales from the 1830s and 1840s. In the previous chapter I have shown how late eighteenth-century speaking machines contributed to the stretching of the definition of prostheses. Rather than mechanical replacement limbs or therapeutic aids in the medical sense, these machines were thought of as extensions of the human body in the form of superhuman speech with the potential to displace human presence geographically and chronologically. In the 1840s Faber's speaking and singing *Euphonia* also acquired a metaphorical connotation when its supposed prosthetic qualities were satirically proposed to correct socio-political issues, rather than physical ones. Faber's machine engaged with the ventriloquial notion of mechanically speaking with another's voice, intimating a metaphorical definition of prostheses in

[306] J. Gerald Kennedy, "Edgar Allan Poe, 1809-1849: A Brief Biography", in *A Historical Guide to Edgar Allan Poe*, ed. J. Gerald Kennedy (New York: Oxford University Press): 57; Dawn B. Sova, *Edgar Allan Poe, A to Z: The Essential Reference to His Life and Work* (New York: Facts on File, 2001), 251.
[307] Michael Allen, *Poe and the British Magazine Tradition* (New York: Oxford University Press, 1969), 129-156.
[308] Ibid., 22-23.
[309] Ibid., 159-161.

regards to the meaning attached to the congruence or discordance of on the one hand the source of the voice and on the other hand and the mouthpiece through which this voice resonates. I will continue to discuss how Edgar Allan Poe in the 1830s and 1840s coupled the concept of mechanical speech to popular notions of the voice in order to create preternatural super-prostheses as metaphors to comment on contemporary society.

In the 1830s, with the invention of the electric telegraph, which enabled the displacement of human presence via near-instantaneous message communication, late eighteenth-century mechanical speaking machines quickly lost their relevance. However, as proposed extensions or amplifications of the human voice, these contraptions can be regarded as superhuman prostheses enabling the transcendence of the material boundaries of the human body. These mechanical super-prostheses are semi-autonomous as they are still governed by the human body, yet at the same time operate disjoined from it. The examples of speaking machines I have previously discussed and their proposed applications show a broadened definition of the prosthesis, firstly, as an enhancement and secondly, as a semi-autonomous machine uncoupled from the body. Poe explores these two characteristics of the prosthesis in his tales. As his essay on the mechanical chess player shows, Poe was interested in contemporary invention. However, rather than remaining semi-autonomous, his fictional prostheses often become fully independent and generally end up being an obstruction, rather than serving as an enhancement to their hosts' lives. Besides contemporary technology, Poe incorporates the nature of the voice in popular perception. In the late eighteenth and first half of the nineteenth century the voice in non-scientific, popular perception was generally regarded as a preternatural, independent entity inhabiting the body, a belief perpetuated and exploited by ventriloquists who could seemingly "throw their voice." I will show that the prosthetic limbs in Poe's stories become entirely self-governed as the author merges the mechanical with the preternatural. However, in order to do so, I must first discuss how the voice was perceived in non-scientific, non-materialist circles.

Late eighteenth- and early nineteenth-century popular notions of the voice

In an early stage of building his speaking machine Von Kempelen put it to the test by having a conversation with a young girl, while at the same time, a seemingly disembodied machine voice could be heard "calling her distinctly by her Christian name."[310] Von Windisch reports that the girl was "so affrighted that she ran away as fast as her legs could carry her, and it was with difficulty she

[310] Windisch, *Inanimate Reason*, letter VI, 48.

got the better of it, on having it explained to her, and convincing her, by shewing [sic] her the machine."[311] As reported by Von Windisch, the speaking machine "has not, as yet assumed the human form; it is […] merely a box, with several apertures, into which the inventor introduces his hand, in order to put in motion several shifts, springs, &c. according to the word which the machine wants to articulate."[312] Regardless of whether this account has been dramatised by Von Kempelen's friend to emphasise the significance of his invention, it indicates how the apparently disembodied, autonomous voice, in Von Kempelen's time was regarded as frightening.

Besides being perceived as eerie, Fabian Brackhane, Richard Sproat and Jürgen Trouvain show that Von Kempelen's speaking machine was initially met with much distrust.[313] His mechanical chess player had damaged his reputation as a serious mechanical inventor since contemporary critics believed that he was trying to present another fraudulent machine. One misconception was that his speaking device, like his chess player, must somehow be operated with the aid of a hidden confederate.[314] Brackhane, Sproat and Trouvain suggest that this scepticism may have been an incentive for the inventor to write his *Mechanismus*, which explains and justifies the genuine mechanical merits of his speaking device.[315] Another reason his new machine was met with scepticism is that the vocal organs, even by physicians and anatomists, were simply thought too complex to imitate.[316] For example, Bernard le Bouyer de Fontenelle, the Perpetual Secretary of the Académie des Sciences, believed that "Nature had the design of placing [the instruments of the voice] altogether outside the realm of imitation" since "(n)ature can use materials that are not at our disposal, and she knows how to use them in ways that we are not at all permitted to know."[317] The insertion of natural body parts, like in Du Coudray's birthing machines, was in the case of the soft and supple (and decomposing) vocal organs out of the question. This difficulty might also explain the high prestige attached to the successful creation of mechanical speech.

The inventors of late eighteenth-century speaking machines and their proponents regarded the voice in a purely materialist manner, i.e. as sounds generated from the functioning of the speaking organs which, by mechanically and scrupulously copying nature, should in theory be replicable. Therefore, it is curious that Kratzenstein asserts that "depuis quelques années je me suis occupé, dans mes momens (sic) de loisir, d'une machine qui pût contrefaire la voix humaine, & qui,

[311] Ibid., letter VI, 48-49.
[312] Ibid., letter VI, 49.
[313] Kempelen, *Mechanismus*, CVI-CIX.
[314] Ibid., CVI-CIX.
[315] Ibid., CXI-CXII.
[316] Ibid., CVIII.
[317] As quoted in: Riskin, "Wetware": 105.

comme un instrument de musique, pût, par le secours des doigts, articuler des mots."[318] This choice of words, "contrefaire" (counterfeit), implies an act of deceit. Though his acclaimed speech machine was entirely mechanical and involved no trickery, this articulation seems to connote a corruption of the natural voice by artifice. This presupposition of corrupted speech might originate in popular notions of the voice as an external, preternatural phenomenon that inhabits the body, a notion long upheld by the popular art of ventriloquism.

The London *Universal Magazine of Knowledge and Pleasure* of February 1773, in a section devoted to "Anecdotes relative to Ventriloquism", defines ventriloquism as "the art of vocal deception" and ventriloquists as "persons, by means of which they are enabled to speak inwardly, having the power of forming speech by drawing air into the lungs; and to modify the voice in such a manner as to make it seem to proceed from any distance or direction whatever."[319] John Hodgson shows that, indeed, up to ca. 1800, ventriloquism was mainly an illusion of distance, an art of displacement. The ventriloquist would "throw his voice" and create the illusion that the voice was generated in a far corner of the room or even the roof of the house.[320] Connor shows that unlike the engastrimyth oracle in ancient Greece who was believed to channel the voice of others, thus granting herself power of the future, the eighteenth-century ventriloquist was assumed to throw his own voice which could seemingly possess objects and people at a distance[321]: "(T)he modern ventriloquist would literalize the dream of action at a distance that preoccupied ancient and medieval natural scientists."[322] Evocative of Mesmer's notion of "action exerted at a distance" by manipulating the magnetic fluid, the modern ventriloquist seemed to possess the ability to command space by manipulating his voice.

Even in the first half of the nineteenth century illusions of the disembodied voice were still attracting crowds. The British scientist David Brewster (1781-1868) in his 1832 *Letters on Natural Magic* states that "(t)here is no species of deception more irresistible in its effects than that which arises from the uncertainty with which we judge of the direction and distance of sounds."[323] He explains the popular "Invisible Girl" deception creating the illusion of a (very small) girl trapped in a non-humanoid machine that answered the audience's questions. This was achieved, not with the aid

[318] Kratzenstein, *Sur la naissance*, p. 363. "for several years I have been occupied, in my moments of leisure, with a machine which can counterfeit (contrefaire) the human voice, and which, like a musical instrument, with the aid of the fingers, can articulate words." Partial English translation in: Hankins, *Instruments*, 189.
[319] "Anecdotes relative to Ventriloquism", *Universal Magazine of Knowledge and Pleasure* 50, no. 260 (Feb, 1773), 70.
[320] Hodgson, "An Other Voice": paragraph 4-5, 16.
[321] *Engastrimyth* is the Greek equivalent of the Latin *ventriloquist*, literally "belly speaker" (gaster/venter = belly, mythos/loqui = speak): "Engastrimyth", *World Wide Words*, accessed May 17, 2021, https://www.worldwidewords.org/weirdwords/ww-eng1.htm.
[322] Connor, *Dumbstruck*, 215.
[323] David Brewster, *Letters on Natural Magic addressed to Sir Walter Scott, bart.* (New York: Harpers, 1842), letter VII, 154.

of a ventriloquist, but by a woman hidden in an adjacent room conversing with the public through a trumpet-like device, which was connected to a sound-conducting metal tube that ran under the floor into her chamber.[324] In a similar fashion, a *The Times* journalist reporting in 1864 on the suspended waxen head of the "Anthropoglossos" (literally, "human speech") on display at the London St. James' Hall "cannot help remarking that the articulation is almost too unexceptionable for a machine."[325] Despite these entertainments often being debunked as clever illusions by people like Brewster, these vocal illusions remained popular since they sustained the notion of the voice as a mysterious, disembodied entity that could be manipulated or corrupted.

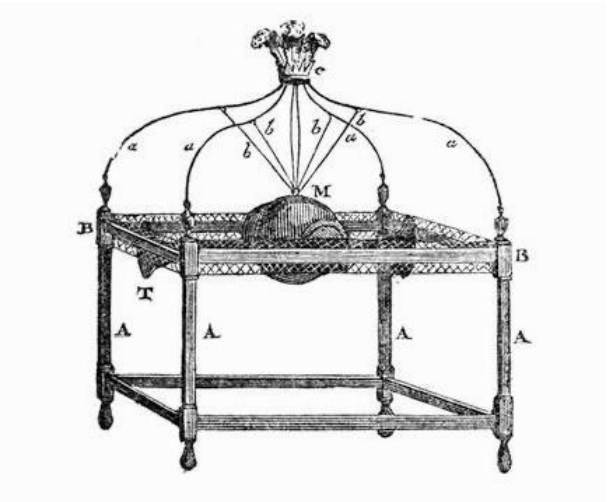

Fig. 13) The popular "Invisible Girl" illusion as illustrated in David Brewster *Letters on Natural Magic* (1842), letter VII, 151, fig. 37.

In the late eighteenth and early nineteenth century, the belief that speaking in multiple voices was the result of spirit possession had largely been dispelled and the notion of ventriloquism as the skilful art of the ventriloquist manipulating his natural speaking voice had generally become accepted. However, Connor notes that "(t)he understanding of voice as a bodily mechanism does not signify the simple materialization or disenchantment of the voice. On the contrary, the magical mechanism of the voice began to mediate […] between the ideas of matter and magic."[326] Because of this placement at the intersection of matter and magic, there was no consensus on how exactly the voice is thrown. For example, in the 1785 *Memoirs of the Literary and Philosophical Society of Manchester* the contributor assumes that the ventriloquist makes use of physical obstacles to

[324] Ibid., letter VII, 151-154.
[325] "The Anthropoglossos", *The Times*, July 23, 1864, 12, accessed Feb 4, 2021, www.stevenconnor.com/dumbstruck/archive/anthro.htm
[326] Connor, *Dumbstruck*, 334.

bounce off his voice and that his skills can be compared to the effect of a natural echo, like church bells echoing off the side of a building:

> (T)he similarity of effect which connects it (the echo) with ventriloquism, convinces me every time I hear it, that what we know to be the cause in one instance is also the cause in the other: I mean that the echo reaches the ear, while the original sound is intercepted by *accident* in the case of the bells, but by *art* in the case of the ventriloquist.[327]

The writer here assumes that both the natural echo and the ventriloquist deceive the ear by either the arbitrary or wilful corruption of the natural flow of sound. Another prevailing assumption as to how the ventriloquist creates the effect of distance was that the mechanical disposition of the ventriloquist's vocal organs is somehow atypical. Connor shows that despite the notion having been dispelled that distant speech is caused by the ventriloquist's possession of two sets of vocal organs or another abnormality in his vocal anatomy, in the late eighteenth and early nineteenth century the belief that the ventriloquist possesses an extraordinarily vigorous set of vocal organs became common.[328] A strong and healthy voice became associated with masculinity and the fear of losing it a common anxiety, resulting in many publications on how to preserve and improve vocal health.[329] I will show that it is the popular notion of the voice as an entity existing autonomously from its host's body, combined with the anxiety of losing it, that Poe utilises in his tale "Loss of Breath" in which the voice literally escapes its owner.

Despite the vocal organs being increasingly anatomised, the voice retained its preternatural connotations. What the many different accounts on ventriloquism, even the scientific ones, have in common is the notion that the ventriloquist can at will disembody and corrupt the natural speaking voice to do his bidding. In the London *La Belle asemblée* of 1819, it is said about Lewis Brabant, the sixteenth-century French ventriloquist and valet-de-chambre to King Francis I of France, that "he had […] a very singular knack at counterfeiting the tone of voice of any particular person living or dead, so as even to imitate their very groans and lamentations, provided he had ever known them or heard them speak."[330] Again, the word "counterfeit" is used which emphasises the ventriloquial voice as a fraudulent, corrupted entity. The article continues to convey the story of how Brabant deviously wins the hand of a wealthy heiress in marriage by impersonating her deceased father,

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[327] John Cough, "An Investigation of the Method whereby Men judge, by the Ear, of the Position of Sonorous Bodies relative to their own Persons. By Mr. John Cough. Communicated by Dr. Holme. Read November 27, 1801", in *Memoirs of the Literary and Philosophical Society of Manchester, Vol V, part I* (London: Cadell and Davies, 1798): 645.
[328] Connor, *Dumbstruck*, 215-216, 328.
[329] Ibid., 328-333.
[330] "The Ventriloquist". *La Belle Assemblée: or Court and fashionable magazine* 20, no. 125, July, 1819, 30.

whom he mimicked as being stuck in purgatory for his initial objections and now giving his consent from beyond the grave. Thus, the true art and act of the ventriloquist is one of fraud, i.e. the skilful corruption of the natural speaking voice, creating the illusion of a self-generated autonomous voice that has somehow escaped its owner and seems to possess a mind of its own.

These perceptions of the human voice as a corruptible, autonomous, disembodied entity might explain why Von Kempelen's speaking machine was often met with distrust or outright fear. I have previously mentioned that from the late eighteenth century, dummies or puppets were introduced in ventriloquist acts until they became common practice in the 1830s.[331] The ventriloquist art of disembodiment transformed into an art of re-embodiment, or, in Hodgson's words, "[t]he progress from absence to presence," where the mystical voice seemingly travelled between the body of the ventriloquist and that of his dummy."[332] To distinguish from his normal speaking voice, the ventriloquist's disembodied voice as well as the later re-embodied voice of the dummy often sounded like that of a child.[333] This second, childlike voice, affirms the notion of the voice as an external entity which can somehow be mechanically controlled and manipulated by the ventriloquist.

When Von Kempelen went on a European tour with his mechanical chess player, he also brought his unfinished speaking machine.[334] Von Windisch reports in 1783 that, "(u)m sich auf der Reise nicht mit unnötighen Gesache zu beschwären, will der Erfinder das Aussenwerk (of the speaking machine) dazu erst in Paris machen lassen. Er denket ihm die Gestalt eines fünf bis sechs jährigen Knaben zu geben, weil diese Maschine die Stimme eines Kindes von diesem Alter hat."[335] About the machine's proposed exterior Von Windisch states: "Auch dieses ist wohlbedächtig, und sehr vernünftig eingerichtet, weil die Maschine noch nicht zu ihrer Vollkommenheit gebracht, und wann sie die Wörter manchmal noch night ganz vernehmlich ausspricht, es einem Kinde, das es vorstellet leichter zu verzeihen ist, wann es lallet."[336] This account illustrates the contrast between the materialist terms in which the machine is perceived by its inventor and the mysterious quality perceived by its intended audience. Von Kempelen regarded a humanoid form merely as the

[331] Connor, *Dumbstruck*, 335-337; Hodgson, "An Other Voice": paragraph 17-22.
[332] Hodgson, "An Other Voice": paragraph 9, 14-15.
[333] Ibid., paragraph 14-15.
[334] Alice Reininger and Peter Waugh, *Wolfgang von Kempelen: A Biography*, trans. Peter Waugh (Bradenton: East European Monographs - Columbia University Press, 2012), 228.
[335] Windisch, *Briefe über den Schachspieler*, letter VI, 49-50. "(i)n order to stow his baggage in the smallest compass possible, the author has deferred putting on its (the speaking machine's) external garb till it arrives at Paris, where he intends to give it the appearance of a child of about six years old, its voice resembling that of a child of that age.": Windisch, *Inanimate Reason*, letter VI, 49.
[336] Windisch, *Briefe über den Schachspieler*, letter VI, 50. "(I)t is somewhat analogous to the present state of the machine, which is far from being arrived at perfection; should it happen to pronounce some words indifferently, it will in its childish appearance, more readily meet with that indulgence which it as yet stands in need of.": Windisch, *Inanimate Reason*, letter VI, p. 49-50.

“Aussenwerk” or "external garb" with which to dress his mechanical contraption. However, as he believed his audience would more easily forgive it its flaws in pronunciation, i.e. be more impressed with, and quite possibly less afraid of, his invention, Von Kempelen intended to present his machine similar to the manner in which a ventriloquist would perform and converse with a dummy. Thus, by intending to insert aspects of ventriloquist showmanship into the presentation of his machine, Von Kempelen blurred the boundaries between mechanics and ventriloquism. Inversely, Connor shows that from the 1830s onward ventriloquists would incorporate speaking automata and various other mechanisms into their shows. [337] He argues that “for a period, the ventriloquist’s figure becomes the allegorical figure for mechanised speech.”[338] In the late eighteenth century the presentation of science was generally dressed up as entertainment in order to attract the attention of the paying public. Therefore, illusions and genuine mechanics were often presented within the same setting of showmanship and under the same nomenclature (and contradictio in terminis) of *natural magic*, so that to the general public it was difficult to distinguish between the two. This perpetuated the popular notion of the voice as a detached, corruptible entity. Von Kempelen never managed to finish his machine or dress it up. However, whether this would have helped him to convince his audience of its genuine mechanical merits is questionable.

Even in the second half of the nineteenth century the notion of the voice as a mysterious, autonomous, disembodied principle prevailed. In 1875 the celebrated British ventriloquist Frederic Maccabe (1831-1904) tried to disperse what he called “this common delusion” by explaining how ventriloquism works.[339] His *Art of Ventriloquism and Vocal Illusions* effectively reads as a “how to”-manual for amateur ventriloquists with examples from personal experience on how to practise their skills. His approach is purely mechanistic. Rather than considering ventriloquism a natural or preternatural anomaly, he treats it as an art that can be acquired and perfected through practise alone. He credits the recent invention of the laryngoscope for making it possible to see the mechanics of the vocal organs in action and for contributing “to define the natural laws on which all sounds of the human voice depend.”[340] He explains these deeply ingrained misconceptions on the nature of the voice and blames the 1840 novel *The Adventures of Valentine Vox*, “(t)hat most fictitious of all fictions,” by the British novelist Henry Cockton (1807-1853) for perpetuating the

[337] Connor, *Dumbstruck*, 335-337.
[338] Ibid., 337.
[339] Frederic Maccabe, *Maccabe's Art of Ventriloquism and Vocal Illusions, With Full Directions to Learners how to Acquire a Pleasing Vocalization; Showing how to Begin and Practice Marvellous Illustrations of Ventriloquism* (New York: Robert M. De Witt, 1875), 5.
[340] Ibid., 15. The laryngoscope was invented by the Spanish vocal pedagogue Manuel García (1805-1906) in 1854. It is a device with two dental mirrors that, inserted into the throat, shows the vocal organs in operation by reflecting the sunlight: Teresa Radomski, "Manuel García (1805-1906): A Bicentenary Reflection", *Australian Voice* 11 (2005): 27-28.

notion that ventriloquists can disembody and throw their voice.[341] This popular novel about the life of the fictional ventriloquist Valentine Vox is full of situations in which the protagonist uses his ventriloquial powers to cause havoc and disruption.[342] Maccabe continues to assert that ventriloquists themselves are also guilty of perpetuating the illusion "that they have a natural gift and a special power".[343] He later exemplifies the perks that come with this power to command space, when he recounts how, as a child, much like the fictional Valentine Vox, he once chased off a pair of burglars by creating the illusion that the family was on to them and about to shoot.[344] The predominant difference between the antics of the fictional Valentine Vox and Maccabe using his seemingly disembodied voice to his benefit and Poe's tales, when read through the lens of ventriloquism and mechanical speech, is that Vox and Maccabe, as opposed to Poe's protagonists, do not experience any hindrance from their uncoupled voice. Au contraire, it grants them a certain freedom and superhuman power as their seemingly autonomous voice saves them from awkward or dangerous situations.

In short, only in the late nineteenth century did common misconceptions about the voice begin to be dispelled. Up to that point however, two notions of the voices existed simultaneously. On the one hand, mechanical inventors and scientists regarded it as merely the natural acoustic effect resulting from the mechanical functioning of the vocal organs, i.e. as an acoustic limb that can be "prostheticised". On the other hand, a common belief deemed the voice an elusive preternatural phenomenon that can travel between bodies. An implication of this mystic transposing power is the idea that the voice can become an imposter by inhabiting bodies it does not belong in. Connor argues that this also raises the uncanny question: "(I)s the voice merely a produced and governed phenomenon, or is it capable of assuming its own life?"[345] Indeed, if a voice can escape the control of its owner, it suggests a will of its own. This is precisely the theme Poe explores in some of his 1830s and 1840s tales.

Edgar Allan Poe and the corrupted prosthetic voice

In his tales "The Facts in the Case of M. Valdemar" (1845) and "Loss of Breath" (1835) Edgar Allan Poe blends both notions of the voice as a materialist prosthetic on the one hand and as a

[341] Maccabe, *Maccabe's Art of Ventriloquism*, 6.
[342] Henry Cockton, *The Life and Adventures of Valentine Vox, the Ventriloquist* (London: William Nicholson and Sons, ca. 1860).
[343] Maccabe, *Maccabe's Art of* Ventriloquism, 7.
[344] Ibid., 48-49.
[345] Connor, *Dumbstruck*, p. 341.

preternatural fraud on the other hand. He employs both ideas of the voice as on the one hand a mechanical and on the other hand a superhuman power and applies them to characterise the voice as a preternatural super-prosthesis, the possession or loss of which can be literally life-giving or disastrous. The protagonists' voice behaves much like that of a mechanical speaking machine that paradoxically both depends on its operator and functions autonomously, uncoupled from its host. Simultaneously, it is imbued with a preternatural force that extends these prostheses a life beyond their mechanical disposition. In "The Man That Was Used Up" (1839) a man's body is nearly entirely replaced by mechanical prostheses, a fact which greatly advances his social position. Poe's protagonists either suffer or benefit from their self-governed prostheses. I will show how Poe utilises the prosthesis to comment on the conventional, materialistic mores of the American middle-class. I have previously discussed how Poe's fiction should be considered in the context of his struggles to reconcile his wish to be admired by an erudite readership whilst having to accommodate the newly-emerging bourgeois audience and how this resulted in satire and hoaxes. In this literary climate, the trope of the disembodied, artificial voice provided Poe with excellent material.

Many of Poe's sensation tales, whether written as gothic horror or satire, incorporate bodies behaving in ways they are not supposed or expected to. David Leverenz points out that, "Poe's narrative uses of body parts and transformations seem curiously depersonalized. […] They evoke a strange, fragmented nobody-hood".[346] Indeed, in Poe's sensation tales body parts are mechanically coupled and uncoupled and, separated from the mind, escape the control of their owner altogether. Poe's seemingly composed narrators recall events that question and tantalise the boundaries between life and death, the corporeal and immaterial, science and magic, the natural and supernatural, reason and intuition and the real and imagined. For example, in "Loss of Breath", Mr. Lackobreath, while searching for his missing respiration (which "might have a vapory – it might even have a tangible form"[347]), finds "a set of false teeth, two pair of hips, an eye, and a number of *billets-doux*", purchased by his wife.[348] Whether these body parts are prosthetic or actual limbs is deliberately left unclear. Leverenz justly mentions that, "Poe's usually anonymous narrators have sensations without feelings."[349] There is certainly a macabre sense of wonder in the detached tone with which these narrators describe the curious and horrible events happening to their bodies as if these bodies are not a part of their identity or self. In this respect Jonathan Auerbach usefully argues that Poe uses the limited perspective of a first-person narrator as a framing device to achieve an

[346] David Leverenz, "Spanking the Master: Mind-Body Crossings in Poe's Sensationalism", in *A Historical Guide to Edgar Allan Poe*, ed. J. Gerald Kennedy (New York: Oxford University Press): 98-99.
[347] Poe, *The Complete Tales*, 396.
[348] Ibid., 397.
[349] Leverenz, "Spanking the Master": 99.

"alienating process of self-abstraction"[350] He states that "(t)he typical Poe narrator impresses us less as a fully fledged [sic] "person", in fact, than as a disembodied voice, sheer nervous energy seeking to order itself by trying to maintain control over the tale being told."[351] Indeed, the narrator's unemotional mind generally seems as scattered and mechanical as his body parts. This disconnection between body and mind, often embellished with description of gore, adds to the profound sense of unease and horror in the reader, or, when deliberately taken too far, aims to establish a grisly comic relief. In the beforementioned tales Poe focusses on the voice as one such mechanical body part. It is ultimately the reader who has to make sense of what happened to the protagonists in regards to the nature of their prosthetic voice, since they themselves seem unable to resolve its mystery.

"The Facts in the Case of M. Valdemar" (1845)

"The Facts in the Case of M. Valdemar", henceforth referred to as "Valdemar", was first published in 1845 in simultaneously the December issue of *The American Review: A Whig Journal of Politics, Literature, Art and Science* (titled "The Facts of M. Valdemar's Case") and the December 20 issue of the *Broadway Journal*. It is one of Poe's beforementioned hoaxes. In the US in the 1830s and 1840s the circulation of sensationalist medical journals thrived. William Etter shows that case studies about gruesome accidents, shocking bodies, horrible disfigurements, dismemberments, grotesque deathbed torments and suspended animations often led to public discussions on the nature and plausibility of these physical misfortunes and abnormalities. This, in turn, led to other self-proclaimed scientific journals to publish the "true facts" of these cases.[352] Because of the semi-objective context of the journals in which the story was published and Poe's deliberate, factual, unemotional writing style, many readers questioned whether "Valdemar" could be based on authentic medical accounts of mesmerism.[353]

The tale is told in the first-person perspective by the mesmerist P., who wishes to discover, should a person be mesmerised "in articulo mortis", "to what extent, or for how long a period, the encroachments of Death might be arrested by the mesmeric process."[354] His patient, M. Ernest

[350] Jonathan Auerbach, *The Romance of Failure: First-Person Fictions of Poe, Hawthorne, and James* (New York: Oxford University Press, 1989), 6.
[351] Ibid., 21.
[352] William Etter, "'Tawdry Physical Affrightments': The Performance of Normalizing Visions of the Body in Edgar Allan Poe's 'Loss of Breath'", *American Transcendental Quarterly* 17, no. 1 (2003): 6-7.
[353] Bruce Mills, "Mesmerism", in *Edgar Allan Poe in Context*, ed. Kevin J. Hayes (Cambridge: Cambridge UP, 2013): 322, 327; Sova, *Poe, A to Z,* 85; Allen, *British Magazine Tradition*, 176-177.
[354] Poe, *The Complete Tales*, 96.

Valdemar, in the final stages of terminal consumption, agrees to take part in P.'s experiment. P. recalls bringing Valdemar into a mesmeric trance when the moment of death is near and asking his patient whether he is asleep, to which Valdemar replies: "Yes; - asleep now. Do not wake me! – let me die so!"[355] Hours later, long after the patient's predicted hour of death, P. repeats his question, the answer however now being: "Yes; - no; - I *have been* sleeping – and now – now – I am dead."[356] From P.'s description it appears that the patient's power of speech, despite the death of its corporeal host, remains the only bodily function receptive to the mesmerist's questions. The behaviour and characterisation of Valdemar's voice suggests that Poe drew inspiration from both the contemporary preternatural and material notions of the voice. Valdemar's voice behaves like a speaking prosthesis when, by some mysterious force, it is detached from its host's influence, and responds, like a mechanical speaking machine, solely to the external prompts of the mesmeriser-operator. Thus, Poe imagines a monstrous prosthesis that benefits and prolongs the physical life of its host, however gruesome a life this may be. The voice, a character in itself, behaves as the remaining animating principle in an otherwise lifeless body. This hypothesis is confirmed when P. discloses that he succeeded to keep Valdemar in this liminal state for the duration of seven months during which his body refrained from decomposing. Finally, attempting to wake and revive his patient, the mesmerist witnesses the following gruesome spectacle:

> As I rapidly made the mesmeric passes, amid ejaculations of "dead! dead!" absolutely *bursting* from the tongue and not from the lips of the sufferer, his whole frame at once – within the space of a single minute, or less, shrunk – crumbled – absolutely *rotted* away beneath my hands. Upon the bed […] there lay a nearly liquid mass of loathsome – of detestable putrescence.[357]

In this fragment, the juxtaposition of the voice calling out as an attribute of the living versus the imagery of the fluids of corporal putridity belonging to the dead, emphasises the mesmeric miracle of suspended putrefaction through speech. The voice is portrayed as the entrapped life force which alone is holding the decaying matter together.

Poe seems to have been fascinated with the trope of suspended death and voices from the beyond. In an earlier tale, "Mesmeric Revelation", first published in 1844, a patient also dies whilst being under a mesmeric spell. Like Valdemar, even in death, he keeps responding to the mesmerist's questions and divulges hitherto undisclosed revelations regarding the nature of God and the

[355] Ibid., 100.
[356] Ibid., 101.
[357] Ibid., 103. (Original emphasis.)

universe. This suggests the disembodied voice's liminal existence between the living and the dead, i.e. between the physical and the metaphysical. Besides a comparison to mechanical speaking machines, an analogy between "Valdemar" and the popular notions of ventriloquism can be drawn. The mesmerist P. acts as the ventriloquist manipulating the voice that possesses but no longer belongs to the body of his patient. Valdemar's inanimate body is reduced to a dummy forced to do the puppeteer's bidding. The mesmeriser is at once intrigued and horrified by the "unearthly peculiarity" of Valdemar's voice, "that seemed to reach our ears […] from a vast distance, or from some deep cavern within the earth."[358] This description emphasises that the voice is indeed taking possession of a body it no longer belongs in and recalls the ventriloquist's power to command space by throwing his voice.

Besides being able to command space, not unlike the mesmerisers in Hoffmann's tales, Poe's mesmerist-ventriloquist also seems to possess the superhuman power to command life and death. P.'s characterisation of his patient's voice as "hideous" stresses the unnatural artificiality of the phenomenon.[359] However "gelatinous" or "glutinous" Valdemar's voice may be, P. records that nonetheless "the sound was one of distinct – of even wonderfully, thrillingly distinct – syllabification."[360] The voice manages to retain its own autonomy and provides its dead host with a clear and unnatural power of speech, compelling Valdemar's lifeless body to speak after death. Whereas the lips remain lifeless, like the ventriloquist's dummy, it is merely the patient's "swollen and blackened tongue" that is mechanically forced into motion by the voice that proves to follow its own unnatural existential rules. Much like the popular notion of the ventriloquist throwing a voice which lacks synergy with its host's body, Valdemar's voice too, proves to be an illusion. The counterfeited voice does not grant Valdemar a full, wholesome life, but forces him to exist in a liminal state of suspended death. The protagonist exists merely by the grace of his autonomous voice and is fully at its mercy. Poe portrays the voice as a preternatural fraud which feigns to bestow life, but merely offers a monstrous corruption of it.

Sarah O'Dell regards Valdemar's mesmeric trance responsible for his suspended death as a form of life support and argues that "(t)he futile "treatment" of mesmeric trance presents a clear, and even overwhelming, challenge to Valdemar's autonomy: even as he forcefully declares the reality of his own death, attempts are made to revive him."[361] Hannah Lauren Murray also reads the tale as being centred on the loss of autonomy at the hand of the medical establishment and interprets the tale as a reflection on antebellum fears of bodysnatching and medical dissection. She

[358] Ibid., 101.
[359] Ibid., 103.
[360] Ibid., 101.
[361] Sarah O'Dell, ""The Facts in the Case of M. Valdemar": Undead Bodies and Medical Technology", *Journal of Medical Humanities* 41 (2020): 232.

asserts that Poe "voices anxieties over white men being reduced purely to bodies and material resources — just like the nation's non-citizens who routinely filled America's dissecting rooms — as opposed to fully autonomous and self- possessed citizens."[362] She argues that "(t)hose outside this group of able white men […] experienced a 'social death' in being viewed as pieces of human property incapable of owning themselves or of actualising personhood".[363] According to Murray, in death these white men, whose bodies were now exploited by the medical establishment acting as "a figurehead of middle-class masculinity", befell the same fate.[364] About the voice she states that "(i)n a society where the voice marks an autonomous self who can speak for himself and participate in a civil group, unusual or unexpected voices — ventriloquism, cries, shrieks, howls, interruptions, shouts — act out in resistance."[365] The term "social death" was coined in 1975 by Claude Meillassoux and built upon in 1982 by Orlando Patterson to signify the loss of personhood and autonomy as experienced by slaves when introduced into the communities of their masters.[366] This is a useful term to denote the loss of autonomy as a recurring trope in Poe's tales in connection to the disembodied voice. "Valdemar" does indeed seem to question the parameters of citizenship. "Employing antebellum medical science as a frame", Murray argues, "enables us to read Poe's anxieties concerning fragile citizenship, via situations where white male characters lose their abilities, faculties, and vitality, and therefore their social rights and privilege. Valdemar's proximity to death and states of powerlessness render him [...] less than white and less than a person."[367] Though in "Valdemar" white male characters do indeed lose their capabilities, I argue that Poe's satire concerning fragile citizenship, rather than at male whiteness, is predominantly aimed at "bourgeois-ness", in the tale indeed represented by the medical professionals, since it was the middle-classes whom Poe perceived as vacuous and for whom he felt forced to simplify and sensationalise his writing.

When Valdemar loudly declares he is dead, the voice as a rebellious entity not only refuses to do its owner's bidding but also fails to comply to the medical expectations. When regarded as a prosthesis, Valdemar's voice is a faulty, malfunctioning one. The tale can be read as an inversion of Hoffmann's "Automata" and "The Sandman", since, instead of the mesmeriser confounding his "patient", it is now the patient who demoralises the mesmeriser. As with Hoffmann's protagonists,

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[362] Hannah Lauren Murray, "'I say to you that I am dead!': Medical Experiment and the Limits of Personhood in Edgar Allan Poe's 'The Facts in the Case of M. Valdemar' (1845)", *The Irish Journal of Gothic and Horror Studies* 16 (2017): 40.
[363] Ibid.: 24.
[364] Ibid.: 27.
[365] Ibid.: 26.
[366] Claude Meillassoux, *L'esclavage en Afrique précoloniale* (Paris: François Maspero, 1975), 11-26; Orlando Patterson, *Slavery and Social Death: A Comparative Study* (Cambridge, MA: Harvard University Press, 2018), 38-45; Murray, "'I say to you that I am dead!'": 24, note 8.
[367] Murray, "'I say to you that I am dead!'": 23.

mechanical speech appears to compel the "patient". However, in Valdemar's case this preternatural, yet mechanical, entity, instead of directing him from a distance, appears to be acting from within the patient's body. Whether Poe ever saw the *Euphonia* in New York before publishing "Valdemar" in December 1845 is unclear. However, Hollinghead's unnerving description of the machine's sepulchral mechanical speech emanating from the machine's grotesque inanimate jaws certainly resonates with the "unearthly peculiarity" of Valdemar's "gelatinous" and "glutinous" voice. Hollinghead's suggestion of a person held captive by the machine, evokes the image of Valdemar, imprisoned in his own body, whom the preternatural, prosthetic voice grotesquely forces into life and compels to speak, not with an ivory, but equally lifeless "swollen and blackened tongue." The notion of speaking with another's voice as suggested by the *Punch* satirist when commenting on the *Euphonia* in 1846 is also present in "Valdemar". However, the nature of this "other" is entirely unknown and it is ultimately the physicians, rather than the patient, who are left dumbfounded as to the nature and provenance of this voice.

Murray states that "by the antebellum period, the doctor had become a figurehead of middle-class masculinity, who observed, manipulated, and managed the bodies of others."[368] Indeed, I argue that in the tale it is predominantly the bourgeois medical establishment which Poe parodies as being inept. Medical professionals, generally attempting to understand the body through dissection after death, are unable to save their patient and are forced to merely observe the phenomena taking place in Valdemar's paradoxical dead living frame. The mesmeric trance as a life-support experiment fails and Murray rightly suggests that through Valdemar's "misbehaving body", i.e. the ventriloquial voice which "defies the medical community's rational logic" and "the body's rapid and grotesque decomposition", Valdemar's case literally escapes the medics' understanding.[369] I argue that, rather than a voice of resistance, the patient's voice is one of mockery: it makes a joke of the physicians who, rather than the ones intervening, are now reduced to mere bystanders. I will demonstrate that satirising the bourgeois is at the heart of the tales "Loss of Breath" and "The Man That Was Used Up" in which Poe uses the prosthetic voice as a metaphor for what he perceived as the middle-class obsession with status and respectability. I argue that the true fear Poe satirises in "Valdemar" is - likewise - not primarily of dissection or bodily disintegration or even the loss of autonomy or personhood, but instead what he perceived as the bourgeois anxiety of losing the respect of one's peers.

[368] Ibid.: 27.
[369] Ibid.: 26, 36, 39.

"Loss of Breath" (1835)

I have shown that in "Valdemar" Poe draws from both materialist notions of the voice and its preternatural connotations. Like a speaking machine detached from its inventor, Valdemar's voice is characterised as an autonomously operating entity, a contrived mechanism that, unhindered by the fetters of decay and death, mechanically remains functioning long after the patient has died. By combining the idea of the voice as a corrupted preternatural entity with the material notion of artificial speech, Poe imagines the voice as a super-prosthesis able to perversely grant physical life after death, thus extending the body's physical capabilities far beyond its natural, biological limits. In "Valdemar" Poe objectifies the voice by turning it into a preternatural prosthesis. In "Loss of Breath", Poe materialises the voice to the extent that it gains autonomy and literally escapes altogether so that its owner must physically search for it to retrieve it. Rather than a hoax, the tale, fully titled "Loss of Breath, A Tale Neither in nor out of Blackwood," is a satire, published in its near final form in the *Southern Literary Messenger* in September 1835.[370] An earlier, somewhat different version was published in 1832 under the title "A Decided Loss" in the November 10 issue of the *Saturday Courier*. In my analysis I will however focus on the final version. In this tale the voice again provides its owner with an illusion of life. However, contrary to "Valdemar", rather than the prolonged ownership of the voice, here it is the loss of it, that brings about an undead state of existence in which the protagonist proves unable to die, despite the many physical assaults he has to endure. I will show that the autonomous voice, rather than a bodily aid, in this tale functions as a metaphorical social prosthesis, i.e. a prosthesis that does not advance its owner physically, but socially.

Like "Valdemar", this tale is also narrated in the first-person perspective by a certain Mr. Lackobreath, who finds himself suddenly, while scolding his wife, literally deprived of breath. Lackobreath performs "a vigorous search" believing "(i)t was possible […] that, concealed in some obscure corner, or lurking in some closet or drawer, might be found the lost object of my inquiry." [371] Failing to retrieve it, Lackobreath recalls the misfortune he is met with in trying to build a new life without his breath. However, rather than on the physical hindrance of lacking a respiration, the protagonist emphasises the social implications of lacking the ability to breathe and, more importantly, to speak. The protagonist discovers that the only sounds he can still utter are a "deep guttural, […] this pitch of voice (the guttural) depending […] not upon the current of the breath, but upon a certain spasmodic action of the muscles of the throat."[372] Since he lost his regular speaking

[370] The text was reprinted with minor edits on the 3rd of January 1846 in *Broadway Journal*, Vol II, nr. 26.
[371] Poe, *The Complete Tales*, 396.
[372] Ibid., 396.

voice, Lackobreath decides to memorise ”Metamora”, a popular brutal frontier play with a Native American protagonist. He goes abroad to join the theatre as he believes that to play the part of a Native American “the tones of voice in which I found myself deficient were altogether unnecessary, and that the deep guttural was expected to reign monotonously throughout.”[373] Lackobreath decides to escape the country hoping that “(i)n a foreign climate, being unknown, I might, with some probability of success, endeavour to conceal my unhappy calamity.”[374] The fact that the protagonist desperately tries to hide the fact that he lost his breath, i.e. his life force, to the point where he feels he must hide from his wife and society and take on a fake persona, affirms that he feels that this incident is somehow steeped in shame.

Somewhat concerned about the interest Lackobreath’s wife seems to be taking in his acquaintance, Mr. Windenough, whose tall, slim physique and, as the name suggests, strong and healthy respiration are the polar opposites of his own, Lackobreath suggestively connects sexual potency with a strong power of breath. Similarly, Poe embodies the protagonist’s social stature by the force of his breath and his voice. Having a potent voice and respiration appears beneficial to one’s social status, whereas lacking these attributes leads to being not only amorously but socially impaired. Lackobreath’s perceived inferior personhood (and masculinity), caused by being able to utter merely “frog-like and sepulchral tones”, manifests through the racism in Lackobreath’s notions of the native voice. Etter aptly points out that, according to the protagonist, “(h)aving lost the element that would make him a complete human being, his breath, Lackobreath becomes the ideal candidate for the native’s part because the native himself is inherently “deficient,” lacking the full tonal range and rationality reflected in the Euro-American voice.”[375] I would like to add that Lackobreath does not merely lose his perceived “westernness”, but, more importantly, his bourgeois status, a fact which he tries to mask from his social peers by deliberately hiding behind the facade of what he regards the “primitive” other. Grant Olwage, commenting on the nineteenth-century classification of non-western vocal timbres, argues: “As part of the body, the voice stands for the subject more directly than any other instrument. Indeed, so tied to the body is the voice that even when disembodied we easily identify it as belonging to a particular subject, whether individual or social.”[376] Indeed, through his othered voice, Lackobreath socially becomes the other. By losing his perceived multi-layered, cultivated, bourgeois, white voice the protagonist is left with a voice that sounds like and is associated with a subject he feels is physically and socially primitive and inferior. He is convinced that, by association, he himself will be perceived as such. Olwage also argues that,

[373] Ibid., 397.
[374] Ibid., 397.
[375] Etter, “’Tawdry Physical Affrightments’”: 17.
[376] Grant Olwage, "The Class and Colour of Tone: An Essay on the Social History of Vocal Timbre", *Ethnomusicology Forum* 13, no. 2 (2004): 206.

brought on by the artistic taste of the rising middle classes, "the 1830s and 1840s is the moment to which historians of vocal pedagogy date the appearance of the "modern" singing voice, defined predominantly by the lower larynx position and a systematic breathing technique, and thus by a specific quality of tone."[377] He suggests that "the embourgeoisement of the singing voice brought the idea of othered voices into play."[378] These "othered voices" deviating in singing technique and timbre from the bourgeois "classical" standards, Olwage denominates the "anachronistic voice."[379] In Poe's tale, Lackobreath's power of speech is by the protagonist felt to be demoted and thus becomes anachronistic, i.e. incompatible with the social circles in which he is used to moving.

The anachronistic voice, as opposed to the bourgeois voice, when reading the tale through the intervention of prostheses, is a useful term to denote a person's lack of "bourgeois-ness", and, in Lackobreath's eyes, lack of social status. Lackobreath's bourgeois voice used to function as an implement or prosthesis that rendered him accordant with the desired social entourage. The loss of it cripples him socially to the extent that he feels he must abandon this entourage altogether. Etter, arguing that the tale can be read as a satire of melodramatic theatre popular in the 1830's US, rightly suggests that, "(i)n collusion with the extravagant melodramatic performers of his time, Lackobreath's presentation of his body enables a voice to enter society in a recognizable, yet false, way."[380] Indeed, I would like to argue that by forcing Lackobreath to play a part and fake a reality, Poe seems to question which of Lackobreath's two "vocalities" is the true imposter, the anachronistic voice or the former bourgeois voice that allows him to mechanically play a part within his esteemed social circle.

The protagonist being socially maimed by his loss of "bourgeois-ness", is affirmed by his description of the incident as "a calamity calculated, even more than beggary, to estrange the affections of the multitude, and to draw down upon the wretch the well-merited indignation of the virtuous and the happy."[381] To him, being unable to speak in the appropriate manner that assures his membership of and acceptance by the bourgeois social class, equals death. Poe emphasises this "social death" by the series of violent assaults the protagonist is faced with, which, rather than physically killing him, merely maim him socially. While trying to leave the country Lackobreath's limbs are accidentally dislocated by a corpulent sleeping coach passenger and, after having established he is not breathing, he is assumed dead and thrown out of the coach. This results in the breaking of both his arms and the cracking of his skull. Lackobreath's suspected corpse is then taken in by a pub landlord and sold to a surgeon who, by matter of medical experiment, cuts off the

[377] Ibid.: 206.
[378] Ibid.: 206.
[379] Ibid.: 206.
[380] Etter, "'Tawdry Physical Affrightments'": 12.
[381] Poe, *The Complete Tales*, 397.

protagonist's ears. After this ear-cutting Lackobreath gives clear "signs of animation".[382] Regardless, despite realising that Lackobreath is still physically alive, according to the protagonist, the surgeon "made an incision in my stomach, and removed several of my viscera for private dissection."[383] An apothecary arrives who declares the protagonist dead, an "idea I (Lackobreath) endeavored to confute, kicking and plunging with all my might, and making the most furious contortions."[384] Lackobreath's blatant signs of still being physically alive are purposefully ignored since his social muteness, social disfigurement and social lifelessness prove predominant in his diagnosis. His shame of his social death is affirmed when he recalls being gagged by the surgeon and the apothecary: "It was a source of mortification to me, nevertheless, that although I made several attempts at conversation, my powers of speech were so entirely in abeyance, that I could not even open my mouth".[385] Lacking his white, bourgeois voice, which functions as a social prosthesis enabling social vitality, Lackobreath is declared dead again and again.

The assaults continue until he is finally hanged and declared dead once more. He eventually ends up in a crypt where, by a strange coincidence, he encounters his acquintance Mr. Windenough, who in a superfluity of words explains what has happened to him: "terrible accident! – heard of it, I suppose? – awful calamity! – walking under your windows – some short while ago – about the time you were stage-struck – horrible occurrence! – heard of 'catching one's breath,' eh? – hold your tongue I tell you! – I caught someone else's!"[386] Lackobreath realises Windenough must have accidentally caught his breath that had escaped through the open window when he was scolding his wife. Having been gagged for his superfluity of respiration and his ensuing cascades of speech, Windenough was also declared dead. His description of his ordeal as an "awful calamity" suggests his experiences in "civilised" society after gaining a second voice were on a par with Lackobreath's. This affirms the thesis that in "Loss of Breath" any deviation from the normative white voice, whether because of a lack or superfluity of breath, is by bourgeois standards considered unacceptable and will inevitably result in social death. It is only after each has been restored with their proper voice that, thanks to "(t)he united strength of [their] resuscitated voices", they are released from the crypt and their former, bourgeois, personhood is restored. The prosthetic voices, properly reinstalled in their former hosts, to both men enable a return to their white middle-class identities.

[382] Ibid., 399.
[383] Ibid., 399.
[384] Ibid., 399.
[385] Ibid., 399.
[386] Ibid., 402.

"The Man That Was Used Up" (1839)

In both "Valdemar" and "Loss of Breath", Poe combines both the existing materialist and preternatural notions of the voice. Building on the imagined superhuman applications of the late eighteenth-century speaking machines as well as the notions of the voice as a superhuman, mystical power, Poe imagines elusive, immaterial vocal prostheses the possession or loss of which have profound physical or social repercussions. The voice in Poe's tales acts as a rogue prosthesis that becomes a metaphorical, rather than a physical device whose abilities to define a person's physical and social vitality stretch beyond the scope of the natural. Whereas in "Loss of Breath" Poe explores the social consequences of the loss of a prosthesis, in "The Man That Was Used Up", the writer muses what could happen if such a loss could be undone by the purchase of new, manmade replacement prostheses. The tale, fully titled "The Man That Was Used Up, A Tale of the Late Bugaboo and Kickapoo Campaign," is another satire, first published in *Burton's Gentleman's Magazine* in August 1839. In this tale the notion of the voice as a prosthesis the possession or lack of which can socially advance or maim, is further explored. Moreover, Poe shows once again the artificial social façade which the mechanical voice provides when it is monopolised by the wealthy.

This satire is also written in a first-person perspective by an anonymous narrator who is trying to fathom the mystery of the extraordinary appearance of Brevet Brigadier-General John A.B.C. Smith who has successfully returned from a violent frontier war against the Bugaboo and Kickapoo tribes. The narrator is first introduced to the General at a social event "of great importance, no doubt – at some place or other" and notices "(t)here was something […] remarkable […] about the entire individuality of the personage in question" as well as "a primness, not to say stiffness, in his carriage – a degree of measured and […] of rectangular precision attending his every movement".[387] That the narrator is unable to recall at which social event he first met the General reveals a bourgeois social setting with many social obligations that, in the eyes of the narrator, become indistinguishable from one another. It shows how Poe again connects the prosthesis to a middle-class social setting and employs it as a metaphor of vacuity.

Smith's appearance has an almost superhuman, mechanical quality that makes him stand out from the crowd. As soon as he spots the General, the narrator is so in awe with his physique and compelling stature that he admiringly describes the man body part by body part. ("The bust of the General was unquestionably the finest bust I ever saw. […] This rare peculiarity set off to great advantage a pair of shoulders which would have called up a blush of conscious inferiority into the

[387] Ibid., 405.

countenance of the marble Apollo.", etc.[388]) About the General's voice he reveals that, "(f)rom between them (the teeth), upon every proper occasion, issued a voice of surpassing clearness, melody and strength."[389] He later repeats: "I then thought (and I think so still) that I never heard a clearer nor a stronger voice, nor beheld a finer set of teeth."[390] Of Smith's conversational powers he remarks that he "never heard a more fluent talker, or a man of a greater general information."[391] Befitting the General's other body parts, the narrator describes Smith's voice as extraordinarily potent.

In this conversation Smith expresses a deep interest in "the rapid march of mechanical invention" and states that, (t)he most wonderful - the most ingenious - and (…) the most truly useful - mechanical contrivances are daily springing up like mushrooms, […] or, more figuratively, like […] grasshoppers […] about us and […] around us![392] The narrator continues to describe his desire to find out the secret behind the imposing appearance of General Smith who is revered as a war hero for his excessive courage. However, whenever he calls upon his acquaintances, the conversation gets interrupted. All he manages to find out from most of them is how the General "fought like a hero" and that "(t)his is a wonderfully inventive age!"[393] Frustrated, he finally decides to visit the General himself. As it is early and the General is still in his morning ritual, the narrator is received into Smith's bedroom by the valet and recounts: "There was a large and exceedingly odd-looking bundle of something which lay close by my feet on the floor, and, as I was not in the best humor in the world, I gave it a kick out of the way."[394] To the narrator's horror, this bundle then responds "in one of the smallest, and altogether the funniest little voices, between a squeak and a whistle, that I ever heard in all the days of my existence."[395] As the clump gradually performs "some inexplicable evolution" on the floor, the bundle reveals itself to be what's left of General Smith after the many violent encounters with the Bugaboo and Kickapoo tribes. [396] With the aid of his valet Pompey, the General is gradually, prosthetic piece by prosthetic piece, reassembled into the splendid human form that had so impressed the narrator. Finally, the transformation in Smith's voice too is explained when he speaks to his valet: "Pompey, […] " squeaked the General, "I really do believe you would let me go out without my palate."[397] The narrator recalls that hereupon the valet

[388] Ibid., 406.
[389] Ibid., 405.
[390] Ibid., 407.
[391] Ibid., 407.
[392] Ibid., 407.
[393] Ibid., 408.
[394] Ibid., 411.
[395] Ibid., 411.
[396] Ibid., 411.
[397] Ibid., 412.

> went up to his master, opened his mouth with the knowing air of a horse-jockey, and adjusted therein a somewhat singular-looking machine, in a very dexterous manner, that I could not altogether comprehend. […] When he (General Smith) again spoke, his voice had resumed all that rich melody and strength which I had noticed upon our original introduction.[398]

Smith's voice, so it turns out, is a small mechanical speaking machine, a man-made prosthesis like the rest of his limbs. The General explains that in a grapple with the enemy "they not only knocked in the roof of my mouth, but took the trouble to cut off at least seven eights of my tongue."[399] However, Smith does not seem particularly agitated by it all, as with the aid of a clever prosthetic speech enhancement ("There isn't Bonfanti's equal, however, in America, for really good articles of this description"), he had been able to restore his voice to its former glory.[400] Poe literally turns the voice into a physical prosthesis, manufactured by the renowned and specialised Bonfanti, in the same way as any other of the artificial body parts of which the General also proudly mentions the makers. Kevin Hayes, who reads General Smith as "a counterpoint for the emerging concept of the self-made man in American culture", points out[401]:

> The general's emphasis on the brand names of his various prosthetics makes a comment on modern consumer culture. Much as people nowadays buy name-brand clothing, timepieces and other personal accessories as status symbols, General Smith drops the names of his body parts to emphasize their quality. He relies on these name-brand products to construct his personal identity.[402]

Smith's mechanical parts are indeed status symbols. However, it is important to note that with these prostheses Smith, despite losing the war, acquires even more status than he had enjoyed before he set off to war and not merely because he can show off expensive limbs. What, besides status, these artificial mechanical prostheses provide, is the *illusion* of victory and greatness. Martin Willis states that "Poe's interest lies […] in the cultural significance of a society that is allowing the machine to act as a substitute for the human without this surrogacy ever being visible."[403] He adds that, in the eyes of the narrator, paradoxically, Smith's "spectrality comes from the absence of prosthetics and not the discovery of them. Ironically, the narrator is unable to see General Smith as human when all his

[398] Ibid., 412.
[399] Ibid., 412.
[400] Ibid., 412. Bonfanti as a maker of vocal prostheses is most likely a name made up by Poe.
[401] Kevin J. Hayes, *Edgar Allan Poe* (London: Reaktion Books, 2009), 80.
[402] Ibid., 80
[403] Willis, *Mesmerists, Monsters, and Machines*, 99.

artificial limbs have been removed."[404] Willis proposes that Poe, by blurring the boundaries between the human and the machine to the point of indistinguishability (of which Smith is a metaphor) comments on the rise of mechanisation in the US and the double-edged prospect of humanity rising to new advancements through mechanisation to such extremes that the definition of humanity needs to be redefined, whilst simultaneously being "used up" by it.[405] Joan Tyler Mead also suggests that the narrator's naivete regarding the General's condition is feigned, that the narrator is in fact "the principal figure of deception" since "his words are subversive, for beneath the flattery he is actually presenting the hero as an artificial construct."[406] I argue that, though it is indeed the impressive, though grotesque, collection of mechanical prostheses themselves which afford Smith to be a celebrated, though spurious, figure among his peers, it is the vocal prosthesis in particular, ironically the most insubstantial of all his mechanical extensions, which, literally and metaphorically, affords Smith a false "heroic" voice in society and, as a tool for his self-aggrandisement, enables him to feign success and substance where there is only failure and vacuity.

Like in "Loss of Breath", Smith's vocal prosthesis is as much a social as a physical one. The tale shows what, instead of fleeing, could have been Lackobreath's solution after he lost his voice had he been wealthy and able to appropriate a mechanical, i.e. social, vocal prosthesis which could have restored his bourgeois status. Equally, "Loss of Breath" presents what might have been Smith's fate had he not been affluent. Instead, the General's vocal prosthesis presents him as a victor, rather than a victim, of war and a heroic example of courage. With this tale Poe shows how, when a voice can be mechanically "prostheticised" and turned into a commodity, social rank can be purchased. The prosthetic voice proves once again a fraud and emphasises the symbiotic relationship between the biological individual, their mechanical vocal extensions and the social context (in this case of class privilege) in which they operate. Nature and artifice become indistinguishable and in the bourgeois strife for outward perfection and social status a mechanical, fake, aggrandised persona has preference over a perceived commonplace original. In Smith's case the vocal prosthesis, employed to brag, has assumed pre-eminence over the authentic, sincere and humble voice. Poe might be commenting on what he regarded the fakery and vacuity of the middle classes whom he personally detested for their perceived lack of literary taste. In the tale the mechanical vocal prosthesis no longer substitutes a superior but lost organic original, but becomes a desirable "transhuman" upgrade to the human being who is considered inadequate, not merely physically, but

[404] Ibid., 111.
[405] Ibid., 112.
[406] Joan Tyler Mead, "Poe's 'The Man That Was Used Up': Another Bugaboo Campaign", *Studies in Short Fiction* 23, no. 3 (1986): 282.

socially. Poe thus proposes a new definition of the prosthesis that lifts the mechanical extension out of the realm of regrettable exception into the domain of desired normality.

In Poe's satirical tales the vocal prosthesis entirely governs human existence. Combining preternatural notions of the disembodied ventriloquial voice with mechanistic aspirations of super-prostheses enhancing humanity, Poe's satire widens the definition of the prosthesis to something that not only exceeds humanity but ends up replacing it altogether. The Russian novelist Nikolai Gogol also explores the intersection of the bourgeoisie, the prosthetic limb and the preternatural in his satirical tale "Hoc Nos" ("The Nose"), published in 1836, in which the nose of the protagonist, a low-ranking civil servant, obsessed with rank and social status, literally escapes from his face to take on a civil career of its own and, to the protagonist's dismay, quickly outranks its owner. Similar to Poe's Lackobreath, whose voice escapes him, Gogol's protagonist is less vexed by having lost his sense of smell than by his literal loss of face among his social peers.[407] I will refrain from a more structural analysis of the tale however, as it would digress from my argument on the vocal prosthesis. In chapter 4 I will however demonstrate how the French writer Villiers de l'Isle-Adam intersects the vocal prosthesis with the bourgeoisie as a means to escape what he perceived and satirises as middle-class vacuity and spuriousness.

The prosthetic telegraph

I have demonstrated how in Edgar Allan Poe's tales prosthetic speech is attributed with superhuman abilities and appropriated by the middle classes. In the discussed tales the acquisition or loss of this superhuman voice has a social impact on the bourgeois protagonists and Poe thus grants the fictional vocal prosthesis a socio-cultural significance. Besides being a preternatural phenomenon, in his tales speech emerges as a detached, mechanical prosthesis which can be manipulated and monopolised by the wealthy. Enabling social advancement, the vocal prosthesis is a desired commodity. In the late 1830s and 1840s, when Poe wrote these tales, the electric telegraph, as a new and different kind of vocal prosthesis, did indeed provide the middle classes with economic advancement. In the general introduction I have mentioned the workings of the electric telegraph whose network kept expanding from the late 1830s onwards. *The London Anecdotes for All Readers: The Electric Telegraph*, an 1848 compendium of anecdotes, some informative, some humorous, about the new and expanding electric telegraph network in both Britain and the US, provides a wealth of insight in the contemporary perception and uses of the invention. It shows that to middle-

[407] Nikolay Gogol, Ronald Wilks and Robert A. Maguire, *The Diary of a Madman, The Government Inspector and Selected Stories*, trans. Ronald Wilks (London: Penguin Books, 2005), 125.

class entrepreneurs relying on a speedy distribution and reception of information, this disembodied voice, one of the most influential inventions of Poe's time, soon became indispensable:

> The confidence in the efficiency of telegraphic communication has now become so complete, that the most important commercial transactions daily transpire by its means between correspondents several hundred miles apart. Evidence of this has been afforded by a communication a few minutes old, being between a merchant in Toronto, in Canada, and his correspondent in New York, distant about 632 miles.[408]

One of the examples, mentioned under the heading "Speculators deceived by the treachery of a telegraphic agent", demonstrates exactly how dependent merchants had become on the proper and honest operation of the telegraph:

> (O)n the arrival of one of the steam-ships from England, the speculators in flour and grain at Philadelphia were fallaciously informed (by the telegraphic agent) that flour had "risen" in England. On the faith of this information, the repudiating provinces bought largely. On the arrival of the real facts of the case, it was found, to their consternation and loss, that the article had not risen; and more than one speculator lost to the amount of some thousand dollars.[409]

This middle-class dependency on the telegraph transferred the vocal prosthesis from the medical realm into the social sphere and, like in "The Man That Was Used Up", turned it from an exceptional necessity into a coveted commodity.

Paradoxically, the disembodied voice materialised in the electric telegraph. Through the electric network of wires both the materialist aspiration of displacing the voice as well as the preternatural abstruseness of the ventriloquial voice that could be thrown at a distance had materialised. Unsurprisingly perhaps, the general public needed time to adjust to this new invention. The first advertisement of the British *Great Western Railway* telegraph from 1843 reads: "The Wonder of the Age!! Instantaneous communication." The pamphlet continues with an announcement of a public demonstration of the working of the telegraph and concludes with: "The Electric Fluid travels at the rate of 280,000 Miles per second." The abstruse, instantaneous nature of communication that "the electric fluid" enabled was difficult to fathom for people used to

[408] Charles Maybury Archer (ed.), *The London Anecdotes for All Readers: The Electric Telegraph, Popular Authors* (London: David Bogue, 1848), 51-52.
[409] Ibid., 27-28.

comprehend speed by measure of the human or mechanical body and led to many misunderstandings regarding the way it operated. *Anecdotes* records people believing they can hear messages passing through the telegraph wires, others thinking the machine could accidentally send messages "topsy-turvy", and yet others who conclude that the telegraph wires were hollow tubes through which physical, paper messages were blown "like peas through a pea shooter"; that the wires were hollow speaking tubes transmitting voices; that the miraculous wires were powered by steam-engines; or, that the wires were autonomous eavesdropping chatterboxes, "blabbing (people's private lives) all over creation."[410] Common in most of these misconceptions was the belief that the telegraph wires either worked as a measurable, physical, mechanical device, or, in the superstitious mind, that their invisible force was powered by a supernatural agent or even the devil himself, sentiments similar to those reflected in Poe's tales about the voice.

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The Electric Telegraph is unlimited in the nature and extent of its communications; by its extraordinary agency a person in London could converse with another at New York, or at any other place however distant, as easily and nearly as rapidly as if both parties were in the same room. Questions proposed by Visitors will be asked by means of this Apparatus, and answers thereto will instantaneously be returned by a person 20 Miles off, who will also, at their request, ring a bell or fire a cannon, in an incredibly short space of time, after the signal for his doing so has been given.
The Electric Fluid travels at the rate of 280,000 Miles per Second.
By its powerful agency Murderers have been apprehended, (as in the late case of Tawell,)—Thieves detected; and lastly, which is of no little importance, the timely assistance of Medical aid has been procured in cases which otherwise would have proved fatal.
The great national importance of this wonderful invention is so well known that any further allusion here to its merits would be superfluous.
N.B. Despatches sent to and fro with the most confiding secrecy. Messengers in constant attendance, so that communications received by Telegraph, would be forwarded, if required, to any part of London, Windsor, Eton, &c.
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Fig. 14) The first British advertisement of the electric telegraph in use by *Great Western Railway*, 1843.

The layman, uninitiated in the world of new inventions, was used to thinking in mechanical bodily measures. The telegraph, of which to the public merely the electric wires were visible, departed from that concept and seemed even more disembodied than the late eighteenth-century speaking machines. With the telegraph even audible speech, now reduced to a series of codes, had to a certain extent become obsolete. With electricity prosthetic speech had now been abstracted and uncoupled from the body more than ever before. Communication via telegraph could span great distances in a short time, thus making the notion of the displaced presence of the ventriloquist

[410] Ibid., 17, 32, 92-93.

throwing a voice a reality. *Anecdotes* is filled with analogies of the electric telegraph to the human or animal body, one of which "the High-way of Thought", another, as suggested in an appreciative newspaper poem, that of a harnessed steed.[411] Before the successful laying of the transatlantic cable in 1858, proposals were made "to bring England and America within a speaking distance."[412] Though existing vocabulary struggled to capture the elusive nature of a device that evaded bodily measure, these analogies show how, at the same time, the electric telegraph with its ability to erase distance and time was perceived as an extracorporeal extension or super-prosthetic limb.

Poe cultivates these notions in the tale "The Thousand-and-Second Tale of Scheherazade", first published in the Philadelphian women's magazine *Godey's Magazine and Lady's Book* in February 1845. It is a frame narrative in which the narrator, Scheherazade, from the Middle Eastern story collection *One Thousand and One Nights* (or, *Arabian Nights* in English translations), tells her husband, the monarch, a story each night in order to keep him entertained and prevent him from killing her. (Her husband had made it his custom to murder his brides after the wedding night out of fear that his wife might prove adulterous.) By telling him a thousand and one stories in which reality and magic intermingle, Scheherazade made her husband fall in love with her and spare her life.[413] Poe's narrator recalls how Scheherazade tells her husband the thousand and second story in which Sinbad the Sailor comes face to face with late eighteenth- and nineteenth-century western inventions like steamships and hot air balloons.

Scheherazade describes these devices through Sinbad's ignorant eyes as magical, yet biological, living things. For example, the steam ship is depicted as a "horrible creature" or "beast […] moved altogether by necromancy."[414] Similarly, the air balloon is portrayed as "a terrible fowl […] fashioned entirely of belly".[415] England Sinbad recalls as "a nation of the most powerful magicians," one of whom "had cultivated his voice to so great an extent that he could have made himself heard from one end of the earth to the other. Another had so long an arm that he could sit down in Damascus and indite a letter at Bagdad — or indeed at any distance whatsoever."[416] Poe's depiction of the telegraph as an extended arm and a strong voice, like in the previously discussed tales, blends the biological with the mechanical and the preternatural. He intermingles notions of mechanical prostheses that enhance the body (the long arm) with those of the ventriloquial voice that can be cultivated and thrown over a great distance (the strong voice). Much like Rivarol's visualisations of Mical's late eighteenth-century speaking heads, he emphasises the superhuman

[411] Ibid., ii, 99.
[412] Ibid., 66.
[413] N. J. Dawood, *Tales from the Thousand and One Nights* (London: Penguin Books, 1973), 15-23, 405-407.
[414] Poe, *The Complete Tales*, 107.
[415] Ibid., 114.
[416] Ibid., 116.

abilities of the electric telegraph as a bodily extension by depicting it as a grotesquely enhanced limb, whereas simultaneously stressing its preternatural and incredible character in the eyes of the public. He ends his tale with the monarch, who had been uttering cries of disbelief throughout Scheherazade's story, branding his wife a liar as these technological inventions she speaks of are to his mind simply inconceivable. In Poe's extension of the classic tale Scheherazade is murdered after all, ironically, for telling the truth.

Poe's metaphor of the telegraph as long arms or a loud voice being able to reach and disperse information across continents is echoed in *Anecdotes*. The beforementioned advertisement of the British *Great Western Railway* telegraph boasts that "(b)y its powerful agency murderers have been apprehended". In *Anecdotes* the incident, taking place in 1845, is further explained. A murderer, Tawell, was seen running from the crime scene, who then attempted to flee by taking the train from Slough to Paddington: "Thus, while the suspected man was on his way to the metropolis at a fast rate, the telegraph, with still greater rapidity, sent along the wire which skirted the path of the carriage in which he sat, the startling instruction for his capture!"[417] Tawell's capture is a striking example of Poe's metaphorical long telegraphic arms and loud voice physically manifesting their superhuman abilities by overtaking the train's speed and calling the authorities. This personification of the telegraph and use of bodily metaphors is understandable as, compared to the late eighteenth-century speaking machines, the electric telegraph as a biological enhancement and speech prosthesis was further disembodied to the extent that it no longer required the mechanical simulation of the biological vocal organs. Instead, it ushered in a new paradigm of disembodied electric communication.

In this chapter I have shown how in the first decades of the nineteenth century E.T.A. Hoffmann responds to the notion of mechanical cognisance as well as warnings regarding mesmeric practice and employs them to invert the definition of automaton from an object that moves of its own volition to a person who lacks mental wilfulness. "Automata", when read in the context of prostheses, employs the trope of speaking through someone else with the aid of a speaking machine. In both "Automata" and "The Sandman" machine speech is however corrupted by a malignant mesmerist ensuring that the "patient" becomes a metaphorical automaton by being reduced to a state of inertia, madness or even death. Edgar Allan Poe's vocal prostheses are influenced by the late eighteenth-century speaking machines, the electric telegraph and popular conceptions of disembodied ventriloquial speech. His vocal prostheses are corruptive, rather than corrupted as the source of their misbehaviour is never revealed. Their corruptive influence is aimed mainly at the bourgeoisie whom Poe tended to satirise as he felt they forced him to alter his desired

[417] Maybury Archer (ed.), *The London Anecdotes*, 107.

writing style. In “The Man That Was Used Up” in particular, he comments on the impact of prostheses on society should they become appropriated by the wealthy. Whereas Poe was influenced by mechanical speaking machines and the electric telegraph because they disembodied the human voice, Samuel Butler’s *Erewhon*, which I will discuss in the next chapter, among other factors, is guided by the telegraph’s qualities as a network and, like Poe, explores the potential impact of prostheses on societal equality. Unlike Poe’s mechanical and preternatural approach, Butler’s is however an evolutionary one.

3. - SAMUEL BUTLER: PARASITIC PROSTHESES, 1848-1909

In the previous chapter I have shown how the electric telegraph network impacted public life, especially that of the entrepreneurial middle classes. Electricity, able to transcend space, was at once regarded as a preternatural property and a corporeal force. Unlike the *Euphonia*, whose act of speaking was contained within itself, telegraphic speech was perceived as fluid as it took place via the wires, the spaces *between* the telegraphic transmitters and receivers. Therefore, the telegraph, which literally stands for "writing over a distance", was not determined by the fixed site of the individual machine, but rather by the action that took place *between* the coupled machine limbs. This interconnected machine influenced contemporary fiction. I have demonstrated how Poe in his satires imagines prostheses as unsettled, unfixed devices which not only exceed human biology but even end up replacing it. In his tales, human speech, as an elusive, external body part, continuously escapes any confinements imposed on it, even those of death. The English novelist Samuel Butler (1835-1902) in his 1872 novel *Erewhon* however expands on this notion of disruptive prostheses by imagining mechanically fluid prostheses, which, rather than as individual agents, act as intelligent networks, i.e. interconnected living organisms with the ability to propagate.

Erewhon was published anonymously in 1872. As a utopian satire it is written as a first-person account of the English explorer, Higgs, who gets lost during an expedition. He ends up as an outsider in an agrarian society which initially appears to be fascinatingly different, complex and even absurd, yet at times proves uncomfortably familiar. *Erewhon* reads as a satire of conservative late nineteenth-century England, an exaggeration of its morals and ideals as perceived by Butler, i.e. a society with a strong distinction between a private and a public life and a strong sense of decorum and tradition. From the narrator's perspective the text jumps back and forth between misunderstanding of and sympathy towards this "other" society. One of Butler's examples is the Erewhonian Colleges of Unreason that teach illogical and inapplicable philosophies that yet grant their alumni respect and a superior status. With this "other" society Butler parodies what he believes to be archaic institutions (the church, the conservative party, academia) in contemporary England which he perceived as stagnant due to being cemented in static tradition and orthodoxy.

In the chapters 23 to 25, in "The Book of the Machines", Higgs quotes an Erewhonian philosopher whose thoughts on machines are at the root of the decision to ban all mechanical devices from society. These chapters are influenced by contemporaneous teleological theories of evolution, social criticism and theories of degeneration. The philosopher attributes evolution with intelligence and memory, which enable physical traits to be wilfully generated or inherited by the

next generation. His text poses that the essence – and potential treachery - of machines is not contained in the single mechanical body, but in the power of generational transmission, i.e. in the action that takes place between a coupling of machines. The chapters read as a doomsday text in which the philosopher warns about machines' potential to outsmart and subjugate mankind. Butler infuses his text with Marxist ideas of the worker becoming enslaved to his tools and thus inverts the human-prosthesis relationship. He references theories of social and physical degeneration and portrays the prosthetic voice in particular as a hideous idol, which, instead of aiding or extending the human body, symbolises the complete rejection of the ailing body.

In two earlier non-fictional essays Butler set forth his two main machine arguments, the first being that machines are intelligent and evolve and the second that machines are extracorporeal limbs. In "Darwin among the Machines", published on the 13th of June 1863 in the New Zealand Christchurch newspaper *The Press* and signed "Cellarius", Butler discusses the possibility of machine evolution and proposes a (skewed) mechanism-biology analogy, i.e. the notion that machines behave like organisms and therefore *are* living organisms.[418] He prophesises that, considering the speed of mechanical evolution, machines will one day become the superior race. Another text that predates "The Book of the Machines" is "Lucubratio Ebria", published in the same paper on the 29th of July 1865 in which Butler argues that machines are external limbs, enhancements in strength or speed to human biology.[419] According to Butler, these extracorporeal limbs are grown out of necessity by intelligence and will. Consequently, once these new limbs have proven useful and have established themselves, this wilful intelligence will transform into a dormant, unconscious memory enabling these successful templates to be passed on to the next generation. As a conclusion to this reasoning, Butler conceives machines as extracorporeal human limbs deliberately grown from human necessity, thus elevating man, in contrast to other vertebrate mammals, to the status of the "vertebrate machinate mammal".[420] This machine mammal is the philosophical result of Butler's fondness of logical reasoning and in *Erewhon* the author inserts his philosophies into a fictional context.

Due to the similarities to Edward Bulwer Lord Lytton's novel *The Coming Race*, published a year earlier, many attributed *Erewhon* to Lytton as well, a notion Butler dispels in the preface to *Erewhon*'s second 1872 edition.[421] Both the plot of *The Coming Race* and that of *Erewhon* evolve around an explorer who ends up in a morally advanced civilisation, unknown to man. However,

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[418] "Darwin among the Machines" has been reprinted in: Henry Festing Jones, *The Note-Books of Samuel Butler: Author of "Erewhon"* (London: A. C. Fifield, 1912), 42-46.
[419] "Lucubratio Ebria" has been reprinted in: Festing Jones, *The Note-Books of Samuel Butler*, 47-53.
[420] Festing Jones, *The Note-Books of Samuel Butler*, 49.
[421] Edward Bulwer Lord Lytton and John Weeks, *The Coming Race* (Santa Barbara: Woodbridge Press Publishing Company, 1989), introduction, unnumbered page 3.

where Erewhonian society, in order to protect mankind from social inequality and oppression, rejects all forms of machinery, Lytton's utopian subterranean society fully embraces technological progress. Lytton's subterranean race, the Vril-ya, have cultivated a natural force, the Vril fluid, comparable to, but much more powerful than electricity, which they employ as both a physical and a mental power. Vril is used to light the underground cities and to exert force, for example to blow apart or fuse rock formations. Vril is also applied for therapeutic purposes in a manner evocative of the mesmeric practice, i.e. to cure disease, wipe memories, rapidly exchange knowledge by invoking a trance state or otherwise exert influence over someone's mind. Finally, it is the driving force behind their superhuman prostheses, such as mechanical wings which allow them to cross vast distances in a short time. The vril force, which, according to the narrator, can be directed "throughout a distance almost indefinite", essentially combines the transmissive properties of the mesmeric practice and the electric telegraph.[422]

In the 1870s the notion of prostheses operating in synergy with the human body is a recurring trope. In *The Coming Race*, the Vril-ya's bodies have even evolved to accommodate them. The narrator's description of the Vril Staff, a device through which the force can be directed, demonstrates Vril's prosthetic qualities: "I was assured […] that its power was not equal in all, but proportioned to the amount of certain vril properties in the wearer".[423] The narrator's unevolved physical and mental capacity to direct the force is the reason he is prohibited from handling a Vril Staff and why he fails in his attempt to fly when given a pair of mechanical wings. His host's daughter Zee explains: "I see [..] that your trials are in vain, not from the fault of the wings and their appurtenances, nor from any imperfectness and malformation of your own corpuscular system, but from [sic.] irremediable, because organic, defect in your power of volition."[424] Lytton infuses his story with Darwinian theory of evolution when Zee continues to explain that "the connection between the will and the agencies of that fluid which has been subjected to the control of the Vril-ya was never established by the first discoverers, never achieved by a single generation; it has gone on increasing […] in proportion as it has been uniformly transmitted from parent to child, so that, at last, it has become an instinct".[425] The ability to manifest and direct the Vril power depends on the force's synergy with the individual's body and mind, a trait inherited through evolution.

Though Butler states that "*Erewhon* was finished […] before the first advertisement of *The Coming Race* appeared", the two novels present two sides of the question whether technological

[422] Bulwer Lord Lytton, *The Coming Race*, 56.
[423] Ibid., 55.
[424] Ibid., 83.
[425] Ibid., 83-84.

progress and the use of advanced prostheses would benefit social equality.[426] This question would be further explored in the 1880s by the American author and journalist Edward Bellamy and the British author and artist-designer William Morris. In 1888 in the novel *Looking Backward: 2000-1887* Bellamy advocates a centralised and urban socialism in which machines greatly reduce the amount of work done by each worker.[427] Morris criticises this notion as he believes that "the development of man's resources, which has given him greater power over nature, has driven him also into fresh desires and fresh demands on nature, and thus made his expenditure of energy much what it was before" and that "the multiplication of machinery will just — multiply machinery".[428] Morris suggests that an increase in available machinery will only increase the demand for them, rather than diminish the work. His idea of a utopian society is one of small agrarian communities in which the work in itself has enough merit in order to promote productivity, a view he would elaborate on in the serialised novel *News from Nowhere* in 1890.[429] In *Erewhon* however the question whether machines could be detrimental or beneficial in creating a classless society, rather than on productivity, hinges on Butler's perceived nature of machines itself. Whereas Lytton in *The Coming Race* proposes that powerful technology and the potential for equal and mutual destruction guarantees the abandonment of force and oppression both within and between societies, Butler sees danger in what he perceives as machines' potential for developing intelligence as well as their appropriation as extracorporeal limbs.[430]

The predominant difference between Erewhonian and Vril-ya society is that the latter is in charge of its prostheses. It is mankind who physically and mentally evolves and advances and shapes its prostheses according to its needs, whereas Erewhonian society fears this might be true for the prostheses themselves, eventually leading to the obliteration, rather than advancement of mankind. According to Butler's notion, life and evolution are rooted in intelligence. Lee Elbert Holt shows that Butler revised the text many times during his lifetime, yet Herbert Sussmann argues that "only in the last year of his life did he revise the work to make it a defence of vitalism."[431] Hans-Peter Breuer asserts that the term "vitalistic" […] is perhaps misleading, for rather than positing a vitalistic force as the defining characteristic of life, his (Butler's) own unwillingness to deviate from a strictly scientific method even in matters of consciousness or mind led him to invest all matter with an

[426] Samuel Butler and Peter Mudford, *Erewhon* (Harmondsworth: Penguin Books, 1985), 29.
[427] Bellamy, Edward, and Matthew Beaumont. *Looking Backward: 2000-1887*. Oxford: Oxford University Press, 2007.
[428] William Morris, "'Looking Backward'", *Commonweal* 5, no. 180 (1889): 195.
[429] William Morris and Clive Wilmer, *News from Nowhere and Other Writings* (London: Penguin Books, 2004).
[430] Bulwer Lord Lytton, *The Coming Race*, 26.
[431] Lee Elbert Holt, "Samuel Butler's Revisions of 'Erewhon'", *The Papers of the Bibliographical Society of America* 38, no. 1 (1944); Sussman, *Victorians and the Machine*, 151.

increment of mind."[432] Indeed, rather than an external spiritual principle, Butler employs intelligence as the internal catalyst of evolution. Despite the many later edits, the chapters that I will discuss, comprising "The Book of the Machines", were, some minor changes aside, present in the second 1872 edition.[433]

Networks

"The Book of the Machines" is influenced by various contemporary contexts of technology, science and social critique, which I shall now discuss. The alleged Erewhonian philosopher and the author of this text, whom Higgs quotes in the novel, challenges the notion that a machine's significance lies within the single machine. Instead, he proposes that it lies in its propagative ability, i.e. its ability to interact with other machines:

> *We are misled by considering any complicated machine as a single thing; in truth it is a city or society, each member of which was bred truly after its kind. We see a machine as a whole, we call it by a name and individualise it; we look at our own limbs, and know that the combination forms an individual which springs from a single centre of reproductive action; we therefore assume that there can be no reproductive action which does not arise from a single centre; but this assumption is unscientific, and the bare fact that no vapour-engine was ever made entirely by another, or two others, of its own kind, is not sufficient to warrant us in saying that vapour-engines have no reproductive system.*[434]

The philosopher stresses that rather than as a "single centre", machines operate and propagate like a hive or a city. Butler's ideas of the conjugated machine were influenced by the language used to discuss the rapidly growing, interconnected network of the electric telegraph. In the previously discussed 1848 *Anecdotes* on the telegraph the analogy used for the machine is that of an organic, ever-expanding spider's web:

> It was in the United States of America that the electric telegraph system was first adopted on a grand scale […] and […] it is scarcely doubted, that within a few years the whole of the

[432] Hans-Peter Breuer, "Samuel Butler's 'The Book of the Machines' and the Argument from Design", *Modern Philology* 72, no. 4 (1975): 366.
[433] Holt, "Samuel Butler's Revisions": 37.
[434] Butler, *Erewhon*, 212.

> populous parts of the United States will be covered with a *net-work, like a spider's web*, suspending its principal threads upon important points along the seaboard of the Atlantic on one side, and upon similar points upon the Lake Frontier on the other.[435]

The words "net-work, like a spider's web" are even italicised to emphasise their importance. This fragment connects to the frontispiece, which shows various societal figures, among whom a scientist with a butterfly net, an authority figure and lady Justitia, as well as a cupid, seemingly chasing knowledge, lawfulness, justice and love. The engraving alludes to the notion of catching things. To affirm this notion, underneath the image is etched a spiderweb with the words "Electric Telegraph" in it. The image seems to convey that it is people who are doing the chasing and catching with the aid of the telegraph as an organic, interconnected, intelligent vocal prosthesis. Comparing this image to an illustration from 1881 reveals how much this network had grown over the course of a few decades.

Fig. 15) The telegraph as a connective spider's web as the frontispiece of Maybury Archer's *Anecdotes* (1848).

In 1881, thirty-three years after the publication of *Anecdotes*, a satirical image appeared in the widely read American political magazine *Harper's Weekly, A Journal of Civilization*. It shows a romantic "Rückenfigur" of an Irish immigrant looking up with astonishment at an imposing web of telegraph wires in a big American city. The sky is barely visible through the plethora of wires. Balancing on one of the telegraph poles is a man either affixing more wires or repairing them, while

[435] Maybury Archer (ed.), *The London Anecdotes*, 51. (Original emphasis.)

another dangles underneath him feeding the cable. The caption reads: “New Arrival. “Spoider-web across the street, and a spoider in it. But shure I didn’t know the varmints were so big in America.”” Though the spider analogy in the image is obviously meant to be light-hearted, compared to the engraving in *Anecdotes*, the allusion to the catch is inverted and the telegraph is imagined as parasitic vermin. One of the men seems caught in its web like a fly, while the other, the spider, closes in on it prey. This illustration suggests that, instead of people, it is now the organic, growing, intelligent vocal prosthesis which is doing the catching and people being its prey. Though this image is satirical, it reveals what an obtrusive visual presence the telegraph had become in American city life and alludes to the anxiety of the ever-expanding coupled machine taking over human life.

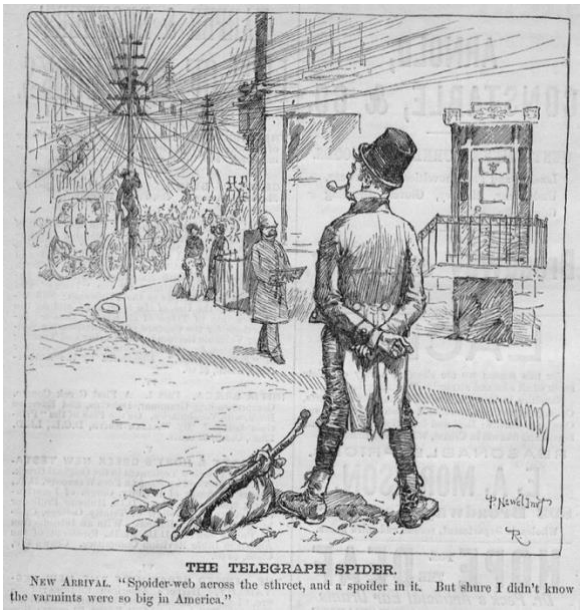

Fig. 16) “The Telegraph Spider” as an obtrusive urban parasite in *Harper’s Weekly*, Nov 12, 1881, 768.

As the telegraph increasingly became part of public life, in the second half of the nineteenth century electricity increasingly came to be regarded as a prosthetic conduit of thought and speech. In the first chapter I mentioned the scholars Laura Otis, who comments on people beginning to regard themselves as connected “cross-points in a net”, and Marshall McLuhan, who describes the telegraph as an external brain.[436] I have also shown how its invisible, instantaneous and disembodied properties in the second half of the nineteenth century even bolstered the spiritual notion of communication with other planes of existence. In the second half of the nineteenth century, this perceived merge of humanity and its machine prostheses characterised the electric machine as increasingly potent, yet organic. In *The House of the Seven Gables*, a novel written in 1851 by

[436] Otis, *Networking*, 221; McLuhan, *Understanding Media*, 247.

American author Nathaniel Hawthorne, Clifford, one of the protagonists who had been leading an isolated life away from new technologies, finds himself for the first time in a moving train carriage and discusses with a fellow passenger the implications of electricity, specifically of the electric telegraph, on human life:

> Then there is electricity, — the demon, the angel, the mighty physical power, the all-pervading intelligence!" […] Is it a fact – or have I dreamed it – that, by means of electricity, the world of matter has become a great nerve, vibrating thousands of miles in a breathless point of time? […] Rather, the round globe is a vast head, a brain, instinct with intelligence! Or shall we say, it is itself a thought, nothing but thought, and no longer the substance which we deemed it?[437]

Whereas Poe, in "The Thousand-and-Second Tale of Scheherazade", uses the metaphors of a single amplified shout or long arm, Hawthorn characterises the telegraph as the brain itself, comprised of a myriad of interconnected nerves that steer and determine human agency, i.e. the definition of life itself. In Clifford's perception, the autonomous and unstoppable machine network will in time not only socially, but also physically dematerialise the very substance of the world itself. Where Poe emphasises the telegraph as a singular body part carrying out the singular physical action of a shout or a handshake, Hawthorne envisions all of humanity, rather than an agent, as interchangeable nodules in a ubiquitous, living machine network. Butler extrapolates this notion of living, intelligent machines and imagines them behaving like fully biological organisms.

Evolution

Besides the seemingly organic expansion of the telegraph network, another influence on "The Book of the Machines" is contemporary thought on evolution. The narrator explains the Erewhonian philosophical ideology behind the decision to ban all machines from Erewhon, which hinges on two arguments, the first of which, as explained in "The Book of the Machines", can be reduced to an Aristotelian syllogism.[438] The major premise is however faulty, which inevitable leads to an erroneous conclusion:

[437] Nathaniel Hawthorne and Milton R. Stern, *The House of The Seven Gables* (New York: Penguin Books, 1986), 264.
[438] Butler was classically schooled at the university of Cambridge: C. E. M. Joad, *Samuel Butler (1835-1902)* (London: Leonard Parsons, 1924), 7.

Major premise: Evolution is intelligent

Minor premise: Machines evolve

Conclusion: Machines are intelligent[439]

The Erewhonian philosopher questions the nature of consciousness and muses:

> There is no security […] against the ultimate development of mechanical consciousness, in the fact of machines possessing little consciousness now. […] But who can say that the vapour engine has not a kind of consciousness? Where does consciousness begin, and where end? Who can draw the line? Who can draw any line?"[440] […] (W)hat I fear is the extraordinary rapidity with which they are becoming something very different to what they are at present.[441]

He continues arguing that machines propagate by creating other machines and evolve through the hand of man who tends to them, replaces and improves them: "Surely if a machine is able to reproduce another machine systematically, we may say that it has a reproductive system, if it be not a system for reproduction?"[442] He concludes with a warning: "After all then it comes to this, that the difference between the life of a man and that of a machine is one rather of degree than of kind".[443] […] Our bondage to the machine will steal upon us noiselessly and by imperceptible approaches".[444] The philosopher warns that mankind will in time become the inferior race, not by machine violence, but by man's dependence on his prostheses.

In the preface to the second 1872 edition Butler states that the intention behind the teleological evolutionary theories explored in "The Book of the Machines" was, rather than to refute Charles Darwin's (1809-1882) theses, to invalidate by parody a work he refers to as "an example of the specious misuse of analogy".[445] Though Butler refrains from explicitly mentioning the work, the text in question, Butler explained in a letter to Darwin in May 1872, is *Analogy of Religion, Natural and Revealed* (1736), written by Butler's grandfather, the bishop Joseph Butler (1693-1752).[446] In

[439] For more on the Aristotelian syllogism as a deductive system, see: Piotr Kulicki, "Aristotle's Syllogistic as a Deductive System", *Axioms* 9, no. 2 (2020): article 56, 2-3.
[440] Butler, *Erewhon*, 199.
[441] Ibid., 203.
[442] Ibid., 210.
[443] Ibid., 219.
[444] Ibid., 222.
[445] Butler, *Erewhon*, 30.
[446] Breuer, "Argument from Design": 365; Butler's letter to Darwin, dated May 11, 1872, is reproduced in: Henry Festing Jones, *Samuel Butler, Author of Erewhon (1835-1902): A Memoir*. 2 vols. (London: Macmillan and Co., 1919), vol. 1, 156-157.

finding analogies between nature and human affairs, Bishop Butler makes a case for the *probability* of intelligent design by an omnipotent creator, which is subsequently posed as the factual premise of the argument.[447] Breuer points out that "by avoiding analogical rigor […] it becomes possible to create the appearance of an empirical proof for what is, however, an a priori deduction", since "the analogies presuppose the acceptance of what is in effect no more than an assumption".[448] Butler parodies his grandfather's reasoning strategy which is built on comparison, rather than logical deduction. By making an apparently plausible case for a wilful intelligence as the nucleus of evolution, rather than the chance mutations of natural selection Darwin had discussed in *On the Origin of Species* in 1859, Butler shows how a seemingly logical argument, built on an erroneous premise, can lead to absurd theories.[449] Though Butler would in the late 1870s and 1880s further explore these teleological ideas on evolution in seriousness, Sussmann argues that at the time of writing *Erewhon*, "Butler approaches mechanistic biology with nearly perfect ambivalence, with an ironic detachment that seeks only to play with the paradoxes of philosophical mechanism rather than resolve them."[450] I argue that this philosophically pleasing notion of intelligent evolution indeed appealed to Butler as it granted him the opportunity to artistically explore the machine as a living intelligent network and pose the machine-human relationship as a parasitic one in which machines evolve by rendering mankind fully co-dependent.

Though his initial essays on machines are primarily philosophical explorations and Butler did not initially set out to criticise Charles Darwin's theories of evolution, Breuer shows that, judging from Butler's notes in his copy of Darwin's *On the Origin of Species* (1859), from the mid 1870s Butler increasingly took offense with Darwin's lack of empirical proof on the exact working of natural selection and thus, like his grandfather, found Darwin "guilty of a similar misuse of analogical reasoning."[451] Butler devised an evolutionary theory of his own, which he later discovered had already been formulated by one of Darwin's predecessors, the French naturalist Jean-Baptiste Lamarck (1744-1829).[452] In *Philosophie Zoologique* (1809) Lamarck presented a theory suggesting that traits that had been acquired through evolution, could be passed on to the next generation. However, unlike Darwin's later theory of chance mutations, these traits which developed in an organism, Lamarck believed, did so with a *purpose*, namely to better adapt the organism to the

[447] Breuer, "Argument from Design": 371-374.
[448] Ibid., 376.
[449] Ibid., 374. Butler explains this in his letter to Charles Darwin, dated May 11, 1872, which is reproduced in: Festing Jones, *A Memoir*, vol. 1, 156-157.
[450] Sussman, *Victorians and the Machine*, 138.
[451] Breuer, "Argument from Design": 376.
[452] Philip J. Pauly, "Samuel Butler and His Darwinian Critics", *Victorian Studies* 25, no. 2 (1982): 166; Clara G. Stillman, *Samuel Butler: A Mid-Victorian Modern* (Port Washington: Kennikat Press, 1972), 133-134.

environment it had to deal with.[453] Philip Pauly argues that in neo-Lamarckian thought, which in the 1870s was explored in Germany and the US, but found little following England, "(e)volution was progressive in that it represented the continual growth of Mind."[454] Following this premise, Butler proposed that machines, imbued with intelligence and memory, are no different from biological organisms and propagate similarly. Despite his Lamarckian ideas being proven wrong, thus making Butler somewhat of a laughing stock within the scientific community, by introducing intelligence in the sphere of biological evolution, Butler coupled machines to humans as living, self-governed, *parasitic* prostheses. His idea of the human-machine relationship is a symbiotic one in which the machine adapts to human biology, yet, once this irreversible co-dependent relationship is established, also potentially harms it.

Social criticism

These notions of intelligent evolution bring Butler to the second argument of Erewhonian machine philosophy. By proposing that machines are external limbs, i.e. extracorporeal prostheses which enhance the body, he argues that they are a potential source of social inequality when appropriated by the wealthy. He coins the term "machinate mammal" to denote man's attachment – in every sense – to his machines:

> Man's very soul is due to the machines; it is a machine-made thing.[455] […] Its ("The Book of the Machines'") author said that machines were to be regarded as a part of man's own physical nature, being really nothing but extra-corporeal limbs. Man, he said, was a machinate mammal. The lower animals keep all their limbs at home in their bodies, but many of man's are loose, and lie about detached, now here and now there, in various parts of the world – some being kept always handy for contingent use, and others being occasionally hundreds of miles away.[456]

Butler exemplifies this statement with the phenomenon of the train:

[453] Pauly, His Darwinian Critics": 162.
[454] Ibid., 164.
[455] Butler, *Erewhon*, 207.
[456] Ibid., 223.

> Even community of limbs is thus rendered possible to those who have so much community of soul as to own money enough to pay a railway fare; for a train is only a seven-leagued foot that five hundred may own at once. […] He (the Erewhonian philosopher) showed that men became more highly and delicately organised the more nearly they approached the summit of opulence, and that none but millionaires possessed the full complement of limbs with which mankind could become incorporate.[457] (T)o the rich, matter is immaterial; the elaborate organisation of his extra-corporeal system has freed his soul.[458]

Butler's Erewhonian prostheses are feared to bring about class antagonism on a societal scale. Whereas Lytton proposes the Vril force as a social equaliser, the philosopher Gilles Deleuze and psychoanalyst Félix Guattari emphasise how in *Erewhon* however the prosthetic machine not only subverts the human-machine relationship but also disrupts interhuman hierarchies when it is monopolised by the wealthy.[459] They pose that "Butler is not content to say that machines extend the organism, but asserts that they are really limbs and organs […], which men will appropriate according to their power and their wealth, and whose poverty deprives them as if they were mutilated organisms."[460] Deleuze and Guattari suggest that mechanical prostheses or limbs socially and economically advance the wealthy who can monopolise them, whilst the poor, who are excluded from this privilege, are left mutilated and disabled by comparison. This reading argues that the use of prostheses by the privileged promotes societal hierarchies and inequality and thus has a corrupting influence on interhuman relationships. Indeed, the fears of Butler's fictional society are extrapolations of the scenario in Poe's "The Man That Was Used Up" in which people like General Smith can purchase social advancement through the appropriation of prostheses, or the reality of the telegraph being monopolised by wealthy stockbrokers, leaving entrepreneurs without recourse to this vocal prosthesis disadvantaged by comparison. However, I argue that, unlike Poe's General Smith or the entrepreneurs who chose to appropriate the machine for their own advancement, in *Erewhon*, instead of the bourgeoisie employing machines, it is the increasingly intelligent machines themselves which Butler proposes as the agents of inequality.

Besides inequality, Erewhonian society fears total subjugation to the machines. The philosopher asks: "How many men at this hour are living in a state of bondage to the machines? How many spend their whole lives, from the cradle to the grave, in tending them by night and

[457] Ibid., 224.
[458] Ibid., 225.
[459] Gilles Deleuze et al., *Anti-Oedipus: Capitalism and Schizophrenia* (London: Bloomsbury Academic, 2019), 324.
[460] Ibid., 324.

day?"[461] With the Erewhonian fear of servitude to machines Butler references the socialist thinker Karl Marx (1818-1883), who in 1867 in *Das Kapital, Kritik der politischen Ökonomie* (*Capital*) envisions mammoth factory machinery as a conjunctive system, served by its human tools or limbs:

> To work at a machine, the workman should be taught from childhood, in order that he may learn to adapt his own movements to the uniform and unceasing motion of an automaton. When the machinery, as a whole, forms a system of manifold machines, working simultaneously and in concert, the co-operation based upon it, requires the distribution of various groups of workmen among the different kinds of machines. […] Since the motion of the whole system does not proceed from the workman, but from the machinery, a change of persons can take place at any time without an interruption of the work.[462] […] Machinery is put to a wrong use, with the object of transforming the workman, from his very childhood, into a part of a detail-machine. […] In handicrafts and manufacture, the workman makes use of a tool, in the factory, the machine makes use of him. […] In the factory we have a lifeless mechanism independent of the workman, who becomes its mere living appendage.[463]

According to Marx, when machines are monopolised as tools by capitalist corporations, the relationship of factory machinery to the human worker inevitably becomes inverted. Instead of the human being master of the machine, he is reduced to a subservient and replaceable limb of the self-governed factory machine body. Tamara Ketabgian stresses: "Marx argues that the difference between tools and machines is primarily one of degree. […] For Marx, the development of increasingly sophisticated tools and machines changed prosthetic relations irrevocably. […] Through a process of grafting and transformation, the worker's former prosthesis - his tool - grows beyond his reach, to become a body in its own right."[464] Jessica Kuskey states that "Marx repeatedly anthropomorphizes the machine to emphasize the steam engine's amazing power to control and mechanize the factory worker's body" and that the expansion of industry to human workers gave rise to anxieties of being turned into machines themselves, both in body and mind.[465] Working in conjunction with factory machines was thus feared to lead to physical and moral degradation in

[461] Butler, *Erewhon*, 208.
[462] Karl Marx et al., *Capital: A Critical Analysis of Capitalist Production*, trans. Samuel Moore, Edward Aveling, Mark G. Spencer (Hertfordshire: Wordsworth Classics of World Literature, 2013), 291.
[463] Ibid., 292.
[464] Tamara Ketabgian, "The Human Prosthesis: Workers and Machines in the Victorian Industrial Scene", *Critical Matrix* 11, no. 1 (2021): 5.
[465] Jessica Kuskey, "The Body Machinic: Technology, Labor, and Mechanized Bodies in Victorian Culture" (English - PhD Dissertations, 62, Syracuse University, 2012), 21.

industrial towns.[466] Both Ketabgian and Kuskey emphasise that this notion of humans becoming replaceable and complaisant prostheses to the unstoppable machine body entirely inverts the machine-human prosthetic relationship. In her reading of *Erewhon*, Ketabgian notes: "Pitting technophobe against technophile, the novel asks: Is the worker a prosthetic attachment to the machine, or is the machine a prosthetic organ of the human body?"[467] I argue that Butler categorises the human-prosthesis relationship, by placing it within the spheres of evolutionary as well as social hierarchies, predominantly as parasitic and antagonistic.

Whereas the prostheses in Poe's "Valdemar" and "Loss of Breath" are disobedient and uncontrollable and thus disruptive to their middle-class owners, Butler's imagined prostheses, interconnected as a network, are feared to feed off society as a whole and particularly the workers. Whereas Lackobreath's prosthetic voice – perhaps accidentally – dislodged itself and stopped aiding its owner, in *Erewhon* the prosthesis is feared to wilfully gain autonomy and purposefully transform, in connection with other machines, into a giant brain, which not only disrupts, but entirely subverts human society. Butler's vision of interconnected machine prostheses is a more advanced version of Hoffmann's influencing machines, which, rather than being steered by a human operator, assume self-governance. Besides intelligence, they also employ biology and inescapable physical strength to assert power over humanity. Instead of the mesmerist, the machine itself is now the intelligent agent and the enslaved human subject its conditioned, prosthetic instrument.

Degeneration

In Erewhonian society the mechanical prosthesis acquires a deeply negative connotation. Besides echoing Marxist sentiments, Butler also references contemporary theories of degeneration, which are connected to the notion of people becoming subservient prostheses to their machines. *Erewhon*'s protagonist Higgs states:

> The one serious danger which this writer (the Erewhonian philosopher) apprehended was that the machines would so equalise men's powers, and so lessen the severity of competition, that many persons of inferior physique would escape detection and transmit their inferiority to their descendants. He feared that the removal of the present pressure might cause a degeneracy of the human race, and indeed that the whole body might

[466] Ibid., 21
[467] Ketabgian, "The Human Prosthesis": 2.

> become purely rudimentary, the man himself being nothing but soul and mechanism, an intelligent but passionless principle of mechanical action.[468]

Butler comments on the general fear of physical and moral degradation that resulted as a by-product of Marx' fears of human subordination to machines as well as Darwin's theory of evolution. Though Darwin's 1859 *On the Origin of Species* did not discuss human evolution, the idea of the survival of the fittest and the inevitable perishing of the weak was soon adopted and applied as a justification of modern capitalist society in which the well-to-do thrive and the poor live in squalor.[469] Though specific knowledge of genetics was not discovered until the early twentieth century, Darwin's evolutionary theory did incorporate the notion of biologically inherited traits.[470] Darwin's cousin, the statistician and sociologist Francis Galton (1822-1911), having studied eminent British families in the 1860s came to believe that not only physical traits, but also mental abilities and morality were inherited and that thus, indirectly, poverty and wealth were inherited as well.

Galton termed these views "the new science of eugenics", ideas that would become popular with conservatives, liberals and socialists alike and whose later adoption in 1930s Germany would have disastrous consequences.[471] By the end of the nineteenth century, the fear of biological and social degeneration was embedded in the minds of many. Eugenic discourse had become commonplace and was reflected on by artists and writers.[472] The German physician and social critic Max Nordau, in *Entartung* (*Degeneration*) (1892), a text I will discuss in the next chapter, aims his vitriol at what he perceived as the moral decay of many fin-de-siècle artists. In short, the combination of Marx's social theories and Darwin's theories of evolution and inherited traits inadvertently gave rise to fears that modern European civilisation was in an ever-deteriorating state of physical and moral decline. From the publication of *Origin,* degeneration became a popular literary and artistic trope.[473] In *Erewhon* this perceived degeneration is however not countered or diminished by mechanical prostheses, but it is the prostheses themselves, by rendering people, the "machinate mammals", co-dependent, which are considered the cause of this potential social and physical devolution. In the next chapter I will discuss how in Villiers' *Tomorrow's Eve* a fictional

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[468] Butler, *Erewhon*, 224.
[469] Carolyn Burdett, "Post Darwin: social Darwinism, degeneration, eugenics". *British Library, Discovering Literature: Romantics & Victorians*, 2014, accessed Feb 12, 2021, https://www.bl.uk/romantics-and-victorians/articles/post-darwin-social-darwinism-degeneration-eugenics#.
[470] Ibid. For more on the relationship between Lamarck and Darwin's theories, see: Riskin, *The Restless Clock*, chapter 7.
[471] Burdett, "Post Darwin".
[472] Ibid.
[473] Ibid.

inventor tries to counteract what he perceives as the degeneration of certain women in society with a female-gendered prostheses.

Parasitic prostheses

In *Erewhon* Butler emphasises the mechanical voice in particular as a symbolic embodiment of this dread of monstrous parasitic prostheses and the physical degradation Erewhonian society fears will result from their use. The protagonist, lost on his expedition, when his hopes had been abandoned completely, comes "upon a sort of Stonehenge of rude and barbaric figures" with a "superhumanly malevolent expression upon their faces."[474] Butler emphasises the terror the statues inspire in the traveller:

> Each was terrible after a different kind. One was raging furiously, as in pain, and a great despair; another was lean and cadaverous with famine; another cruel and idiotic, but with the silliest simper that can be conceived – this one had fallen, and looked exquisitely ludicrous in his fall – the mouths of all were more or less open, and as I looked at them from behind, I saw that their heads had been hollowed.[475]

The hollowed-out monstrous heads turn out to be a sort of monstrous *vox humana* organ pipes, not unlike the ones that had a century earlier inspired Von Kempelen and Kratzenstein in the creation of their speaking machines:

> Then came a gust of howling wind, accompanied with a moan from one of the statues above me. I clasped my hands in fear. […] The wildness of the wind increased, the moans grew shriller, coming from several statues, and swelling into a chorus. I almost immediately knew what it was, but the sound was so unearthly that this was but little consolation. The inhuman beings into whose hearts the Evil One had put it to conceive these statues, had made their heads into a sort of organ-pipe, so that their mouths should catch the wind and sound with its blowing. It was horrible. However brave a man might be, he could never stand such a concert, from such lips, and in such a place.[476]

[474] Butler, *Erewhon*, 66.
[475] Ibid., 67.
[476] Ibid., 67.

The terrifying howling heads, a monstrous speaking machine, emanating these unearthly sounds, evoke the image of the dying Valdemar's grimacing face and unearthly, sepulchral voice. These totems are placed just outside the Erewhonian city the protagonist is about to enter. He later discovers that

> (t)hey had a religious origin, having been designed to propitiate the gods of deformity and disease. In former times it had been the custom to make expeditions over the ranges, and capture the ugliest of Chowbok's ancestors whom they could find, in order to sacrifice them in the presence of these deities, and thus avert ugliness and disease from the Erewhonians themselves.[477]

Chowbok is a native and fugitive member of Erewhonian society who for a time guides Higgs towards Erewhon. He is terrified of the Erewhonians and flees before the protagonist's arrival, since his features are by the Erewhonians considered unattractive. Later the narrator finds out that Erewhonian society does not accept biological and bodily limitation, such as ugliness or disease, to the extent that its existence is denied and criminalised. Since the Erewhonians celebrate health and beauty and believe evolution to be a wilful and voluntary process, those who dare to suffer from these limitations are considered anarchists and convicted as felons.

The narrator Higgs recalls a trial of someone "accused of pulmonary consumption – an offence which was punished with death until quite recently."[478] The jury finds the accused guilty and the judge admonishes him before he is taken away to fulfil his life sentence of "imprisonment with hard labour"[479]:

> Prisoner at the bar, you have been accused of the great crime of labouring under pulmonary consumption, and after an impartial trial before a jury of your countrymen, you have been found guilty. […] (Y)ours is no case for compassion: this is not your first offence: you have led a career of crime […]. (Y)ou have been imprisoned on no less than fourteen occasions of illnesses of a more or less hateful character.[480] (W)hether your being in a consumption is your fault or no, it is a fault in you, and it is my duty to see that against such faults as this the commonwealth shall be protected."[481]

[477] Ibid., 67. Chowbok is a member of the "civilised" community on the other side of the mountain range.
[478] Ibid., 114.
[479] Ibid., 117.
[480] Ibid., 115.
[481] Ibid., 117.

In Butler's satire, following Erewhonian "logic", ethical norms are inverted. Whereas disease and infirmity are considered high crimes, moral ailments like greed, leading to what in regular society would be considered crimes, such as bank robbery or embezzlement, are to a certain extent excused and cured by a "straightener", a person similar to a physician in the regular world, who prescribes treatments in order to cure the patient.[482] Physicians who can cure physical ailments are however forced to operate in secret. The judge sentencing the man convicted of suffering from consumption explains:

> (T)here is yet another reason why we should be unable to show you mercy […]. I refer to the existence of a class of men who lie hidden among us, and who are called physicians. Were the severity of the law or the current feeling of the country to be relaxed never [sic.] so slightly, these abandoned persons, who are now compelled to practice secretly and who can be consulted only at the greatest risk, would become frequent visitors in every household; their organisation and their intimate acquaintance with all family secrets would give them a power, both social and political, which nothing could resist.[483] The head of the household would become subordinate to the family doctor […] until the doctors should be the only depositaries of power in the nation.[484]

Like Poe does in "Valdemar", Butler mocks physicians as the embodiment of bourgeois status. Where Poe however ridicules their perceived lack of knowledge, Butler portrays them as individuals misusing their status in order to gain power, i.e. as elements harmful to the fabric of an equal society. Like machines and prostheses, physicians affirm the existence of disease, a concept which, by the Erewhonian logic of a self-governed, wilful evolution, is considered unacceptable.

In this world of inverted morality, the terrifying crying totems Higgs encounters, once used in rituals of human sacrifice, serve as apotropaic idols believed to fend off deformity and disease. Butler here associates the mechanical voice, rather than with superhuman abilities, with dread of the opposite, i.e. biological limitation and decay. Though prostheses are outlawed in Erewhon, ironically, like the spiritual telegraph discussed in chapter 1, these idols, purported to pacify the gods of deformity and disease, can be regarded as vocal prostheses which are believed to be in communication with a divine plane of existence. These howling, rather than speaking, heads are monstrous perversions of late eighteenth-century speaking machines like Kratzenstein and Darwin's, which were proposed as therapeutic devices. Butler's vocal prostheses, instead of aiding, denounce

[482] Ibid., 102-111.
[483] Ibid., 116.
[484] Ibid., 116-117.

and reject the human body that is perceived to be flawed and embody Erewhon's inverted human-prosthesis relationship. Through Erewhonian philosophy regarding illness and these embodiments of parasitic prostheses, I argue, Butler satirises contemporary theories and fears of degeneration.

With the trope of the organically evolving, intelligent and parasitic prosthesis Butler's influence reached into the twentieth century. Among others, he inspired the English fiction writer E.M. Forster (1879-1970). In the story "The Machine Stops", first published in *The Oxford and Cambridge Review* in 1909, Forster further explores the organic, networking, parasitic prosthesis trapping humans by making them fully co-dependent and weak.[485] The machine has developed into a subterranean, organic, parasitic super-entity that feeds off a weakened mankind which is unable to leave it. Human communication takes place solely via telecommunication devices. The machine fully dictates human life and procreation, since its aim is the physical and mental degeneration of mankind so that escaping from its literal clutches becomes impossible, even undesired. Forster's prosthesis is, like Hawthorne's protagonist Clifford suggested, a giant brain as well as in part a silent-yet-vocal prosthesis which literally dictates and hinders humanity's progress. As the machine's influence is omnipotent, man's physical and metaphorical voice has become irrelevant and reduced to the exchange of hypothetical ideas which have no further practical application. Instead of aiding humanity, Forster's intelligent parasitic prosthesis physically and mentally impedes it.

At the fin de siècle the trope of malfunctioning machines, or rather of self-developing intelligent machines which fail to be controlled, becomes popular. Many of these stories have a gendered context, which I will discuss in the next chapter. However, the American poet, short story writer and journalist Ambrose Bierce (1842-ca. 1914) in the short tale "Moxon's Master", rather than on gender, focuses on the potential evolution of intelligence in machines. The tale, first published in the *San Francisco Examiner* in April 1899, stresses once again cognisance and intelligence as the principal attribute of agency. It is written in the first person from the perspective of a student of mechanics. The antagonist is a chess machine, modelled on Von Kempelen's Turk, which does exactly what the Erewhonian philosopher fears. It turns against its maker and wins the chess game by killing its opponent. Contrary to first impressions, Bierce's Turk is not steered by evil influencers like in Hoffmann's "Automata". Nor is it evil itself as suggested in Gould's "Address to the Automaton Chess Player". However, it's seemingly occult nature can be explained by the evolution of intelligence, which in itself, according to Bierce, can be led back to motion.

Bierce reconciles the two different definitions of life as mechanical motion on the one hand and as cognisance on the other hand, when he has the inventor, Moxon, ask his student: "Do you

[485] E.M Forster, *The Machine Stops, The Celestial Omnibus, and Other Stories* (New York: FKM Books, 2013).

happen to know that Consciousness is the creature of Rhythm?"[486] When the student, the narrator of the tale, leaves Moxon's house, he ponders on this and concludes that "(i)f consciousness is the product of rhythm all things *are* conscious, for all have motion, and all motion is rhythmic."[487] Moxon thus proposes thought as a more advanced form of motion. This echoes the sentiments of the Erewhonian author of "The Book of the Machines" who, regarding the provenance of intelligence, wondered "whether those things which we deem most purely spiritual are anything but disturbances of equilibrium in an infinite series of levers, beginning with those that are too small for microscopic detection, and going up to the human arm and the appliances which it makes use of?"[488] By proposing motion and thought as one and the same, rather than two opposing forces, both Butler and Bierce can make a case for motion being the nucleus of intelligence.

When the student decides to return to Moxon's house to resume the discussion, he finds Moxon engrossed in a game of chess with a machine that is evocative of the Turk (though no reference to Von Kempelen is made in the text). The game ends disastrously when, after being faced with a checkmate, the machine murders its opponent. The explanation for the machine's behaviour can be found in Moxon's previous discussion with his student. When asked, "do you really believe that a machine thinks?", Moxon answers: "What is a 'machine'?" The word has been variously defined. Here is one definition from a popular dictionary: 'Any instrument or organization by which power is applied and made effective, or a desired effect produced.' Well, then, is not a man a machine? And you will admit that he thinks – or thinks he thinks."[489] Bierce seems to reference La Mettrie by suggesting that man is ultimately a self-governed machine with a high degree of complexity and intelligence. However, as he believes motion and intelligence are of the same nature, he continues to argue that, likewise, machines, when sufficiently intelligent, are as alive as biological organisms.

Moxon elaborates on his statement and explains: "I do believe that a machine thinks about the work that it is doing" and, when the student asks, "And what, pray, does it think with – in the absence of a brain?", he replies: "With what does a plant think – in the absence of a brain?"[490] Much like the Erewhonian philosopher, who argues that "(e)ven a potato in a dark cellar has a certain low cunning about him" when "(h)e sees the light coming from the cellar window and sends his roots crawling straight thereto" and concludes that intelligence in some form or another is present in even the lowliest organism, Moxon draws an analogy between the behaviour of machines and that of

[486] Ambrose Bierce and Clifton Fadiman, *The Collected Writings of Ambrose Bierce* (London: Pan Books, 1988), 433.
[487] Ibid., 434. (Original emphasis.)
[488] Butler, *Erewhon*, 201.
[489] Bierce, *The Collected Writings*, 429.
[490] Ibid., 430.

plants and other living organisms.[491] He suggests that "(r)oots of the eucalyptus will prolong themselves incredibly in search of moisture", and concludes: "It proves that they think."[492] However, as the tale continues, this intelligence, though seemingly untethered, is proven to be bound by the laws of mechanics.

During the discussion between Moxon and his student, ominous sounds can be heard from the machine workshop next door where a machine appears to be having a fit of rage, which Moxon explains by his own "folly in leaving a machine in action with nothing to act upon".[493] When he goes in to investigate, the machine scratches him. By contrast, once the chess machine had killed its maker, on its face could be observed "an expression of tranquil and profound thought, as in the solution of a problem in chess!"[494] The tale suggests that the machine, programmed to win at chess, when faced with a checkmate, saw no alternative solution to fulfilling its programming than to kill its opponent. After the machine had lost the game, the narrator observes that it began emitting strange sounds giving "the impression of a disordered mechanism which had escaped the repressive and regulating action of some controlling part".[495] This suggests that Moxon's machine is purely mechanical and went rogue because of a human oversight, rather than mesmeric influence or malignant spirit possession. Arthur Miller suggests that in "Moxon's Master" "Bierce develops the antithesis of Poe's idea. He shows a pure machine thinking and acting on its own intelligence."[496] Indeed, whereas Poe in his essay "Maelzel's Chess-Player" deduced that Von Kempelen's Turk must be directed by "mind", i.e. a human operator, Bierce's fictional Turk is ironically also directed by mind. This mind or intelligence is however not external or human, but entirely self-governed. Whereas Poe in his logical account of the mechanical Turk, by exposing the manner of its operation, somewhat dispelled its perceived menace, ironically, Bierce, by doing exactly that with his fictional Turk, adds to its danger. Like Forster's self-governed super-machine, Bierce's Turk has surpassed operating in conjunction with people and now acts solely to fulfil its own existential purpose.

Though Bierce follows Hoffmann's modus operandi by attributing the Turk with seemingly malignant occult faculties, it differs in providing a seemingly logical explanation for the incident. Whereas in "Automata" the motivation of the mesmerist as the machine's malignant driving force remains undisclosed, Moxon's suggestion that motion and thought are of the same nature implies that mechanical cognisance, like motion, can malfunction and establish the mere illusion of malignance. Since the automaton is mechanically clever to the point that it can no longer be

[491] Butler, *Erewhon*, 200-201.
[492] Bierce, *The Collected Writings*, 430, 431.
[493] Ibid., 433.
[494] Ibid., 437.
[495] Ibid., 436.
[496] Miller, "The Influence of Edgar Allan Poe": 141.

comprehended or controlled by human intelligence, the mechanical automaton assumes a seemingly preternatural character. Moxon's machine, because of its evolved intelligence, simply acts (seemingly instinctively) in accordance with its programming and reason of existence, i.e. winning. The chess player fails as a prosthetic extension, in this case an external brain programmed to act as an opponent, as, due to human shortcomings, it literally turns into a disruptive, even lethal, opposing force. How the machine "grew" to be so clever as to circumvent its controlling mechanism in the tale is explained by the same vitalist force that prompts the direction of the eucalyptus. Thus, Bierce's chess player advocates the coexistence of materialism and vitalism as complementing, rather than contradicting systems, a notion also embodied and advocated by the perception of the "spiritual telegraph" and the many "Ajeebs" and "Psychos" discussed in chapter 1.

In this chapter I have demonstrated how in *Erewhon* Samuel Butler imagines a society that fears prostheses which, imbued with intelligence, propagate, evolve and may subjugate mankind. "The Book of the Machines" reads as a doomsday text in which Butler explores this societal fear of supposed parasitic prostheses by coupling ideas of the telegraphic network to contemporary theories of biological evolution, social criticism regarding the employment of factory machinery and theories of degradation. According to the fictional author of this text, the essence – and threat – of the machine, rather than in the individual machine body, lies in its power of transmission, i.e. in the action that takes place between these machines. *Erewhon* is a satire in which moral standards are inverted. Butler shows what might happen when arguments are founded on erroneous premises or when logic is followed to the extreme and all common sense is abandoned. He extrapolates Poe's trope of mankind literally being replaced by its own prostheses. Whereas Poe's prostheses prove disruptive to the individual middle-class protagonist, Butler's parasitic prostheses however subvert society as a whole. In *Erewhon*, from a fear of losing control over these machine extensions, any phenomenon that affirms their potential necessity, such as disease and infirmity, is outlawed. Vocal prostheses, in the form of apotropaic totems, intended to fend off physical disorder, are the embodiments of Erewhon's inverted human-prosthesis relationship with which Butler satirises contemporary fears of degeneration. In the next chapter I will show how Villiers, in the final decades of the nineteenth century, comments on mechanical prostheses in the context of degeneration and gender and how, within avant-garde artistic and literary circles, mechanised sexuality became a tool for subversion.

4. – AUGUSTE VILLIERS DE L'ISLE-ADAM: THE PHONOGRAPHIC FEMALE, 1863-1912[497]

In this chapter I will discuss the satire *l'Eve future* (*Tomorrow's Eve*) by the French symbolist Auguste Villiers de l'Isle-Adam (1838-1889), which was published in the original French in 1886. I will show how the previous generations of fictional thinking and speaking body machines converge in Villiers' specifically gendered mechano-electric "andréide". In the preceding chapters I have examined the fictional representation of self-governed thinking machines and autonomous speech prostheses from the late eighteenth century to the early twentieth century. Channelling the compelling power of an evil mesmeriser, Hoffmann's influencing machines were undesirable, even terrifying creations. Poe imagined the vocal prosthesis as an – albeit unpredictable – bourgeois symbol of status. Butler, by introducing the propagative element to the prosthesis, envisioned the prosthesis as an intelligent, conjugated, near-biological entity. In this chapter I will show that Villiers' feminised prosthesis is a mind control machine, not unlike Hoffmann's. However, paradoxically, in *Tomorrow's Eve*, the protagonist desires its compelling influence and inflicts the mind control upon himself. I will further demonstrate how Villiers intersects the now feminised thinking and speaking body machine with the bourgeoisie as a means for the aristocracy to escape its perceived deadening vacuity and spuriousness. However, rather than portraying his thinking and speaking prosthesis as an advantageous extension to the wealthy the way Poe had done, Villiers subverts the notion of the prosthesis as a social advancement. Butler's trope of the propagating machine is inverted when the female prosthesis is coupled, not to other machines, but to its male possessor. Rather than effecting advancement and change via the continuation of its human owner's family line, the prosthesis causes stagnation by isolating its possessor from society. With his specific female prosthesis, embedded in the context of late nineteenth-century decadence, Villiers transforms the meaning of the thinking machine, the speech prosthesis and the conjugated machine.

Though Villiers' fictional Edison proclaims his woman machine as fully self-governed, I will show that this "andréide", named Hadaly, is effectively a passive being, intended to be subservient to men and how the novel explores the traditional notion of the passive, dependent woman versus the active, autonomous man. Firstly, I will show how the thinking machine trope at the intersection with the woman machine is transformed into that of the non-thinking machine. Though the andréide Hadaly is a futuristic machine, her lack of a self-governed intelligence suggests a disconnect between her mind and her body, which can be regarded as a metaphoric decapitation. Secondly, I will look at the novel at the intersection of gender and the prosthesis. Since there are many aspects to the

[497] The term "phonographic female" was used by John Picker: John M. Picker, "My Fair Lady Automaton", *Zeitschrift für Anglistik und Amerikanistik* 63, no. 1 (2015): 92, 98.

woman prosthesis, this section will take up the majority of the chapter. In the first section of the feminised machine as a prothesis I will explore Hadaly as an influencing machine. In this context the machine is linked to mesmerism. Anne-Julia Zwierlein argues that "(m)esmerism had been discredited by the late 19th century but continued to function as a powerful metaphor in many cultural areas."[498] However, rather than a fear-inducing experience like in Hoffmann's tales, the induced hypnosis in *Tomorrow's Eve* is voluntary and for the mesmerised subject a source of bliss. In the second section of the gendered machine as prosthesis I will discuss late nineteenth-century notions of degenerating society. One of its perceived symptoms is women and men becoming increasingly artificial. Villiers' Edison proposes to cure these supposed faulty women and men with his gendered machine that eclectically combines the best characteristics of each whilst eliminating what he perceives as undesired qualities. I will compare the mechanised non-productive sexuality which Hadaly as a feminised body machine enables, with Rachilde's (1860-1953) 1884 novel *Monsieur Vénus*, to discuss non-normative, mechanised, sexual practices as subversions of traditional nineteenth-century gender codes. In the final section of the gendered machine as prosthesis I will discuss late nineteenth-century notions of women as speaking machines. I will discuss Edward Byron Nicholson's tale "The Man with Two Souls" (1882), George du Maurier's novel *Trilby* (1894), Gaston Leroux' novel *The Phantom of the Opera* (1910), George Bernard Shaw's play *Pygmalion* (1912), E.E. Kellett's tale "The New Frankenstein" (1900) and Jerome K. Jerome's story "The Dancing Partner" (1893). In these fictions the disembodied, prosthetic female voice signifies a symbolic overwriting of women's perceived malfunctioning qualities. These fictions exploring women being "palimpsestically" civilised, demonstrate men's idealism rooted in the insecurities of a rapidly modernising and urbanising society from which emerged a strong and independent New Woman, a concept I will explain later in the chapter. I will show that in these texts, rather than a bodily enhancement, due to the stereotype of the woman as a passive and mindless being, the prosthetic female voice is proposed as a symbolic impairment. Finally, as an extension to the fin-de-siècle notion of the woman machine acting as an impediment to men as represented in these fictions, I will show how the trope of the conjugated machine at the intersection with the woman machine transforms into one of non-productivity. I will compare *Tomorrow's Eve* to Jules Verne's (1882-1905) novel *The Carpathian Castle* and discuss how the futuristic gendered machine in a gothic setting points towards the past, rather than the future. By allowing men to retire from society and live in an illusion or a memory, the gendered machine becomes a non-reproductive prosthesis.

[498] Anne-Julia Zwierlein, "Sonic Monstrosity and Visionary Women: Female Speaking Automata and Mass Mediation in Late-19th-Century British Science and Fiction", *Anglistik: International Journal of English Studies* 30, no. 3 (2019): 90.

Rather than the embodiment of progress, the mechanical woman speaking machine becomes a symbol of impotence and regression.

L'Ève Future is a highly symbolic text that was first published in serialised form between 1885 and 1886 in the weekly art and literature revue *La Vie Moderne, journal hebdomadaire illustré, littéraire et artistique*, an avant-garde publication, established in 1879 by the publisher Georges Charpentier. Its literary contributors were renowned writers, one of the editors-in-chiefs being the poet Émile Bergerat (1845-1923). The modified first edition of *l'Ève Future* as a novel was published in 1886 by the Parisian publisher M. de Brunhoff. There are some differences between the original serialised text and the definitive novel.[499] In this chapter I will focus on the final text of the novel. In the second half of the 1880s, after years of lacking recognition as an author, with *Tomorrow's Eve*'s decadent aesthetic Villiers found great acclaim among a new generation of Symbolist writers. The mysticism in the text resonated with the Symbolists' desire to leave the depiction of reality behind and dedicate their art to an ideal world beyond direct material reality.[500] However, in the English-speaking regions the novel remained obscure. An English journalist writing a small homage to Villiers in the London newspaper *The Graphic* five years after the author's passing, remarks that "to this day his brilliant work, and even his remarkable name, are known on this side of the Channel to few, save enthusiasts of contemporary French literature."[501] Contrary to the expectation of another English journalist, reporting for the *Nottinghamshire Guardian* in 1886, who expected the newly published novel to be translated into English, the text remained relatively unknown in the English-speaking regions until it was finally translated into English by Robert Martin Adams almost a century later. This is the translation I use in my references.[502]

The third-person narrative evolves around the handsome English Lord Celian Ewald visiting his friend, a fictional Thomas Edison, in his laboratory in Menlo Park, New Jersey, to say goodbye, as he is about to commit suicide. His problem is with his divinely beautiful but, in his perception, stiflingly vacuous fiancée, the actress/singer Miss Alicia Clary. Unable to leave her because of her divine appearance, but at the same time tortured by her perceived mediocre, bourgeois personality, Ewald sees no other way to escape his predicament than by ending his own life. In a last visit to his friend Edison, Ewald discusses his problem. Edison however proposes to provide Ewald with an exact replica of his beautiful fiancée and, ironically, program into her a much more spiritual personality. Most of the novel takes place in a single night in which Edison persuades Ewald of the validity of his experiment. Edison's definition of "Andréide" is "Une Imitation-Humaine", a feminine human

[499] For a summary of these differences, see: Alan William Raitt, *The Life of Villiers de l'Isle-Adam* (Oxford: Clarendon Press, 1981), 294-295.
[500] Ibid., chapter 31.
[501] "A Literary Quixote", *The Graphic* 1287, July 28, 1894, 95.
[502] "Echoes from The Continent", *Nottinghamshire Guardian* 2142, June 11, 1886, 3.

imitation.[503] His vision of commercially manufactured female android doubles is a paradox of "fighting fire with fire", i.e. an attempt to battle what he regards as the corruption of an artificiality established in women in an increasingly decadent society with an even greater, yet controllable – and therefore less treacherous – form of artifice.[504]

The inventor's recollection of a seductive, yet corrupting chorus girl, Evelyn Habal, who led his friend Anderson to bankruptcy and suicide is the nucleus of the android project. Edison ponders that "elegant ladies have brought chemical laboratories into their boudoirs" and, "if the Artificial, when assimilated to or even amalgamated with human nature, can produce such catastrophes; and since, consequently, any woman of the destructive sort is more or less an Android, […] why not have the Android herself?"[505] The inventor believes that a potentially fatal passion for a mistress could then be deflected by its projection onto an artificial replicant, modelled after the desired woman, who, contrary to the human original, would not infect, corrupt, betray or disenchant: "These new beings will function in a second nature […] and render less painful the miseries that [...] always attend sooner or later your hypocritical marital lapses."[506] Thus "the love of men for their wives – who are so necessary to perpetuate the race" will be safeguarded, "at least", Edison ominously adds, "till a new order of things comes in."[507] For the time being the marital union is a biological necessity, though the inventor here hints at the aspiration to take women out of the equation of procreation altogether. At the end of the novel an element of the supernatural enters the story in the form of Sowana, a spirit from the realm of the Infinite, who, in a Pygmalion-esque manner inhabits Hadaly's body and truly animates her, unbeknownst to Edison. In this chapter I will demonstrate how Edison's gendered android scrutinises and comments on fin-de-siècle (re)definitions of gender.

The non-thinking machine

The readings of *Tomorrow's Eve* since the 1980s have predominantly been criticisms focusing on the undeniable misogyny in the text. Though critics, like Mireille Dottin-Orsini, have focused on the "offensive" female carnality that is being rectified via the Decadent "désincarnation de l'effigie feminine", I will demonstrate that it is not merely the female body which is being appropriated and

[503] Villiers de l'Isle Adam, *L'Eve Future* (Paris: M. de Brunhoff, Éditeur, 1886), 96.
[504] Auguste Villiers de l'Isle Adam and Robert Martin Adams, *Tomorrow's Eve*, trans. Robert Martin Adams (Chicago: University of Illinois Press, 2001), 123.
[505] Ibid., 123.
[506] Ibid., 164.
[507] Ibid., 164.

disincarnated. In fact, the most violent misogyny in the text is directed at the female mind.[508] Ewald discloses to Edison how he felt pangs of distaste rising from the very start of his acquaintance with Alicia. However, taking into consideration what he regards as the childlike naivety and vicissitude of women, he wondered whether it would "make sense to judge so swiftly and unreservedly a creature whose thoughts might soon be changed by love (and this depended on me) until they became the reflection of my own?"[509] From the beginning of the affair Ewald was convinced Alicia's thoughts would mould to conform to his own, so that eventually she would be reduced to nothing but a reflection of himself. This idea matches Edison's conviction that a "woman only sees things according to her personal inclinations, and twists all her "judgements" to conform with the opinions of the man she's attracted to."[510] Moreover, Edison regards the consciousness of a bourgeoise ("a woman of the world!... Oh! Oh! What a notion!"[511]) as nothing more than an affliction to be cured by artifice which would "STEAL HER OWN EXISTENCE AWAY FROM HER!"[512] In the text both Ewald and Edison seem to be convinced that a bourgeoise's intelligence is a contradictio in terminis. Unfortunately for Ewald, the force of what he perceives as Alicia's irksome bourgeois reality proved stronger than his power of narcissistic illusory projection, resulting in the impossibility of intellectual kinship between him and his lover (and men and women in general.) Edison is convinced that only artifice could now provide a cure. He believes that only an artificial woman could match the high standard of the masculine intellect by being a blank canvas, a receptor and mirror of the male genius. Villiers thus designates the female android body as the site of the disabling and at the same time the complete appropriation of the female mind.

Though Edison in his "product pitch" advertises his invention as a self-governed being, in truth the machine is anything but autonomous. Edison equates Hadaly's awakening with her customisation to Ewald. In her blank state as machine prototype however he describes her as "nothing at all *from the outside* but a magneto-electric entity" and "a Being in Limbo, a mere

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[508] The "disincarnation of the female image" as phrased by Mireille Dottin-Orsini in: Mireille Dottin-Orsini, *Cette femme qu'ils disent fatale: Textes et images de la misogynie fin-de-siècle* (Paris: Bernard Grasset, 1993), 119, also quoted and discussed in: Jennifer Forrest, "The Lord of Hadaly's Rings: Regulating the Female Body in Villiers de l'Isle-Adam's 'L'Eve future'", *South Central Review* 13, no. 4 (1996): 22. Another study that emphasises the misogyny in *Tomorrow's Eve*, aimed at women's bodies, is: Asti Hustvedt, "The Pathology of Eve: Villiers de l'Isle-Adam and Fin de Siècle Medical Discourse", in *Jeering Dreamers: Villiers de l'Isle-Adam's L'Eve future at our fin de siècle, A collection of essays*, ed. John Anzalone (Amsterdam: Rodopi, 1996): 25-46. Other comprehensive studies on Villiers's *Tomorrow's Eve* include: Deborah Conyngham, *Le Silence Éloquent: Thèmes et structure de l'Eve future de Villiers de l'Isle-Adam* (Paris: Librairie Jose Corti, 1975); Marie Lathers, *The Aesthetics of Artifice: Villiers's L'Eve Future* (Chapel Hill: University of North Carolina Press, 1996); John Anzalone (ed.), *Jeering Dreamers: Villiers de l'Isle-Adam's L'Eve future at our fin de siècle, A collection of essays* (Amsterdam: Rodopi, 1996).

[509] Villiers, *Tomorrow's Eve*, 30.

[510] Ibid., 85

[511] Ibid., 85.

[512] Ibid., 63. (Original emphasis.)

potentiality."[513] Though she can walk and respond to the men's questions, the woman machine, according to Edison, is not yet alive. When the inventor informs Hadaly that she will be animated, i.e. customised to Ewald by taking on Alicia's form, she hesitates, but must accept and exclaims: "Oh, I don't insist on living! […] As he desires it, so let it be! […] And you will force me to live! […] So be it!"[514] The two men, inventor and admirer, forcing their promethean spark into the woman machine demonstrates the machine's/woman's lack of agency. A crucial scene depicts the dissection of the female android in which Edison explains its inner workings to Ewald. However, before she is to be opened up, Hadaly is put to sleep, like a patient under the influence of anaesthetics or, in Edison's words, "like a corpse on the dissecting table in an amphitheater", so the men can tinker with her innards.[515] The powering down of the andréide is remarkable considering Hadaly's liminal, un-living existential state. According to the inventor, the machine woman is in this state unable to feel pain. Yet Edison deems it necessary to put her to sleep during the dissection and discussion of her innards. This way Hadaly, turned on and off at will, remains ignorant of her own anatomy, which is known only to her male captors. An illustration by Raphaël Drouart in the 1925 Henri Jonquières edition shows the two men, Edison with his scalpel at the ready and Ewald curiously gazing into the abdominal cavity of the silenced machine body. Thus, rather than autonomy, this scene affirms the machine's lack of agency.

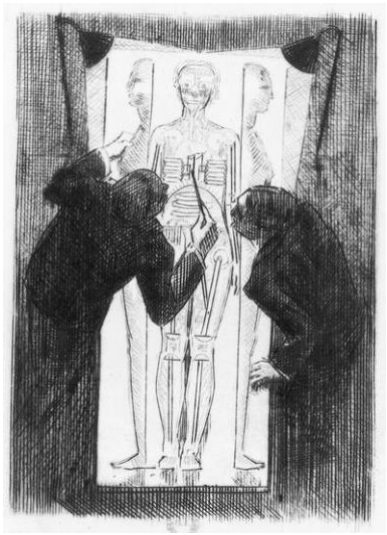

Fig. 17) The passive woman: Hadaly being dissected - Illustration by Raphaël Drouart in the 1925 edition of *L'Ève Future* by (Henri Jonquières, Paris), between pages 240 and 241.

[513] Ibid., 59. (Original emphasis.)
[514] Ibid., 58.
[515] Ibid., 125.

Elaine Showalter discusses the recurring trope of decapitation in fin-de-siècle literature in the Freudian context of castration: "(T)he Freudian equation of decapitation and castration is itself a product of fin-de-siècle culture. […] (D)ecapitation is a Draconian way to shut women up."[516] She exemplifies this with Lucy Westenra, one of the female vampires in Bram Stoker's 1897 novel *Dracula*, who is decapitated by her band of male suitors.[517] I will return to this example later in the chapter. Showalter argues that the second female protagonist in *Dracula*, Mina Harker, "is also silenced" and metaphorically kept in "the dark" by the same band of men by withholding information (on how to defeat Dracula) from her.[518] I argue that Hadaly being kept ignorant of her own body can be interpreted as a similar metaphorical decapitation. It is a deliberate disconnect between a woman's mind and body, an intentional sabotage, carried out by men in order to ensure her subservience. Whereas in the guillotine literature of the first half of the nineteenth century women were coveted by men as fiancées and lovers, and their literal decapitation and loss of mental agency deeply mourned, even leading to the male protagonists' insanity, the fin-de-siècle metaphorical decapitations are encouraged or actively performed by men in order to deliberately silence women. Whereas in the guillotine literature a woman's decapitated head, symbolising the loss of her mental agency and life, signified ultimate horror, in symbolic fin-de-siècle texts a woman's decapitation generally implies her loss of voice and signifies her ideal passive and silent state of subservience to men.

Hadaly's lack of agency is alluded to again, yet more subtly, in the dissection scene when Edison explains to Ewald the working of his machine's anatomy in the minutest detail. In this setting the uncoupling of what Edison and Ewald perceive as a woman's bothersome head from her ideal body is emphasised when the machine's brain is discussed, or, rather, when it is omitted from the discussion. Whereas complete chapters are devoted to her equilibrium, her flesh, her mouth, etc., an explanation of the most crucial part, the working of the andréide's artificial brain, is altogether absent. I will now demonstrate that Edison envisons Hadaly's mind as the amalgamation of three factors. Firstly, he equates the android's intelligence with her power of speech: two golden phonographs which, according to Edison, "each contain up to seven hours of language. The words are those invented by the greatest poets, the most subtle metaphysicians, the most profound novelists of this century – geniuses to whom I applied, and who granted me, at extravagant cost, these hitherto unpublished marvels of their thought."[519] Hadaly's language database, as it were, consists of fragments of supreme masculine thought, captured on phonographic cylinders,

[516] Elaine Showalter, *Sexual Anarchy: Gender and Culture at the Fin de Siècle* (London: Virago Press, 1992), 182.
[517] Ibid., 181-182.
[518] Ibid., 182.
[519] Villiers, *Tomorrow's Eve*, 131.

fragments offering limitless possibilities for speech. According to Edison, Hadaly "speaks and sings like a genius – better, even, for in her magnificent words are contained the thoughts of several geniuses."[520] Edison adds: "This is why I say that Hadaly replaces an intelligence with Intelligence itself."[521] Edison equates intelligence with divine poetry and spiritual thought and believes that this can only be the provenance of men. Hadaly's lack of brain signifies the complete eradication of the feminine mind at the site of the woman machine, i.e. a metaphoric decapitation. John Picker shows a cartoon from the British satirical magazine *Punch* in 1878, created by Franco-British cartoonist and writer George du Maurier (1834-1896), which offers "A Suggestion: How much better if, instead of hirsute Italian Organ-Grinders parading our Streets, we could have fair Female Phonographers playing our best Poets in their own original Voices!" Picker points out the coupling of male speech with the female body: "The massive machine at once presents a (male) poets' [sic] vocal organs as well as represents the (female) phonographer's sex organs, both of which are to be "played" by her on the streets."[522] Indeed, in the cartoon the silenced woman's body is literally the ornamental carrier of men's voices, i.e. their intelligence, in the same way Edison envisions Hadaly's body as the vessel for male speech and intelligence.

Fig. 18) "A Suggestion." By George du Maurier in *Punch, or the London Charivari* 74, April 20, 1878, 179.

[520] Ibid., 154.
[521] Ibid., 131.
[522] Picker, *Victorian Soundscapes*, 130.

Jeffrey Sconce points out the perceived relationship between the female nature and spirit mediumship by emphasising how in the late nineteenth century the woman was often regarded as an incomprehensible, electrified machine: "Like the telegraph, women presented many Victorians with "a machine they could not understand," making "feminine" physiology and psychology an equally imaginative field of scientific speculation, especially when such conjecture intersected […] with theories of electromagnetism."[523] Sconce shows how some scientists believed the female body to be more electromagnetically charged, thus making them more sensitive and intuitive, characteristics regarded as opposed to a well-balanced intellectual development.[524] Jill Galvan stresses: "Spiritualists held that women, because long on piety and short on will, were particularly well disposed to automatism, offering little impediment to the spirits channeled [sic] through them."[525] Because of women's perceived feeble minds and will, she argues that women were regarded best suited for mediumship or tasks that required a minimal mental presence such as typing or operating the telegraph.[526] Like these female mediums, being overwritten – both in body and mind – by ghostly or machinic entities in order to write or speak with the voice and mind of another, Hadaly – symbolically decapitated and in the dark – is also overwritten, not by a ghostly or machinic presence, but by the male voice and mind. At the end of this chapter, I will further discuss this trope of metaphoric female re-inscription effected through the technology of the phonograph.

Ewald's coupling with Hadaly's masculine intellectual make-up displays a distinct homoerotic undertone. Rather than for a carnal purpose the machine is intended to provide man with the illusion of intellectual kinship, in Edison's words "*the Artificial giving an illusion of life*".[527] The machine's union with Ewald, rather than a carnal, is a spiritual one, which is a common late nineteenth-century way of regarding homosexual relationships. Showalter argues that "while antinaturalist misogyny did not originate with homosexual men, it nurtured their wish to idealize relationships between men as more spiritual, intellectual, beautiful, and pure than heterosexual love."[528] Common in the late nineteenth century was the notion that women, who were believed earthbound because of their child-bearing abilities, were unable to experience a more transcendent, spiritual love.[529] Showalter points out that in Oscar Wilde's (1854-1900) 1890 novel *The Picture of Dorian Gray*, for example the aristocratic aesthete Lord Henry Wotton characterises women as the

[523] Sconce, *Haunted Media*, 44.
[524] Ibid., 45-46.
[525] Jill Galvan, *The Sympathetic Medium: Feminine Channeling, The Occult, and Communication Technologies, 1859-1919* (Ithaca: Cornell University Press, 2010), 62.
[526] Ibid., 62-63.
[527] Villiers, *Tomorrow's Eve*, 122.
[528] Showalter, *Sexual Anarchy*, 174.
[529] Ibid., 174. Showalter further analyses this statement by discussing Oscar Wilde's *The Picture of Dorian Gray* (1890): Ibid., 174-178.

representation of "matter over mind."[530] Ironically, true self-generating creation, which takes place at the level of the intellect, was often believed to be the provenance of men.[531] I argue that in a similar manner, Villiers' andréide, imbued with a male brain in a female body, provides an acceptable site to couple Ewald to other men with whom he can form an intellectual and spiritual kinship. Her earthly child-bearing abilities, which would form a hindrance to this spiritual union, have been purposefully disabled. In 1897, Mina, one of the female protagonists in Stoker's *Dracula*, is referred to by Van Helsing as "that wonderful Madam Mina! She has man's brain […] and woman's heart. The good God fashioned her for a purpose, believe me, when He made that so good combination."[532] Mina, who is celebrated as an exception amongst women, rather than the norm, is praised as a divine creation for the perceived separation of her brain from her body. Like Hadaly, she too is a hybrid of the genders. The uncoupling of Mina's brain and its characterisation as masculine, like Hadaly's, implies that the natural woman as a whole cannot be spiritual. The mechanically fragmented, uncoupled and reassembled hybrid woman is another form of a woman's metaphoric decapitation signifying the denial of a woman as an intellectual and spiritual being, which in *Tomorrow's Eve* takes place at the site of the machine body.

I have shown that the first constituent of the machine's brain is a database of male thought and speech. The second one consists of narcissistic projection. Though Hadaly is anything but self-governed, Ewald in his desire to be mesmerised wishes to believe that she is. He repeatedly seeks Edison's reassurance regarding what would in 1959 be introduced by computer scientist John McCarthy as "the frame problem", i.e. the question of how an artificial being without consciousness can anticipate or reciprocate in anything it has not been previously taught.[533] What Ewald wishes to know is how the machine will be able to give him answers congruent with his questions, ergo how the illusion of Hadaly's autonomy will be convincing to him. Edison explains that Ewald will have to anticipate the android's answer and modify his questions to match it: "There are so many vague, suggestive words, which have such extraordinary intellectual elasticity! Their charm and profundity depend simply on the nature of that *to which they represent an answer!*"[534] According to Edison this is something that is done in everyday life and, in Ewald's case, Alicia's failure to deliver a reply

[530] Ibid., 176. The full quote is: "(N)o woman is a genius. Women are a decorative sex. They never have anything to say, but they say it charmingly. Women represent the triumph of matter over mind, just as men represent the triumph of mind over morals.": Oscar Wilde and Merlin Holland, *The Complete Works of Oscar Wilde* (London: HarperCollins, 2003), 47.
[531] Showalter, *Sexual Anarchy*, 177.
[532] Bram Stoker, Maurice Hindle and Christopher Frayling, *Dracula* (London: Penguin Books, 2003), 250.
[533] John McCarthy, John, "Programs with Common Sense" (Teddington Conference on the *Mechanization of Thought Processes* – presented paper, London, Dec 1958. Published in 1959 in the proceedings of that conference.), accessed June 15, 2018, http://www-formal.stanford.edu/jmc/mcc59.pdf. For a more recent explanation of the frame problem, see: Daniel Dennett, "Cognitive wheels: the frame problem of AI", in *Minds, Machines and Evolution*, ed. Christopher Hookway (Cambridge: Cambridge University Press): 129-151.
[534] Villiers, *Tomorrow's Eve*, 133. (Original emphasis.)

congruent with that of Ewald's anticipation, is the cause of his frustration. The android will be the "objectified projection" of Ewald's soul "reduplicated in her".[535] Edison assures him that "(h)er (Hadaly's) "consciousness" will no longer be the negation of yours, but rather will become whatever spiritual affinity your own melancholy suggests to you."[536] Thus, the second constituent of Hadaly's mind is Ewald's narcissistic projection which ultimately amounts to having conversations with himself, another way to uncouple woman's mind from her body, i.e. to metaphorically decapitate her.

The final component of the machine's intelligence is a supernatural spirit from the realm of the Infinite. At the end of the text, Hadaly, unbeknownst even to Edison, receives a soul in the form of the spirit of the duped Mrs. Anderson, whose husband had died indirectly at the hands of Evelyn Habal. This spirit calls itself Sowana and inhabits the machine's body. Villiers here again stresses the female body as a blank machinic receptor of another's intelligence, both in the form of male thought and supernatural presence. Edison tentatively attributes Hadaly's vision, i.e. spiritual intelligence, to the fourth state of matter, the radiant state, recently discovered by the British chemist William Crookes.[537] Eric Deeson points out that Crookes' scientific work on radiometry is related to his studies of the occult, since both the ultra-gaseous state and what Crookes called the "Psychic Force" or spirit state involved the discovery of previously undetected phenomena.[538] Sherrie Lynne Lyons argues that Crookes may have been attracted to spiritualism after he lost his youngest brother to yellow fever.[539] It is another example of scientific and occult realities amalgamating, rather than contradicting one another. It is indeed the spirit Sowana who accommodates the machine with the true power of a 'seer'. Being in contact with the divine Infinite or spirit world, Sowana's seeing equals knowing. Thus, when it comes to the machine's 'sight' or cognisance, the andréide is much less the result of materialist efforts than Edison is aware. Until Sowana is introduced, the text reads largely as a materialist manifesto, except regarding the working of the machine's intelligence. With the intervention of spirit Villiers seems to emphasise the grotesquery of his male protagonists' materialist ambitions to infuse a machine with thought. Though the text is less obviously satirical than for example "The Glory Machine", one of Villiers' 1883 *Contes Cruels* (*Cruel Tales*), in which the machine completely takes over people's mental autonomy, Edison's ultimate need for a

[535] Ibid., 68.
[536] Ibid., 133.
[537] Ibid., 157. The radiant state of matter, or ultra-gaseous state: by heating a gas with electricity the gas ionises and starts to emit light as the electrons separate from the atom. This discovery was made by the English physicist and chemist, Sir William Crookes (1832-1919). For a contemporary explanation of Crookes' radiant state experiments, or "the very farthest boundary of matter thus far attained", see: H. S. Carhart, "The Ultra-Gaseous or Radiant State of Matter", *Science* 2, no. 46 (1881): 218.
[538] Eric Deeson, "Commonsense and Sir William Crookes", *New Scientist* 64, no. 929 (1974): 922.
[539] Sherrie Lynne Lyons, *Species, Serpents, Spirits, and Skulls: Science at the Margins in the Victorian Age* (Albany, N.Y.: State University of New York Press, 2009), 92.

supernatural deus ex machina suggests Villiers' lack of faith in the android project and his fictional inventor. I will further discuss "The Glory Machine" in the next section of this chapter.

I have shown that Hadaly's intelligence consists of the three factors of male thought and speech, male narcissism and an occult spirit. Curiously, Edison did not just "simply" replicate a human (male) brain as he did with Hadaly's other organs, a brain worthy of Ewald's intelligence and sensibilities. This can perhaps be explained by the lack of detailed knowledge of the functioning of the brain at the time that the narrative was written. The text extrapolates from the understanding of the latest contemporary scientific inventions and discoveries in the 1870's and 1880's, such as the phonograph, the telephone, the radiant state of matter, electric induction and photo-sculpture. Yet, in contrast to these ingenious devices and discoveries, in the 1880s the mechanics of the brain was still largely uncharted territory. Unlike a heart or a lung, of which the mechanical function, similar to a pump or a valve, could be revealed through dissection, the complex neural systems of the brain would remain obscure for a few more decades.[540] However, as I have shown, a more important explanation can be found in the notion of the bourgeois woman as a metaphorical headless being. Ultimately Hadaly's artificial, masculine brain is not installed in service of herself, but of the man who will own her, and which, rather than granting her autonomy, reduces her to the very embodiment of impotent passivity. Despite Edison's claims of having invented a self-governing thinking machine, Hadaly is quite the opposite, merely a clever illusion, a dazzling hoax not that different from Von Kempelen's "thinking" Turk.

The prosthetic machine: the influencing machine as prosthesis

I will now discuss how the text alludes to women as prosthetic beings. I have shown that Hadaly provides merely an illusion of mental agency for the sake of man. As an illusory, narcissistic device that mirrors a man's own thoughts, she can be regarded as a mental extension of a man, i.e. a prosthetic device. In chapter 1 I have shown how, from the late eighteenth century, cognisance, rather than motion, came to define life. In *Tomorrow's Eve* however, Edison keeps reiterating that the machine's mental autonomy is irrelevant: "And then, *in place of this soul* […]*, I shall infuse another sort of soul*, less aware of itself perhaps (but about this sort of thing, who can tell? And what does it matter?)"[541] From the early nineteenth century the notion of a thinking machine, both in

[540] At the beginning of the twentieth century, the Spanish anatomist Santiago Ramón y Cayal (1852-1934) examined the brain at a microscopic level and discovered the neuron as the crucial building block of the brain: Michael O'Shea. "The Human Brain – Instant Expert 31", *New Scientist* 218, no 2911 (2013), iii.
[541] Villiers, *Tomorrow's Eve*, 63-64. (Original emphasis.)

reality and fiction, had embodied the far horizon of technological invention. In fiction and psychopathology, rather than something to aspire to, the influencing machine had epitomised horror, particularly in the context of mesmerism in which the machine signified the loss of mental agency in anyone who came in close contact with it. This lack of control over one's own mind was something considered deplorable. Tilly Matthews fought the perceived Air Loom implanting thoughts in his mind and Hoffmann's fictional protagonists battled with their loss of mental agency effected through the mesmerists' machines. The sleep-state into which these men, whether real or fictional, were forced to exist was distressing and unwanted. In *Tomorrow's Eve* however, the opposite is the case. Ewald, unable to cope with reality, wishes to be asleep. He actively desires to be mesmerised by the machine woman who is to influence and confound his mind to the extent that he forgets that she is a machine altogether. At the hands of the machine Ewald desires total mental obliteration. Ironically, like Hadaly, he wishes to become passive, to become machine, or woman, which in the text signifies the same.

Since Hadaly is intended to become an intellectual extension of Ewald, Ewald's mind in turn mentally merges with the machine, who at once safeguards and dictates his mental state. The feminised influencing machine thus functions as a prosthesis. It both replaces Alicia, whom Ewald regards as a defective limb, and constitutes an external enhancement to the "patient's" body and mind. The woman machine, rather than a physical prosthesis, is an illusory emotive one. So vital is the influencing machine as a prosthesis that Ewald's life depends on it wholly dictating his mind and emotions in order to establish a convincing illusory dream-state. Influencing machines that dictate the human mind and emotions are not uncommon in Villiers' work. In "The Glory Machine" I previously mentioned, one of Villiers' 1883 *Cruel Tales*, the author imagines how "glory" can be mechanically produced for poets or artists on stage. He discusses the fictional invention of a certain Baron Bottom. Villiers firstly identifies that glory is merely "the impression of sublimity" which poets, regardless of their talents, leave on their audience or readership, and secondly, the "Public's inability to distinguish by itself the worth of what it is listening to" (since "individuals do not like to contradict public opinion"[542]). He then proposes the implementation of a mechanical device in the auditorium inciting the audience to clap when it needs to clap and provide otherwise appropriate responses to the ongoings on the stage, which will ensure that due to the machine's mental compulsion "the play's success becomes a *reality*: Glory passes really and truly into the auditorium. And the illusory element of Bottom's Machine disappears".[543] The glory machine, an improved mechanical version of

[542] Auguste Villiers de l'Isle-Adam, A. W Raitt and Robert Baldick, *Cruel Tales*, trans. Robert Baldick (Oxford: Oxford University Press, 1985), 51, 56, 59.
[543] Ibid., 59. (Original emphasis.)

the "claque", a group of professional applauders, "is the auditorium itself".[544] Like Hadaly, the glory machine not only dictates, but compels the audience to feel inspired by what is witnessed on stage. Via clever mechanical means hidden from the audience it incites a strong emotional response.

For example, "the little […] Cupids on the balconies […] are reproduced practically everywhere; and it is in their mouths, the loudspeakers of gramophones, that the little bellows are placed which, worked by electricity, utter either the *Wow-wows* […] and all the noises of the Public brought to perfection."[545] The glory machine however, does not merely affect the audience mentally, but also physically, where, for example, "tubes of lighting-gas are interspersed with other tubes, containing laughing-gas and tear-gas" and "(t)he balconies […] contain invisible metal fists intended to wake the audience up".[546] The influencing machine mentally and physically regulates the audience's emotions and thus compels it to appreciate the show. "(T)wenty Andreides [sic.] from Edison's workshops", like Hadaly, defined as "(e)lectro-human automata which, thanks to the combined discoveries of modern science, give a *complete* illusion of Humanity", constitute a part of the influencing machine[547]: in the case of an undeserving performer taking to the stage, they "would be distributed […] in postures of profound contempt which would give a lead to the audience."[548] Like the woman machine to Ewald, the glory machine as a prosthesis provides a vital illusion to "(t)he unfortunate Public" which "is there only to try to amuse itself and escape from itself."[549] Since this earlier satire also features Edison as an inventor of Andréides that pass for real people to induce in their audience almost hallucinatory illusions, the tale may have inspired Villiers to employ his android device in *Tomorrow's Eve* specifically in the context of gender.

Without being aware of it, the audience is mechanically mesmerised. In contrast to Hoffmann's influencing machines, mere conduits of the human mesmeriser acting as the true influencing force, in both *Tomorrow's Eve* and "The Glory Machine" it is the machine itself which effects the desired dream-state of its subject. Also, whereas in Hoffmann's tales the mesmerised subject fought his loss of mental agency, in "The Glory Machine", much like in *Tomorrow's Eve*, mesmerism happens as a welcome form of escapism in the form of entertainment. Thus, whilst Hadaly is a passive machine, she is simultaneously an active agent, the physical effector of the illusory dream-state with which Ewald wishes to be blessed (or afflicted). In Villiers' work the influencing machine, rather than being a spectre of terror, is established as a desired prosthesis. The need to be in an induced dream-state through entertainment or, in Ewald's case, mechanical love is

[544] Ibid., 56.
[545] Ibid., 57.
[546] Ibid., 57.
[547] Ibid., 60.
[548] Ibid., 60.
[549] Ibid., 53.

a symptom of what many late nineteenth-century critics perceived as the degeneration of society and a malfunctioning of traditional gender roles, which I will further discuss in the next section of the chapter.

The prosthetic machine: malfunctioning women and feeble men

As a physical extension of Ewald's mind, Hadaly functions as a reflective and illusion-inducing prosthesis. However, the textual references to prostheses run even deeper. Besides Hadaly being at once a passive intellectual extension of man and an active influencing machine, she is also a double-gendered machine. She incorporates the desirable qualities of both sexes, whereas simultaneously lacking their perceived malfunctioning characteristics. In *Tomorrow's Eve* Villiers stresses the prosthetic nature of two types of malfunctioning women for which the mechanical Hadaly, ironically, is to be a remedy. Before elaborating on this, I will first discuss the prevailing notions of degenerate femininity and masculinity in the final decades of the nineteenth century since they lie at the root of these ideas of certain women, and men, as artificial, prosthetic beings. The previously mentioned Austro-Hungarian social critic Max Nordau (1849 – 1923) in *Entartung* (*Degeneration*) (1892) defines "the fin-de-siècle mood" as "the impotent despair of a sick man, who feels himself dying by inches in the midst of an eternally living nature blooming insolently for ever."[550] Late nineteenth-century ideas on degeneration often coupled biological and social factors by emphasising the harmful effect of the unnatural living conditions of modern city life on those already afflicted with some form of nervous condition.[551] Social critics like Nordau set forth the sickness of a society in stasis, a society that, despite its mechanical progress, is forced to look backward as it is unable to look forward, i.e. mankind at the end of its intellectual life.

Nordau's portrayal of fin-de-siècle society lacking a purpose and a rationale is one of fragmentation, defined by a disparate eclecticism and a nostalgia for the old. He exemplifies the symptoms of this disease of stagnation with contemporary women's mismatched hair and dress styles which reference different historical periods, and continues:

> The majority, anxious to be inconspicuous in unimaginative mediocrity, seems to have for its leading style a laboured rococo, with bewildering oblique lines, incomprehensible swellings, puffings, expansions and contractions, folds with irrational beginning and aimless ending, in

[550] Max Nordau, *Degeneration: Translated from the Second Edition of the German Work* (New York: D. Appleton and Company, 1896), 3.
[551] Rita Felksi, *The Gender of Modernity* (Cambridge, Mass.: Harvard University Press, 1995), 181.

> which all the outlines of the human figure are lost, and which cause women's bodies to resemble now a beast of the Apocalypse, now an armchair, now a triptych, or some other ornament.[552]

What Nordau regards as the unnatural absurdity of women's fashion is merely one manifestation of what he perceives as the mental decay of the late nineteenth century. He focuses his voluminous tome on what he feels are symptoms of psychological degradation visible in fin-de-siècle aesthetic life. He dedicates his introduction to the Italian criminologist Professor Caesar Lombroso (1835-1909), who had proposed a theory of an inherited propensity for crime which could be determined by a person's external features. In his introduction Nordau expresses his conviction that these symptoms of degeneration and the aesthetes who display them, if left unchecked, could "exert a disturbing and corrupting influence on the views of a whole generation."[553] His description of a human being stifled and overwhelmed by its own, self-imposed artifice causing distortions so severe that it becomes unclear where the human figure ends and artifice begins, in Nordau's experience is a symbol of a fin de siècle lacking in propulsive energy. The human figure is trapped and lost in its own "irrational folds". Significantly, the predominant site of this loss of self is the figure of the woman. In the final decades of the nineteenth century two constructs of "bad women" had taken shape, ironically that of the "beast of the Apocalypse" and that of the "ornament."

Nordau was not alone in these views. The French novelist and social critic Jules Bois (1868-1943) in his 1896 tract *L'Eve nouvelle* (*The New Eve*) in which he makes a case for women's equality and the eradication of "l'anthropocentrisme" - which in modern terms loosely translates to the patriarchy - admits he himself has been guilty of the stigmatisation of perceived malfunctioning women.[554] Bois condemns men who regard women merely in regards of their serviceability towards men, i.e. as extensions of themselves.[555] However, he excuses this behaviour in the case of the "femme à la mode": "One type of woman is extremely hard to forgive – the woman of fashion. She represents a malicious aspect of our civilization; she must be rooted out, for she is not reformable and a manifestation of the mental and physical scourges of humanity."[556] Elizabeth Menon shows that Bois blames patriarchal society for what he perceives as this ornamental woman's banality.[557] Nevertheless, he feels that she has a corrupting influence on society, which must be rooted out. He

[552] Nordau, *Degeneration*, 8.
[553] Ibid., viii.
[554] Jules Bois, *L'Ève Nouvelle* (Paris: Ernest Flammarion, Éditeur, n.d., ca. 1897), 1. Quoted and translated in Elizabeth K. Menon, *Evil by Design: The Creation and Marketing of the Femme Fatale* (Urbana: University of Illinois Press, 2006), 31.
[555] Bois, *L'Ève Nouvelle*, 1. Quoted and translated in: Menon, *Evil by Design*, 31.
[556] Bois, *L'Ève Nouvelle*, 77. Quoted and translated in: Menon, *Evil by Design*, 32.
[557] Menon, *Evil by Design*, 32.

states that "Max Nordau was the only prophet who dared to condemn her dress sense and her monstrously bad taste."[558] This shows that the discourse on the malfunctioning woman and the supposed ideal behavioural codes between the sexes was an international one.

In the late nineteenth century, the archaic split between the good and bad woman had taken on the form of the passive "femme fragile" versus the demonic "femme fatale".[559]. In *Tomorrow's Eve* the femme fatale is embodied by the dancer Evelyn Habal, a corruptive force who seduces men to their ruin, among them Edison's friend Anderson. Habal is a woman of artifice. Evocative of Poe's "The Man That Was Used Up", Edison opens a drawer to show Ewald the prostheses – Nordau's "incomprehensible swellings, puffings, expansions and contractions" – that the now deceased dancer employed to confuse and bedazzle, among which a wig, false teeth, calf-shaping stockings, feet-shaping high heels, lace-up corsets, bust pads, make-up, perfumes and birth-control potions. Edison's argument is that this type of apocalyptic women, or "female *witches* […] *whose fatal influence is in direct ratio to the quantity of moral and physical artifice with which they reinforce – or, rather, overwhelm – the very few natural seductive powers they seem to possess*", is no more natural than his mechano-electric andréide.[560] Like Poe's General Smith's mechanical extensions, Habal's prostheses are more than mere physical aids. Smith's prostheses allow him to feign success. Likewise, Habal's extensions advance her socially since they enable her to feign desirability. Both Smith and Habal's prostheses enable them to present false personae and thus have a potentially corrupting influence on society. The difference between them is however that Habal's damage is inflicted on men alone. Therefore, Edison professes "that it's the right of man as against the woman […] to inflict a summary execution on her, in the most secret and certain manner that he can, without the least scruple or form of legality, any more than one would hesitate about killing a vampire or a viper."[561] In *Dracula* (1897), Bram Stoker explores the archetype of the monstrous female and bad mother posing a danger to the respectable institution of marriage in the figure of the vampiric Lucy Westenra, who is executed by a band of courageous and honourable men.[562] This is indeed an execution such as Edison described. Villiers' Edison continually stresses the dangers to the institution of marriage posed by vampiric women like Habal. An illustration by Rapaël Drouart in the 1925 edition of *L'Ève Future*, published by Henri Jonquières, shows a "Danse Macabre" between

[558] Bois, *L'Ève Nouvelle*, 91. Quoted and translated in: Menon, *Evil by Design*, 32.
[559] On how these stereotypes were represented in contemporary French literature and journals, see: Menon, *Evil by Design*. On the representation of these tropes of the devouring female in fin de siècle art, see: Bram Dijkstra, *Idols of Perversity: Fantasies of Feminine Evil in Fin-de-Siècle Culture* (Oxford: Oxford University Press, 1988). For the ways women used these stereotypes of evil to their advancement and emancipation, see: Per Faxneld, *Satanic Feminism: Lucifer as the Liberator of Woman in Nineteenth-Century Culture* (New York: Oxford University Press, 2017).
[560] Villiers, *Tomorrow's Eve*, 115. (Original emphasis.)
[561] Ibid., 113.
[562] For a more detailed analysis, see: Showalter, *Sexual Anarchy*, 179-182.

Habal and Anderson. Their faces hidden from each other, both dancers display a skull instead of a face. According to Edison, to be engaged with a woman like Evelyn Habal is to be in a dance of death. Thus, the lethal Habal too was eradicated. (She died of consumption.) Her "mortal remains" in the form of her artificial prostheses, to Edison a source of disgust, are carefully disposed of and only to be "exhumed" from their drawer tomb to tell their cautionary tale.[563]

Fig. 19) A "Dance Macabre": Evelyn Habal and Mr. Anderson - Illustration by Raphaël Drouart in the 1925 edition of L'Ève Future by (Henri Jonquières, Paris), between pages 192 and 193.

Habal is largely modelled on a popular representation of the late nineteenth-century "New Woman", who aspired to be educated, working and financially independent. In the final decades of the nineteenth century the New Woman emerged as a feminist ideal of equality which scrutinised traditional nineteenth-century gender relations. Sally Ledger argues that "whilst the mainstream women's movement of the fin de siècle was busy distancing itself from […] sexual excesses associated with […] decadence and concentrating instead on civic and constitutional rights for women, the popular fictional press often insisted on representing the New Woman as a sexual decadent."[564] No longer financially depending on the protection of men or the institution of marriage, the New Woman had reclaimed agency over her own mind and body and was thus generally depicted as either one of two extremes: the cerebral and asexual bore with a masculine physique versus the hyper-sexualised femme fatale.[565] Habal is clearly modelled on the latter of

[563] Villiers, *Tomorrow's Eve*, 121.
[564] Sally Ledger, "The New Woman and the Crisis of Victorianism", in *Cultural Politics at the Fin de Siècle*, ed. Sally Ledger and Scott McCracken (Cambridge: Cambridge University Press, 1998): 30.
[565] Ibid.: 26-30; Showalter, *Sexual Anarchy*, 9.

these representations. Not only does she pose a threat to men but also to the continuation of the species as she forms a threat to the institution of marriage. Ledger argues that in Britain "female reproduction rather than female sexuality was the main issue in the (New Woman) debate".[566] Showalter states that "(a)s women sought opportunities for self-development outside of marriage, medicine and science warned that such ambitions would lead to sickness, freakishness, sterility, and racial degeneration."[567] Both physicians and journalists flaunted the decline of the birth rate in reprimand of the New Woman.[568] Thus, what was regarded as even more insidious than Habal's insatiable sexual appetite was her rejection of motherhood. Her true transgression is intercourse without procreation and her threat to the institution of marriage and the family unit, which Villiers represents by Anderson's downfall. Showalter and Ledger show how contemporary (male) medical discourse commented on both stereotypes of the New Woman as an unnatural being. Physicians believed that too much learning would have adverse physical effects on women's child-bearing abilities, whereas a deviant sexuality was thought to lead to a weakened, monstrous offspring.[569] In line with these ideas, Edison considers Habal an artificial being whose prosthetic body manifests her - even more treacherous - unnatural, prosthetic New Woman-mind.

Besides the devouring "apocalyptic" woman, the second late nineteenth-century "problematic woman" emerging, both in social criticism and fiction, was the wealthy bourgeoise, "the ornament" in Nordau's words, a creature of "unimaginative mediocrity". Whereas the New Woman caricature as beast of the apocalypse exhibits too much agency, the ornament displays too little. The French poet and art critic Charles Baudelaire (1821-867) in his 1863 paper "Le Peintre de la Vie Moderne" ("The Painter of Modern Life"), characterises the modern bourgeoise as

> that awe-inspiring being, incommunicable like God (with this difference that the infinite does not reveal itself because it would blind and crush the finite, whereas the being we are speaking about is incommunicable only, perhaps, because having nothing to communicate); […] She is rather a divinity […] that presides over all the conceptions of the male brain; […] She is a kind of idol, empty-headed perhaps, but dazzling, enchanting, an idol that holds men's destinies and wills in thrall to her glances.[570]

[566] Ledger, "Crisis of Victorianism": 29.
[567] Showalter, *Sexual Anarchy*, 39.
[568] Ibid., 39.
[569] Ibid., 39-40; Ledger, "Crisis of Victorianism": 29-32.
[570] Charles Baudelaire and P.E. Charvet, *Selected Writings on Art and Literature*, trans. P.E. Charvet (London: Penguin Books, 2006), 423.

This misogynist portrait of the bourgeoise shows that her divine and enchanting exterior is often perceived by men as irreconcilable with her alleged vacuous interior. Lacking an intellectual life, the physically refined but intellectually "mute" woman's grasp on man, according to Baudelaire, is an unwelcome distraction "to the shame of philosophical delights" to be enjoyed by men.[571] Lisa Tiersten shows that in late nineteenth-century France the bourgeoisie had acquired a position of economic and political power and that to be middle-class was chiefly to be a consumer seeking distinction through aesthetics.[572] Freed from the shackles of domestic work, the wealthy bourgeoise spent her days acquiring domestic and personal fineries, i.e. becoming ornament.

Christine Bayles Kortsch demonstrates how women's dress, which traditionally hindered and restricted movement, in the late nineteenth century became a focal point of feminist reform.[573] Particularly the audacious liberation from the most feminine of garments, the corset, which made manual labour difficult and which thus became the very "symbol of women's societal restrictions", was advocated as a feminist act of defiance implying a liberation from a woman's dependence on the societal and masculine gaze, i.e. an unshackling from her role as what Nordau defined as ornament.[574] Alicia however is the embodiment of prudence, a bourgeoise "pur sang" and she bears all the "swellings" and "puffings" of a "distinguished" woman. When visiting the Louvre, her cultural philistinism becomes apparent when she favourably compares herself to the *Venus Victorious* (the Venus the Milo). She remarks that not only does she, Alicia, have arms, but she is also "more distinguished looking."[575] When she visits Edison's studio, she is lavishly "dressed in a glittering silk dress of pale blue […]; she was wearing a red rose in her dark hair, and diamonds sparkled at her ears as well as amid the flowers of her corsage. A sable wrap was thrown over her shoulders, and a veil of English lace cast an exquisite shadow over her face."[576] Kortsch shows how in many New Woman fictions women's fashion choices are politicised and how a deformed (though considered beautiful) body, for example due to tight-laced corsets, often represents an equally deformed or undeveloped bourgeois mind and morals.[577] In *Tomorrow's Eve* too, Alicia's obsession with looking distinguished, rather than being it, outwardly emphasised by her fashion choices, exhibits what

[571] Ibid., 423.
[572] Lisa Tiersten, *Marianne in the Market: Envisioning Consumer Society in Fin-De-Siècle France* (Berkeley, Calif.: University of California Press, 2001), 89-92.
[573] Christine Bayles Kortsch, *Dress Culture in Late Victorian Women's Fiction: Literacy, Textiles and Activism* (Farnham: Ashgate Publishing, 2009), 55-58.
[574] Ibid., 57. See further: ibid., chapter 3.
[575] Villiers, *Tomorrow's Eve*, 46.
[576] Ibid., 169.
[577] Bayles Kortsch, *Dress Culture*, 57-58.

Ewald calls her "appalling moral misery".[578] Thus, Alicia as a woman is reduced to a visually appealing but vacuous ornament.

The English novelist George Gissing (1857-1903), who repeatedly explored "the woman question", in an 1893 letter to Eduard Bertz states[579]:

> My demand for female "equality" simply means that I am convinced there will be no social peace until women are intellectually trained very much as men are. More than half the misery of life is due to the ignorance and childishness of women. The average woman pretty closely resembles, in all intellectual considerations, the male *idiot* – I speak medically. That state of things is traceable to the lack of education, in all senses of the word. […] I am driven frantic by the crass imbecility of the typical woman. That type must disappear, or at all events become altogether subordinate. And I believe that the only way of effecting this is to go through a period of what many people will call sexual anarchy.[580]

Gissing's addition "I speak medically" shows how he considers a woman's lack of substance, her reduction to mere ornament, as a mental disability, whose symptoms however do not so much bother the "afflicted" as they do the opposite sex. According to Gissing, for men to stop suffering, this condition needs curing or, better yet, eradicating through education and sexual insubordination. Rather than for the sake of equality, Gissing proposes women's emancipation as a cure against the suffering of men. Gail Cunningham however points out that, despite these aspirations, Gissing, after attending a feminist meeting, barely commented on the female speaker's intellect but mainly expressed his disenchantment with her appearance.[581] This shows how, to Gissing, a woman's need for inner substance does not negate her need for external refinement, i.e. her need to remain ornament as well. In *Tomorrow's Eve* this ornamental woman is embodied by Alicia, the female "idiot" who needs either curing or eradicating, in order to save Ewald, who, in Gissing's words, is "driven frantic" by her "crass imbecility". Gissing's notions overlap with those of Villiers' Edison who too regards the disparity between Alicia's appealing exterior form and her vacuous inner life as a medical condition: "(H)er resemblance to the statue (the *Venus Victorious*) […] is nothing but a *sickness*, that must be the result of some envious strain injected long ago in her bizarre family. She was born that way […]; in a word, she is an anomaly as odd as a giant!"[582] Edison's remark implies

[578] Villiers, *Tomorrow's Eve*, 35.
[579] Arthur C. Young (ed.), *The Letters of George Gissing to Eduard Bertz 1887-1903* (London: Constable, 1961), 171.
[580] Ibid., 171.
[581] Gail Cunningham, *The New Woman and the Victorian Novel* (London: The Macmillan Press, 1978), 132.
[582] Villiers, *Tomorrow's Eve*, 181. (Original emphasis.)

the notion that a woman's exterior form and interior life should reflect each other. Alicia failing to do so is regarded as a form of degenerate illness of the bloodline, inherited from each generation onto the next. As much as the apocalyptic woman, the ornamental woman is the epitome of artifice. She is regarded fake, unnatural and faulty. Lacking "content", she is merely an exterior form. Through her fashion choices of, in Nordau's words, "incomprehensible swellings, puffings, expansions and contractions", she glorifies the distortion of the feminine form, which embodies the distortion of her mind. The novel suggests that Alicia as a spectre of bourgeois respectability, an empty, ornamental form without content, is no more than a collection of beautiful limbs, i.e. a pleasing set of prostheses.

Both the apocalyptic woman as a caricature of the New Woman and the ornamental bourgeoise are represented in *Tomorrow's Eve* as fake, unnatural and faulty versions of womanhood displayed outwardly in their prosthetic, deformed bodies and attire. Rather than aiding their victims or "patients", i.e. Anderson and Ewald, these prosthetic women have an adverse, even lethal, effect on their health. The New Woman was regarded a sexually transgressive figure. She was considered too masculine, either in her hyper-sexuality or in her excessive amount of thinking. The bourgeoise on the other hand, was criticised for not thinking enough. However, in late nineteenth-century discourse on decadence and gender, men were not exempt from criticism either. The notion of malfunctioning masculinity was embodied in the figure of the male aesthete or the dandy, a figure represented in *Tomorrow's Eve* by Ewald, whom Villiers seems to criticise as well as the women, though in a more subtle manner. Baudelaire in "The Painter of Modern Life" (1863) discusses the artistic dandy as a noble romantic hero, an artist in the most spiritual sense, "the perfect idler", "the passionate observer" who wanders the rapidly changing urban landscape.[583] He portrays wealthy dandies as misunderstood artists, who have "no profession other than elegance", beings who "have no other status but that of cultivating the idea of beauty in their own persons, of satisfying their passions, of feeling and thinking."[584] Baudelaire regards them as "representatives of what is best in human pride" and possessing the need "which is too rare in the modern generation, to combat and destroy triviality. […] Dandyism is the last flicker of heroism in decadent ages."[585] Baudelaire considers dandyism "a new kind of aristocracy" and a title that needed to be earned.[586] He prophesises that, unlike in the uniform setting of modernising and democratising France, where "dandies are becoming rarer and rarer", in England the dandy will prevail, "always assuming that

[583] Baudelaire, *Selected Writings*, 399.
[584] Ibid., 419.
[585] Ibid., 421.
[586] Ibid., 421.

men worthy of them (famous dandies like Lord Byron) come forward."[587] In Baudelaire's portrayal, dandies are anachronisms out of touch with the modern world, "disenchanted and leisured 'outsiders'", sad but brave victims of their time.[588] Villiers' English Lord Ewald as a lonely and wealthy aristocrat is clearly modelled on this notion of the masculine (anti-)hero.

Baudelaire's portrayal of the dandy is predominantly a romantic one, that of a noble yet tortured soul. Though "the dandy does not consider love a special aim in life", Baudelaire feels that "love is the natural occupation of men of leisure", since "without leisure and money, love can be no more than an orgy of the common man, or the accomplishment of a conjugal duty."[589] According to Baudelaire, to be preoccupied or even devoured by spiritual love is the privilege or the curse of the wealthy. Baudelaire defines dandyism as a "cult of the ego which can still survive the pursuit of that form of happiness to be found in others, in woman for example; which can even survive what are called illusions. A dandy may […] suffer pain, but […] he will keep smiling".[590] A figure of great sensibility and melancholy, his passion is his curse, from which stems "the unshakable determination to remain unmoved."[591] Ewald too, is a retrogressive seeker of beauty, tortured by the discrepancy between his desire for a spiritual connection and the reality of the trivialised "love" from which he desperately wishes to be freed. Though Baudelaire's portrayal emphasises the dandy' as a noble spirit, it also depicts him as the last of his kind, a living remnant of the past, unable to endure. Ewald's gaze too is directed inwards as looking outwards (and be faced with triviality) is considered painful. He aspires for the machine woman to be the mirror of his own soul which will allow him to direct his gaze even further inwards. His narcissistic "cult of the ego" acts as an escape mechanism which can "survive" only by the grace of the "illusions" provided by the machine. Like Baudelaire's dandy, Ewald is in pain. He is a patient in need of a cure.

Whereas Baudelaire describes the dandy as the noble outsider, preoccupied with matters of the mind, the observing "flâneur" wandering the modernising urban landscape, in Nordau's 1892 *Degeneration* this wanderer has lost his way. Where Baudelaire comments on the dandy's "delight in clothes and material elegance" as "no more than the symbol of the aristocratic superiority of his mind," Nordau regards it as an outward sign of weakness, not merely as a further regression into oneself, but a transgression into femininity.[592] According to Nordau, like women, effeminate men are becoming ornament too:

[587] Ibid., 422.
[588] Ibid., 421.
[589] Ibid., 419-420.
[590] Ibid., 420.
[591] Ibid., 422.
[592] Ibid., 420.

> The common feature in all these male specimens is that they do not express their real idiosyncrasies, but try to present something that they are not. They are not content to show their natural figure […] but they seek to model themselves after some artistic pattern which has no affinity with their own nature, or is even antithetical to it. […] The impression is that of a masked festival, where all are in disguises, and with heads too in character. […] (O)ne seems to be moving amongst dummies patched together at haphazard, in a mythical mortuary, from fragments of bodies, heads, trunks, limbs, just as they came to hand […].[593]

Where Baudelaire regards the dandy as a romantic hero displaying his individuality, loyal to a higher spiritual calling, Nordau deems him lost, devoid of direction or identity. Nordau's discontent with these men's "heads set on shoulders not belonging to them" is evocative of the clockmaker who, after the French Revolution, believed he had been returned the wrong head after decapitation.[594] In the context of fin-the-siècle decadence however this metaphorical decapitation, i.e. a disconnect between head and body, is self-inflicted and the loss of self exhibited by flaunting fake personae. Whereas Baudelaire's dandy is a noble intellectual fighting decadence, Nordau's dandy is the embodiment of it. Like the sexually transgressive woman, Nordau regards the sexually transgressive man sick too, a patient suffering from the illness of decadence and degeneration. Embodying nothing, like the wealthy bourgeoise, in Nordau's vision, man too has become fragmented, ornamental and an artificial amalgamation of lifeless prostheses.

With his eclectic, artistic attire feigning substance, Nordau's portrayal of jaded and degenerate masculinity is one of physical and moral transgression into femininity. Whereas the emancipated New Woman was considered too masculine, the new man was deemed too feminine. In the final decades of the nineteenth century, among more conservative thinkers the idea of the sexes blending had become a common anxiety. Ledger discusses a satirical verse that appeared in *Punch* on the 27th of April 2985, the day after the start of Oscar Wilde being tried for "gross indecency", which ends with these lines[595]:

> But a new fear my bosom vexes;
> Tomorrow there may be no sexes!
> Unless, as end to all the pother [sic],

[593] Nordau, *Degeneration*, 9.
[594] Ibid., 9.
[595] Ledger, "Crisis of Victorianism": 24, 25.

Each one in fact become the other.[596]

Ledger points out that, though verses like these were meant as parodies, "satirical discourse was deployed in the attempt to attack and silence all who were perceived to have transgressed prescribed Victorian gender codes in the 1890s."[597] She points out that "the crisis of Victorianism at the *fin de siècle* centred not just on gender issues, but also on the interconnections between gender roles and […] anxieties pertaining to the continuation of 'race'".[598] I argue that this crisis is represented in Villiers's novel. Ironically, the machine woman in *Tomorrow's Eve*, which is to provide a cure against these perceived threats, is the epitome of these anxieties, i.e. she embodies what she is intended to cure. In the machine, gender is no longer a fixed, biological reality but a manmade, eclectic and fragmented construct, coupling the desired traits of both sexes: the beauty of the ornamental woman, the seductiveness of the apocalyptic woman and the spirituality and intelligence of man. In sum, the novel reflects on these notions of degeneracy manifesting in malfunctioning men and women and proposes the machine as a prosthetic cure for weak, prosthetic men against vacuous and/or dangerous, prosthetic women.

Eric Wilson, who concerns himself with the archetypical psychological impulses behind the creation of "androids", distinguishes between two poles of the Pygmalion motif: "narcissistic patriarchy", i.e. the male need to regard the world and everything in it as a mechanism that can be managed and controlled, and "ironic idealism", i.e. the idealisation of the machine as the only site through which humanity can transcend towards a higher ideal and consciousness.[599] Both of these motifs are embodied in Villiers' woman machine. Wilson argues that the creation of androids poses an impossible paradox:

> (F)ashioners of automatons and robots wish to replace themselves with predictable machines. However, to achieve this mechanical paradise, these automaton makers must mimic the organic world they loathe, must imitate with their cogs the laws by which cells thrive. This double bind offers automaton makers the possibility only of ironic transcendence: an escape from changing matter based on the laws of matter […].[600]

[596] "Sexomania". *Punch, or the London Charivari* 108, April 27, 1895, 203, also quoted in: Ledger, "Crisis of Victorianism": 26.
[597] Ledger, "Crisis of Victorianism": 27.
[598] Ibid., 31. (Original emphasis.)
[599] Wilson, *The Melancholy Android*, 112-113.
[600] Ibid., 28.

Wilson stresses that, like organic life, the android is bound to matter and thus the aspiration to transcend matter by replicating and simulating that same matter is a project "doomed to fail as this escape gestures towards inaccessible stasis."[601] This is precisely the paradox of *Tomorrow's Eve*. In the context of fin-de-siècle gender politics, the text comments on the futile attempt of perceived malfunctioning men to correct and transcend the limitations of perceived earthbound and unenlightened malfunctioning women through the replication of an earthbound, material, female vessel. In short, Villiers' Edison is attempting to solve a spiritual problem by material means, trying to cure a soul by treating a body. Edison's spiritual prosthesis thus proves an impossible paradox. This is where the spirit Sowana, the undying soul of the duped Mrs. Anderson (an angelic femme fragile), offers a solution as a deus ex machina to breathe spiritual life into the lifeless mechanism, something even Edison's genius could not accomplish.

The attempted curative medical treatment of the machine body in *Tomorrow's Eve* also extends to the realm of desire. I will now discuss how *Tomorrow's Eve* via its depiction of mechanical sexuality subverts traditional nineteenth-century gender politics. Though Ewald's aspired connection with the machine is predominantly spiritual, its physical and technological composition is crucial to sustain his attraction to it. Ewald's narcissistic projection of his spiritual ideals onto the machine body demonstrates a techno-sexuality deviating from normative, biologically gendered relationships and places the machine in the domain of the fetish. Rita Felski notes that "(i)t is only in the nineteenth century that perversion comes to acquire a distinctively psycho-pathological sense, marking the definitive instantiation of a medical model of sexuality."[602] In the same year that Villiers published *Tomorrow's Eve*, the German psychiatrist Richard von Krafft-Ebing (1840-1902) published his *Psychopathia Sexualis*, a pathological study of sexuality that threats non-normative sexual compulsions as involuntary medical conditions, rather than as deliberate forms of rebellion against established laws.[603] Felski however notes that the distinction between pathological perversion and symbolic perversion as a form of rebellion in the late nineteenth century is anything but clear-cut and "it is more accurate to imagine a gradual overlaying of one conceptual grid by another to form a palimpsestic relationship."[604] Though the boundaries between medical and textual perversions are rather fluid, I will discuss perversion from a textual perspective, rather than from a clinical one. Decadent textual perversion is generally employed as a politicised tool to question and subvert fixed nineteenth-century gender conventions and the socially prescribed relationship between the sexes.

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[601] Ibid., 28. Wilson elaborates on this on pages 109-111.
[602] Felski, *Gender of Modernity*, 176.
[603] Ibid., 176. Von Krafft-Ebing discusses "sadism" as "the relation between lust and cruelty": Richard von Krafft-Ebing and Charles Gilbert Chaddock, *Psychopathia Sexualis, With Especial Reference to Contrary Sexual Instinct: A Medico-Legal Study*, trans. Charles Gilbert Chaddock (Philadelphia: The F. A. Davis Co., Publishers, 1892), 57.
[604] Felski, *Gender of Modernity*, 176.

In this context the textual prosthetic body machine becomes a modern tool of rebellion against the old gender norms.

From the mechanical "intercourse" between Ewald and Hadaly the latter emerges as a sexual prosthesis which frustrates traditional gender codes. Though the clues in the text regarding the andréide as a sexual being are rather cryptic, Hadaly as a machine is most likely asexual in the sense that she is unable to experience her own sexuality. Since her genesis is inspired by man's experience of her, Edison's disinterest in whether his machine woman could experience the world through self-awareness undoubtedly extends to her other sensory experiences as well. When Edison speaks about the reproduction of "the sexuality of the model", it is in relation to the curvature and colouring of Alicia's flesh. Edison explains, with the aid of a prototype arm, how the machine's skin, through the process of induction, will feel warm to Ewald's touch. The lengthy presentation on the functioning of the machine woman, on how lifelike she will be, is solely aimed at Ewald's experience of her. Not once does Edison allude to how Ewald's touch is received by her, whether it is felt at all. Nowhere in the text does Villiers make any allusions as to how Hadaly – or, rather, Sowana – will experience her machine body, whether it has an artificial sensory system giving the android the illusion of being real, the illusion of being touched in the real human flesh. Ironically, it is Hadaly's mechanical asexuality which embodies her transgressive nature and which connects *Tomorrow's Eve* with other French avant-garde, decadent texts that comment on contemporary gender relations as a means to scrutinise traditional gender codes. Often these texts portray unusual sexual practices or perversions as a form of subversion aimed at the rigid nineteenth-century gender relations of stereotypically passive, subservient women versus active, domineering men. One of these texts is the 1884 influential novel *Monsieur Vénus* by the French woman novelist Rachilde (Marguerite Vallette-Eymery, 1860-1953) in which a man is increasingly transformed into an android. I will discuss *Monsieur Vénus* from the perspective of mechanical sexuality as this text assists in placing the non-normative sexuality in *Tomorrow's Eve* in the context of the prosthesis.

Like *Tomorrow's Eve*, *Monsieur Vénus* is also characterised by a mechanical blending, coupling and uncoupling of female and male parts. The protagonist is the aristocratic Raoule de Vénérande who seduces and moulds the working-class Jacques Silvert into her image of a husband. However, she refers to herself as the husband and to Jacques as her wife ("It would be so nice to be your husband! to call you privately Mme de Vénérande."[605]), an inversion that Jacques readily adopts. The relationship between the cross-dressing Raoule and the already effeminate Jacques is characterised by a perverse imbalance of power. Like a wax doll, Jacques is modelled both physically and

[605] Rachilde, Melanie Hawthorne and Liz Constable, *Monsieur Vénus: A Materialist Novel*, trans. Melanie Hawthorne (after the 1929 translation by Madeleine Boyd) (New York: The Modern Language Association of America, 2004), 156.

behaviourally to Raoule's desires. At the end of the novel Jacques reaches a state of ultimate passivity when he is killed in a duel in which Raoule forces him to take part. Jacques' already complete lack of bodily and mental agency is yet exceeded in death when he is turned into a macabre wax doll at the hands of Raoule. The doll is a coupling of mechanical components with Jacques' body parts: "On the bed […] rests a wax figure covered with transparent rubber skin. The red hair, the blond eyelashes, the gold hair of the chest are natural; the teeth that ornament the mouth, the nails on the hands and feet were torn from a corpse."[606] The final and perhaps most disturbing lines of the novel suggest that Jacques' body, which has become mechanical, is used by Raoule as a sexual plaything:

> At night, a woman dressed in mourning, sometimes a young man in evening clothes, opens this door. They come to kneel beside the bed, and, after contemplating at length the marvelous [sic.] lines of the wax statue, they embrace it, kiss it on the lips. A spring hidden inside the flanks connects it with the mouth and animates it at the same time that it spreads apart the thighs. This wax figure, an anatomical masterpiece, was made by a German.[607]

Having been silenced and objectified, and subjected to Raoule's gaze and touch, Jacques has become the ultimate ornament. Perhaps the allusion that the mechanical doll is of a good quality German make is a nod to Poe's "The Man That Was Used Up". As a man Jacques is indeed used up: Raoule's perverse necrophilia completes Jacques symbolic conversion into traditional nineteenth-century womanhood. There are many textual overlaps between *Monsieur Vénus* and *Tomorrow's Eve*. Villiers' too imagines a mechanical button-operated woman that responds to man's desires. Like Raoule, Ewald desires Alicia to be dead: "What I really would like would be to see Miss Alicia dead, if death didn't result in the effacing of all human features."[608] The necrophiliac aspect in *Monsieur Vénus* is in *Tomorrow's Eve* only narrowly averted by the fact that Alicia's body is entirely transposed onto a machine.

I will discuss a few examples of textual perversity in *Tomorrow's Eve* in order to demonstrate that Villiers not only persecutes the malfunctioning woman, but the malfunctioning man as well. *Monsieur Vénus* helps place *Tomorrow's Eve* in the context of French decadent literature that frustrates and transgresses traditional gender relations which centred on mental and bodily (masculine) agency versus (feminine) quiescence. Similar to the manner in which Jacques, the prosthetic man-machine, is uncoupled and reassembled into an eclectic double-gendered being,

[606] Ibid., 208.
[607] Ibid., 210.
[608] Villiers, *Tomorrow's Eve*, 46.

Hadaly's dissection, an unpicking and redistributing of parts, can be understood as a symbolic redefinition of traditional gender codes. Unlike Raoule, who predominantly seeks to possess and objectify the material machine-Jacques in a carnal manner, Ewald wishes for an intellectual and spiritual mechanical prosthesis. However, read in the context of perversion, Hadaly as a gendered body machine must nonetheless be regarded as a sexual prosthesis. I will show how via textual perversions, Villiers, though in a more subtle manner than his prosecution of women, portrays men as deficient also.

Felski discusses the literary works of Rachilde in the context of sexual deviation and argues that in *Monsieur Vénus*, "(f)reed from any sense of organic identity or integral personality, Jacques no longer exists as a human subject but is merely a collection of body parts that can be plundered and reassembled at will."[609] Melanie Hawthorne and Liz Constable too, suggest that "Rachilde's redistribution of gender roles and sexual practices goes beyond the category of gender" […] and that "the use of artificial body parts […] to enact a sexual relationship with a body that is, in the end, no more than a simulacrum takes the sexual encounter into a virtual realm in which any appeal to something grounded in biology becomes impossible."[610] Indeed Raoule, as a female aesthete, who, evocative of Baudelaire's notion of the male dandy, regards herself as "the elite of the women of our time" and an "example of the artistic feminine and the grand lady, one of those creatures who revolt at the idea of perpetuating a weakened race or of giving a pleasure they don't share", prides herself in having invented a new vice, a new form of intercourse which does not result in procreation.[611] She regrets however that, rather than coming from a position of dominance, it is "born out of our (women's) powerlessness."[612] Raoule, who desires to be a man, regards Jacques as a sterile woman for being unable to give birth. Rachilde represents many fin-de-siècle anxieties concerning the perceived symptoms of degeneration: gender blending and inversion, the hyper-sexualised femme fatale versus feeble ornamental man and the inability or refusal to reproduce. The non-reproductive sexual practice of a woman-turned-man with a man-turned-woman-turned-machine in the text is deliberately purposeless and fully prosthetic.

In the context of Rachilde's fictions, Felski notes that fetishism traditionally implies "the simultaneous morcellization and idealization of the body".[613] The woman machine in *Tomorrow's Eve* is also precisely that: a fragmented and idealised object which represents in Ewald's case the narcissistic celebration of the self. Felski further argues that "cerebral rather than genital" perversity

[609] Felski, *Gender of Modernity*, 197.
[610] Rachilde, *Monsieur Vénus*, xxix, xxx.
[611] Ibid., 71.
[612] Ibid., 72.
[613] Felski, *Gender of Modernity*, 189.

is generally the domain of women.[614] This notion, when again applied to *Tomorrow's Eve*, affirms Ewald's character as stereotypically feminine, since his connection with the machine is predominantly intellectual. On symbolic sadism Felski asserts that "the organizing principle of the Sadean text […] is that of negation. It depicts the compulsive and mechanical repetition of acts of erotic violence by the solitary ego as a means of negating the reality of the other and affirming the absolute sovereignty of the self."[615] She argues that, unlike sadism effected by men, which generally implies acts of violence without the subject's consent, sadism effected by women can happen only, indirectly, through the act of seduction, i.e. the acknowledgement and cooperation of the subject.[616] Therefore, a woman's "desirability emerges as a precondition for (her) acquisition of the ability to inflict violence upon others."[617] Thus, the female sadistic object "must simulate desirability".[618] The woman machine Hadaly as both an active and passive prosthesis effects just that. Through a simulation of desirability, she subtly seduces Ewald into mental oblivion. This oblivion is however, self-induced. Thus, read in the context of sexual deviation, Villiers imagines the prosthetic machine in *Tomorrow's Eve* as a double-edged sado-masochistic sword negating not merely the reality and agency of the female "other" (Alicia) but also of the male "self" (Ewald).

I have previously argued that, unlike the early nineteenth-century aspiration of the thinking machine as a mechanism that defies predictable regularity, for example as discussed by Poe in his 1836 assessment of Von Kempelen's chess Turk, the decadent machine is a prosthetic illusion of a thinking machine in which predictability, i.e. passivity, is desired. Hadaly is the unpredictable and uncontrollable woman made safe again by men and for men. She embodies the paradox of men's desire to return agency to men by deliberately taking it away. At once active and passive, she offers masculine intelligence, but not to the extent that it negates her ornamental beauty. She is seductively exciting, but not the extent that it becomes dangerous. As a mechanical prosthesis, the fictional decadent double-gendered machine is an extension of man himself. It is a controlled mechanism, subconsciously governed by its male owner's fantasy of ideal femininity. In this regard Ewald's interaction with the machine can be regarded as a form of narcissistic masturbation. The French philosopher Jean-Paul Sartre (1905-1980) in the 1952 biography *Saint Genet* defines masturbation as "an event in the world" effected from "nothingness".[619] The imagining of "non-existent flesh will excite real events in the true world: erection, ejaculation, damp patches on the sheets: all these are caused by the imaginary. […] (T)he masturbator grasps the world in order to

[614] Ibid., 200.
[615] Ibid., 189.
[616] Ibid., 189-190.
[617] Ibid., 190.
[618] Ibid., 190.
[619] Jean-Paul Sartre, Robin Buss and Geoffrey Wall, *Modern Times: Selected Non-Fiction*, trans. Robin Buss (London: Penguin Books, 2000), 124.

dissolve it and instils the order of the unreal into the universe: these images must *have being*, since they act."[620] His interpretation of the event of masturbation can be employed as a tool to decipher the sexuality in *Tomorrow's Eve*.

The decadent woman machine as a sexual substitute or prosthesis is employed in a similar manner, as an impetus for masturbation, however the sequence of events is reversed. The machine as a material event effects an imaginary state of illusion, a negation of a reality considered unacceptable. Instead of the effecting of a physical response through spirit, Ewald seeks a spiritual response through matter. Sartre suggest that onanism "aspires to be a crime" since it implies the subversive act of creating something out of nothing.[621] If one regards Ewald's interaction with the machine as a form of masturbation, his "crime" however, takes place in reverse: Ewald's desired state is one of oblivion and nothingness, effected via the reality of the prosthetic material body, the "something", of the machine. In a sexual context Ewald's prosthetic mirroring can then be interpreted as a form of cerebral masturbation, a narcissistic celebration of the self, taking place via the mechanical body of a woman, which, instead of the expected transcendence, again effects a nihilistic oblivion. Thus, by analysing *Tomorrow's Eve* in the context of symbolic perversion, it becomes apparent that, though at first sight the text persecutes perceived malfunctioning women, it, though perhaps more subtly, scrutinises perceived malfunctioning men as well.

Reading *Tomorrow's Eve* in the context of fin-de-siècle degeneration theory and gender politics, the symbolic perversions and persecutions of malfunctioning women and men become apparent. Regarding Rachilde's work, Felski however notes that to a contemporary, predominantly male, readership these connotations may not have been obvious and that, despite Rachilde's rise to literary fame because of the "succès de scandale" of *Monsieur Vénus*, her fictions were generally interpreted as an affirmation of "instinctual femininity", rather than a refutation of it.[622] The same can be said about *Tomorrow's Eve*. An English journalist, reporting for the *Nottinghamshire Guardian* in 1886, rather than discussing the text's obvious misogyny, reads it as "a satire on the "effects" of progress on the mind of man. One of these "effects"", he argues, "is the complete destruction of idealism, and the absorption of materialism in the heart."[623] The journalist interprets the novel mainly as a satire of a society that is always driven by the spirit of progress and argues that "this book is written with a purpose – that is, to bring back the heretics of science to a childlike faith once more. Old Eve, with all her faults, was better than the new Eve of Mr. Viliers de l'Isle Adam's

[620] Ibid., 124. (Original emphasis.)
[621] Ibid., 124.
[622] Felski, *Gender of Modernity*, 179, 205-206.
[623] "Echoes from The Continent", *Nottinghamshire Guardian* 2142, June 11, 1886, 3.

dream."[624] In his interpretation, the female android is no more than the embodiment of the grotesquery of artifice, the textual blasphemy being the singular forward gaze of progress for the sake of progress. However, though perhaps not obvious to the average contemporary reader, notions of malfunctioning, represented in fin-de-siècle fictions like *Monsieur Vénus* and *Tomorrow's Eve*, scrutinise or subvert traditional gender stereotypes. Embedded in fin-de-siècle culture in which gender was not merely biologically but also semiotically re-evaluated in socio-economical and medical discourse, textual perversions involving mechanical, gendered prostheses, which ironically uncouple desire from biological gender, disrupt and challenge existing role models centred on the antinomy of self-governed activity versus impotent passivity. In the final section of the prosthetic machine, I will show how the phonograph as a speaking machine in late nineteenth-century fictions became a metaphor of women and how what John Picker terms the "phonographic female" in fiction signifies a symbolic re-inscription of gender.[625]

The prosthetic machine: the phonetic female as sonic re-inscription

In this section I will show how at the fin the siècle the phonographic female in fiction often became a metaphor of the vacuous ornamental bourgeoise and the modern New Woman. I have discussed that Hadaly, instead of a brain, possesses two phonographs which resonate with Ewald's mind by parroting phrases of intelligent men. The machine's speech substitutes a mind and thus signifies its lack of mental self-governance. In the context of the perceived malfunctioning female, Villiers portrays Hadaly's human prototype, the ornamental woman Alicia, as a mindless speaking machine as well. Having been cast aside by a former lover, according to what she believed to be the bourgeois notions of propriety, afterwards found herself unable to marry. Therefore, unable to be a kept woman, she became a singer out of necessity, rather than passion. Ewald complains that when Alicia speaks "her words seemed constrained and out of place in her mouth"[626] and that "(i)t's simply a matter of trade, that her theatrical training enables her to interpret the inspirations of genius into mimic gestures; those inspirations themselves she finds hollow. […] That voice, which lays its golden enchantment on every syllable, is nothing but an empty instrument".[627] Ewald portrays Alicia as a mere talking machine that mindlessly repeats words without knowing their

[624] Ibid., 3.
[625] Picker, "My Fair Lady Automaton": 92, 98.
[626] Villiers, *Tomorrow's Eve*, 31.
[627] Ibid., 34.

meaning or being affected by their emotional content. He regards the discrepancy between her beautiful voice and what he feels is her vacuous bourgeois mind as a physical affliction:

> From the physiological point of view, these cases of inept positivism, which are becoming so common nowadays, are nothing but bizarre forms of hypochondria. It's a variety of mental disorder which leads the victims to repeat, even in their sleep, "important"-sounding words, which seem to give "weight" and substance to life *simply by being repeated*. […] Our maniacs imagine […] that the simple articulation of these syllables confers on anyone who enunciates them a certificate of mental capacity.[628]

In sum, in Ewald's experience, Alicia as an example of the talking ornamental bourgeoise is no more than a speaking machine and her wish to sound intelligent, rather than be it, a form of degeneration. Sharing Ewald's views Edison devised Hadaly as a speaking machine which was to serve as a mechanical re-inscription of the living speaking machine Alicia.

In Ewald's opinion, not only does Alicia lack the intellect to understand the words she utters, she also lacks the emotional intelligence to be affected by their content. Alicia herself affirms this assessment when she compares herself to other opera singers and prides herself on being able to sing a libretto without distorting it by displays of emotion: "(T)hat soprano in New York was wasted on the part. I could sing it (the libretto) ten times over without putting as much effort into it as she did.[629] […] I really don't understand how people can listen seriously to singers who "get all wrapped up" in the part".[630] Alicia can be read as the embodiment of Olimpia, the wind-up doll singer, in Jacques Offenbach's (1819-1880) opera *Les contes d'Hoffmann* (*The Tales of Hoffmann*) which premiered in the original French in Paris in 1881.[631] Whereas Hoffmann's pre-phonographic Olimpia utters no more than a few 'ahs', Offenbach's fin-de-siècle embodiment of the female automaton sings a full aria. However, her newfound voice springing from a mechanical body and emotionless face merely emphasises her unfeeling artificiality. Alicia too is described by Ewald as a mere "performer, a virtuoso" and by extension a "mortal enemy of Genius, and […] of Art itself".[632] Like Offenbach's Olimpia, Alicia is characterised as a mere singing machine. The creation of Hadaly is Ewald's attempt to mechanically reinscribe the faulty Alicia and, by way of improvement, force his own voice through her mouth.

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[628] Ibid., 40. (Original emphasis.)
[629] Ibid., 173.
[630] Ibid., 174.
[631] Linda Cantoni, "The Tales of Hoffmann, Opera by Offenbach". *Britannica*, accessed May 17, 2021, https://www.britannica.com/topic/The-Tales-of-Hoffmann.
[632] Villiers, *Tomorrow's Eve*, 41.

Anne-Julia Zwierlein discusses a plethora of late nineteenth-century fictions in which the female disembodied voice is portrayed as a "sonic monstrosity".[633] This term was coined in 2016 by Isabella van Elferen to denominate the uncanny "cognitive dissonance" that occurs in film audiences when confronted with a voice that lacks "a locatable source". [634] Zwierlein discusses the fictional phonographic woman as a sonic monstrosity since her voice too, either by being "mechanically reproduced, or mesmerically induced", is disembodied and ceases to be her own.[635] She aptly discusses phonographic woman fictions as interplays and exchanges of agency and passivity in fin-de-siècle gender characterisations. I would however like to add that many of these tales, some of which I will discuss here, can also be read as prosthetic sonic re-inscriptions, i.e. instances of men speaking through women by means of "curing" their perceived character flaws. Gwenhaël Ponnau also emphasises the importance of the "deux personnages (Alicia and Edison) dont les voix alternées vont successivement évoquer, l'une, la terrible dissonance entre la beauté idéale et la sottise toute bourgeoise d'Alicia et, l'autre, le moyen d'abolir ce désaccord."[636] I argue that it is indeed this disagreement between perceived male intellect versus female vacuity that is forcibly eliminated by means of a mechanical overwriting of the female voice with male speech.

I have previously shown that Edison and Ewald force Hadaly into life by customising her to Ewald's desires. One part of this process is giving her the appearance of Alicia, another is forcing their own voice through her body. About Hollingshead's 1895 account of "Poor Faber" and his speaking machine *Euphonia*, which I discussed in chapter 2, Connor remarks[637]:

> The emphasis throughout is on the forcing of speech through, and upon, the resistant quiescence of matter. Matter and speech are opposed, as death to life. But the resistance of matter to voice, disclosed by the difficult passage of voice through it, seems to awaken a sense of the quasi-animate power of matter, which is therefore no longer quite or wholly insensible; there is something there prior to the inculcation of voice that speaks up against it. When forced to speak, matter suffers.[638]

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[633] Zwierlein, "Visionary Women": 89.
[634] Isabella Van Elferen, "Sonic Monstrosity", *Horror Studies* 7, no. 2 (2016): 308.
[635] Zwierlein, "Visionary Women": 90.
[636] Gwenhaël Ponnau, "Désaccords et Dissonances: Le Corps Et La Voix Dans *L'Eve Future*", in *Jeering Dreamers: Villiers de l'Isle-Adam's L'Eve future at our fin de siècle, A collection of essays*, ed. John Anzalone (Amsterdam: Rodopi, 1996): 78. "two characters (Alicia and Edison) whose alternating voices will successively evoke, on the one hand, the terrible dissonance between ideal beauty and Alicia's all bourgeois stupidity and, on the other hand, the means of abolishing this disagreement."
[637] Hollingshead, *My Lifetime*, vol. I, 68.
[638] Connor, *Dumbstruck*, 355.

Villiers too makes matter suffer when he forces men's voices through his woman machine with the aid of the phonograph. The fact that Hadaly is able to move and converse before her transformation into Alicia, suggests that a spark of life is already present in the matter of her body. Her exclamation, directed at the men, "And you will force me to live!" emphasises her anticipated suffering from being woken up through her impelled inscription with male speech.[639] I argue that Villiers' choice of Edison, the inventor of the phonograph, as the novel's fictional inventor is principally based on exactly this importance of mechanical speech as a life-giving, though compelling, force. At the beginning of the novel, Edison laments: "What a latecomer I am in the ranks of humanity!"[640] The fictional inventor feels that, had he been able to invent the phonograph earlier in time, he might have been able to capture God's "sublime soliloquy […] "Ye shall be as gods!"" and other "important speeches" and "(d)ead voices, […] now too distant ever to be recaptured!"[641] Edison here evokes the image of Rivarol pondering on Mical's speaking heads being able to preserve Virgil's poetry in the correct pronunciation across time, as well as the machinic spirit medium who channels voices from beyond the divide of time and space. Through the inventor of the phonograph as an almost mythical figure, Villiers emphasises the divine (male) voice with which Hadaly will be inscribed as the true animating principle. The giving of life to a woman by forcing a (male) voice through her, implies the act of silencing her own, again echoing the machinic nature of the spirit medium speaking with another's voice. A text that exemplifies men's anxiety of losing their godlike status by being reinscribed and silenced themselves by emancipated women, is Edward Byron Nicholson's (1849-1912) sensational tale "The Man with Two Souls", which was published in March 1882 in the London literary magazine *Belgravia*. Ironically, in this text it is a woman who forces her voice through a man's body which becomes mechanised when they both end up cohabiting in the same male body.

The woman, after having succumbed to a heart failure during a mesmeric trance, regains her self-governance via her voice taking possession of the body of her mesmeriser fiancé. Zwierlein suggests that "(t)he conceit of androgyny destabilizes gender difference" since the passive mesmerised subject now regains agency in her adopted body.[642] I argue that, even more than a coincidental destabilisation, the double-gendering exemplifies a purposeful disruption of gender stereotypes and that the tale comments on the anxiety of men being reinscribed by women. This new double-gendered creature is the embodiment of the feared blending of the sexes at which many fin-de-siècle parodies of the New Woman were aimed. Evocative of Poe's "Valdemar", the voice is portrayed as the animating principle which confiscates the man's body as a ventriloquist's

[639] Villiers, *Tomorrow's Eve*, 58.
[640] Ibid., 9
[641] Ibid., 9, 10.
[642] Zwierlein, "Visionary Women": 94.

dummy. However, in the double-sexed creature, the woman wears out the body at double speed as her voice becomes the dominant agent. The monstrous, imposturous voice in the tale belongs to a woman and Nicholson makes the double-voiced creature a battleground between male and female agency. Thus, the tale seems to comment on the late nineteenth-century fear of men having to concede to and being metaphorically reinscribed by self-governed, independent women. In George du Maurier's novel *Trilby* however, first serialised in *Harper's Monthly* in 1894, it is a man who does the overwriting. Through mesmeric compulsion, he appropriates a woman's body as a vessel through which he forces his own voice.

In the story a tone-deaf woman, Trilby O'Ferrall, becomes a successful opera singer, La Svengali, under the influence of Svengali, a male mesmerist. Gecko, a musician who loves Trilby, explains the singer's nature under the mesmeric trance as "just a singing-machine – an organ to play upon – [...] a voice, and nothing more – just the unconscious voice that Svengali sang with – for it takes two to sing like La Svengali, […] the one who has got the voice and the one who knows what to do with it."[643] Zwierlein reads the text predominantly as a gothic example of "a monstrous compact of mesmeriser and mesmerised", evocative of the disembodied mesmerised voices in Poe's tales, a "realism shading into the fantastic".[644] Though indeed Trilby's voice repeats Svengali's name even after she dies, affirming the voice's power of animation similar to Valdemar's, I however, in the context of prostheses, regard her compelled mechanical voice as an example of men correcting women by speaking through them. Similarly, in Maurier's previously discussed *Punch* cartoon from 1878 a muted female body, merged with the phonograph, is a machinic carrier of the male voice. The same trope of the necessity of a male voice in order to devise a successful female singer, recurs in Gaston Leroux's (1868-1927) popular novel *Le Fantôme de l'Opéra* (*The Phantom of the Opera*), which was first serialised in the original French in 1909 and 1910 in the newspaper *Le Gaulois*. The disembodied voice of an invisible man, Erik, who appropriately titled himself "the Opera Ghost" reverberates in the Parisian Opéra Garnier, instructing and threatening the new managers on how to run "his" opera.[645]

The "ghost" is a talented composer who, due to a facial disfigurement, is unable to perform. Due to his invisible, mesmeric presence he manages to further the career of the soprano Christine Daaé. While remaining unseen, speaking through the walls, he instructs her how to sing. Christine, under his spell, believes he is "the Angel of Music" about whom her deceased father used to speak.[646] Under the "ghost's" influence, Christine, a somewhat naïve and insecure girl, materialises

[643] Georges du Maurier, *Trilby: A Novel* (London: Osgood, McIlvaine & Co., 1895), 441.
[644] Zwierlein, "Visionary Women": 98.
[645] Gaston Leroux, *The Phantom of the Opera* (London: HarperCollins, 2011), 38.
[646] Ibid., 55.

as a successful and imposing opera diva. It is however Erik who, through sonic re-inscription, performs through her. He is the masculine mind and talent behind the hollow resonance chamber of the female "glory machine". Jennifer Fleeger connects the machinic woman, as the instrument of her invisible male tutor, with the double-gendered nature of the castrato-singer, since "the castrato's stardom was dependent on the mismatch that defined his body and enabled his unique voice."[647] I would like to add that this discord between female body and voice as a result of male tutelage implies a sacrifice. For a woman to accept man's enforced phonic gift means she has to give up her authentic female voice. In this respect, both *Trilby* and *The Phantom of the Opera* evoke the association of the female medium possessed by a ghostly spirit, thus again mechanising the woman by characterising her as an occult receiver who is granted the voice of the other but must relinquish her own. Christine affirms the female sacrifice of assuming this double-role of receiver and transmitter of the occult, disembodied male voice when she exclaims to the invisible opera ghost: "Oh, to-night I gave you my soul (âme) and I am dead (je suis morte)!"[648] Her words echo Trilby's exclamation moments before her death, "Et maintenant, mon ami, *je suis fatiguée - bon soir!*" as well as Gecko's explanation of Trilby's acquired singing skills: "…when Sevengali's Trilby was singing – or seemed to *you* as if she were singing – *our* Trilby had ceased to exist… *our* Trilby was fast asleep… in fact, *our* Trilby was *dead*…"[649] In both *Trilby* and *The Phantom of the Opera* a male voice appropriates a female body, which is rendered metaphorically lifeless, and uses her as an inanimate phonographic vessel that plays back his own pre-recorded voice. Thus, in both texts the relationship between the symbolic male mesmeriser and the female mesmerised subject is predominantly machinic and palimpsestic.

A recurring trope in phonographic woman fictions is the perceived deficiency of a woman's voice as the embodiment of her inadequate mind. In many texts a sonic re-inscription implies an act of civilisation. Though *The Phantom of the Opera* is a tale of unrequited love, it is also one of mentorship. Only under Erik's intellectual patronage can Christine rise to fame. The compulsion of speech in its aestheticized form of song, not only signifies civilisation, it also *demands* it. In the context of fin-de-siècle gender politics, the forcing of male speech on women, i.e. their sonic re-inscription, can be understood as a misogynist attempt at civilisation. In H.G. Wells' 1896 novel *The Island of Doctor Moreau*, the mesmeriser-vivisector compels his humanised animals to speak.

[647] Jennifer Fleeger, *Mismatched Women: The Siren's Song Through the Machine* (New York: Oxford University Press, 2014), 26.
[648] Leroux, *Phantom*, 24; Gaston Leroux, *Le Fantôme de l'Opéra* (Paris: Le Livre de Poche, 2015), 36.
[649] Maurier, *Trilby*, 418, 442. (Original emphasis.) "And now, my friend, I am tired – good night!"

Moreau describes this civilising process as "an artificial modification and perversion of instinct".[650] In the novel the process of civilisation is transposed onto the body of the animal and takes place through compulsory speech.[651] This comparison of Wells' novel with *Tomorrow's Eve* stresses the misogyny in Villiers' text. Ewald and Edison too employ the corrective male voice to suppress what they perceive as the positivist instinct of the bourgeoise in an attempt to civilise her and make her more equal to themselves. The 1912 play *Pygmalion* by the Irish playwright George Bernard Shaw (1856-1950) shows that it is however only the ornamental bourgeoise that qualifies for a "successful" re-inscription and that a woman with a strong mind will use the attempts at civilisation to her own advantage.

In the play, the attempt of a woman's sonic civilisation takes place by two men, the phonetician Professor Higgins and the linguist Colonel Pickering, who try to transform the common Cockney-speaking flower girl Eliza Doolittle into a society lady by reinscribing her speech into that of a well-spoken lady. Philip Klass interprets Eliza's metamorphosis as the result of what "just one shred of education – in speech – could do to make her an acceptable lady", culminating in Eliza "giving up that fake ladyhood for genuine womanhood."[652] I however argue that reading the play in the context of mechanical re-inscription, Eliza's metamorphosis signifies an act of mechanical civilisation. Rather than evolving into her natural state, this mechanically implemented civilisation is an attempt to turn her into an artificial, ornamental woman. The prosthetic nature of the process is affirmed by the many mechanical speech instruments, such as tuning forks, the telephone and the phonograph, used in her metamorphosis. Julie Wosk also argues that Eliza's metamorphosis into a genteel lady in effect turns her into "an automaton, an artificial woman who resembles a living creature and whose vitality – however muted – is an imitation, mechanistically produced."[653] Indeed, *Pygmalion* exemplifies Moreau's attempt of "perversion of instinct" and takes the civilising process of *Tomorrow's Eve*'s a step further. Whereas Alicia's body is transposed onto a machine, Eliza herself transforms into a speaking prosthesis without any mechanical interposition. However, Eliza's mind does not allow itself to fully succumb to the men's efforts of re-inscription.

After Eliza passes for a convincing society lady at an ambassador's party, Higgins hurts her feelings when he grows bored with his project of artificial speech and in a fit of anger Eliza temporarily reverts to her "pre-civilised" state. When she eventually leaves Higgins and goes her

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[650] H. G Wells, *The Time Machine; The Island of Dr Moreau; The Invisible Man; The First Men in the Moon; The Food of the Gods; In the Days of the Comet; The War of the Worlds (Complete & Unabridged)* (London: Octopus Books, 1977), 122.
[651] Ibid., 122.
[652] Philip Klass and E.E. Kellett, "'The Lady Automaton' By E.E. Kellett: A Pygmalion Source?", *Shaw* 2 (1982): 81.
[653] Julie Wosk, *My Fair Ladies: Female Robots, Androids, and Other Artificial Eves* (New Brunswick: Rutgers University Press, 2015), 24.

own way, the play is ambiguous as to whether or not she will resume lessons with a different phonetician. John Picker regards Eliza as "no mere talking machine but an independent speaker who reveals herself to be the upwardly mobile, self-governed voice of Edisonian modernity."[654] Ironically, rather than a representation of progress, Villiers uses the figure of Edison to embody his male characters' antiquated mindsets, something I will expand on in the next section of the chapter. Wosk, who also stresses Eliza's authenticity and independence, points out that her character reflects late nineteenth-century "important social advances for women in the realm of property rights and education. By the 1890s, the British Parliament had passed a series of Married Women Property Rights Acts, and women in England and America were intensifying their campaigns for suffrage".[655] Indeed, Eliza uses the men's attempt at re-inscription as a tool for her own emancipation in order to become a self-made woman. Like *Dracula*'s Mina Harper, whom Von Helsing believed possessed a "man's brain", and who thus escaped being appropriated by Dracula, Eliza, thanks to her strong mental agency, can prevent herself from being re-inscribed by Higgins. Like Mina, Eliza differs from Villiers' Alicia in the fact that she never was an ornamental bourgeoise and her failure to be mechanically reinscribed indeed has to do with her lack of passivity and the possession of a strong, self-governed mind. The short story *The New Frankenstein*, written by the English author E.E. Kellett (1864-1950), shows the doom scenario which might occur should men succeed at creating a mechanical bourgeoise. As perceived by the male protagonists, the ornamental woman's hideous characteristics are inadvertently emphasised in her mechanical simulacrum. The tale has generally been suggested as the prototype for Shaw's *Pygmalion*. In the narrative the attempt at a woman's sonic civilisation likewise fails, however not because of the woman's independent mind, but ironically because the undertaking works too well and the reinscribed mechanical woman turns out too prosthetic.

Kellet first published the story in 1900 in his collection *A Corner in Sleep and Other Impossibilities*. The tale, so Picker suggests, is one of the earliest appropriations of *Tomorrow's Eve* in the English language.[656] In June 1901 an abridged version appeared in the British *Pearson's Magazine* under the title "The Lady Automaton." I will reference the original, unabridged version. The story is told by a physician, Dr. Philips, who recounts how his inventor friend, Arthur Moore, created a woman automaton, Amelia Brooke, which he wished to pass off in society as a real woman. The technology behind the machine is a combination of a traditional, mechanically moving automaton body and, like in *Tomorrow's Eve*, an adaptation of the phonograph for speech. Similar to Villiers' Edison, Moore ironically characterises the machine's proposed mind with its *lack* of ability to

[654] Picker, "My Fair Lady Automaton": 97.
[655] Wosk, *My Fair Ladies*, 23.
[656] Picker, "My Fair Lady Automaton": 92.

think: “Here is the brain power, the ‘anti-phonograph’ that can speak and hear, indeed do anything but think.”[657] Moore’s fictional “anti-phonograph” is a clever device that is not only able to repeat sentences, “but speak out the suitable answer to them”.[658] Like in *Tomorrow’s Eve*, the phonograph is synonymous to the mechanical mind which speaks without the need for a brain.

At first Phillips wishes no part in the project but Moore reminds him of his own previous remarks about the nature of the bourgeoise, which echo Nordau’s judgements about the ornamental woman: “Is she a woman, this creature of the nineteenth century, or a puppet dressed up to go through life, an automaton obeying the wire-pullings of the showman Fashion?”[659] Considering her mechanical replication, Phillips muses, “what is a phonograph after all but a tattling old woman, repeating whatever it hears without discrimination or tact?”[660] Besides, Moore seems to hold a strong “Hoffmann-esque” mesmeric power over Phillips, rendering him unable to refuse. The project succeeds and the mechanical woman passes for a true society lady, able to make inane conversation and sing and dance without tiring. However, calamity ensues when Amelia turns out too consistent in her behaviour. Programmed to repeat the same answer to the same question, she accepts two marriage proposals. Phillips comments on Moore’s mistake: “Now there is nothing a true woman ought to do so frequently as to change her mind. Everybody should hear from her lips something different from what everybody else hears.”[661] Eventually one of the two thwarted lovers stabs the mechanical woman at the altar and Moore, whose life force is somehow bound to that of his machine, dies on the spot. Evoking again Hoffmann’s tragic protagonists, Dr. Phillips loses his mind and recalls the story from a mental institution.

The nature of the bourgeoise is by the male protagonists experienced as a threat. Unlike Hoffmann’s dancing but pre-phonographic, mute automaton Olimpia, Amelia Brooke is given a voice. She is supposed to be the embodiment of bourgeois perfection and, unlike Villiers’ Hadaly, is intended to be cold and unfeeling. Picker argues that Moore’s indifference towards the feelings of Amelia’s suitors and his refusal to intervene when she accepts both as fiancés, stems from his intention to punish those superficial characters who are taken in by a piece of machinery: “Brooke’s potential for bigamy isn’t a bug, it’s a feature.”[662] I however do not believe that this “feature” is intentional. Like Bierce’s Moxon who fails to control his chess machine by failing to fully understand the implications of its mechanical “mind”, Moore is ultimately the one responsible for Amelia’s malfunctioning. Phillips recalls: “What I had blamed in her was her unwomanly constancy; but this

[657] E.E. Kellett, *A Corner in Sleep and Other Impossibilities* (London: Jarrold & Sons, 1900), 84.
[658] Ibid., 78.
[659] Ibid., 86.
[660] Ibid., 78.
[661] Ibid., 106.
[662] Picker, “My Fair Lady Automaton”: 95.

very constancy had led […] to a display of fickleness unparalleled in the whole history of womankind."[663] According to Phillips, Moore had unintendedly created a monstrous hyper-bourgeoise whose vacuity transgressed even that of her human prototypes. Amelia's perceived womanly fickleness is the reason she escapes control. Hadaly, the anti-bourgeoise, who received a man's brain, embodies woman made safe again through a successful sonic re-inscription. Amelia however, the hyper-bourgeoise, who, in her perceived fickleness, is portrayed as ultra-feminine, brings about disaster on the unsuspecting men. Ironically, because Moore's replication of the ornamental woman is too successful, does his sonic re-inscription turn out to be disastrous. In "The Dancing Partner", The English writer Jerome K. Jerome (1859-1927) imagines what might happen should the automaton society dancer be a man instead of a woman.

The tale was first published in Jerome's 1893 collection *Novel Notes* and in March that year serialised in the British magazine *The Idler*. Like Nicholson's "The Man with Two Souls", the tale, written seven years before Kellett's *The New Frankenstein*, expresses men's anxiety of being reinscribed themselves. In the story Nicholau Geibel, a German mechanical inventor of "an almost European reputation", creates an inexhaustible mechanical male dance partner.[664] However, Geibel's invention has disastrous consequences when it fails to be controlled. It kills a young woman when it goes rogue and, with the girl locked in its grasp, keeps dancing wildly about the ball room whilst bashing into walls and furniture. Though evocative of Hoffmann's mechanically dancing Olimpia, the tale can also be read as a macabre inversion of *Tomorrow's Eve*: the girl who is killed, Annette, had previously complained to her friends about men's lack of dancing skills and wished for a better dance partner. Though some of her friends had also complained about men's vacuous and mechanical conversation skills, Anette had replied: "If a man dances well he may be a fool for all I care."[665] The girls come up with the idea of "a clockwork dancer, or, better still, one that would go by electricity and never run down."[666] When Annette first tries out her mechanical man and begins dancing with him, she is initially pleased and amused when he utters mundane pre-programmed phrases at her without waiting for a response. Though the story can be read as a mere cautionary tale about the failure to control the dangers of artifice, in the context of fin-de-siècle symbolic prostheses however, the malfunctioning of the machine man suggests the more significant notion that catastrophe occurs when a woman desires a man who lacks self-governance. The tale seems to suggest that a man's merit lies predominantly in his intellect and that fault really lies with the woman who wished for something so unnatural (and thus uncontrollable) as a man without mental

[663] Kellett, *A Corner in Sleep*, 106.
[664] Jerome K. Jerome, *Novel Notes* (London: The Leadenhall Press, 1893), 264.
[665] Ibid., 266.
[666] Ibid., 266.

agency, i.e. an ornamental speaking machine. Like *Dracula*'s Lucy, Annette, as the naïve, malfunctioning woman is "fittingly" punished for tempting a man to regress into a "perverse" state of quiescence. Unlike the ornamental woman who, due to her perceived vacuous nature, can convincingly be mechanically embodied as a talking or singing automaton, in Jerome's tale, the attempt to degrade a rational man to a speaking machine is a project doomed to fail.

These examples have shown that phonographic woman fictions as symbolic re-inscriptions – whether successful or not –comment on the traditional stereotypes of the passive and vacuous ornamental woman versus the spiritual and intellectual self-governed man. These fictions demonstrate the disastrous results of women being given a voice, i.e. becoming independent and self-governed. *Tomorrow's Eve* equally ends with a catastrophic plot twist when Edison, failing to receive news about Ewald and Hadaly's safe arrival in England, reads in the newspaper how the ship with Ewald, Hadaly and Alicia on board mysteriously caught fire and sank. Hadaly was destroyed in the flames, whereas Ewald and Alicia survived. The novel ends in the way it began with Ewald announcing his suicide to Edison, though this time via telegram. Menon interprets this ending of the novel as a symbolic revenge of women on men: "(T)he person in control of the female robot was not Edison but a woman – a Mrs. Anderson – who sought to avenge womankind."[667] Though the intervention of the duped Mrs. Anderson in the form of the spirit Sowana is certainly a valid interpretation, I however argue that the explanation of the ending, and the novel as a whole, depends on who is responsible for the fire. Villiers' discloses that the fire "began in a cargo compartment where several barrels of turpentine and gasoline were ignited by an unknow cause, and soon exploded".[668] One interpretation is that this unknown cause is a divine intervention, to punish mankind for its hubris of actually following up on the diving imperative Edison considered at the beginning of the text, "Ye shall be as gods!"[669] The other, gender-oriented, interpretation is the one Menon suggests in which Sowana, as the soul of Mrs. Anderson inhabiting the machine, starts the fire, knowing that Hadaly's destruction would be disastrous to Ewald's mental state. This implies she faked her dormancy when Edison turned off her body for the journey. This reading suggests that the seemingly angelic Mrs. Anderson had a misandrist hidden agenda all along. In this interpretation Hadaly's seemingly successful re-inscription ultimately failed as Ewald, like Anderson before him, dies after all at the hands of a prosthetic woman.

This reading suggests the novel's plot converges with and perhaps inspired the discussed phonographic woman fictions from the 1890s in which men suffer and die at the hands of women in possession of their own strong symbolic voice, i.e. independent New Women. Menon even suggests

[667] Menon, *Evil by Design*, 34.
[668] Villiers, *Tomorrow's Eve*, 218.
[669] Ibid., 9.

that Villiers' attempt at silencing women in *Tomorrow's Eve* can be regarded as a symbolic revenge on the biblical Eve whose voice brought Adam to ruin when she urged him to take the apple.[670] By Mrs. Anderson having the proverbial last laugh, she argues that "Villiers de l'Isle-Adam thus expressed anxiety over contemporary women in Paris as much as he predicted a frightening future."[671] Though, in the context of late nineteenth-century gender politics, this is a convincing interpretation, I argue that Villiers leaves the ending of the novel deliberately ambiguous. *Tomorrow's Eve*'s translator, Martin Adams, states that "(m)ost of his (Villiers') books take the form of arguments and draw their sense of dizzying uncertainty from our awareness that the debaters are wagering their entire existence on the outcome" and that "Villiers is an inspired equilibrist of the dialectic."[672] Indeed, Villiers refrains from taking an obvious stand on the gender issues he scrutinises. Whether the reform of the artificial woman that the novel proposes stems from the author's condemnation of contemporary women or a desire to address the "anthropocentrisme" discussed by Bois, remains unclear.

On the one hand, the explicit views held by his characters suggests a satirical element coinciding with his *Cruel Tales*. Read as a textual perversion, the novel fits in with the writing of other decadents, like Rachilde, who employ the novel as a form of rebellion against the established gender codes. On the other hand, the novel overlaps with Villiers' personal experience. Alan Raitt discusses Villiers' lifelong struggle with women. An affair in his late twenties which lasted for several years made the author lose his mental agency entirely.[673] The woman, a promiscuous older demi-mondaine, who made use of aphrodisiacs, seems to have fit the template of the artificial femme fatale Habal. Disentangling himself from the affair proved an agonising experience and twice did Villiers seek out spiritual retreat at the Abbey of Solesmes. Finally, late in 1865, after he had somewhat regained control over his emotions, Villiers compared himself to a Sleeping Beauty who had been dormant for three years.[674] Raitt also shows how the writer, born into impoverished aristocracy, actively pursued his aspiration of marrying a rich heiress with the aid of a matrimonial agent to rebuild his family's fortune.[675] His failure to succeed and his troublesome experiences with women in general may have shaped his outlook on the female sex. Ironically, the economic freedom which would allow the author to entirely devote himself to his writing and which he sought through marriage, suggests a reversal of the traditional nineteenth-century gender relations, not unlike the one portrayed in Rachilde's *Monsieur Vénus*, in which Villiers would be a "kept man"

[670] Menon, *Evil by Design*, 34.
[671] Ibid., 34.
[672] Villiers, *Tomorrow's Eve*, xv.
[673] Raitt, *The Life of Villiers*, 39-44.
[674] Ibid., 39-48.
[675] Ibid., 138-145.

The historical Edison equally struggled when it came to his involvement with women. Matthew Josephson shows how the inventor, devoted to his work, seemed to have experienced marriage as an unwelcome distraction from his work.[676] During his first marriage, to Mary Stilwell, from 1871 to 1884, he used to sleep in his laboratory for days on end. A legend handed down in the Edison family even recalls the inventor spending the afternoon and evening in his laboratory an hour after being married.[677] Though traits of the historical Edison and Villiers are visible in the novel's characters, the author leaves his true textual intentions deliberately obscure. Either way, whether written as an imperative for the progressive New Woman's persecution or as a satirical criticism of men's conservative, even retrogressive, idealism, *Tomorrow's Eve* holds up a mirror reflecting the late nineteenth-century anxiety of changing gender codes in which the prosthetic speaking machine constitutes the fulcrum of progress and regression.

Phonographic stasis

Though in these fictions male speech, which is directed through women, serves as a life-giving, though compelling, force, ironically, to the male protagonists themselves it merely effects stasis and regression. I have argued that Hadaly, as much as a passive and mindless machine, is simultaneously a forceful influencing agent which compels Ewald's mind. Though Villiers' Edison promotes Hadaly as the epitome of science and progress, at the same time, as an idealist, escapist prosthesis she effectuates her captor's stasis as she allows and forces him to completely disengage from reality. Ewald's voice had called her into life, yet this same voice, once feminised, simultaneously brings about Ewald's self-imposed somnambulist regression. As an eclectic hybrid double agent of Victorianism and Modernity Hadaly is as much a captor as a captive. The period 1880-1914, Robert Hughes demonstrates, was marked by a "heroic sense of cultural possibility", an optimistic sense of "the end of one kind of history and the start of another, whose emblem was the Machine".[678] However, what these phonographic woman fictions, including *Tomorrow's Eve*, demonstrate, instead of optimism, is anxiety accompanying the heralding of modernity, whose emblem was also the machine. Attempts at fictional phonographic overwriting embody an idealistic nostalgia for the old and the fear of modernity manifesting in all aspects of life, "the sense of an accelerated rate of change in all areas of human discourse", which Hughes has appropriately named "the shock of the

[676] Josephson, *Edison: A Biography*, 99-100.
[677] Ibid., 99-100.
[678] Robert Hughes, *The Shock of the New: Art and the Century of Change* (London: Thames & Hudson, 1991), 15.

new".[679] The referencing of "antique" machines and their inventors, like Von Kempelen's Turk and Vaucanson's automata as well as the "outdated" science of mesmerism as gothic narrative devices, manifest the insecurities of those, in more conservative corners, desiring the familiar. Men's attempt to reinscribe New Women to the old ways and their fear of being overwritten themselves can be regarded as a reluctance to embrace new social structures and gender codes. At the end of *Pygmalion* it becomes clear that Eliza, as a strong-minded woman, has left as much of a mark on Higgins as he did on her.

Fearing the propagation of a new world and thus unable to confidently look forward, in these fictions the masculine gaze is directed towards traditional gender codes as perceived safe and ideal fixtures of the past. Besides referencing antique automata, fiction writers employ a neo-gothic iconography as a setting for their machines to demonstrate the stasis of the perceived malfunctioning and degeneration of modernising society. The fictional mechanical voice, which in fictions of the first half of the nineteenth century embodied a life-giving and self-directing power, like for example in Poe's "Valdemar", "Loss of Breath" and "The Man That Was Used Up", for the male protagonists has now in its singularly female form become a symbol of stasis. The mechanical voice of the fictional "unprogrammable" prosthetic female speaking machine, rather than a bodily enhancement or extension, at the end of the nineteenth century represents a symbolic impairment. About French avant-garde fictions of perversion, like *Monsieur Vénus*, Felski notes that avant-gardist writers regarded "art as a symbolic refusal of the Law, a revolt against the constraints of both religious morality and bourgeois authority."[680] Whereas textual perversions like Rachilde's were a deliberate disruption of tradition, late nineteenth-century phonographic woman fictions on the other hand, whether in earnest or in satire, display a nostalgia for the past.

To protect the institution of marriage Hadaly deflects the threat of the independent femme fatale. She is woman again made safe. Edison's comment "at least till a new order of things comes in" when he talks about his aspiration to safeguard "the love of men for their wives – who are so necessary to perpetuate the race" suggests that at some point in the future he envisions the reality of an external mechanical womb so man can reproduce without the need for women: paradoxically, through progressive technology Edison intends to safeguard the past.[681] Failing this technology, for the moment his machine remains sterile. Though obviously misogynist, the text repeatedly intimates man's impotence and stasis. For example, Villiers alludes to Ewald's lack of propulsion and productivity when he discusses his living situation in England before meeting Alicia:

[679] Ibid., 15.
[680] Felski, *Gender of Modernity*, 176.
[681] Villiers, *Tomorrow's Eve*, 164.

> For some years now, I've been living on one of the oldest estates of my family, Castle Athelwold in Staffordshire. It's a bleak and foggy district, and the castle, one of the last, is surrounded by lakes, pine forests and craggy hills… […] I've been living a solitary existence there, having no relatives living… […] A number of different thoughts on the spirit of the age led me to renounce, very early, all thoughts of a political career; […] So this isolated existence satisfied my instinct for meditation, and I thought myself the happiest of men.[682]

Uncomfortable with the spirit of the modern age, Ewald, as the last of his bloodline, purposefully hides himself away in the gothic setting of his castle, a relic of the past. After Hadaly has been customised to his desires, he plans to take her there with him and live out his days away from society. Edison's instruction to Ewald is "to destroy her (Hadaly) in the hour of your death."[683] After Hadaly is completed, Ewald flamboyantly expresses his love for her: "(L)et heaven and earth take it as they will, I shall bury myself with you, my shadowy idol! I resign from the human race – and let the age go about its business!"[684] Ewald's deliberate reclusive existence, his gothic habitation, his family motto "Etiamsi omnes, ego non" ("Even if all others, not I") and his cohabitation with a sterile machine all allude to his escapism and lack of participation in the modern world, which in the context of the novel implies the refusal to continue his family line.[685]

Picker, in his analysis of what he terms "sonic mastery"[686], i.e. the mastery of reality through recorded sound, points out "that the early phonograph was, unlike the more familiar playback-only gramophone that would come to dominate the market at the beginning of the twentieth century, a home recording device."[687] Therefore the early commercial phonograph was associated with the home, the safe, personal, secluded and private sphere.[688] Picker further notes: "As a machine that repeated what was sounded into it in what seemed identical tones, the phonograph addressed a deeper escapist need on the part of users, a longing to hear perpetually the reproduced self rather than listen to the demanding din of others."[689] The machine thus lent itself to be employed for rituals of narcissistic retrogression. As much as Ewald masters his phonographic woman, she in turn equally masters him. A life with the machine allows, but also dictates, childlessness. Poe had previously portrayed the vocal prosthesis in "Valdemar" and particularly in "Loss of Breath" as disruptive entities refusing to aid its owner or host. In "The Man That Was Used Up" he suggested

[682] Ibid., 28.
[683] Ibid., 154.
[684] Ibid., 204.
[685] Ibid., 201.
[686] Picker, "My Fair Lady Automaton": 90.
[687] Picker, *Victorian Soundscapes*, 112.
[688] Ibid., 112.
[689] Ibid., 111.

the appropriation of the vocal prosthesis by the wealthy as an implement that would effectuate social advancement. Butler's monstrous, apotropaic vocal prostheses as a reflection on Erewhonian society were also disruptive, since they dictated and mandated health and wellbeing. Villiers extrapolates and simultaneously subverts these notions of the prosthesis as a tool which actualises progress for its wealthy owner. Whereas his Edison markets the phonographic woman as the epitome of progress for the wealthy, it merely brings about an illusion of perfection, resulting in its owner's physical and mental isolation and stagnation.

Besides *Tomorrow's Eve*, a novel that explores this trope of the male recluse in stasis at the hands of the disembodied, prosthetic female voice is Jules Verne's *Le Château des Carpathes* (*The Carpathian Castle*), first serialised in *Magasin d'éducation et de récréation* in 1892. In this narrative it is however not the man's voice that is redirected through the woman, but the woman's voice itself which holds the man in stasis. It is a story of the rivalry between Count Franz de Télek and Baron Rodolphe de Gortz over the love of a beautiful Italian opera singer La Stilla. Evocative of mesmerist hypnosis, Count Franz, who is engaged to La Stilla, accuses Baron Rudolphe of killing his fiancée with his terrifying gaze during her performance. To forget his grief Count Franz travels the world and through mesmeric compulsion ends up at Baron Rudolphe's castle in the Carpathian Mountains. When La Stilla's voice is heard coming from the castle and her image is seen on the castle's rooftop by the villagers, the singer is presumed mad. When the Count investigates the castle, he finds La Stilla singing in the company of the baron who stabs her before the Count is able to reach her. Her image shatters. By order of the Baron, his henchman, Orfanik, blows up the castle and later the Count is found in the rubble having gone insane. At the end of the novel, it becomes clear that Orfanik is an inventor who had replicated La Stilla's image by projecting it onto a glass sculpture, and that her voice too was an artificial phonographic recording, played over and over in private by the reclusive Baron.

The novel displays many similar tropes to *Tomorrow's Eve*. The Baron's self-imposed mesmerism, his escapism through the feminised machine, the fetishizing of the singer's voice, the possession of the feminine form: La Stilla's presence was stolen away from herself and her fiancé via reproductive technology. After he shattered the singer's sculpture, the Baron taunts the Count: "'La Stilla is still escaping from Franz de Telek! /But her voice – her voice shall stay with me!... Her voice is mine!... It is mine alone, and shall never belong to another.'"[690] The only way the Baron could possess La Stilla is through her disembodied image and voice and, when the phonograph breaks, he commits suicide by refusing to escape from the exploding castle. The gothic imagery of the male recluse in his Transylvanian castle, listening, "in an infinite solitude, at the summit of his donjon

[690] Jules Verne and I.O. Evans, *Carpathian Castle* (London: Panther Books, 1963), 123.

which towered Transylvania" to the re-embodied female voice emphasises that this fetishized voice represents nothing but the past.[691] After the explosion "(t)he Baron was interred in the cemetery with all the honours due to the ancient family whose line had ended with him. As for the young Count de Télek, […] as soon as Franz heard the voice of that great artist he became attentive and regained his former lucidity; his soul seemed to be trying to reawaken to life in the memories of that unforgettable past."[692] Count Télek, now in possession of the phonographic cylinders with La Stilla's voice, will, like the Baron before him, live out his life listening to a voice of memory. Like Ewald's, both the Baron and the Count's family lines end with them. Instead of the outward connection engendered by the telegraph and the telephone, the phonograph induces the inward gaze. In these fin-de-siècle texts feminised machines create stasis or regression by preventing procreation, either because women themselves have transformed into unnatural prostheses (like the femme fatale and the ornamental woman) or because the female machine voice becomes a substitute for human relationships. Unable to look outwards, at the hands of the woman machine, it is now man himself who has become the inward machine. This trope of the male recluse living only through his phonographic muse recurs in Leroux' *Phantom of the Opera*.

In this chapter I have shown that the fin-de-siècle gendered machine, though it draws inspiration from the phonograph as a speaking machine, is principally a literary apparatus. It is a compound of preceding tropes of thinking and speaking machines which, in the context of the radical social and technological changes at the turn of the century, acquired a new significance, ironically that of meaninglessness and lack of purpose. Fin-de-siècle apocalyptic prophecy and vacuous decadence are transposed onto the mechanical woman. Phonographic woman fictions reflect on the changing and modernising landscape from which the New Woman emerged more independent, a development which some men seemed to fear implied a weakened New Man. In narratives of uncoupling and recoupling, silencing and reinscribing, in an attempt to create an ideal idol, writers imagine monstrous phonographic females which lay bare the turn of the century anxiety and perceived stasis. The paradox, as Wilson points out, of aspiring a spiritual release through matter, embodies a perverted materialism not marked by an enlightened forward gaze and optimism, but by an inward and backward gaze as an escapist coping mechanism. The prosthetic, captured, re-inscribed or re-embodied female voice is employed by men in an attempt to regain control (Picker's "sonic mastery") over a changing environment. The fictional mechanical feminine is located at the intersection of a historicised utopianism, alienation from the present and paranoia toward the future. Villiers' text, though seemingly rife with modern invention and technology, breathes a desire for the familiar past, which makes the title of the novel seem all the more satirical.

[691] Ibid., 121.
[692] Ibid., 127.

Rather than portraying his (un)thinking, yet mesmerising influencing vocal prosthesis as a propitious extension to the privileged the way Poe had done in the 1830s and 1840s, Villiers subverts the notion of the prosthesis as a social advancement. By coupling the female prosthesis, rather than to other machines, to a male possessor, he extrapolates the trope of the inverted, disruptive prosthesis which Poe and Butler had previously explored, the vocal prosthesis in particular, and imagines it as a device which not only refuses to assist its owner, but utterly stagnates his progress.

CONCLUSION

In this thesis I have shown how the autonomous thinking and speaking machine is represented in fiction of the long nineteenth century and how the significance of its autonomy changed depending on the contemporary scientific and socio-political contexts in which these tales were written. In chapter 1 I have demonstrated that, influenced by Wolfgang von Kempelen's invention of the mechanical chess player, or the Turk, which challenged the limitations of mechanical ability, as well as the practice of mesmerism and the decapitations during the French Revolution, the definition of life changed from mechanical motion to cognisance. The head increasingly came to be regarded as the repository of life. In the second half of the nineteenth century imitations of the Turk were at times associated with supernatural knowledge. The head of these machines was accentuated as the repository of thought as their increasingly smaller bodies seemed to negate the possibility of an internal human operator. Paradoxically, the emergence of electric communication media, enabling invisible, instantaneous disembodied speech, made the spiritualist claim of occult communication and mediumship seem plausible.

Further in chapter 1 I have established how, from the late eighteenth century, the definition of the prosthesis expanded from a mechanical replacement limb to a device that enhances or improves the human body. Late eighteenth-century inventors of speaking machines envisioned their machines as extracorporeal voices that could be temporally and geographically displaced and thus transcend the limitations of the biological body. These thinking and speaking machines challenged the perceived limitations of mechanical ability. In the consequent chapters I have demonstrated how fiction writers in the discussed period comment on these changing definitions and how they employ the thinking and/or speaking machine metaphorically in order to comment on contemporary cultural phenomena. My research shows that in the discussed fiction the same four elements recur in different configurations: motion versus mind and machine versus human.

In chapter 2 I have shown how E.T.A Hoffmann challenges the mechanical definition of automata, when, in "Automata" (1814) and "The Sandman" (1816) he characterises an automaton as a human devoid of mental agency. In this metaphorical definition he moves away from the established mechanical definition of a machine which moves of its own volition as formulated in the *Encyclopédie* in 1751. In "Automata", the malignant mesmeriser's voice, preternaturally displaced and channelled through the mechanical conduit of a fictional speaking Turk, evokes the disembodied ventriloquial voice, which Hoffmann introduces to emphasise the act of metaphorically speaking through someone or something else. He thus stresses the lack of mental agency of the mere

speaking vessel and affirms the mental power of the concealed operator. Hoffmann's notion of life is mental agency and his prostheses are disruptive extensions of a malignant mental force. Edgar Allan Poe, in "The Facts in the Case of M. Valdemar" (1845), "Loss of Breath" (1835) and "The Man That Was Used Up" (1839) imagines the voice as a disruptive superhuman prosthesis. By imbuing it with preternatural qualities, he challenges the limitations of prostheses as bodily enhancements and questions the societal implications if these prostheses were appropriated by the bourgeois. Poe's definition of life and his interpretation of prostheses, as expressed in these tales, are synonymous, i.e. a voice in society which allows for the social acceptance by one's peers, the opposite of the "anachronistic voice" which inevitably causes a social death.

In chapter 3 I have demonstrated how Butler further inverts the human-prosthesis relationship by imagining the machine as a biological entity, subject to biological evolution. In the satire *Erewhon* (1872) he characterises life as wilful intelligence and propagation, i.e. the connective action taking place between organisms. Prostheses he regards as extracorporeal mechanical body parts which propagate biologically and might cause disruption on a societal scale: he imagines a society which fears machines from the twofold anxiety about being subjugated by these living mechanical prostheses and the worry about class antagonism should these external limbs be appropriated by the wealthy. His vocal prostheses, rather than therapeutic or body-enhancing devices, are monstrous apotropaic idols, intended to avert infirmity and therefore, ironically, the necessity of prostheses. They reflect on the late nineteenth-century fear of degeneration, and reject any body perceived as flawed.

Finally, in chapter 4 I have shown how, at the fin de siècle, Auguste Villiers de l'Isle-Adam in the satire *Tomorrow's Eve* (1886) with his gendered "andréide" transforms the tropes of the speaking and thinking machine in order to comment on late nineteenth-century modernising society and its changing gender codes. Villiers' definition of life is masculine intellect and emotion and his definition of prostheses a symbolic speaking device able to remedy women's perceived deficits by generating the illusion of such intelligence. Thus, his fictional prostheses intend to correct perceived deformities of character, rather than physical disabilities. In the text the definitions of life and prostheses converge in the male voice as the perceived life-giving principle: in Villiers' machine woman intelligence and speech are one and the same as they consist of two phonographs inscribed with masculine speech. This coupling of a male mind to a female body to form a double-gendered mechano-electrical hybrid is Villiers' imagined cure against the perceived degeneration of contemporary society, and women in particular. His female phonographic speaking machine is at once a pre-programmed, un-thinking machine and a mind-compelling influencing machine which evokes the illusion of being self-governed. The non-reproductive coupling of men to machines

subverts the notion of prostheses as enhancements since the female machine sabotages the institution of marriage by enabling men to retire from society altogether: the un-thinking speaking machine in *Tomorrow's Eve* proves a device for stagnation.

This thesis has demonstrated that the fictional thinking and speaking machine in the long nineteenth century was a fluid construct which fiction writers adapted depending on the contemporary historical context(s). Reduced to the four elements of motion, mind, machine and human, the human relationship to the imagined thinking and speaking body machine was one of coupling and detachment, of enhancement and subtraction, and of inscribing and silencing. The configuration in which these elements were coupled proves to be cyclic: Hoffmann's metaphorical definition stresses the (absence of) *human mind*; Poe, in treating the voice like a mechanical contraption focuses on the *human* (as a) *machine*; Butler, with his intelligent prostheses emphasises the *machine mind*; Villiers also focuses on the (illusion of) the *machine mind*. However, what Villiers' protagonist desires is nothing more than *machine motion*, i.e. the mechanical definition of automata offered by the Encyclopédie in 1751. In the discussed texts people are coupled to machines in various arrangements, which generated an interplay and exchange of agency and acquiescence and which redefined and challenged both the paradigm of life and the nature of the prosthesis.

I have demonstrated that in body machine fictions of the long nineteenth century the definition of life and the definition of the prosthesis converge: cognitive, prosthetic machines are employed as utopian, dystopian and/or satirical devices which stretch the boundaries of mechanical ability and question to what extent they could aid people exceed biological and social limitations. Though the prostheses in the discussed texts at times prove disruptive or are set in dystopian contexts, these body machines are proposed as the far horizon of enlightened potential. In the discussed fictions materialism and notions of vitalism and the occult amalgamate at the site of machine thought and speech. The occult - in the form of mesmerism, spiritualism, alchemy and notions of the voice associated with ventriloquism - functions as a factor contributing towards imbuing these machines with cognition, i.e. life, and emphasises their superhuman prosthetic abilities. The authors, by rooting their machines in advanced technology, science and/or the occult, aggrandise or multiply their mechanical cognitive and/or vocal properties and imagine them as *more* than the sum of their parts. In the general introduction I discussed how in early twentieth-century dystopian fiction this approach of aggrandization transforms into one of reduction and the trope of the thinking and/or speaking machine is diluted. Therefore, I establish the long nineteenth century as the formative and prosperous period of the fictional thinking and speaking body machine.

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