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THE MACHINE IN THE NOVEL:
FICTIONAL HUMAN-MACHINE INTERACTIONS AT THE EUROPEAN PERIPHERY
(ca.1870-1914)

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To my maternal grandparents
Šekerina Janeva and Stojan Iliev
нека ви е лесна земјата

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“Ohi!”

Carlo Collodi, *Pinocchio*

INTRODUCTION

Listening to the South:
Machines, Sound, and the Novel during the Second Industrial Revolution

"It is a very grave thing, leaving Europe!"
– Eça de Queirós, *The City and the Mountains*

The machine in the novel is loud, disobedient, and disruptive. It cares not for human needs unless programmed to; it overrides their feeble voices, and has no ear for orders. Human beings, when they are not out to eroticize it, react with hostility to the machine's stubborn sonic and material presence. More often than not, its noises and speech are perceived as frustrating if not threatening. Nevertheless, machines have a way of making themselves heard and their message can be summarized in two words: care and attention. Such at least is the situation in European literature written during the two Industrial Revolutions (ca. 1760-1914), and, to a great extent, still is in our society today. All throughout the nineteenth century, machines forced human interlocutors to reevaluate who and what counts as partaking in humanity and conversation. They began modifying Europe's land- and soundscape,[1] compressing time and space across the globe, and reconfiguring the way humans relate to one another and to their environment. Writers almost immediately picked up on these transformations and turned literature into a popular laboratory that parsed out anxieties about technology. Soon enough, trains, phonographs, telegraphs, telephones, artificial humanoids, and cameras became literary protagonists that could acquire human speech, amplify it, or supplant it. Thus, a conversation began between voices of flesh and steel, each vying for the airwaves.

[1] Term coined and popularized by R. Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (Rochester, VT: Destiny Books, 1977), 7f.: "The soundscape is any acoustic field of study [and] consists of events *heard* not of objects *seen.*"

The present dissertation is a contribution to the history and modalities of the resulting noisy human-machine interactions as they reach our mind's ear from one of the richest sound storage media available since before the invention of the phonograph: literature. My focus is on several Italian and Portuguese novels written during the second Industrial Revolution (ca.1870-1914): Carlo Collodi's *Pinocchio* (1881), Eça de Queirós's *A cidade e as serras* (*The City and the Mountains* 1901), and Luigi Pirandello's *Quaderni di Serafino Gubbio* (*The Notebooks of Serafino Gubbio* 1915, 1925). These novels thematize the encounter of the human with the machine and its voice while articulating exemplarily what I see as the three archetypes of fictional relationality between humans and artificial entities: creator-created, master-slave, and hybridization. All three types of interactions, as the following chapters show, hinge on the question of voice. My contention is that it was the confrontation of the human with a new machine-interlocutor and its noisy persistence that would significantly destabilize anthropo(-*voco*-)centrism—a crucial encounter that can help us understand the ways in which we relate to technology today. "Humans, as always, monopolize the metaphysical condition," Dominic Pettman writes. "We use our voices to sing the praises of our own voices. As such, the human voice is, on the whole, a sonic form of narcissism: a biocultural artifact in concert with what Giorgio Agamben calls 'the anthropological machine' (that is, the all-encompassing apparatus designed to sort the human element from the animal, on one side, and the machine, on the other)."[2] Only the machine is capable of putting a strain on the anthropological machine, its voice being that "sonic prick or wound, which unexpectedly troubles our own smooth assumptions or untested delusions."[3]

[2] Dominic Pettman, *Sonic Intimacy: Voice, Species, Technics* (Stanford: Stanford University Press, 2017), 4.

[3] Ibid.

Scholarship investigating human-machine interactions in literature is still scarce, and the studies we have focus almost exclusively on Anglophone, French, and German fiction or Italian Futurism.[4] The story of modernity, that is, is always told by France and England.[5] This has had the effect of producing a

[4] On Italian Futurism see Katia Pizzi, *Italian Futurism and the Machine* (Manchester: Manchester University Press, 2019); Günter Berghaus, ed., *International Futurism in Arts and Literature* (Berlin and New York: de Gruyter, 2000); Willard Bohn, *The Other Futurism: Futurist Activity in Venice, Padua, and Verona* (Toronto: University of Toronto Press, 2004); Luciano Chessa, *Luigi Russolo, Futurist: Noise, Visual Arts, and the Occult* (Berkeley: University of California Press, 2012), and Vivien Greene, *Italian Futurism 1909-44: Reconstructing the Universe* (New York: Guggenheim, 2014).

Italian literature in general from a sonic and technological point of view has been studied by Remo Ceserani, *Treni di carta - l'immaginario in ferrovia: l'irruzione del treno nella letteratura moderna* (Genova, Marietti, 1993); Roberto Tessari, *Il mito della macchina: Letteratura e industria nel primo Novecento italiano* (Milano, Mursia, 1973); Giorgio Bárberi Squarotti and Carlo Ossola, eds., *Letteratura e industria,* Atti del XV Congresso A.I.S.L.L.I, Torino, 15-19 maggio 1994, 2 Vols. (Torino: Leo S. Olschki, 1997); Vittorio Roda, *Il soggetto centrifugo: studi sulla letteratura italiana fra Otto e Novecento* (Bologna: Pàtron, 1984); Maria Gabriella Riccobono studies "phonosymbolism" in the works of Giovanni Verga in her *Dai suoni al simbolo: memoria poetica, relazioni analoghe, fonosimbolismo in Giovanni Verga, dalle opere ultra-romantiche a quelle veriste* (Pisa: Istituti editoriali e poligrafici internazionali, 2002); while Roberto Favaro lends an ear to music, among other sonic phenomena, in twentieth-century novels in his *La musica nel romanzo italiano del '900* (Lucca: Ricordi LIM, 2002).

Within the realm of French literature, a couple of important contributions to sound studies, literature, and technology are, Alain Corbin, *Les cloches de la terre: paysage sonore et culture sensible dans les campagnes au XIXe siècle* (Paris: A. Michel, c1994), transl. by Martin Thom as *Village Bells: Sound and Meaning in the 19th-Century French Countryside* (New York: Columbia UP, 1998); Jonah Lehrer, *Proust Was a Neuroscientist* (Boston: Houghton Mifflin Co., 2007); and Ross Chambers, *An Atmospherics of the City: Baudelaire and the Poetics of Noise* (New York: Fordham University Press, 2015).

For a comparative perspective, see Sara Danius, *The Senses of Modernism: Technology, Perception, and Aesthetics* (Ithaca: Cornell UP, 2002); Marjorie Perloff, *The Futurist Moment: Avant-Garde, Avant-Guerre, and the Language of Rupture* (Chicago: University of Chicago Press, 2003); Günter Berghaus, ed., *International Futurism in Arts and Literature* (Berlin and New York: de Gruyter, 2000); Laura Mattioli Rossi, *Boccioni's Materia: A Futurist Masterpiece and the Avantgarde in Milan and Paris* (New York: Guggenheim, 2004); Simona Corso, *Automi, termometri, fucili: L'Immaginario della macchina nel romanzo Inglese e Francese del Settecento* (Roma: Edizioni di storia e letteratura, 2004); and Ian Biddle and Kirsten Gibson, eds. *Cultural Histories of Noise, Sound and Listening in Europe, 1300-1918* (London & New York: Routledge, 2017).

Scholarship on Anglophone fiction from this point of view abounds. See Leo Marx, 1964, *The Machine in the Garden: Technology and the Pastoral Ideal in America* (New York: Oxford University Press, 2000); Cecilia Tichi, *Shifting Gears: Technology, Literature, Culture in Modernist America* (Chapel Hill: University of North Carolina Press, 1987); Mark Seltzer, *Bodies and Machines* (New York and London: Routledge, 1992); John M. Picker, *Victorian Soundscapes* (New York: Oxford University Press, 2003); Jeffrey S. Drouin, *James Joyce, Science, and Modernist Print Culture: "The Einstein of English Fiction"* (London: Routledge, 2014); Earl G. Ingersoll, *Representations of Science and Technology in British Literature since 1880* (London: Peter Lang, 1994), etc.

Within German studies, see for instance Stefanie Harris, *Mediating Modernity: German Literature and the New Media, 1895-1930* (University Park, PA: Pennsylvania State University Press, 2009), and for readings of Kafka from a sound studies point of view, see Jürgen Daiber, *Kafka und der Lärm: Klanglandschaften der frühen Moderne* (Münster, Mentis, 2014) and the recent excellent "film studies" approach to reading sound in literature by Kata Gellen, *Kafka and Noise: The Discovery of Cinematic Sound in Literary Modernism* (Evanston: Northwestern University Press, 2019).

An exception to this dominant focus on canonical, northern literary traditions is Ana María Ochoa Gautier's *Aurality: Listening and Knowledge in Nineteenth-Century Columbia* (Durham, NC: Duke University Press, 2014). See also Marília Librandi Rocha's *Writing by Ear: Clarice Lispector and the Aural Novel* (Toronto: University of Toronto Press, 2018) for a twentieth-century literature contribution from Brazil.

[5] Luca Cottini has recently made an excellent case for Italy's unique contribution to modernity, which is usually perceived as "flawed" and "incomplete," by showing how "the 'irregular' expansion of the Italian industry and the 'unfinished' elaboration

homogenizing perspective on the relation between technology and literature as being the exclusive domain of novels and authors from highly industrialized regions. The novels and stories of authors such as E.T.A. Hoffmann, Charles Dickens, Émile Zola, Jules Verne, Marcel Proust and many others are taken as paradigmatic examples of (European) nineteenth- and turn-of-the-twentieth-century fictional approaches to automata, sound-transmitting devices, trains, and automobiles. From within Italy, all the attention is dedicated to the Futurist extravaganzas of F.T. Marinetti and his cohort who moved between Milan, Turin, and other Northern Italian industrial centers. Portugal, Spain, and the Balkans barely figure in the equation and then only when it comes to their respective early-twentieth-century avant-garde movements.

My research and extensive readings of documents and literary works from Italy, Portugal, Spain, and the Balkans have led me to conclude that these late-industrialized regions suffering from a purported "imperfect or insufficient" industrialization[6] or an "incomplete modernization"[7] have as much to say

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of a modern Italian culture—Italy's so-called incompleteness—do not equal a flawed modernization but rather constitute the core feature of its experimental modernity, characterized by a constant state of self-adjustment, eclectic synthesis, and aesthetic invention of new forms." Cottini, *The Art of Objects: The Birth of Italian Industrial Culture, 1878-1928* (Toronto: University of Toronto Press, 2018), 6. For previous studies on Italy's contribution to modernity and industrialism see David Forgacs, *Italian Culture in the Industrial Era, 1880-1980: Cultural Industries, Politics, and the Public* (Manchester: Manchester University Press, 1990); Zygmunt Baranski and Rebecca West, eds., *The Cambridge Companion to Modern Italian Culture* (Cambridge: Cambridge University Press, 2001); and, Mario Moroni and Luca Somigli, *Italian Modernism: Italian Culture between Decadentism and Avant-Garde* (Toronto: University of Toronto Press, 2004).

[6] Franco Cassano, 1996, *Il pensiero meridiano* (Bari: Laterza, 2005), 1. Transl. by Norma Bouchard and Valerio Ferme as *Southern Thought and Other Essays on the Mediterranean* (New York: Fordham University Press, 2012).

[7] Cottini, *The Art of Objects,* 178. See also p. 13: "Unlike England and Germany, which had rapidly expanded between the first Exposition of London in 1851 and the economic crisis of 1873, Italy had not developed a national industry, because of the limited size of its domestic marketplace and its reliance on foreign sources […]."

The first railway tracks in pre-unification Italy were laid in Naples in 1839. Rome and Lisbon, for instance, did not have a train connection until 1856. The first telegraph line in Italy was the Pisa-Livorno line in 1847, while in Portugal it was a submarine cable connection between Lisbon and the Azores in 1855. While these dates indicate a relatively quick appropriation and implementation of the new technologies, the development of infrastructure stalled almost immediately. Given the disparity between regions within the respective countries and their almost absolute reliance on import, a proper national industry did not develop in Italy before the end of the nineteenth century, and then only in the North, while Portugal lagged behind even more and remained in such a condition all through the 1960s as a consequence of Salazar's regime and its aversion to foreign influence and modernization in general.

For socio-economic studies of Italy's and Portugal's delayed industrialization, see, among others, Jaime Reis, "A Industrialização num país de desenvolvimento lento e tardio: Portugal, 1870-1913," *Análise Social* XXIII (96) (1987-2); Jorge Miguel Pedreira, "Indústria e atraso económico em Portugal (1800-25): Uma perspectiva estrutural," *Análise Social,* XXIII:97 (1987-3); Iván T., Berend and György Ránki, *The European Periphery and Industrialization, 1780-1914* (Cambridge and

about the advent of industrialism and machines as their Northern European counterparts, even if the denizens of Lisbon, Florence, Rome, Madrid, Catania, Skopje, and Athens had only a second-hand, comparatively delayed accesses to technological innovations. Their Southern gaze onto European industrialization, as Luca Cottini writes of Edmondo De Amicis's visit to the 1878 Universal Exposition in Paris, can be qualified as "captivated yet distant" (Cottini 12), offering a different, perhaps even more productive way of looking at the discourse on technology as it was beginning to take on its modern forms in the nineteenth century.

Carlo Collodi's intolerance of his own "provinicial 'Firenzina'" prompted him to travel around the Italian peninsula and abroad in order to "savor that modernity from which he believed Italy to be still far away."[8] As the epigraph to this Introduction says, Eça de Queirós's protagonist in *The City and the Mountains* identified the return to the Iberian Peninsula with a departure from Europe. And Luigi Pirandello himself studied in Bonn, had access to the rural, agrarian, traditional world of his native Sicily and was able to witness first-hand the vertiginous industrialization process of the North. These are without a doubt authors who are interacting with dominant discourse and have a privileged access to the periphery as well. It is thus perhaps not a coincidence that some of the major contributions to thinking the European South in particular and the Global South in general come from Portugal (Boaventura de Sousa Santos) and Italy (Franco Cassano and Roberto M. Dainotto). Dainotto, moreover, begins his *Europe (in Theory)* with quotes from the Portuguese José Saramago ("You know, Europe is a hell of a long way from here," *The Stone Raft*) and the Sicilian Gesualdo Bufalino. Even in the twentieth century, with the European Union's move in 1995 to include the South among its ranks (which still today does

New York: Cambridge University Press, 1981); and Giulio Guiderzo, "A proposito dello sviluppo ferroviario in Italia dal 1850 al 1914: aspetti geografici, economici e tecnologici," *Bollettino della società pavese di storia patria,* 72-73 (1972-73).

[8] Daniela Marcheschi, introduction to *Le avventure di Pinocchio* by Carlo Collodi, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi, 21-62 (Collodi: Giunti Editore, 2012), 37: "insofferente della 'Firenzina' provinciale in cui viveva e, per questo, spesso in viaggio per la penisola e all'estero, dove assaporare quella modernità da cui riteneva l'Italia ancora lontana […]."

not include all of the Balkan countries), did not result in equality or uncritical acceptance: almost immediately, clerks in Brussels had begun to refer to the newly admitted member states with the "unflattering acronym: Portugal, Italy, Greece, and Spain" as "the PIGS of Europe."[9] Nevertheless, abroad and in the classrooms of US American colleges, Italy and Portugal are seen exclusively as empires or cultural centers and the mere mention of their Dantes, Michelangelos, and Vasco da Gamas is enough to mask the profound inequalities and deep silences that are at the base of the modern European project. It is then perhaps unsurprising that the perspective of Southern European authors is often lost amid myopic and exclusionary considerations about "Europe." As Dainotto writes, "the homogenizing assumptions of the term ['Europe'], in fact, run the perpetual risk of obliterating the interior borders and fracture of European hegemony; they hide from view Europe's own subaltern areas—the south—of knowledge production" (Dainotto 5).

As I show in what follows, unlike their northern European counterparts, the novels that are the focus of my research subtly parse out anxieties about human-machine interactions. They offer a balanced approach that can shed new light on enduring questions about Artificial Intelligence (AI) and the question of what it means to be "human" in our era of technological dependence. Against the double-edged sword of technophobia and boundless scientific enthusiasm in the nineteenth century (and our contemporary back-and-forth between aggressive technophilia and apocalyptic paranoia), Collodi's *Pinocchio*, Eça's *A cidade e as serras*, and Pirandello's *Quaderni* outline models for human-machine interactions that map out a kind of a middle ground that involves listening, care, and purposeful coexistence. They ultimately neither demonize (as, for instance, Mary Shelley or Émile Zola did) nor glorify or eroticize machines (as E.T.A. Hoffmann, Joris-Karl Huysmans, or the Futurists did). Rather, they elaborate ways in which productive coexistence and communication can remain a prime objective: (a Southern) *misura*

[9] Roberto M. Dainotto, *Europe (in Theory)* (Durham: Duke University Press, 2007), 2f.

(moderation or temperance)[10] in opposition to a (Northern) "dismisura della tecnica" ["excess of technology"].[11]

The voice of Collodi's mischievous puppet, the din of Eça's noisy disobedient technological devices, and the silence of Pirandello's attentive man-machine play a crucial role in the pursuit of this prime objective. They subvert such power dynamics as creator-created or master-slave, leaving behind valuable lessons for the twenty-first century. The lesson is that of *misura* not as a banal "happy medium," as Franco Cassano writes in his seminal *Il pensiero meridiano* (*Southern Thought* 1996), but as a "complex and courageous construction that seeks to save the multiplicity of life forms, giving back to each, with a single act, its value and completeness."[12] This lesson and the dialogue issuing from it are only possible when each individual, each region, each tradition, is open to listening to all voices, to the *vocina sottile sottile* ["faint little voice"][13] of the South as much as to the industrial-imperial voices of the North.[14] As Susanna Ferlito writes on Pinocchio's voice, "[t]he *vocina sottile sottile* offers to the listening ear a

[10] Cassano, *Il pensiero* meridiano, xxix: "L'idea di 'misura' allude, infatti, ad un criterio di equilibrio che sottrae il pensiero alla mitologia del progresso. […] Si tratta di una vera e propria passione per la dismisura [del fondamentalismo dell'Occidente], mentre la misura presuppone che nessuno dei poli della tensione possa essere qualificato come assolutamente positivo o come assolutamente negativo." Cassano, *Southern Thought,* l: "The idea of 'moderation' alludes in fact to a criterion of equilibrium that rescues thought from the mythology of progress. […] This behavior [of the West] reveals a true passion for excess, while moderation presupposes that none of the extremes be considered absolutely positive or absolutely negative."

[11] Cassano, *Il pensiero meridiano,* xxxiv; Cassano, *Southern Thought,* liv.

[12] Cassano, *Southern Thought,* lv; Cassano, *Il pensiero meridiano,* xxxvii: "La misura non è quindi prudenza o un banale 'giusto mezzo,' ma una costruzione complessa e coraggiosa, che mira a salvare la molteplicità delle forme di vita, restituendo a ciascuna di esse con un solo gesto il suo valore e la sua finitezza."

[13] Carlo Collodi, *Le avventure di Pinocchio. Storia di un burattino*, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi (Collodi: Giunti Editore, 2012), 65.

[14] *Mitezza*, translatable as meekness, kindness, or even compassion and goodness, plays an important role in the analysis of the voice both in Susanna Ferlito's study of Pinocchio's meek acousmatic voice and in Franco Cassano's voice of the South. But this meek voice is not passive, it is not unpolitical. Its feebleness is rather a strength, another articulation of that call for moderation and care instead of excess and distance. Cassano, xxxiv: "la debolezza della voce del sud è uno dei grandi problemi del pianeta. Prima ancora di aiutare il sud, il nord dovrebbe provare a fare un po' di silenzio e iniziare ad ascoltarne la voce, anche perché essa ci restituisce un'immagine sorprendente di noi stessi." Cassano, liii-liv: "the feebleness of the voice of the South is one of the planet's greatest problems. Even before helping the South, the North should try to create some silence and begin listening to the voice of the South, because, among other reasons, it returns to us a surprising image of ourselves." See Susanna Ferlito, "Sonorous 'mitezza': A Political Voice in Collodi's *The Adventures of Pinocchio*," *Italica* 94:4 (Winter 2017).

pedagogical lesson that goes against a tradition of nation-building narratives in which only those who are taught how to speak can become free and emancipated from that which oppresses them."[15]

Care (*cura*), moderation or temperance (*misura*), and slowness (*lentezza*) are three elements that in Cassano's view, characterize the South's contribution to the global conversation.[16] To this triad, in the study of human-machine interactions in Southern European literature, the present project adjoins the concept of attention as understood by Simone Weil.[17] Attention involves an emptying out of one's thoughts, prejudices, and projections etc., in order to receive the other, whether this other is another human being, an artifact, an animal, or God. This concept becomes crucial in the analysis of the machine's voice as an object-voice, defined by Mladen Dolar as the voice "which does not go up in smoke in the conveyance of meaning, and does not solidify in an object for fetish reverence, but an object which functions as a blind spot in the call and as a disturbance of aesthetic appreciation."[18] This is the voice outside of speech/meaning and outside aesthetics.

When the machine noises itself into presence, its voice is "an effect without a proper cause, an effect surpassing its explicable cause," as Dolar writes, exposing "a limping causality."[19] The voice of the machine as the Lacanian *objet petit a*, as object-cause, is "at the intersection of presence and absence"

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[15] Ferlito, "Sonorous 'mitezza,'" 710.

[16] The concept of *cura* has also been discussed by José Ortega y Gasset in his *Principios de Metafísica según la razón vital, curso 1932-1933*, in *Obras Completas,* Vol. VIII, 1926/1932 (Madrid: Taurus, 2008), [p.?]: "*cura*, los cuidados, las cuitas, lo que yo llamo, la preocupación. De cura viene curiosidad. De aquí que en nuestro lenguaje vulgar un hombre curioso es un hombre cuidadoso, es decir, un hombre que hace con atención y extremo rigor y pulcritud lo que tiene que hacer, que no se despreocupa de lo que lo ocupa, sino, al revés, se preocupa de su ocupación. Todavía en el antigo español *cuidar* era preocuparse*, curare*." Transl. into Italian and ed. by Estefanía Gadea Aliaga as *La ragione nel mare della vita: Principi di metafisica secondo la ragione vitale* (Roma: Armando, 2011), 39: "*cura,* le cure, le afflizioni, quello che io chiamo, il preoccuparsi. Da cur-a deriva cur-iosità. Da ciò che, nel nostro linguaggio volgare un uomo curioso sia un uomo accurato, cioè, un uomo che fa con attenzione ed estremo rigore e nitidezza ciò che è tenuto a fare, che non si disinteressa di ciò che lo occupa, ma, al contrario, si preoccupa della sua occupazione. Tuttavia nello spagnolo antico *cuidar* significava preoccuparsi, *curare.*"

[17] Simone Weil, *Attente de Dieu* (Paris: La Colombe, 1950), transl. by Emma Crauford as *Waiting for God*, with an introduction by Leslie A. Fiedler (New York: Harper Perennial Modern Classics, 2009).

[18] Mladen Dolar, *A Voice and Nothing More* (Cambridge: MIT Press, 2006), 4.

[19] Ibid., 7, 10.

(Dolar 55). It hints at the divine, it reminds human beings of the times when gods and humans were in conversation—a conversation which I trace in the Prolegomenon on the Italian philosopher Giambattista Vico's three ages of human history and their corresponding languages. Thus the machine and its voice become an immense projection surface onto which human beings can see the dire absence of divinity, ultimately unwittingly substituting the former for the latter within a kind of symbolic vacuum into which new values are inserted. Attention is necessary in order to detach the machine from similar projections so that it can be perceived as a being in its own right and not just as an object-cause.

By focusing on a small piece of the Southern technological puzzle—namely on Collodi, Eça, Pirandello—and lending an ear to its *vocina sottile sottile*, this project then calls for a shift in critical focus from nineteenth-century European centers to the periphery, from Paris and London to Sicily and Lisbon. However, rather than promoting a myopic provincialism, it is a call for dialogue and mediation. Thinking the South or thinking from a southern perspective involves both "separation and mediation."[20] For the South, defined by Homi Bhabha as a "third space"[21] and by Cassano as an extended symbolic Mediterranean that stretches from the Antilles to India,[22] stands for precisely that kind of care and measure that are at the core of Collodi's, Eça's, and Pirandello's novels. In proposing my reading of three southern European authors from the end of the nineteenth/beginning of the twentieth century, I am not making a claim about the Global South. It is not a rat race between the world's peripherpies that this thesis wants

[20] Cassano, *Il pensiero meridiano,* vii: "è difficile intendere il *Pensiero meridiano* senza scorgere che in esso s'incrociano due dimensioni, quella della scissione e quella della mediazione." Cassano, *Southern Thought,* xxxiv: "it is difficult to understand *Southern Thought* if one does not realize that, within it, the two dimensions of separation and mediation intersect."

[21] The concept has been put forward and developed in Homi K. Bhabha, ed*., Nation and narration* (London and New York: Routledge, 1990) and Id., *The Location of Culture* (London and New York: Routledge, 1994)

[22] Cassano, *Il pensiero meridiano,* (xxvii-xxviii): "si tratta di un insieme vasto e complesso, che va dalle Antille di Edouard Glissant fino a quell'India da cui muove la ricerca di home K. Bhabha e Gayatry C. Spivak." Cassano, *Southern Thought,* xlix: "this is a vast and complex whole that stretches from Edouard Glissant's Antilles to the India that has spawned the research of Homi K. Bhabha and Gayatri Chakravorty Spivak."

to promote. Rather, I am rereading, along the lines of Dainotto, Cassano, and Sousa Santos,[23] Europe's "*internal* Other" and questioning Eurocentrism and its take on industrialism "not from the outside but from the marginal inside of Europe itself" (Dainotto 4).

To take a fresh look at these novels from the nineteenth-century European periphery and bring them into conversation with one another and with their northern counterparts on the topic of technology is to discern "new connections, new neighbors, and new distances."[24] It is an act of care and polyphonic listening. Raimon Panikkar uses the image of climbing a mountain through different paths when speaking of intrareligious dialogue.[25] The mountain in our case is technology, and we're climbing it southside up. Such a recalibration has far-reaching implications for peripheral regions and their literatures, and for the ways in which we understand literary responses to major epochal transformations such as the Industrial Revolution.

What We Hear When We Read: Listening to Fiction

"Master, what is it that I hear?"
— Dante, *Inferno* (III:32)

The study of listening, voice, and sound within a work of art entirely dependent on the silent medium of written language presents a complex problem. Yet as Walter J. Ong has observed, "[w]ritten texts all have to be related somehow, directly or indirectly, to the world of sound, the natural habitat of

[23] The Protuguese sociologist Boaventura de Sousa Santos sees the South's epistemology as "the core of a critical utopia that animates the World Social Forum." Quoted in Cassano, *Southern Thought,* xxxv. See Sousa Santos's, *Another Knowledge is Possible: Beyond Northern Epistemologies* (London: Verso, 2007); and *A crítica da Razão Indolente: Contra o desperdício da experiência* (Porto: Edições Afrontamento, 2000).

[24] Cassano, *Il pensiero* meridiano, x: "Riguardare i luoghi significava in primo luogo riguardare la carta geografica, dilatare lo sguardo al di là dei confini nazionali, scorgere connessioni nuove, nuovi vicini e nuovi lontani. […] Guardare i luoghi significa averne cura, riguardo, ricostruire, attraverso la *pietas,* i beni pubblici, quei beni che appartengono a tutti e che sono insieme veicolo di identità, solidarietà e sviluppo." Cassano, *Southern Thought,* xxxvi: "Reconsidering the places meant first of all to reexamine the geographical map, to expand our vision beyond national borders, to discover new connections, proximities, and distances. […] To reconsider our places means to care and respect them, and to rebuild, through *pietas*, our shared public properties, those properties that belong to everyone and are vehicles of identity, solidarity, and development."

[25] Raimon Panikkar, *The Intra-Religious Dialogue* (New Jersey: Paulist Press, 1999).

language, to yield their meaning. 'Reading' a text means converting it to sound, aloud or in the imagination."[26] Simply put, literature consists of language and language is at its base a sonic phenomenon, fleeting and immaterial. Three key inventions throughout history have revolutionized our idea of language and sound, allowing for their retention: writing, typography, and the phonograph. It is in this sense that Ong had spoken of "the technologizing of the word." For all three—writing, printing, and recording—are technologies applied to the elusive nature of sound (here, spoken language) in order to fix it in space. Literature, very broadly speaking, is sound on paper.

For centuries now, the Western world has been steeped in the idea of silent reading and has "put [its] ears away in the drawer,"[27] Nietzsche complained, thereby closely associating reading with the eye, listening with the ear, in that hierarchical order exactly. Scientific research, however, has shown that silent reading and hearing are not mutually exclusive: even when our lips are not moving and when there is no actual sonic exposure, the auditory cortex of our brain receives stimuli while we engage in the act of reading, leading us to experience so-called "auditory images."[28] The mind, it turns out, does not only have an eye, but an ear as well. This means that not only do we have to reconsider our Western hierarchy of the senses—an ordering that scholars have already problematized[29]—but we are also invited, even urged,

[26] Walter J. Ong, *Orality and Literacy: The Technologizing of the Word* (London and New York: Routledge, 1982), 8.

[27] "Der Deutsche liest nicht laut, nicht für's Ohr, sondern bloss mit den Augen: er hat seine Ohren dabei in's Schubfach gelegt." Friedrich Nietzsche, *Jenseits von Gut und Böse*. in *Sämtliche Werke,* ed. by Giorgio Colli and Mazzino Montinari (München: DTV, 1980), §247.

[28] Cf. Marcela Perrone-Bertolotti et al., "How Silent is Silent Reading? Intracerebral Evidence for Top-Down Activation of Temporal Voice Areas during Reading," *The Journal of Neuroscience* 32:49 (December 5, 2012), DOI: 10.1523/JNEUROSCI.2982-12.2012. See also Marianne Abramson and Stephen D. Goldinger, "What the Reader's Eye Tells the Mind's Ear: Silent Reading Activates Inner Speech," *Perception & Psychophysics* 59:7 (1997). I find the phrase "auditory image" productive and useful precisely because it does not privilege either of the two senses in question. Image and sound should be perceived as complementing each other and not as mutually exclusive with fixed places within a hierarchy of senses.

[29] The bibliographical references on the topic are manifold. For excellent, detailed overviews and problematization of the topic, see Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought* (Berkeley: University of California Press, 1993); David Michael Levin, ed., *Modernity and the Hegemony of Vision* (Berkeley: University of California Press, 1993); and Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press), 1992.

to rethink the way we approach the novel. An auditory experience while reading implies hearing voices, sounds, and noises.[30] Images are complemented and invoked by sounds and vice versa. Already Saussure had described language as "a storehouse of sound-images, and writing [as] the tangible form of those images."[31] With respect to the concept of "image," neuroscientist Antonio Damasio writes that images are "mental patterns with a structure built with the tokens of each of the sensory modalities—visual, auditory, olfactory, gustatory, and somatosensory […]. The word image does not refer to 'visual' image alone, and there is nothing static about images either. The word also refers to sound images such as those caused by music or the wind […]."[32] And, we can add, those caused by silent reading. As Roberto Favaro writes in his study of music in the twentieth-century Italian novel, "to listen to the novel involves perceiving all that in our reading experience becomes audible to vision: words, sounds, voices, music, noises. Silences."[33] This listening to texts and their fictional soundscapes has in the years since I began my dissertation research burgeoned within the academic discipline known as sound studies. As mentioned above, various scholars, predominantly from within English, French, and German literature have reread major canonical authors from this perspective, with intriguing results that prompt important methodological questions concerning the study of 'paper sounds.' "How does written narrative capture or

[30] "Noises are the sounds we have learned to ignore," writes R. Murray Schafer in his seminal *The Soundscape*, 3. In the glossary of the same work, he lists four different definitions of the term "noise" and concludes: "Of the four general definitions [unwanted sound, unmusical sound, any loud sound, disturbance in any signaling system], probably the most satisfactory is still 'unwanted sound'" (Schafer 183). From the point of view of information theory, Yuri M. Lotman defines "noise" as "the intrusion of disorder, entropy or disorganization into the sphere of structure and information. Noise drowns out information." However, art, he writes, "is capable of transforming noise into information." See Yuri M. Lotman, *The Structure of the Artistic Text,* trans. by Ronald Vroon (Ann Arbor: [Dept. of Slavic Languages and Literatures], University of Michigan, 1977), 75. In Roland Barthes's words, since everything in the work of art serves a purpose and is consciously placed there as such, "art is without noise." Roland Barthes, *Image, Music, Text,* essays selected and tansl. by Stephen Heath (London: FontanaPress, 1977), 89.

[31] Ferdinand de Saussure, 1916, *Cours de linguistique générale* (Paris: Éditions Payot & Rivages, 1995), 32: "la langue [est] le dépôt des images acoustiques, et l'écriture la forme tangible de ces images."

[32] Antonio Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (New York: Harcourt, 1999), 318.

[33] Roberto Favaro, *La musica nel romanzo italiano,* 30: "l'ascolto del romanzo […] è questo, la percezione di tutto ciò che nella nostra esperienza di lettura, si rende udibile alla vista: parole, suoni, voci, musiche, rumori. Silenzi."

convey auditory effects?" Kata Gellen asks in her analysis of sonic phenomena in Kafka where she employs concepts from film studies to listen to Kafka's works.[34] Close listening and sonic ekphrasis are adequate ways of approaching texts from this perspective. For just as a written text can contain descriptions of visual phenomena, so does it abound in sonic phenomena. A kind of a (sonic) ekphrasis can be applied to their analysis.[35] We have yet to make explicit exactly what this implication, the co-implication of reading and hearing, means about how we conceptualize the novel or literature in general.

The aim of my project is thus not a mere reconstruction of the soundscape of a certain period or place by using fiction as a document—something that R. Murray Schafer, in his seminal book *The Soundscape: Our Sonic Environment and the Tuning of the World* (1977), had encouraged scholars to pursue. "It is a special talent of novelists like Tolstoy, Thomas Hardy and Thomas Mann," Schafer writes, "to have captured the soundscapes of their own places and times, and such descriptions constitute the best guide available in the reconstruction of soundscapes past." These are his reliable "earwitnesses."[36] Needless to say, such an understanding of and approach to fiction deprives the literary work of its autonomy, reducing it to a mere means to an end. Alain Corbin's *Les cloches de la terre* (*Village Bells* 1994), Stefano Pivato's *Il secolo del rumore* (*The Century of Noise* 2011), and Niall Atkinson's *The Noisy Renaissance* (2016), among others, are significant contributions in this area.[37] However, while

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[34] Gellen, *Kafka and Noise*, 4.

[35] In scholarship, the term "ekphrasis" is reserved for the verbal description of a visual work of art within a written text, the paradigmatic case being the shield of Achilles in *The Iliad*. Shadi Bartsch and Jás Elsner define ekphrasis as "[w]ords about an image, itself often embedded in a larger text" as "the description of an artwork, a vivid presentation of any scene, whether natural or invented […], the representation in words of a visual representation." Shadi Bartsch and Jás Elsner, "Introduction: Eight Ways of Looking at Ekphrasis," Special Issue on Ekphrasis ed. by Shadi Bartsch and Jás Elsner, *Classical philology* 102:1 (January 2007): i. Taking this term in its broad meaning, we can apply it to the verbal description of sonic phenomena within written texts, viz., a "auditory ekphrasis."

[36] Schafer, *The Soundscape,* 8f.: "for the foundation of historical perspectives, we will have to turn to earwitness accounts from literature and mythology, as well as to anthropological and historical records.... [A] writer is trustworthy only when writing about sounds directly experienced and intimately known. Writing about other places and times usually results in counterfeit descriptions. [...] *All quiet on the Western Front* is convincing because the author was there. [...] In such ways is the authenticity of the earwitness established."

[37] Alain Corbin, *Les cloches de la terre* ; Niall Atkinson, "Sonic Armatures: Constructing an Acoustic Regime in Renaissance Florence," *Senses & Society* 7:1 (2012); "The Republic of Sound: Listening to Florence at the Threshold of the Renaissance,"

both the historical and cultural approach complement my research, they are best left to historians and musicologists. Rather, I am interested in close listening to the fictional voices of technological artifacts and how they interact with humans. Ultimately, literary works abound with such voices and the task of the literary critic is simply to listen.

Given the impact of industrialization on nineteenth- and early twentieth-century society and literature, it seems only logical that inquiries into the ways that prose fiction absorbed technological sounds and noises should focus on this period. For, within a century and a half after the beginning of the First Industrial Revolution (around 1760), machines of every kind penetrated even the most agrarian of European societies and changed the day-to-day functioning and operating of a city or village. This phenomenon did not only express itself on a visual level as has been predominantly emphasized (for example, in the transformation of cityscapes and, as in the case of England, the almost complete deforestation of the countryside), but it also profoundly affected the sonic environment. If church bells, cannon balls, and natural phenomena such as thunder and volcanic eruptions had been among the loudest sounds that a human being, up until that point, could hear in a lifetime, with the invention of the steam engine (1712, patented in 1784) and its application to the commercial locomotive (1812), a new disruptive voice was added, threatening to take over the airwaves: the voice of technology.[38] The typewriter, the train, the telegraph, quickly found their way into the literary imaginary that sought to deal with these unprecedented changes. Instead of welcoming the reader into the narrative with the clatter of horseshoes and carriages on cobblestone streets (which were themselves already major noise-polluters at

I Tatti Studies in the Italian Renaissance 16: 1/2 (Fall 2013); "Thinking through Noise, Building toward Silence: Creating a Sound Mind and Sound Architecture in the Premodern City," *Grey Room* 60 (Summer 2015); and his monograph, *The Noisy Renaissance: Sound, Architecture, and Florentine Urban Life* (University Park, PA: The Pennsylvania State University Press, 2016); Stefano Pivato, *Il secolo del rumore: il paesaggio sonoro nel Novecento* (Bologna: Il Mulino, 2011). See also Robert L. Kendrick, *The Sounds of Milan, 1585-1650* (New York: Oxford University Press, 2002).

[38] John M. Picker gives an excellent overview of the phenomenon in his *Victorian Soundscapes* (New York: Oxford University Press, 2003). See also Schafer, *The Soundscape.*

the time), novels now opened with the whistling of train locomotives, the screeching of streetcars, and were pervaded by the buzzing of electricity and telegraph wires, and the ringing of telephones.

When it comes to noisy machines, much has been said about the role of the train in fiction.[39] Historians and musicologists have reconstructed and catalogued the soundscapes of earlier centuries as well as of different cultures around the world using, among other documents, literary texts as primary sources. Jean-Luc Nancy, Michel Chion, Jonathan Sterne, Casey O'Callaghan, Jacques Attali, and Garret Stewart are just a few names among the many philosophers and theorists who have taken on the issue of the ear, listening, and sound in the past few decades.[40] But it is only recently that this strain of literary criticism and theory has turned towards the subject, transcending traditional approaches that involve merely the study of rhetorical figures and prosody or the role of music in literature.

In English literature, John M. Picker has contributed greatly to the field with an analysis of novels and short stories by Charles Dickens, George Eliot, Arthur Conan Doyle, Bram Stoker, and Joseph Conrad in his extremely well researched and insightful *Victorian Soundscapes* (2003). Picker's method of close listening allows him to explore "the two major roles that hearing played in Victorian culture: as a response to a physical stimulus and as a metaphor for the communication of meaning."[41] From a need "to hear and be heard" above "the screech and roar of the railway and the clang of industry, with the babble, bustle, and music of city streets, and with the crackle and squawk of acoustic vibrations on wires

[39] See Remo Ceserani, *Treni di carta*; and, with a focus on Portugal, Frederico de Quadros Abragão, ed. *Cem Anos de Caminho de Ferro na Literatura Portuguesa* (Lisboa: Comp. Caminhos Ferro Portugueses, 1956).

[40] See Jacques Attali, *Bruits* (Paris: PUF, 1978), transl. by Brian Massumi as *Noise: The Political Economy of Music* (Minneapolis: University of Minnesota Press, 1985); Garrett Stewart, *Reading Voices: Literature and the Phonotext* (Berkeley: University of California Press, 1990); Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham: Duke University Press, 2003); Jean-Luc Nancy, *À l'écoute* (Paris: Galilée, 2002), transl. by Charlotte Mandell as *Listening* (New York: Fordham University Press, 2007); Matthew Nudds and Casey O'Callaghan, eds. *Sounds and Perception: New Philosophical Essays* (Oxford: Oxford University Press, 2009); Michel Chion, *Le Son: Traité d'Acoulogie*, 2e Édition Revue et Corrigée, Col. "Cinéma/Arts Visuels" (Paris: Armand Colin, 2010), transl. by James A. Steintrager as *Sound: An Aucological Treatise* (Durham: Duke University Press, 2016).

[41] Picker, *Victorian Soundscapes,* 7.

and wax"[42] to the employment of "phonographic logic" and "the phonograph-text,"[43] writers in Victorian England were extremely susceptible to the new sonic inventions. The works of fiction they created were accordingly influenced and transformed.

Olivier Balaÿ's analysis of the city soundscapes of Paris in the nineteenth century[44] and Stefano Pivato's monograph on the Italian nineteenth- and twentieth-century soundscape rely in part on descriptions of sound in literary works.[45] Yet, here too, literature is a means to the end of supporting the authors' arguments.[46] Balaÿ, nevertheless, dedicates two chapters of the second section of the book to the works of Balzac, Flaubert, Zola, Stendhal, Proust, and to science fiction. Contrary to his own statement that there will be no systematic literary analysis in his monograph, some of the theses that Balaÿ puts forward on the role of sound in the works of the above-mentioned authors are very interesting from a narratological point of view. In Balzac, for instance, he finds that "every individual has its own sonic environment, characteristic of its fate."[47] To each character, her sounds. These sounds determine the character's movement and, ultimately, their destiny within the fictional world. Sound, thus, is not just a side-effect of the growing industrialization in Paris that Balzac, perfect earwitness that he was, rushed

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[42] Ibid., 4.

[43] Ibid., 137, 141.

[44] Olivier Balaÿ, *L'espace sonore de la ville au XIX^e siècle* ([Bernin]: A la croisée, 2003).

[45] Literature is one of four possible sources according to Balaÿ, 23: "Pour connaître les sons de la ville du passé, il nous reste quatre genres de sources indirectes: les textes – qu'ils soient littéraires, réglementaires ou de main courante –, l'iconographie, les sons qui existent encore aujourd'hui et, on l'oublie trop souvent, les propriétés acoustiques facilement mesurables des bâtiments d'autrefois qui existent encore." ["In order to study the sounds of the city in the past, four types of indirect sources are available: texts—whether literary, regulatory or manuals—, iconography, the sounds that still exist today and, one often forgets, the easily measurable acoustic properties of existing old buildings."] For Schafer, *The Soundscape,* 8, "literature and mythology, as well as [...] anthropological and historical records" are the primary sources for the soundscape scholar.

[46] Balaÿ, *L'espace sonore,* 142: "Le parcours que nous allons faire à traverse l'œuvre de Zola, Balzac, Stendhal, Flaubert et Proust ne vise pas à l'exégèse littéraire systématique. Il veut plutôt montrer quelles furent les propriétés des espaces sonores auxquels ces auteurs ont prêtés une oreille perspicace et sensible et comment l'imaginaire littéraire peut inspirer notre propre exploration de l'environnement sonore urbain." ["The route that we are going to take through the work of Zola, Balzac, Stendhal, Flaubert, and Proust does not aim at systematic literary exegesis. Rather, it wants to show what the properties were of the sonic spaces to which these authors lent an insightful and sensitive ear and how the literary imagination can inspire our own exploration of the urban sonic environment."]

[47] Balaÿ, Ibid., 153: "chaque individu possède son propre environnement sonore, caractéristique de son destin." ["each individual has their own sonic environment, characteristic of their destiny"]

to register in his novels. It is rather a determining force that shapes characters and creates the necessary vibrations to keep the plot flowing.

Pivato's monograph is pervaded with excerpts from Italian novels, travelogues, and poetry in addition to sources from music, art, cinema, and tourism. As a historian, he too is unconcerned with an in-depth analysis of sound in Italian literature. Pivato's argument rests on an opposition between, as the book title suggests, the twentieth century as the *secolo del rumore* (the century of noise) and the nineteenth century as the *secolo del silenzio* (the century of silence). While machines, devices, and cars dominate the Italian soundscape of the former, Catholic silences, sounds of nature, and of the bourgeois salon characterize the latter. If there was any noise in the nineteenth century, it was associated with the lower levels of society, with the "shouts of Verga's fishermen, Capuana's country folk crowds, Rapisardi's peasants, De Amici's or Valera's popular house blocks."[48] In the nineteenth century, according to Pivato, "silence was a bourgeois and aristocratic 'virtue,' while noise had a decisively popular connotation."[49] The twentieth century, on the other hand, is more democratic in its noise pollution, affecting equally knave and king alike. The argument seems straightforward and obvious enough. But it is inaccurate to call the nineteenth century—even in late industrialized countries such as Italy or Portugal—the century of silence. For the *Ottocento*, with its inventions, novelties, and unprecedented changes in landscape and soundscape, is the first truly loud century in the history of the

[48] Pivato, *Il secolo del rumore,* 37: "Del resto quanto il silenzio diventi un segno caratteristico di distinzione sociale esce confermato anche dalle differenti ambientazioni del romanzo popolare e di quello borghese: nel primo emergono le urla dei pescatori di Verga, delle folle paesane di Capuana, dei contadini di Rapisardi, dei caseggiati popolari di De Amicis o di Valera; nel secondo regnano invece i silenzi e le meditazioni che scorrono nelle pagine di *Piccolo mondo antico* [di Fogazzaro], i cui personaggi minori si salvano dal baratro dell'inquietudine rifugiandosi in una vita calma e sonnolenta." ["After all, to what extent silence becomes a characteristic sign of social distinction is also confirmed by the different settings of the popular novel and the bourgeois novel: In the first, the shouts of Verga's fishermen emerge, of Capuana's village crowds, of Rapisardi's farmers, of De Amicis's or Valera's popular neighborhoods; in the second, the silences and meditations dominate that flow through the pages of [Fogazzaro's] *Piccolo Mondo Antico,* whose minor characters are saved from the abyss of restlessness by taking refuge in a calm and sleepy life."]

[49] Pivato, Ibid., 35: "se il silenzio è una 'virtù' borghese e aristocratica, il rumore ha invece una connotazione decisamente popolare." ["if silence is a bourgeois and aristocratic 'virtue,' noise has a decisively popular connotation."]

West. Moreover, in a soundscape as hi-fi[50] as that of the nineteenth century, to use Schafer's terms, the sound of a shrilling locomotive whistle and of a thundering vapor engine must have been perceived as deafening, as terrifying, as a sublime experience worthy of registering. In the extreme lo-fi soundscapes we have been living since at least the interwar period, a train whistle, a jet engine, and the sirens of ambulances and police cars are all "obscured in an overdense population of sounds,"[51] blending into a kind of white noise. In this sense, even if today we are exposed to decibels unthinkable in the *Ottocento*, nineteenth-century people were not yet desensitized to noise as we are, and were thus more attentive listeners, more capable of noticing, discerning, and appreciating sound.

In Portugal,[52] *Escutar a Literatura: Universos sonoros da Escrita* (*Listening to Literature: The Sonic Universes of Writing* 2014) by musicologist Mário Vieira de Carvalho analyzes sounds in Portuguese literature from two points of view: As contributing to the structure of discourse and the staging of characters and situations; and sounds as the actual central theme of novels.[53] Incorporating theories of musical and human communication in general (Michel Tomasello, Georg Knepler, Christian Kaden, and Theodor Adorno, among others), Vieira de Carvalho extrapolates a set of categories to classify the different functions that sounds can have within narrative. While Vieira de Cavalho's criteria are systematic

[50] Schafer, *The Soundscape,* 43: A hi-fi soundscape is one "in which discrete sounds can be heard clearly because of the low ambient noise level." In a lo-fi soundscape, "individual acoustic signals are obscured in an overdense population of sounds." The hi-fi soundscape is associated with the countryside, the night, ancient times. In lo-fi soundscapes "perspective is lost," there is no distance, only presence, and "[i]n order for the most ordinary sounds to be heard they have to be increasingly amplified."

[51] Ibid.

[52] A non-literary analysis of the Portuguese soundscape has been conducted by Carlos Alberto Augusto in his *Sons e Silêncios da Paisagem Sonora Portuguesa* (Lisboa: Fundação Francisco Manuel dos Santos, 2014).

[53] Mário Vieira de Carvalho, *Escutar a literatura: Universos Sonoros da Escrita* (Lisboa: Edições Colibri, 2014), 8. According to Vieira de Carvalho, sound can be analyzed on three levels: 1). the level of transformation of the *medium* (what is the *quality* of the specific sound in question? E.g. it is the sound of footsteps being dragged on the ground); 2). the level of a *pars pro toto*, or, I would say, synecdochal representation through the transformations operated in the medium; this elicits in the receiver the decoding of *contextual symptoms* (the character is walking on an unpaved road) and *expressive symptoms* (the sound of footsteps on an unpaved road stands for a particular character in the narrative that is recognized as such); 3). the level of conventionalization (literary conventions: in our case, what does the sound of an approaching locomotive signify in romantic/realist literary conceptions, if it has a particular meaning at all?).

enough to allow for a serious literary, narratological analysis of sounds, they are not exhaustive and also somewhat counter-intuitive.

Here I maintain a broader perspective based on close listening to avoid the over-theorization of the topic. For, when the machine speaks, it does not just make a sound to be catalogued as one or another type of sonic phenomenon. Rather, it asks to be recognized as an interlocutor, as a speaking being that entrusts itself to the other's care. The task now is to reconstruct the genealogy of this interpellation through a comparative analysis of a wider range of novels written during the two industrial revolutions. As Picker writes, the nineteenth century was undoubtedly "a period of unprecedented amplification, unheard-of loudness,"[54] an age "alive with sound."[55] It was an age in which the lives and voices of men and machines began to intertwine, flowing together into a novel kind of symphony whose counterpoint and harmonies still remain to be annotated and analyzed.

Chapter Outline

I begin the analysis of this counterpoint after a Prolegomenon in which I inquire after the status of the relationship between *logos* and *technē* as the relationship between the word and the tool and how it has developed in time. On one hand, this allows us to understand why 'speaking technologies' like Shelley's monster, Collodi's Pinocchio, Eça's artifacts, or Pirandello's cyborg were imaginable at the time when these novels were written. On the other hand, it provides an insight into why the sounds and voices of machines were perceived in negative, threatening terms by their human counterparts. During the Second Industrial Revolution, the contours of this relationship become even more clear, in the spirit of Cassano's southern separation and mediation, when put in dialogue: Vico and his mythopoetics in

[54] Picker, *Victorian Soundscapes,* 4, here referring to Victorian England.

[55] William Henry Preece, a British electrical engineer who played a major role in the introduction of the telegraph and telephone in Britain, as quoted in Picker, Ibid., 4.

conversation with Max Eyth, a German engineer-writer who in a 1904 speech tackled the issue from a unique, practical, and—at the time—rare perspective. His reflections are based on the firsthand experience of a somewhat liminal figure, the *Dichteringenieur*: Eyth was both a writer[56] and a mechanical engineer, belonging to a new class of professionals whose importance and prestige had skyrocketed during the Industrial Revolution. In Italy, we will only encounter such a hybrid figure in the person of Carlo Emilio Gadda (1893-1973). Reading the (Southern) philosopher and the (Nothern) *Dichteringenieur* side by side offers a productive way of understanding the complex relationship between machines, on one hand, and knowledge, language, and the voice on the other, before we approach the novels themselves.

In the first chapter, I read Carlo Collodi's *Pinocchio*, with Shelley's *Frankenstein* as its gothic ancestor, as a tale that elaborates the first archetype of human-machine interactions as one between creator and created, artisan and product, parent and child. The humanoid puppet emerges from my reading as an intelligent, embodied AI system, a form of technology with a subversive voice that destabilizes accepted hierarchies and inserts itself into a genealogy of intelligent machines. The novel famously opens with an acousmatic[57] *vocina sottile sottile* that terrifies the first carpenter (Master Cherry) and then remains silent until it is given a humanoid wooden body by the second (Geppetto). While relying on recent studies of *Pinocchio* as a digital technology and from a sonic point of view by Massimo Riva and Susanna Ferlito, I propose in this chapter that Pinocchio's acousmatic voice calls for care (*cura*) and attention while simultaneously striving to become united with an appropriate body in order to become a "proper" boy or a proper embodied AI system. Initially, Pinocchio's voice is an effect without a cause,

[56] Eyth's travelogue, *Hinter Pflug und Schraubstock. Skizzen aus dem Taschenbuch eines Ingenieurs* (1899), had sold over 340,000 copies. A modern edition of the book was published in 1986: *Hinter Pflug und Schraubstock – Die Abenteuer eines Ingenieurs im vorigen Jahrhundert* (Stuttgart: Deutsche Verlags-Anstalt, 1986).

[57] "The acousmatic voice is simply a voice whose source one cannot see, a voice whose origin cannot be identified, a voice one cannot place." Dolar, *A Voice and Nothing More*, 60f.

exposing, in Dolar's words, a "limping causality."[58] This limping causality, this gap, makes (the voice of) the machine into the Lacanian *objet petit a*, an object-cause, hinting at the divine and its glaring absence and becoming a projection surface onto which humans mistakenly see a return of the gods where there is simply an artifact, a technology. In creating artificial beings, Victor Frankenstein and Geppetto believe they are usurping the place of the Creator, becoming God themselves, but instead what they end up creating is a simulacrum of God, an empty projection surface which is at the basis of our complex relationship and dependence on technological devices. "If God is rejected, what will give us ultimate significance in the clockword cosmos?" Lee Worth Bailey asks. Like Geppetto, "[i]n a mechanical universe, we depend on technology to give us wealth, power, pleasure, and salvation from suffering,"[59] thus transforming our machines into our caretakers, our gods. But through care and attention, an emptying out of projections, prejudices, and desires towards the machine, one can achieve a balanced attitude towards technology and see technological artifacts in their own right, as their own beings[60] and not as our providers.

The second chapter, "Masters and Slaves," takes a fresh look at Eça de Queirós's *A cidade e as serras*, a novel that could be considered a *summa* of nineteenth-century technological concerns. Here the second archetype of human-machine interactions as the one between a master and a servant, a master and a slave, becomes destabilized thanks to the mischievous, disobedient technological artifacts who refuse to serve their aristocratic master, driving him into a complete passivity and madness with their disruptive noises and hostile hisses. Reading Eça's novel side by side with Jules Verne's *Les Tribulations d'un Chinois en Chine* (*The Tribulations of a Chinese Gentleman*, 1879), J.-K. Huysmans's *À Rebours*

[58] Ibid., 10.

[59] Lee Worth Bailey, *The Enchantments of Technology* (Urbana and Chicago: University of Illinois Press, 2005). See especially Ch.7 "Robogod: The Absolute Machine" (pp.155-198) where he discusses what he calls the "Pinocchio project"—the human need to create machines that can replicate humans.

[60] For a study of objects and tools as beings in their own right from a Heideggerian point of view, see Graham Harman, *Tool-Being: Heidegger and the Metaphysics of Objects* (Chicago: Open Court, 2002).

(*Against the Grain*, 1884), and Émile Zola's *La Bête humaine* (1890), I reconstruct a technological "twilight zone" where machines are granted literary citizenship, and human interlocutors are forced to reevaluate who and what counts as partaking in humanity and conversation. I argue that the unresponsiveness of technological artifacts to the human voice in *A cidade e as serras* reveals a process by which the second archetype of human-machine interactions—the master-slave dialectic—is fractured if not entirely shattered at the turn of the twentieth century alongside vocal anthropocentrism. Furthermore, Eça's model for human-machine interactions—unlike those of Verne, Huysmans, and Zola—maps out a kind of a middle ground that involves listening, care, and purposeful coexistence. The theoretical coordinates for this chapter are borrowed from Hannah Arendt's analysis of speech and action in *The Human Condition* (1958) as well as Leo Marx's seminal study on technology in nineteenth-century US American pastoral literature, *The Machine in the Garden* (1964), to which I owe the title of my project.

In the last chapter, "Cyborgs," I analyze the third type of human-machine relationality which involves the morphing of man with the machine by example of Luigi Pirandello's *Quaderni di Serafino Gubbio operatore*. Pirandello's was the first serious "cinematic novel" that opened up a window into the technological concerns of the early twentieth century and Modernism. My analysis challenges the prevailing scholarly consensus on Pirandello's attitude towards technology as being exclusively negative in nature. As I show, such readings and their arguments rest upon thoroughly humanistic premises and an overreliance on authorial intent and biography, while focusing only on the novel's cinematic aspect. By shifting the attention from the cinematic medium to the main character's relationship with the camera *qua* machine, I show how *Quaderni di Serafino Gubbio* outlines a complex relationship to technology, one not altogether positive but which is more oriented towards finding potential solutions than towards rejecting modernity and industrialization altogether.

The camera-man Serafino Gubbio is one of the first self-aware man-machine protagonists in European prose fiction who explicitly problematizes questions of anti-anthropocentrism and posthumanism as they relate to perception and to the body, and in realist-psychological terms at that. He is not a Gothic fantasy or a Futurist exaggeration. Straddling the boundaries between nature and culture, tradition and innovation, the animate and the inanimate, the organic and the artificial, he successfully overcomes these dichotomies, becoming a posthuman entity—perhaps the closest thing to what in the 1960s became known as a 'cyborg' (cybernetic organism). Through this character, Pirandello's novel explicitly problematizes questions concerning the influence of machines and technology on speech, perception, and the body, and it does so in relatable terms, signaling to us above the noise of the twentieth century. For the analysis, I draw on notions of Posthumanism by N. Katherine Hayles, Rosi Braidotti, and Donna Haraway, as well as on cybernetic theory (Clynes and Kline, Norbert Wiener), philosophies of the voice (Adriana Cavarero), and neuroscientific theories on brain noise and aphonia (Italian neuroscientist Lamberto Maffei).

In all three types of interactions—creator-created, master-slave, and hybridization—humans fill the blank page and silence left behind by an absent caretaker or divinity with the machine's presence and its noisy interruptions. The machine with its incomprehensible, mysterious, and outright magical voice summons a divine presence, prompting the illusion of a dawn of a new age of machines as the new age of (false) gods. The machine is mistakingly perceived as the provider to which humanity clings as to a mother's breast. At the same time, it is supposed to be our obedient servant in addition to enhancing our minds and bodies.[61] But where there is no attention, there is projection and projection often leads to

[61] In his analysis of Shelley's *Frankenstein* from a posthumanist point of view, Andy Mousley articulates four types of relationality between humans and technology: 1) "increasingly sophisticated machines may render human beings and whatever special characteristics they (think they) possess superfluous"; 2) "instead of being left behind by (new) technologies, humans or a privileged few of them will be enhanced by them"; 3) "the morphing of the human into its often-presumed 'others': the machine, the animal, the digital, the automated"; 4) "de-humanizations effected by contemporary capitalism, with its subordination of all putatively human needs and wants to the impersonal and largely mysterious operations of 'the

catastrophic misunderstandings. Pinocchio's acousmatic *vocina sottile sottile* is the first to expose and disrupt this projection of the divine onto the technological, while Eça's disobedient technological devices reduce the orders of their aristocratic master to mere murmurs, to the point that he returns to the Portuguese countryside with ears wide open to the voices of the universe. But it is Pirandello's protagonist, Serafino Gubbio, who ultimately achieves the total state of attention by merging with the camera and becoming mute, emptying himself entirely of thoughts and projections in order to receive, accommodate, unite. As Antonio Sichera writes, a strong sense of fraternity emerges from Serafino's thing-like silence, which is "the gift, greatly hoped for, of a man who remains distant. Superior precisely in the discretion of his total availability, a man who unites by retreating."[62] Unite by stepping back, Serafino seems to say. Listen by becoming silent. Give attention and care by emptying yourself of thoughts and projections. Retreat to foster presence. "It is a grave thing, leaving Europe!" the protagonist of Eça's *The City and the Mountains* exclaims as he embarks on a train ride from Paris to Portugal, fearing the return to his rural "uncivilized" homeland. But perhaps it is precisely such a descent into other purportedly "uncivilized" worlds, a Dantean listening to the faint cries of a spectrum of creatures—natural, artificial, otherworldly—that can best help us understand our attitude towards technology and machines while recognizing the role of the South and of literature in its just re-calibration.

market'... [H]uman beings […] as brands or loci of consumption." See Andy Mousley, "The Posthuman," in *The Cambridge Companion to* Frankenstein, ed. by Andrew Smith, 158-172 (Cambridge: Cambridge University Press, 2016), 158f.

[62] Antonio Sichera, *Ecce homo! Nomi, cifre e figure di Pirandello* (Firenze: Olschki, 2005), 420: "La fraternità scaturente dal 'silenzio di cosa' è il dono, fortemente sperato, di un uomo che rimane lontano. Superiore proprio nella discrezione della sua totale disponibilità, uno che 'affratella' sottraendosi."

PROLEGOMENON

Vico and the Machine Age:
The Word, the Tool, and the Technological Clearing

In his *Scienza Nuova* (New Science),[1] Giambattista Vico writes that "the Egyptians reduced all preceding world time to three ages. Namely, the age of gods, the age of heroes, and the age of men" (§173). This, for Vico, is "the design of an ideal eternal history traversed in time by the histories of all nations" (§7). He then sets out to trace back this history and distill its universal laws by means of a philological inquiry into the languages and fables of the most ancient of peoples. What the Egyptians and Vico could not have predicted was that history had yet another age in store: The age of the machine.[2] Auguste Comte announced it, Thomas Carlyle baptized it, Marx outlined it; Heidegger warned against it; Deleuze and Guattari proclaimed that "[t]out fait machine;[3] and Ted Kaczynski even went as far as to kill in order to warn human beings against the "technological slavery" this fourth age purportedly brings about.[4]

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[1] Vico's work saw three editions in the eighteenth century: 1725, 1730, 1744. References here are all from the third, 1744 edition. Giambattista Vico, *Principj di scienza nuova d'intorno alla commune natura delle nazioni… Corretta, Schiarita, e notabilmente Accresciuta,* in *Opere*, a cura di Paolo Rossi (Milano: Rizzoli, 1959), transl. by Thomas Goddard Bergin and Max Harold Fisch as *The New Science of Giambattista Vico* (Ithaca and London: Cornell University Press, 1984).

[2] I conceive of the "machine" as the empirical manifestation of and inseparable from *technē* and "technology." The terms will be used interchangeably. In this I follow Branko Bošnjak, from the Jugoslav Praxis School, and his definition in "Techne als Erfahrung der menschlichen Existenz: Aristoteles – Marx – Heidegger," in *Kunst und Technik: Gedächtnisschrift zum 100. Geburtstag von Martin Heidegger*, ed. by Walter Biemel and Friedrich-Wilhelm v. Herrmann, 93-108 (Frankfurt a. Main: Klostermann, 1989), 100: "Die Techne, verstanden als Maschine" ["techne understood as machine"].

[3] Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia,* trans. Robert Hurley, Mark Seem, and Helen R. Lane (London and New York: Continuum, 2004), 2: "Everything is a machine."

[4] Ted Kaczynski, *Technological Slavery: The Collected Writings of Theodore J. Kaczynski, a.k.a. "The Unabomber"* (Port Townsend, WA: Feral House, 2010): "The Industrial Revolution and its consequences have been a disaster for the human race. [T]hey have destabilized society, have made life unfulfilling, have subjected human beings to indignities, have led to widespread psychological suffering (in the Third World to physical suffering as well) and have inflicted severe damage on the natural world." See also Bošnjak, "Techne als Erfahrung," 100: "Die Techne, verstanden als Maschine und in der Form der Maschine, hat den Menschen unterjocht" ["Techne, understood as machine and in the form of the machine has enslaved human beings"].

To each of Vico's mythopoetic ages corresponds a certain kind of language: That of "mute […] signs and physical objects" to the age of gods; of "heroic emblems, or similitude, comparisons, images, metaphors, and natural descriptions" to the age of heroes; and "[h]uman language using words agreed upon by the people" to the age of men.[5] Given the all-encompassing presence of technology in our age and society, it seems only logical for us to inquire into what forms of language, if any, pertain to the age of the machine, and what role industrialization and nineteenth century literature played in their formation. Can the noises of technology—the shrieking whistle of the locomotive, the uncanny reproductions of the phonograph, or the buzzing of telegraph wires—be considered its language, technology babbling its way into presence and revealing its "appearance in the human world"?[6] If so, then how does it interact with human speech, and what are the implications of this potential conversation[7] as, for instance, it can be found in Eça's and Pirandello's novels? Furthermore, what is at stake when a technological artifact is endowed with a voice? In other words, where is the eloquence of such characters as Shelley's monster and Geppetto's puppet coming from, and why did their voices emerge precisely during the nineteenth century?

In his seminal *The Machine in the Garden* (1964), Leo Marx writes that "the interruption of the machine arouses a sense of dislocation, conflict, and anxiety"; its sonic presence is an "intervention of reality"[8] that disrupts the idyllic flow of things and reminds humans, as Ortega y Gasset wrote, "of the

[5] Vico, *New Science*, §32, 20.

[6] Hannah Arendt, *The Human Condition* (Chicago: The University of Chicago Press, 1958), 179.

[7] On technology and its impact on human conversation, see Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (New York: Basic Books, 2011), and *Reclaiming Conversation: The Power of Talk in a Digital Age* (New York: Penguin, 2015).

[8] Leo Marx, *The Machine in the Garden,* pp.7, 15, 16, 23. Marx's analysis of the pastoral ideal in US American literature and culture through the lens of industrialization lends itself readily to an analysis of the role of technology in Italian and Portuguese literature at the end of the nineteenth century. Both of these countries industrialized late in comparison to Northern European countries, and cultivated an ideal of pastoral idyll that could easily be found in the mostly untouched rural landscapes they could boast all throughout the nineteenth century.

artificial, almost incredible, character of civilization."[9] For Leo Marx, this disruptive, noisy character of the machine has a positive connotation. The whistle of the locomotive is a wake-up call from an imaginary idyll, inciting critical thought, class-consciousness, and the realization that everything, including nature, is a construct. Yet the terms "disruption," "interruption," "artificiality"—in short, the characteristics of noise—are predominantly associated with entropy. Writing on Baudelaire's "poetics of noise," Ross Chambers speaks of the destructive power of noise; of "noise as entropy, the danger of erosion and eventual erasure that means the death of the self."[10] Noise is "the murderer of thought," Schopenhauer famously quipped: "a great intellect has no more power than an ordinary one as soon as it is interrupted, disturbed, distracted, or diverted; for its superiority entails that it concentrates all its strength on one point and object, just as a concave mirror concentrates all the rays of light thrown upon it. Noisy interruption prevents this concentration."[11]

Pace Schopenhauer and in the line of thought proposed but not developed further by Leo Marx, we want to pose the question concerning noise differently: Is the interruption of the machine the ultimate call to reality, a necessary acoustic slap in the face that disrupts the monologic character of thought and creates polyphony, opening up a space of listening and collaboration? As Luigi Russolo wrote in "L'arte dei rumori" ("The Art of Noises" 1913), "it is characteristic of noise to recall us brutally to real life."[12] For the Italian Futurist, noise truly came about only with the invention of the machine in the nineteenth

[9] José Ortega y Gasset, *La rebelión de las masas* (1929), transl. by Anthony Kerrigan as *The Revolt of the Masses* (New York and London: W. W. Norton & Company, 1993), 7f.

[10] Chambers, *An Atmospherics of the City,* 9, 11.

[11] Arthur Schopenhauer, "On Din and Noise," in *Parerga and Paralipomena: Short Philosophical Essays*, Vol 2. trans. E. F. J. Payne, 642-44 (Oxford: Clarendon Press, 1974): "a great intellect has no more power than an ordinary one as soon as it is interrupted, disturbed, distracted, or diverted; for its superiority entails that it concentrates all its strength on one point and object […]. But noise is the most impertinent of all interruptions, for it not only interrupts our own thoughts but disperses them."

[12] Luigi Russolo, "The Art of Noises" (1913) in *Futurist Manifestos,* ed. by Umbro Apollonio, 74-88 (Boston: MFA Publications, 2001), 74.

century. He considered this phenomenon the apogee of Western music: Away with the good old violin, the organ, and the piano, and all hail the roaring of machines, animals, and natural catastrophes, those "resonant slaps in the face"! Sound, in his opinion, is musical, unnatural to our lives, something like an event to be attended. It becomes "to our ears what an overfamiliar face is to our eyes." Noise, on the other hand, is a constant, but "reaching us in a confused and irregular way from the irregular confusion of our life, [it] never entirely reveals itself to us, and keeps innumerable surprises in reserve."[13] In other words, sound is ideology masked as *bon ton*; noise is simply the *conditio humana*, the Lacanian real.[14] Or in other, simpler words, sound is what we have been taught to listen; noise is what we hear. As if the word and the tool, meaning and noise, were somehow irreconcilable, contradictory even, human characters in Shelley's, Collodi's, Eça's, and Pirandello's novels, just to name a few, are deaf, indeed hostile to the voices of machines. Why? To answer this question, we will look at the the *logos-technē* relationship as outlined in its mythopoetic dimension by the Italian philosopher Giambattista Vico in his *New Science* (1747) by putting him in dialogue with Max Eyth, a German ingeneur who had addressed the topic in a unique, original way at the beginning of the twentieth century

The Word, the Tool, and the Technological Clearing

In 1904, twenty-three years after Pinocchio joined the family of artificial literary protagonists, three years after the posthumous publication of Eça's *The City and the Mountains*, and exactly at the time when Pirandello was writing *The Notebooks of Serafino Gubbio*, the word and the tool, *logos* and *technē*, were starting to take up a long-forgotten conversation. In 1904, Max Eyth, a German engineer and writer who had spent a lifetime traveling the world as promoter of portable steam engines, spoke about this

[13] Ibid., 86.

[14] Juan Antonio Suárez's *Pop Modernism: Noise and the Reinvention of the Everyday* (Urbana: University of Illinois Press, 2007), 10: "what Jacques Lacan calls the unsymbolizable real, or noise."

relationship between the word (*Wort*) and the tool (*Werkzeug*) to a roomful of engineers in Frankfurt am Main. According to Eyth, a separation and hierarchization had taken place between the word and the tool when language, that "fleeting sound," was first fixed in writing:

> When we learned how to set the word—that fleeting sound—down in writing, a curious change took place in the relationship between the word and the tool. Language, precisely because it could speak, procured for itself a superior, one will be allowed to say, undue importance. The mute tool was pushed evermore into the background of human sensibility. Knowing reigned, doing served; and this relationship [...] remains widely acknowledged in our present day.[15]

These two elements, unified at one point, became separate when one of them learned how to "speak," thus bringing about the dichotomy of speaking word (*sprechendes Wort*) and mute tool (*stummes Werkzeug*). As Eyth notes, it is this "speaking" ability that allowed language to claim primacy in the domain of knowledge (*Wissen*), relegating the mute tool and the skills associated with it to a secondary, servile position (*Können*). By "word" Eyth intends the sum of voice ("that fleeting sound"), grammar rules, and meaning, or, in one word, language and knowledge (*logos*); while "tool" encompasses machines, artifacts, instruments, or, in one word, technology (*technē*). There is no metaphorical overlap here by which language is considered a form of technology, and no theoretical hair splitting between voice as *phone* and meaning as *logos*. All the elements that form what we conceive of as human language are "das Wort," and the moment we learned how to fix the word in time and space, it took over as the carrier of knowledge. Yet although eventually separated, Eyth writes, the word and the tool and their respective discourses on *Wissen* (abstract knowledge) and *Können* (practical knowledge or skills) both resulted from the same primal force (*geistige Urkraft*) that had made the animal *homo* into the human *homo sapiens*. But even the term *homo sapiens* used by scholars to describe human beings,

[15] Max Eyth, "Poesie und Technik," in *Lebendige Kräfte: Sieben Vorträge aus dem Gebiet der Technik* (Berlin: Springer, 1905), 15f.: "seitdem man gelernt hatte, das Wort, den flüchtigen Schall durch die Schrift festzulegen, trat eine eigentümliche Änderung in dem Verhältnis zwischen Wort und Werkzeug ein. Die Sprache, eben weil sie sprechen konnte, wusste sich eine überragende, man wird wohl sagen dürfen, eine ungebührliche Bedeutung zu verschaffen. Das stumme Werkzeug wurde im Empfinden der Menschheit immer mehr in den Hintergrund gedrängt. Das Wissen herrschte, das Können diente; und dieses Verhältnis [...] ist bis in die Gegenwart allgemein anerkannt geblieben."

he points out, already reveals the privileged position of *Wissen* and the word over *Können* and the tool, the former couplet corresponding to *homo sapiens* and the latter to *homo faber.*[16] Still today, the engineer and writer laments, this hierarchy is widely accepted. Tools do not speak, they have no voice, convey no meaning, and do not carry knowledge.

What Eyth is then getting at in his speech is the need of engineers at the turn of the twentieth century to have their own profession elevated to the level of the humanities, granting it the equal capacity to contribute to the life of the intellect (*Geistesleben*) traditionally reserved for (natural) philosophers, rhetoricians, theologians, and poets. Technology too, engineers too, have a voice, can speak, and have something to say about the human condition and contribute to the formation of knowledge which consists of both *Wissen* and *Können*. As a writer-engineer, Eyth's stakes in the argument are high.[17] His speech bearing the title "'Poesie und Technik' ['Poetry and Technology'] tries to show that technology, despite being bound up in the material world, has taken over something of the boundlessness of pure intellectual life [*Geistesleben*]."[18] Let us recall at this point that the first human characters that we encounter in *Pinocchio*—Master Cherry and Geppetto—are craftsmen, carpenters. The world of Pinocchio, for instance, is not the world of *Wissen* but of *Können.* It is not the world of thinkers, writers, or natural philosophers in the way that Shelley's Victor Frankenstein and Hoffmann's Spalanzani still were. Collodi's is a world of makers and of handicraft in its basic, literal sense of making things with one's

[16] "Aber beide, Wort und Werkzeug, sind ein Erzeugnis derselben geistigen Urkraft, die das Tier 'homo' zum Menschen 'homo sapiens' gemacht hat, wie ihn die Gelehrten nennen, die natürlich auch hier wieder allein auf sein Wissen anspielen und sein Können, das all dieses Wissen ermöglichte, vergessen" (Eyth, 16).

[17] Consider the following summary of his biography: "(Eduard Friedrich) Maximilian Eyth war ein Ingenieur von hohen Graden, Inhaber vieler Patente, der Pionier der Dampfpflugkultur vor über 100 Jahren in aller Welt, der Gründer der Deutschen Landwirtschafts-Gesellschaft, ein erfolgreicher Schriftsteller und ein nicht unbegabter Zeichner und Maler." ["(Eduard Friedrich) Maximilian Eyth was a high-grade engineer, holder of many patents, and a pioneer of steam plow culture for over 100 years, all over the world, founder of the German Agrarian Society, successful writer, and a talented illustrator and painter." https://www.max-eyth.de/biografie, last accessed 10 May 2020.

[18] Rudolf Laïs, *Das war Max Eyth: 1836 bis 1906,* Vortrag zum neunzigjährigen Bestehen der Deutschen Landwirtschafts-Gesellschaft am 11. Dezember 1975 (Ulm: […], 1975): "'Poesie und Technik' versucht er nachzuweisen, dass die Technik trotz ihres Gebundenseins an die stoffliche Welt etwas von der Grenzenlosigkeit des reinen Geisteslebens übernommen hat."

hands, thus coming closer to the engineer, the tool-maker, than to the "man of science." And yet Geppetto's is a speaking technology. How did it acquire speech? And why at that specific point in time? What are the implications thereof?

Eyth's argument about the relationship between the word and the tool leads to the following reflection: If the word had gained primacy over the tool as soon as we learned how to fix it in writing, then there must have been a time when the word and the tool, *Wissen* and *Können, logos* and *technē,* were equals, viz., both equally non-speaking or "mute." We find the equivalent of such a time in Giambattista Vico's first poetic age, or the age of the gods, when men spoke a "mute language of signs and physical objects having natural relations to the ideas they wished to express."[19] Vico's giants (*gli uomini gentili*) of the first divine age spoke a mute language (*lingua muta*) by means of *cenni* (signs) or *corpi* (bodies, objects, material entities).

When, as Vico narrates in his *Scienza Nuova*, heaven started thundering and lightning two hundred years after the flood, the giants, "frightened and astonished by the great effect whose cause they did not know, [...] raised their eyes and became aware of the sky."[20] Since they were like wild beasts who "expressed their very violent passions by shouting and grumbling," they imagined that the great force in the sky was animate ("un gran corpo animato") and trying to communicate with them by "the hiss of his bolt and the clap of his thunder" (§377). This was the birth of religion[21] and the birth of *logos*. Vico's

[19] A language, "la qual si truova essere stata una lingua muta per cenni o corpi ch'avessero naturali rapporti all'idee ch'essi volevan significare" (Vico, *Scienza Nuova,* 26). Just as there are three ages, we mentioned in the introduction, there are also three languages that compose the vocabulary of Vico's *Science*: (1) a mute language spoken at the time when "gentile men were newly received into humanity" after having roamed earth's great forest like wild beasts; (2) the heroic language spoken by means of "heroic emblems, or similitudes, comparisons, images, metaphors, and natural descriptions;" and (3) "Human language using words agreed upon by the people, a language of which they are absolute lords, [...]; a language whereby the people may fix the meaning of the laws by which the nobles as well as the plebs are bound." (Vico, *The New Science*, 20)

[20] Vico, *The New Science*, 117.

[21] See Gilbert Simondon, "On the Mode of Existence of Technical Objects," *Deleuze Studies* 5.3 (2011): 407-424, 408: "the phase that balances technicity is the religious mode of being. Aesthetic thinking emerges at the neutral point between technics and religion, at the moment of division of primitive magical unity."

gran corpo animato that had awoken in the giants the desire to pursue knowledge and truth and that had made *homo* into *homo sapiens* is what Eyth calls the "primal force" (*geistige Urkraft*). The giants called this force "Jove."

In order to gain an unobstructed view of the sky so that they could properly receive and interpret Jove's word, the giants had to make a clearing in the primeval forest that they inhabited and that was "an obstacle to visibility [and] an obstacle to human knowledge and science."[22] Vulcan, the god of fire and "master of technical skill,"[23] revealed the first technology by setting fire to and creating this clearing in the forest so that the giants may "observe in the open sky the direction from which Jove sent his bolts."[24] Fire, harnessed by the giants and translated into a technology, created the clearing of knowledge which was the first moment of technology's challenging of nature. It is precisely this technological clearing that presents a problem for Martin Heidegger and his philosophy of technology. For a clearing implies clarity, i.e., a loss of mystery, a loss of awe and wonder for the things and beings of the world. Such a loss allows for their instrumentalization, for thinking and acting in terms of expediency.[25]

In Vico's age of gods and giants, the word was equally a means of communicating with the gods as was the tool. For, without the help of the tool, the word could not have been able "to keep the eye of knowledge open"[26] in order to ensure proper divination and thus the proper practicing of religion. "Technics and religion are contemporaries of each other," Gilbert Simondon writes.[27] Yet, although the word and the tool had the same technological origin (Vico's *gran corpo animato*, Jove's thunder and

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[22] Robert Pogue Harrison, *Forests: The Shadow of Civilization* (Chicago: The University of Chicago Press, 1992), 10.

[23] Ibid.

[24] Vico, *Scienza Nuova,* 203: "perché Vulcano aveva dato fuoco alle selve, per osservar a cielo aperto donde i fulmini fussero mandati da Giove."

[25] See Martin Heidegger, "Die Frage nach der Technik." In Martin Heidegger, *Vorträge und Aufsätze*, 5-16. Frankfurt am Main: Vittorio Klostermann, 2000 [1953].

[26] Harrison, *Forests,* 11.

[27] Simondon, "On the Mode of Existence of Technical Objects," 420.

lightning, Eyth's *geistige Urkraft*), once they were separated and hierarchized, the word laid claim to the "why" without paying tribute to the tool, while the tool was relegated to the "how," an unwelcome reminder of the common origin, a souvenir from the times of primitive grunts and bodily drives.

If we look at the allegorical image that Vico employs to illustrate his method and ideas for the 1744 edition of the *Scienza*, we notice the abundance of objects in it. These are "things that talk," to use Lorraine Daston's phrase.[28] They function as hieroglyphs,[29] Vico's nod to the original "mute language" of the giants. Among Vico's objects, coming out of the woods we find a tool that is usually overlooked by interpreters of the *Scienza Nuova*: a plow (*aratro*).[30] The first gentile nations used the plow to cultivate the clearing in the woods, challenging nature for a second time after having used fire to make the clearing. Vico used the only partially visible pictorial representation of the plow to illustrate the plow's chronologically early role in the rise of nations, but also the tool's marginality in this process. For the plow is barely discernible in the *dipintura* (picture), covered up as it is by a Corinthian column on which a stone alphabet table leans: the word. The plow's share, "before the use of iron was known, [...] had to be made of a curved piece of very hard wood, capable of breaking and turning the earth. The Latins called the moldboard *urbs*."[31] Let us recall that the same word in Latin also means "city." While the word was in dialogue with the sky, essential in the making of man's first laws and creating man's first myths and fables, the tool was keeping the channel for this dialogue open, down on the ground, by maintaining the clearing in the forest and creating the first cities where laws would be implemented. Both the word and

[28] Lorraine Daston, ed., *Things that Talk: Object Lessons from Art and Science* (New York: Zone Books, 2004).

[29] Pasquale Soccio, introduzione to Giambattista Vico, *Autobiografia, Poesie, Scienza nuova*, a cura di Pasquale Soccio (Milano: Garzanti, 1983), 214: "Si potrebbe aggiungere che il linguaggio simbolico dei primitivi (barbari ed eroi) spingeva il suo 'scovritore', in un certo modo, a un analogo ricorso figurativo."

[30] Vico, *Scienza nuova,* pp.10-14. Vico's allegorical reading of this tool is, for instance, entirely omitted from the Garzanti edition of the *Scienza nuova.*

[31] Vico*, New Science*, 11. Vico, *Scienza nuova,* 12: "L'aratro scuopre la sola punta del dente e ne nasconde la curvature (che, prima d'intendersi l'uso del fero, dovett'esser un legno curvo ben duro, che potesse fender le terre ed ararle) – la qual curvatura da' latini fu detta 'urbs'."

the tool were then in their own different ways means of revealing. Thus, when Heidegger claims that "the essence of technology is nothing technological," and that art is a realm simultaneously most akin to and fundamentally different from technology and therefore most suited for the essential reflection upon technology, he is going back to these primeval ancestors of the book and the machine—the word and the tool. These had a common initializing condition (the sky with its thunder and lightning), were directed at a common goal (maintaining unobstructed communication with the sky), and worked hand in hand. And when was Frankenstein's monster created if not on a "dreary night of November" with the rain pattering "dismally against the panes" (Shelley 35)?[32] And doesn't Collodi's narrator tell us that "Pinocchio was terribly afraid of thunder and lightning" and had burned his unthankful feet on a brazier during a "truly hellish night" when "thunder roared, lightning seemed to set fire to the sky"? (Brock 19)[33] Frankenstein's monster and Pinocchio are both, in their own way, sons of Jove. And in Eça's novel, the villagers in Portugal have to be reassured that the telephone being installed in the protatonist's house will not attract lightning: "this new machine would make no noise, bring no diseases or attract thunderstorms" (Costa 258) ["essa máquina nem fazia barulho, nem trazia doenças, nem atraía as trovoadas" (Eça 353)].[34]

After the age of the gods and the giants' mute language, Vico continues, came the age of the heroes with its emblematic language, followed by the age of man and its "human language [that uses] words agreed upon by the people, a language of which they [humans] are absolute lords, [...]; a language whereby the people may fix the meaning of the laws by which the nobles as well as the plebs are bound"

[32] Shelley, 1818, *Frankenstein; or, The Modern Prometheus* (New York and London: Norton Critical Editions, 2012).

[33] English translations are from Carlo Collodi, *Pinocchio*, transl. Geoffrey Brock (New York: NYRB, 2008). Carlo Collodi, *Le avventure di Pinocchio. Storia di un burattino*, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi (Collodi: Giunti Editore, 2012), 78f.: "Per l'appunto era una nottataccia d'inferno. Tonava forte forte, lampeggiava come se il cielo pigliasse fuoco […]." Pinocchio "si pose a sedere, appoggiando i piedi fradici e impillaccherati sopra un caldano pieno di brace accesa. E lì si addormentò; e nel dormire, i piedi che erano di legno gli presero fuoco, e adagio adagio gli si carbonizzarono e diventarono cenere."

[34] Eça de Queirós*, A cidade e as serras* (Lisboa: Edição Livros do Brasil, 1969), edited by Helena Cidade Moura and based on manuscripts and on the 1901 edition published by Lello & Irmão in Porto. English quotations from the novel refer to the excellent translation by Margaret Jull Costa, *The City and the Mountains* (New York: New Directions Book, 2008).

(§32). It was in this age that language's "fleeting sound," as Eyth calls it, was fixed in writing and the love for the word, φιλολογία (*philologia*), was born. Language, as an ordered and fixed sequence of sounds, had thus learned how to speak for itself and became almost exclusively identified with knowledge (*Wissen*), as the primary tool of the mind (*Werkzeug des Geistes*). The tool with its inarticulate noise-making—not unlike Hoffmann's Olimpia—called to mind the primeval shouting and grumbling of the giants who were tied to their bodies. It thus remained mute and pushed further into the material background. Since then, so strong has the identification of the word, of *logos*, been with knowledge, and so strong an anthropocentrism has this identification brought about, that human beings had become used to the forced absence and to the supposedly silent, servile role of the tool and technology. This could explain why the machine's thundering and roaring rise in the nineteenth century was perceived as an unprecedented threat to Man's sonic dominion.

Sight and Sound

It will then not come as a surprise that Vico's *Scienza* is entirely rooted in the word and in language: his is a type of philosophy that works through philology and is aimed at the reconstruction of universal historical principles. Correspondingly, it also does not come as a surprise that Vico's argument throughout the *Scienza* is fraught with metaphors and analogies from the realm of vision and the eye: "luminous triangle," "seeing eye," "the aspect of His providence," "clearing," "sky," "light," "lightning," "contemplation," "enlightenment" (*triangolo luminoso, occhio veggente, contemplare, aspetto*, *provvedenza, il raggio [...] ch'alluma* etc.). The emphasis in the *Scienza Nuova* is on the fact that the giants *look up* and become aware of the *sky* presumably because of the *lightning* that Jove's thunderbolts produced. In order to gain *unobstructed view* of the *sky*, they then make a *clearing* in the woods by means of Vulcan's *fire*. The book's frontispiece, succinctly and *visually* representing the goals of the *Scienza*, is hierarchically structured such in a way that *written language* is at its center, with the *divine eye* occupying the position of absolute superiority, and the *ray* of knowledge reflecting from Metaphysic's

breast onto the writer's shoulder (although Homer's were probably poems performed and transmitted orally). Knowledge (and thus Truth) flows from God's eye through Metaphysic's chest into the writer's word that eventually is fixed on paper. Vision and the word prevail. All else is elevator music.

This association between vision and knowledge, the predominance of vision-related vocabulary in matters of knowing and of the word, was already a well-established fact at the time when Vico was writing, the age of En*light*enment. It still persists today in philosophy, among many other fields, as well as in the way we express ourselves on a daily basis. Plato's main philosophical tenet revolves around shadows and reflections even though he was skeptical of the written word; the sixteenth-century writer George Puttenham had allotted "instruction and discipline" to the audible, while vision was reserved for the knowable;[35] such in a way that, as mentioned, at the end of the nineteenth century, Nietzsche could complain that the "*German does not read* aloud, not for the ear, but merely with his eyes: he has put his ears away in a drawer." In the twentieth century, Leo Marx's foundational analysis of technology in nineteenth century US American literature is saturated with references to the noises and sounds of machines, he makes nothing of it, and focuses, instead, on the sighting of a locomotive.

Yet how did Vico's giants clear the forest and cultivate their fields if not with the help of Vulcan's technology and the tool? How did they express themselves if not by making noises and by *corpi*, noise and objects comprising the tool's "mute" language? Coincidentally, this latter way of speaking with *corpi* instead of words happens to be exactly what the members of the grand academy of Lagado had proposed be reinstituted in the third chapter of *Gulliver's Travels* (1726), published just a year after the first edition of Vico's *Scienza* (1725): "since Words are only Names for *Things*," the academy's expedient asserts, "it would be more convenient for all Men to carry about them, such *Things* as were necessary to express the

[35] George Puttenham, *The Art of Poesi*e (Kent, OH: Kent State University Press, 1970), 207. See Katharine Park, Lorraine J. Daston, and Peter L. Galison, "Bacon, Galileo, and Descartes on Imagination and Analogy," *Isis* 75:2 (1984).

particular Business they are to discourse on."[36] And what are Jove's thunderbolts if not a phenomenon that produces lightning (vision) *and* thunder (hearing) at the same time?[37] Ultimately, what we quippingly called "elevator music" above is made out of various objects, tools, and things from which Vico is extorting (and how appropriate is here the German *ver-hören*, "to interrogate," "to question," but also "to mis-hear") the words that make history. And yet these things are mute for him, signifying but allegedly sound*less*, meaningful yet voice*less*, like the hieroglyphs buried under the sands of Egypt. As language learned how to speak, all else was silenced, and writing and vision became the dominant Western paradigm for the pursuit of knowledge.

Nevertheless, a careful (re-)reading of the above-mentioned passages and indeed of the entire *Scienza*, also shows how light *and* sound, vision *and* hearing, the eye *and* the ear, the word *and* the tool, were crucial in that moment when the embryonic desire to pursue knowledge and truth was first instilled into the minds of human beings. Jove's divine commands were simultaneously visible (lightning) and audible (thunder). And these two instances were the "primal force" that gave birth to the word *and* the tool. Only after the deforestation was completed, the fields cultivated, and language chiseled into stone, was the sonic aspect of phenomena forced to descend, alongside the allegedly mute tool, into the dark mines of human doing (*Können*), like a bad twin. This was, however, not a relationship of rivalry or a "murder," as Peter Schwenger frames it;[38] but one of (man-)imposed hierarchy—the domination of one (the word) and the subordination of the other (the tool).

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[36] Jonathan Swift, *Gulliver's Travels* [1726] (Oxford & New York: Oxford University Press, 2005), 173.

[37] Merriam-Webster, "Thunderbolt," 1.a: "A single discharge of lightning with the accompanying thunder." https://www.merriam-webster.com/dictionary/thunderbolt, last accessed 11 May 2017.

[38] Peter Schwenger, "Words and the Murder of the Thing," *Critical Inquiry* 28:1 (2001).

In its philosophical application, the word/tool dichotomy is rendered by the Cartesian dualism between mind and body,[39] and, further, that between the human and the non-human. In terms of perception, it is rendered by vision/hearing, the latter appearing to subsume touch, smell, and taste. In the disciplinary application relevant to Eyth, Heidegger, and our present endeavor, it corresponds to the relationship between literature and technology, or, in Eyth's word choice, *Poesie* and *Technik* (poetry and technics). In its socio-political form, it corresponds to the relationship between masters and slaves, the bourgeois and the worker, viz., between the upper, literate classes for whom learning and writing were an exclusive privilege and a means of domination, and the lower, illiterate classes whose survival depended on the use of the tool and the machine. Finally, in its geopolitical dimension, it corresponds to the North, on one hand, and to the South on the other. Within the European context, this separation and hierarchization persisted on all levels until the dawn of the age of the machine in the nineteenth century when the machine was finally revealed and made available. This is not to say that at that time language had become mute again, but that *the tool had learned how to speak*.[40]

Speaking Machines?

How can the machine speak? And, if it starts speaking, what can it say that the word already has not? As we saw in Vico, who had all but fetishized language and the word,[41] the tool is hidden in the

[39] Vico endorses this dualism. Vico, *The New Science,* §18: "This plan of commonwealths is founded on the two eternal principles of this world of nations, namely the mind and the body of the men who compose it. For men consist of these two parts, one of which is noble and should therefore command, and the other in which is base and should serve. [...] Therefore divine providence ordered human institutions with this eternal order: that, in commonwealths, those who use their minds should command and those who use their bodies should obey." See also Vico, §630, 236: "Hence this second eternal property of commonwealths: that some men must employ their minds in the tasks of civil wisdom, and others their bodies in the trades and crafts that are needed in peace as well as in war. And there is a third eternal property: that the mind should always command and the body should have perpetually to obey." These are the *famuli*, the weak, the prisoners, the slaves.

[40] Martin Heidegger, "Traditional Language and Technical Language," transl. by Wanda Torres Gregory, *Journal of Philosophical Research* XXIII (1998), 137. One way of seeing this ability to speak is in the sense that "modern technology could speak forth a demand" ["einen Anspruch sprechen"].

[41] And so did, and how!, Heidegger.

background, silenced by the "speaking language," servile, almost insignificant in the humanistic pursuit of truth, and overshadowed by the altar (religion) and by the gigantic figures of metaphysics and Homer.[42] Although Jove himself had communicated with the giants through what we might call a tool that was both visible and audible (the thunderbolts manufactured by Vulcan), *logos* prevailed; and although Vico himself points out the multisensory nature of this first interaction, *vision* prevailed. Finally, although both *logos* and *technē* came from the sky,[43] the former gained the upper hand in the understanding of things divine. Vulcan was an ugly god, and his forge inarticulate. Offensive both to eye and ear, unpalatable and reeking of manual labor, he was hidden and silenced until the Industrial Revolution.[44] Only with the generation of engineer-poets, such as Max Eyth, who were seeking to elevate *technē* to the level of *poiēsis*, a search had begun for "an entirely new category—a distinctly novel referent," as Leo Marx writes, to denote the nineteenth century's unprecedented conglomeration of machines, railroad systems, the sciences, and the business world. This concept was supposed to be "untainted by the machine's derogatory legacy of social and intellectual inferiority and hence capable of elevating the *useful arts* to a higher plane—a plane closer to that of the *fine arts.*"[45] Thus Vulcan was given the more palatable name of "technology."

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[42] Bill Brown, "Thing Theory," *Critical Inquiry* 28:1 (2001), 8: Jean Baudrillard summarizes to the point this process of denigration of the tool in terms of the subject/object relationship: "'[W]e have always lived off the splendor of the subject and the poverty of the object.' 'It is the subject,' he then goes on to write, 'that makes history, it's the subject that totalizes the world,' whereas the object 'is shamed, obscene, passive.'"

[43] See Harrison, *Forests,* 10: "Fire itself came from this divine celestial source. Technology appropriated its uses for the purpose of deforestation. Hence technology too takes its origins from the sky. Vulcan forges the lightning bolt for Jove, fashions the giants' arms of war, and launches the missile through space by mastering the powers of the sacred fire."

[44] One might suggest the printing press and various other early modern devices as examples of previous machines. This is a legitimate observation. Yet let us remember that the printing press – one of the key revolutionary inventions of humanity – only served the further codification and distribution of the written word and posed no threat whatsoever to Man or his language. Furthermore, the printing press and other pre-industrial era inventions, left no trace on the human landscape, once they left it. Machines of the nineteenth century did.

[45] Leo Marx, "Technology: The Emergence of a Hazardous Concept," *Technology and Culture* 51:3 (2010), 573f. Marx refers here to the emergence of the concept of "technology" in the United States. This search for a new untainted category, however, overlaps with the European attitude.

It is unsurprising, then, that in 1904, as the Ottoman Empire was entering its final stage of dissolution, as machines were becoming a familiar sight even in the most remote and rural of European regions, and as workers were beginning to strike all over the continent, a poet-engineer declared that a "fierce struggle was beginning to take place—a struggle that endeavored, if not to restructure, at least to restore the proper, common foundation of the relation between *Wissen* and *Können*," between the word and the tool.[46] There is poetry in technology, just as there is technology in poetry, Eyth claimed, firing up the crowd of engineers. Just four years later, decidedly opposing Benedetto Croce's sharp separation between art and science, in an essay entitled "Scienza e Arte" ("Science and Art," 1908) Luigi Pirandello similarly wrote that "ogni opera di scienza è scienza e arte, come ogni opera d'arte è arte e scienza" ("every work of science is science and art, just as every work of art is art and science").[47] This "fierce struggle" between the word and the tool was a sonic struggle, a vying for the dominion of the air waves that, until then almost exclusively belonged to the human voice and, to a lesser degree, to the sounds of nature. The machine was beginning to speak, but, in music and in literature alike, "smaller spirits hear nothing yet," Eyth continued his complaint, urging his contemporaries to lend an attentive ear.[48] The struggle, thus, between two voices—that of man and that of the machine—was beginning to take a concrete, observable form.

In fiction, as mentioned earlier, the first representative of the new vociferous machines is Victor Frankenstein's monster. However, despite of his enormous popularity, the monster's is an overheard, neglected voice. Such a neglect is best illustrated through the fact that, both in twentieth century film

[46] Eyth, "Poesie und Technik," 16: "Heute stehen wir inmitten eines heftigen Kampfes, der bestrebt ist, das Verhältnis der beiden, wenn nicht umzugestalten, so doch auf seine richtigen [sic] Grundlage zurückzuführen."

[47] Luigi Pirandello, "Arte e Scienza," in *L'umorismo e altri saggi*, a cura di Enrico Ghidetti, 151-166 (Firenze: Giunti, 1994), 166. The 1908 essay is a reworking of a previous work with the title "Scienza e critica estetica" that was published in 1900 in a homonymous collection of essays. For Croce, art was a precondition for science, but science could never lead to art. See also Rosalma Salina Borello, "'Ogni opera di scienza è scienza e arte': Scienza e critica estetica in Pirandello," in *Nello specchio dell'altro: Riflessi della bellezza tra arte e scienza*, a cura di Luca Nicotra e Rosalma Salina Borello, 121-127 (Roma: Universitalia, 2011).

[48] Eyth, "Poesie und Technik," 20: "Kleinere Geister hören noch nichts."

adaptations (e.g. James Whale's *Frankenstein*, 1936) as well as in the popular imagination, Frankenstein's creature is perceived as a barely articulate brute. In the novel, however, the creature speaks. He acquires language by observation and imitation only to eventually become better spoken than any of the other characters of the novel. Moreover, he is driven by an almost obsessive compulsion to make a sound, to voice his feelings and needs, to narrate his story, to put in order and coherently vocalize the events of his unfortunate life. "By my gentle demeanour and conciliating words," the creature has figured out, "I should first win [the humans'] favour, and afterwards their love [...] acquiring the art of language. My organs were indeed harsh, but supple; and although my voice was very unlike the soft music of their tones, yet I pronounced such words as I understood with tolerable ease" (Shelley 79-80). For Mary Shelley, there was obviously no doubt that a humanoid creation would be endowed with the ability to speak. But Frankenstein's monster exceeds the human by far. He is an assemblage, a technological creation. Yet his assembled body is not human enough as to deserve a friendly ear. Rather, his ability to speak is perceived as a threat by Victor, his creator, who, as the story progresses, becomes increasingly inarticulate and wild: "He is eloquent and persuasive […] but trust him not; […] hear him not" (Shelley 150). Technology's return to Vulcan's fire. Victor's humanoid creation announced its presence in the world of men by action (murder) and speech (his eloquence and acquisition of language). Yet these characteristics are intolerable in a nonhuman agent and do not grant him access to humanity. Quite to the contrary. The product of a modern Prometheus, Frankenstein's creature, having never been socialized or cared for or given a purpose in the world of men, eventually puts an end to his own existence by "the torturing flames of a […] funeral pile" (Shelley 161). Victor did not allow his creature to procreate, but literature has granted Frankenstein's monster other equally loquacious descendants from the European South: Carlo Collodi's talking puppet, Pinocchio, a *vocina sottile sottile* in search of a body; Eça de Queirós expressive legion of technological artifacts; and straddling between speech and silence, Luigi Pirandello's man-machine, Serafino Gubbio

CHAPTER I

OF CREATURES AND CREATORS

Pinocchio or, A Voice in Search of a Body

1. Introduction: *Pinocchio* and the Audio-Virtual Turn

Carlo Collodi (Lorenzini) liked to drink, gamble, and write.[1] At night, alone in his room, he would stand in front of the mirror and practice ludicrous facial expressions and dialogues,[2] fascinated as he was, in a Sternian and proto-Pirandellian fashion, by "bumpy noses ridden with lenses, googly eyes with Mephistophelian lashes, heads of hooded old men, and expressive female faces."[3] On the one hand,

[1] Renato Bertacchini, *Collodi narratore* (Pisa: Nistri-Lischi, 1961), 14: "giocare, bere, scrivere con frettolosa svogliatezza sull'alba per pagare debiti […] *cliché* dell'artista romantico, ancora tutto genio e sregolatezza."

[2] See Luigi M. Personé's conversation with the woman who was purportedly the real-world inspiration behind the figure of the fairy with blue hair: "Io ho conosciuto quella che si pensa abbia ispirato la Fata dai capelli turchini. Nella vita reale si chiamava Giovanna Ragionieri […]. Andai a trovarla a casa sua […]. Trascrivo dai miei appunti. […] 'Non sapevo invece che cosa combinasse quando la sera, verso le otto, si chiudeva in camera. Prendeva un fiaschetto di vino, un pezzo di pane, un po' di carne; e chi si è visto si è visto. Ma lo strano non sta qui: sta nel fatto che, dopo un poco, si sentivano dei passi nella sua camera, e un gran parlare, come se avesse gente. Chi mai poteva esserci, se non si era vista anima viva, e in camera era entrato da solo? Era una cosa che non mi andava giù. Una sera, che fo? Sento, come al solito, discorrere nella camera del sor Carlo: non seppi resistere alla tentazione e mi misi l'occhio nel buco della serratura. O che vedo? Vedo il sor Carlo, dinanzi allo specchio, che discorreva con se stesso e inventava delle smorfie che mi fanno sganasciare dal ridere se ci penso, anche oggi.' […] La 'fatina,' dunque, mi raccontava come il padrone facesse grandi smorfie davanti allo specchio. Forse tentava di far rivivere i personaggi, di realizzarli come se li sentiva dentro. Sarebbe stato un Pirandello avanti lettera, insomma." Luigi M. Personé, "Pinocchio 'Pirandelliano,'" *Studi Collodiani*, *Atti del I convegno internazionale*, Pescia, 5-7 Ottobre 1974, Fondazione Nazionale "Carlo Collodi," 472-74 (Bologna: Cassa di risparmio di Pistoia e Pescia, 1976). ["I met the woman who is thought to have inspired the fairy with turquoise hair. In real life she was called Giovanna Ragionieri (…). I went to meet her in her home. Here is a transcription from my notes. (…) 'I had no idea what he was up to when at night, towards eight o'clock, he locked himself in his room. He took up a bottle of wine with him, a piece of bread, and a little bit of meet; and that was that. But that was not strange: what was strange that, after a while, you could hear footsteps in his room, and a lot of talking, as if there were a gathering. Who could it have been, if not a living soul had been seen, and he had gone to his room alone? I just couldn't figure it out. One evening, what happened? As usual, I could hear talking in mister Carlo's room: I couldn't resist the temptation and looked through the keyhole. And what did I see? I saw mister Carlo, in front of the mirro, talking to himself and inventing grimaces that make me crack up from laughter still today.' (…) So the 'fairy' was telling me how the master was making faces in front of the mirror. Perhaps he was trying to bring to life his characters, to play them as if he felt them inside. Indeed, he was a Pirandello *avant la lettre*."] Unless otherwise noted, all translations into English are mine.

[3] Collodi drew sketches and was particularly fascinated by "nasi bernoccoluti cavalcati di lenti, occhi stralunati con ciglia mefistofeliche, teste di vecchio incappucciato e volti espressivi di donna." (Collodi quoted in Bertacchini, 188). On Sterne, see Daniela Marcheschi, "Collodi Sterniano: Da *Un romanzo in Vapore* alle *Avventure di Pinocchio*," *Merveilles & contes*

Collodi personified the figure of the romantic artist as a tormented frivolous genius. On the other, he was promoting a strict pedagogical agenda for post-unification Italy along the lines of the famous "l'Italia è fatta; restano da fare gli italiani" ["We have made Italy; now we have to make Italians"; D'Azeglio 1861].[4] But in the midnight hour, we can imagine him alone in his room, like a mad scientist, his laughter echoing into the night and disturbing the neighbors—an Italian Victor Frankenstein or a Tuscan Pirandello—crafting together from the bits and pieces he could see in the mirror a new being in his own likeness and after his image, channeling a character in search of an author.[5] This being will become one of the Western world's most beloved and recognizable literary characters: Pinocchio, "the persistent puppet."[6]

> Geppetto gathered his tools and […] set to work in earnest, carving the hair, then the forehead, then the eyes. […] After the nose, he made the mouth […]. After the mouth, he carved the chin, the neck, the shoulders, the torso, the arms, and the hands. (Brock 9f.)
>
> *Geppetto prese subito gli arnesi e […] allora cominciò a lavorare a buono e gli fece subito i capelli, poi la fronte, poi gli occhi […]. Dopo il naso gli fece la bocca. […] Dopo la bocca gli fece il mento, poi il collo, poi le spalle, lo stomaco, le braccia e le mani.* (Collodi 70f.)

7:1, special issue on "The Italian tale" (May 1993): 50-68; and Nicolas J. Perella, "An Essay on *Pinocchio*," *Italica* 63:1 (Spring 1986): 1-47, 27.

[4] For readings of *Pinocchio* within the post-Unitarian context as a metaphor for the formation of the Italian national identity, see Luigi Volpicelli, *La verità su Pinocchio* (Roma: A. Armando, 1963); Alberto Asor Rosa, *Sintesi di storia della letteratura italiana* (Firenze: La Nuova Italia, 1972), esp. pp.385-87; and Suzanne Stewart-Steinberg, *The Pinocchio Effect: On Making Italians, 1860-1920* (Chicago: The University of Chicago Press, 2007).

[5] On the Collodi-Pirandello relationship, see Luigi M. Personé, "Pinocchio 'Pirandelliano,'" 469: "Collodi precorre Pirandello. […] Pirandello? Che c'entra? Mica da stupirsi tanto, a rifletterci bene. Pirandello cosa ricercava nella sua maggiore commedia? che sei personaggi trovassero un autore: qualcuno che fosse capace di ricreare la loro vita, il loro dramma: che li realizzasse come intimamente si sentivano e avrebbero voluto senza riuscirci da sé. Embé, Pinocchio a che cosa tende? a cessare di essere un burattino, a diventare di carne, un vero e proprio ragazzo." According to Personé, Collodi anticipates Pirandello in creating a character (Pinocchio) who, like the characters of *Sei personaggi in cerca d'autore* (1921), is in search of someone to tell his story, give him a concrete form, make him into a real boy.

[6] Rebecca West, "The Persistent Puppet," afterword to *The Adventures of Pinocchio* by Carlo Collodi, transl. by Geoffrey Brock, 163-189 (New York: The New York Review of Books, 2009).

As if to mirror Geppetto's piecing together of the puppet, Pinocchio was first introduced to Italian readers in serial form. With a four-month interruption after Chapter XV, the *Storia d'un burattino* [*The Story of a Puppet*] appeared in regular weekly installments between 1881 and 1883 in the *Giornale per i bambini* [*Children's Magazine*]. It was published in one volume in 1883 under the title *Le avventure di Pinocchio: storia di un burattino* [*The Adventures of Pinocchio: The Story of a Puppet*].[7] Since then, about 80 million copies of the novel have been sold worldwide, generating an autonomous discipline known as "Pinocchiology."[8] A myriad of imitations, adaptations, and sequels—or *pinocchiate*—including yet another film adaptation in 2019 directed by Matteo Garrone, have kept the spotlight on the puppet in various cinematic and literary forms,[9] all of which has prompted Rebecca West rightly to call Pinocchio a "persistent puppet." Genre, structure, intertextuality and sources, *Pinocchio*'s connection to the Risorgimento, post-unification Italy and its nation-building policies, as well as the book's

[7] All quotations from and references to the text are from the following editions: Carlo Collodi, *Le avventure di Pinocchio. Storia di un burattino*, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi (Collodi: Giunti Editore, 2012). Quotations from Geoffrey Brock's translation of *Pinocchio* (New York: NYRB, 2008), will be indicated in parenthesis as "Brock" followed by the page number.

[8] Daniela Marcheschi, introduction to *Le avventure di Pinocchio* by Carlo Collodi, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi, 21-62 (Collodi: Giunti Editore, 2012), 54: "Una sorta di *unicum* culturale è dunque da considerarsi la nascita della disciplina autonoma, definita euforicamente 'Pinocchiologia,' che ha avuto cultori fino al fanatismo, suddivisi in 'pinocchiologi' valenti e non." ["The birth of an autonomous discipline, euphorically defined as 'Pinocchiology,' is to be considered a kind of a cultural *unicum*, promoted to the point of fanaticism by valiant and not so valiant 'pinocchiologists.'"] See also Jennifer Stone, "Pinocchio and Pinocchiology," *American Imago* 51:3 Children (Fall 1994).

[9] The examples are manifold. In Italy, see Luigi Malerba, *Pinocchio con gli stivali* (Roma: Cooperativa scrittori, 1977) and Giorgio Manganelli, *Pinocchio: un libro parallelo* (Torino: Einaudi, 1977); in Russian we have the Soviet Pinocchio by Aleksey Nikolayevich Tolstoy, *Buratino*, from 1936; in Brazil, Monteiro Lobato's *O irmão de Pinocchio* (1929) as part of his children's series *Sítio do Picapau Amarelo* written between 1920 and 1947; the Spanish *Pinocho* (1928) by Salvador Bartolozzi even came to supersede the original in popularity at the time when it was written; in Germany, Christine Nöstlinger's *Der neue Pinocchio* (Weinheim: Beltz & Gelberg, 1988) has had notable editorial success; and the American Robert Coover imagined Pinocchio as an older professor returning to Italy after a successful career in the United States in *Pinocchio in Venice* (New York: Linden press/Simon and Schuster, 1991); the Sicilian Andrea Camilleri composed an opera libretto in collaboration with Ugo Gregoretti, *Pinocchio (mal)visto dal Gatto e la Volpe* (Firenze: Giunti, 2016). For further examples, the reader is directed to Pasquale Marchese, *Bibliografia pinocchiesca* (Firenze: La Stamperia, 1983). For a study of film adaptations of Pinocchio, see Rebecca West, "Pinocchio's Screen Incarnations: An 'All-American Real Boy'?" *Spunti e Ricerche: Rivista d'italianistica* 20 (2005), and "The Persistent Puppet: Pinocchio's Afterlife in Twentieth-Century Fiction and Film," *Forum Italicum* 40:1 (2006), doi.org/10.1177/001458580604000107.

psychoanalytic and Christological aspects have already been analyzed at length by a host of scholars.[10] And recently, the persistent, clanging, talkative puppet has even found its way into Posthumanism, the Digital Humanities, and Sound Studies.[11] There is no denying the status of this "minor classic," as Massimo Riva dubs it,[12] among the canon of world literature and in the popular as well as academic literary imagination.[13]

A "motherless creation,"[14] Pinocchio can now boast a large family, excellent pedigree, and numerous progeny. Among his most illustrious ancestors, fictional or real, are the Sicilian *pupi*, the *Commedia dell'arte*'s Harlequin and Pulcinella, Jacques de Vaucanson's automatic flute player (1738), Julien Offray de La Mettrie's machine-man (1748), Wolfgang von Kempelen's chess player also known as "the mechanical Turk" (1769), E.T.A. Hoffmann's Olimpia (1816),[15] Victor Frankenstein's monster

[10] Of importance are Paul Hazard's pioneering study of *Pinocchio* as children's literature originally published in the *Revue des Deux Mondes* on 15 February 1914, and then reworked as *Les livres, les enfants et les hommes* (Paris: Boivin, 1949) as well as Glauco Cambon's "Pinocchio and the Problem of Children's Literature," *Children's Literature* 2 (1973). The narrative structure of *Pinocchio* has been excellently analyzed by Gérard Genot, *Analyse structurelle de* Pinocchio, Vol. 5 of the *Quaderni della Fondazione Nazionale "Carlo Collodi,"* (Firenze: Industria Tipografica Fiorentina, 1970), with a more recent narratological, reader response essay by Stefano Ballerio, "La voce dell'autore, le orecchie dei lettori," *Rivista di Letteratura Italiana* 36:2 (2018). Maria Teresa Gentile has studied *Pinocchio* from a Christological point of view in *L'albero di* Pinocchio: *I precedenti culturali de* Le Avventure (Roma: Edizioni Studium, 1982), Piero Bargellini reads Pinocchio as a catholic "sanfedista" in *La verità di Pinocchio* (Brescia: Morcelliana, 1942). Emilio Servadio offers a psychoanalitic reading of the novel in "Le avventure di Pinocchio all'esame della psicanalisi," *Il tempo* 3 Ottobre 1954. Marco Balliani's *Pinocchio nero: diario di un viaggio teatrale* (Milano: Rizzoli, 2005) narrates the experience of performing *Pinocchio* in Nairobi. A postmodern Pinocchio emerges in Richard Wunderlich and Thomas Morrissey, *Pinocchio Goes Postmodern: Perils of a Puppet in the United States* (New York: Routledge, 2002), while a mediatic Pinocchio is explored in Pietro Frassica, "Pinocchio e Geppetto, nuove voci dei media americani," *Rivista di Letteratura Italiana* 36:2 (2018).

[11] For studies of Pinocchio as a mechanical contraption, see Katia Pizzi, ed., *Pinocchio, Puppets and Modernity: The Mechanical Body* (New York: Routledge, 2012). A "wireless," digital Pinocchio is the topic of Massimo Riva's *Pinocchio digitale: Postumanesimo e iper-romanzo* (Milano: Franco Angeli, 2012), esp. the "Epilogo," pp.145-166, as well as of Riva's essay "Beyond the Mechanical Body: Digital Pinocchio," in *Pinocchio, Puppets and Modernity: The Mechanical Body*, edited by Katia Pizzi, 201-214 (New York: Routledge, 2012). An innovative auditory reading of the first two chapters of the novel can be found in Susanna Ferlito, "Sonorous 'mitezza.'"

[12] Riva, "Beyond the Mechanical Body," 202.

[13] See Anna Rosa Vagnoni, *Collodi e Pinocchio: Storia di un successo letterario* (Trento: UNI Service, 2007).

[14] See James W. Heisig, "Pinocchio: Archetype of the Motherless Child," *Children's Literature* 3 (1974); and West, afterword to *Pinocchio*, 170.

[15] Hoffmann, like Collodi, might have been influenced by the Italian *Commedia dell'arte* in imagining his mechanical doll. He owned Carlo Gozzi's plays in his personal library, and Gozzi was a defender of the *Commedia dell'arte* against Carlo Goldoni who was trying to move beyond it with his theater innovations.

(1818), and many others. With such an ancestry, Pinocchio can be considered a machine or an artificial entity (a product of *technē*) in two ways: As a fictional character penned down by a writer, and as a puppet carved out by a carpenter. This allows us to insert him into a genealogy of artificial fictional characters, for, as Rosi Braidotti writes, artificial entities or machines too "have their own temporality and develop through 'generations'."[16] It is my purpose here to reconstruct Pinocchio's contribution to the literary history of artificial humanoid characters and their interactions with human counterparts.

The idea that an artificial human could be created had been maturing in Europe for at least a century and a half before Pinocchio saw the light of day. And, by the time his "vocina sottile sottile" (Collodi 65) ["a little high-pitched voice" (Brock 3) or "faint little voice"] was first heard, the world was in an uproar, scientifically and technologically speaking. Collodi himself had his own share in this uproar by writing an industrial novel, the whistling and smoking *Romanzo a vapore* (*A Steam Novel*) in 1856. Moreover, as mentioned in the Introduction, "intolerant of the provincial 'Firenzina' where he lived," Collodi often travelled around the peninsula and abroad in order to "savor that modernity from which he believed Italy to be still far away."[17] In any case, in 1881, unified Italy was twenty years old and slowly beginning to industrialize, the Second Industrial Revolution (1870-1914) was fully underway, and new inventions were mushrooming all over Europe, crowding the land- and soundscape and igniting the imagination of common people and writers alike. The perfect time, one could say, for a wooden marionette to come to life—mobile, vociferious, poverty-stricken—and join the growing family of humanoids in search of a voice and a place under the sun. As Riva writes, "[p]uppets are the secularized progeny of hieratic automatons, ancient technological constructs symbolically integrated into premodern culture. As a *modern* toy, the puppet is still linked to magical thinking, and yet it is also tied to the

[16] Rosi Braidotti, *The Posthuman* (Cambridge: The Polity Press, 2013), 94.

[17] Marcheschi, introduction to *Le avventure di Pinocchio*, 37: "insofferente della 'Firenzina' provinciale in cui viveva e, per questo, spesso in viaggio per la penisola e all'estero, dove assaporare quella modernità da cui riteneva l'Italia ancora lontana."

technological imagination of artificial beings, our own, 'scientific' and 'rational' way of playing God."[18] *Pinocchio*, in other words, is the puppet version of Mary Shelley's *Frankenstein* (1818).

Within the context of its immediate national literary tradition and epoch, the connections between *Pinocchio*, Alessandro Manzoni's *I promessi sposi* (1827-40), and Giovanni Verga's *I Malavoglia* (1881), as emphasized by Nicolas J. Perella, provide insight into how such a character as Pinocchio could have appeared on the Italian literary scene at the time when it did and have the impact that it had. Collodi was a journalist, a humorist, a friend of the *macchiaioli*—a Florentine group of bohemian artists who refused to treat classical and mythological topics in their works—and a writer who liked to talk the simple talk: "I write plainly, the way I speak" ("Io sono uno che scrive alla buona, come parlo").[19] But he was not the first to employ simple, spoken language in a novel as coming from the mouth of humble protagonists. The Lombard Alessandro Manzoni stands at the beginning of this movement characterized by a "heightened social and political consciousness" that culminated in the works of the Sicilian Giovanni Verga. By "choosing a humble working-class couple as his protagonists," the former had "swept away the elitist prejudice of both high literature and history" that only considered classicizing modes of expression, highbrow characters and topics. The latter then definitively consolidated the presence and voices of popular characters by dedicating a novel to the struggles of protagonists even humbler than Manzoni's such as Sicilian fishermen and their local modes of expression.[20]

Collodi, then, found fertile soil for his ideas and, having rid himself of the formal constraints of the historical novel and the pedantry of the social novel, he wrote a timeless classic that transcends genre and market boundaries. Bricolage-like, all of the above-mentioned predecessors contributed a small piece towards the creation of Pinocchio. For, as Daniela Marcheschi has remarked, Collodi's formal conception

[18] Riva, "Beyond the Mechanical Body," 203.

[19] Collodi quoted in Bertacchini, *Collodi narratore*, 476.

[20] Perella, "An Essay on *Pinocchio,*" 5.

was that one can make a novel out of anything, i.e., out of "Italian and international, high and oral culture; the fairy tale, the fable, the news, poetry, theater and its various scripts; music, from melodrama to the comic opera, including their librettos, to popular songs; art or politics; and not only, or not primarily, with history, as the Romantics had thought; and not only, or not primarily, with the natural sciences and sociology, as had Collodi's bitter enemies, the Naturalists."[21] If one could make a digesting duck out of copper (Vaucanson), and a human out of random dead body parts (Frankenstein's monster), then why not make a real boy out of a talking piece of wood? This is the point where the cogs of Posthumanism as well as of Science and Technology Studies (STS) begin to turn, in the process inevitably producing a lot of mechanical and creaturely noise, which in its turn draws the attention of Sound Studies scholars.

Even if not originally intended as such, "Pinocchio *is* a myth," Riva writes in his essay on digital Pinocchio, "a myth *concerning* technology."[22] And his "vocina sottile sottile," Susanna Ferlito puts forward in her sonic contribution to Pinocchiology, "goes against a tradition of nation-building narratives in which only those who are taught how to speak can become free and emancipated from that which oppresses them."[23] In other words, Pinocchio is a form of technology with a potentially subversive voice that somehow destabilizes accepted hierarchies. He is a humanoid speaking technology. This proposition is the point of departure for the present chapter that studies the relationship between fictional humans and humanoids, creators and creatures, by example of Collodi's *Pinocchio*.

In Aristotelian terms, the cause of Pinocchio's coming to existence as a puppet with a name does not lie within himself. He admittedly already has some movement in himself and the voice of a boy

[21] Marcheschi, introduzione to *Pinocchio*, 23f: "[…] vale anche per *Le avventure* la ferma concezione formale di Collodi, e cioè che—all'insegna della parodia e dell'umorismo nelle sue varie declinazioni—si possa fare il romanzo con tutto, ovvero con la cultura italiana ed internazionale, la cultura alta e quella orale; con la fiaba, la favola, la cronaca, la poesia, il teatro e i suoi copioni di ogni genere; con la musica, dal melodramma all'opera buffa, inclusi i loro libretti, fino alla canzone popolare; con l'arte o la politica. Non solo, o non principalmente, con la storia, come avevano pensato i Romantici e non solo, o non principalmente, con le scienze naturali e la sociologia, come ritenevano i Naturalisti, di cui Collodi fu acerrimo nemico."

[22] Riva, "Beyond the Mechanical Body," 204. Italics in the original.

[23] Ferlito, "Sonorous 'mitezza,'" 710.

before the log to which the voice is attached is given a humanoid shape. But the seemingly disembodied voice at the beginning of the novel does not say what it is or what it wants to be. Rather, it asks not to be hurt: "Don't hit me too hard!" (Brock 3) ["—Non mi picchiar tanto forte!" Collodi 65]. Geppetto is not aware of the log's speaking abilities at the time when he takes it from Maestro Ciliegia (Master Cherry), and the log remains silent during the carving process until it is given a mouth.[24] Although the primary material—the "piece of wood" ("pezzo di legno") with some sort of consciousness connected to it (the "vocina sottile sottile")—is already there, without Geppetto's intervention Pinocchio would have remained a log with a voice or become a table leg at the hands of Master Cherry. "Man is born from man, but not bed from bed" (Aristotle, *Physics* II, 193b9).[25] Only Geppetto can give the log a humanoid shape. The puppet's cause, then, lies within Geppetto who carves him out of the wood and assembles his body. We can therefore say with Aristotle that Pinocchio, the wooden puppet, is a product of *technē*, i.e., he is an artifact, as opposed to entities that exist "by nature" and whose cause lies within themselves. He is a machine, an assemblage, an artificially constructed humanoid being. His closest relative in this sense is Frankenstein's monster.[26]

[24] See Heisig, "Archetype of the Motherless Child," 31, on Michelangelo and how the artist merely obeys to what the material already has within itself: "the unusual circumstances surrounding Pinocchio's birth. […] The scene immediately brings to mind Michelangelo's neo-platonic *concetto* theory of art. According to this theory the true artist is one who discovers. He sees in a block of stone, for instance, an inner form which is hidden to the non-artist. his handiwork consists merely in chipping away what is extraneous in order that form become visible to all." *Pace* Heisig, neither Master Cherry nor Geppetto are in this sense "true artists," for neither of them recognizes the wood's "sheer potentiality," as Rebecca West writes in the Afterword to *Pinocchio* (173), and then carves out a marionette out of it. Master Cherry becomes frightened and quickly gets rid of the log by giving it to Geppetto, but Geppetto has already decided to make himself a puppet before he lays eyes on the log in question. The question of intentionality in this first scene of *Pinocchio* is complex. The voice of the future Pinocchio does have some agency in steering the hand of those who approach the log. At the same time, Geppetto simply projects his pre-formed desire onto the log rather than recognizing its true form.

[25] Aristotle, *The Complete Works of Aristotle,* Vol. 1, The Revised Oxford Translation, ed. by Jonathan Barnes (New Jersey: Princeton University Press, 2014).

[26] See Charles Klopp, "Workshops of Creation, Filthy and Not: Collodi's Pinocchio and Shelley's Frankenstein," in *Pinocchio, Puppets and Modernity: The Mechanical Body*, ed. by Katia Pizzi, 63-73 (New York: Routledge, 2012). Klopp's essay is simply an enumeration of the similarities and differences between the two novels without a thesis or a conclusion.

Victor Frankenstein spends months in "successfully collecting and arranging [his] materials" (Shelley 33)[27] just as Geppetto looks for a piece of wood in order to make himself a "nice wooden puppet" (Brock 6) ["un bel burattino di legno" Collodi 67]. Victor, "in a solitary chamber, or rather a cell" keeps his "workshop of filthy creation: […]. The dissecting room and the slaughter-house furnished many of [his] materials" (Shelley 34). Similarly, Geppetto "gather[s] his tools and [gets] ready to carve and construct the puppet" (Brock 9) in a solitary, sparsely furnished, ground-floor room with a fireplace and a steaming kettle painted on the wall. One is the workshop of the scientist (known as 'natural philosopher' at the time),[28] the other of the artisan—both craftsmen in their own right with the same goal of creating an artificial human. Both Victor and Geppetto are in the business of playing God, and the parallels between the two creation processes are numerous. The moment Victor finishes the monster, he is startled by his gaze and then by the sounds that come out of his mouth:

> I saw *the dull yellow eye* of the creature open; it breathed hard, and a convulsive motion agitated its limbs. […] I beheld the wretch—the miserable monster whom I had created. He held up the curtain of the bed; and *his eyes*, if eyes they may be called, were fixed on me. *His jaws* opened, and he muttered some inarticulate sounds, while *a grin* wrinkled his cheeks. (Shelley 35f., emphasis mine)

Geppetto reacts in a similar fashion to Pinocchio's gaze and mocking behavior:

> Imagine his surprise when, as soon as *the eyes* were finished, [Geppetto] saw that they could move and were staring straight at him. Geppetto didn't like the way those eyes looked at him, and he said in an angry tone: 'Wicked wooden eyes, why are you watching me? […] Before *the mouth* was even finished, it began to *laugh and mock* him.
> "Stop laughing! said Geppetto, annoyed. But it was like talking to a wall.
> "I said stop laughing!" [Geppetto] yelled in a threatening tone. (Brock 9-10, my emphasis)

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[27] Unless otherwise noted, all quotations are from Mary Shelley, 1818, *Frankenstein; or, The Modern Prometheus* (New York and London: Norton Critical Editions, 2012).

[28] See Kathryn Harkup, *Making the Monster: The Science Behind Mary Shelley's* Frankenstein (London and New York: Bloomsbury, 2018), 17: At the time when *Frankenstein* was written, "[s]urprising as it may seem, the word ["scientist"] simply hadn't been invented yet. It was at a meeting of the British Science Association in 1833 that William Whewell proposed, almost jokingly, that those who worked in the arts were known as artists, those engaged in scientific work might therefore be called scientists. But it was a few more years before the term became accepted and used regularly." Indeed, the word "scientist" did not enter common parlance until the beginning of the twentieth century. See Sydney Ross, "Scientist: The Story of a Word," *Annals of Science*, 18:2 (1962), doi: 10.1080/00033796200202722, p.75: "After many years [since Whewell had introduced the word] the current ran the opposite way, and the name acquired the honour paid to the individuals who carried it. At first, however, and until ca. 1910, careful writers in Britain used *scientist* only as a colloquialism, the phrase 'man of science' being used in formal discourse or writing."

Fatti gli occhi, figuratevi la sua maraviglia quando si accòrse che gli occhi si movevano e che lo guardavano fisso fisso. Geppetto, vedendosi guardare da quei due occhi di legno, se n'ebbe quasi per male, e disse con accento risentito:
—Occhiacci di legno, perché mi guardate? […]
La bocca non era ancora finita di fare, che cominciò subito a ridere e a canzonarlo.
—Smetti di ridere! — disse Geppetto impermalito; ma fu come dire al muro.
—Smetti di ridere, ti ripeto! — urlò con voce minacciosa. (Collodi 70f.)

Both Pinocchio and Frankenstein's monster fix their gazes upon their creators, talk, and laugh or grin at them in a similar fashion before they both run off in search of self-determination. And their grinning and speaking are perceived as a threat.

The monster then sets out to master human speech as soon as possible, grasping its power that goes beyond what the eye can see:

> I formed in my imagination a thousand pictures of presenting myself to them, and their reception of me. I imagined that they would be disgusted, until, by my gentle demeanour and conciliating words, I should first win their favour, and afterwards their love [...] acquiring the art of language. My organs were indeed harsh, but supple; and although my voice was very unlike the soft music of their tones, yet I pronounced such words as I understood with tolerable ease. (Shelley 79f.)

Frankenstein's monster has not only understood the power of language and sets out to learn it, but he has also understood the power of speaking mildly, meekly, as Ferlito had argued for Pinocchio's *vocina sottile sottile.* By contrast, Pinocchio does not have to acquire language. Like the humanoid AI Ava in Alex Garland's *Ex Machina* (2014), he already knows how to speak: "When did you learn how to speak, Ava?" programmer Caleb Smith asks her. "I always knew how to speak. And that's strange, isn't it?" "Why?" Caleb inquires. "Because language is something that people acquire" she responds. Language is learned by human beings while Artificial Intelligences like Ava, and we might add like Pinocchio, are already in possession of it, it is already programmed into them. The difference between Ava and Pinocchio, however, is that the former has a humanoid body while the latter initially does not. Pinocchio speaks before he has a body:

[Master Cherry] heard a little high-pitched voice pleading, "Don't hit me too hard!"

Just imagine dear old Master Cherry's reaction!

His bewildered eyes roamed the room to see where on earth that little voice had come from, but he didn't see anyone! […]

"That little voice […], where could it have come from? Because there's not a living soul in this place." (Brock 3-4)

[Maestro Ciliegia] sentì una voce sottile sottile, che disse raccomandandosi:
—Non mi picchiar tanto forte!
Figuratevi come rimase quel buon vecchio di maestro Ciliegia!
Girò gli occhi smarriti intorno alla stanza per vedere di dove mai poteva essere uscita quella vocina, e non vide nessuno! […]
—Ma di dove sarà uscita questa vocina…?... Eppure qui non c'è anima viva. (Collodi 65f.)

Pinocchio's acousmatic voice, to use Michel Chion's term,[29] from the first page on destabilizes notions of what and who gets to be considered as "living" even before the voice is attached to a humanoid body.

Furthermore, neither Frankenstein's monster nor Pinocchio was created for altruistic, humanitarian purposes or as a being in its own right. Victor originally is after the "glory [that] would attend the discovery, if [he] could banish disease from the human frame and render man invulnerable to any but violent death!" (Shelley 23).[30] But then he gets caught up in megalomaniacal dreams, and transitions from wanting to cure disease to playing God: "A *new species* would bless me as its creator and source; many happy and excellent natures would owe their being to me. No *father* could claim the *gratitude* of his *child* so completely as I should deserve their's [sic]" (Shelley 33, my emphasis). Geppetto

[29] See Michel Chion, *L'audio-vision: son et image au cinema* (Paris: Nathan, 2000), 32f., transl. by Claudia Gorbman as *Audio-Vision: Sound on Screen* (New York: Columbia University Press, 2019). Chion adapted the term from Pierre Schaeffer, *Traité des objets musicaux: Essai interdisciplines* (Paris: Éditions du Seuil, 1966). For our purposes, we will work with Mladen Dolar's definition: "The acousmatic voice is simply a voice whose source one cannot see, a voice whose origin cannot be identified, a voice one cannot place. It is a voice in search of an origin, in search of a body, but even when it finds its body, it turns out that this doesn't quite work, the voice doesn't stick to the body, it is an excrescence which doesn't match the body. […] We can immediately see that the voice without a body is inherently uncanny, and that the body to which it is assigned does not dissipate its haunting effect." Dolar, *A Voice and Nothing More*, 60f.

[30] The 1831 revised edition of the novel adds many more details concerning Victor's education and intentions. There Victor speaks of his desire to discover "the secrets of heaven and earth […]; and whether it was the outward substance of things, or the inner spirit of nature and the mysterious soul of man that occupied me, still my enquiries were directed to the metaphysical, or in its highest sense, the physical secrets of the world." Mary Shelley, *Frankenstein, or, The Modern Prometheus* (New York: Penguin, 2003), 39.

is also unconcerned for the general good: "I thought I'd make myself a nice wooden puppet, I mean a really amazing one, one that can dance and fence, and do flips. Then I'd travel the world with it, *earning my crust of bread and cup of wine as I went*" (Brock 6, my emphasis). Similarly, he refers to himself as Pinocchio's father and calls the puppet his son, once again evoking man's age-old desire "to imitate the divine act of creation."[31]

Later, the talking Cricket reminds Pinocchio of his purpose: "why don't you learn an honest trade, so that you can put food on the table?" (Brock 14) ["perché non impari almeno un mestiere, tanto da guadagnarti onestamente un pezzo di pane?" (Collodi 75)]. Pinocchio, far from being conceived as a beloved son, is a tool, an instrument of survival, a technology, or yet in other words, a means (a dancing, fencing, performing puppet) to an end (earn food and wine for Geppetto). As Luigi M. Personé writes, "So the puppet is not made for its own sake: not at all! One does not think of the puppet. One makes it to have fun […] and, to earn a bit of profit. To exploit it, that is, put it to work […]. Aren't there those parents who, dreaming of their children's future, think, perhaps without being aware of it, of their own *interests*? […] Eh, our dear Pinocchio has found himself in the hands of men who, when it comes to egoism and self-interest, are not joking."[32]

These are the pitfalls of selfish motherless creation while true art (*technē*), as Aristotle wrote in the *Metaphysics*, consists in the ability "to judge that it has done good to all persons"[33] and not just to its creator. Both Victor and Geppetto become aware of their poor decision-making the moment their creations demonstrate a will of their own and begin to wreak havoc: "a selfish pursuit" (Shelley 45),

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[31] Giuseppe O. Longo, *Homo technologicus* (Milano: Ledizioni, 2012), 45: "Da sempre l'uomo nutre una smisurata e forse temeraria ambizione, quella di imitare l'atto divino della creazione."

[32] Personé, "Pinocchio 'Pirandelliano,'" 470: "Non si fabbrica, dunque, il burattino per il bene di lui burattino: macché! Al burattino non si pensa. Lo si fabbrica per divertirsi… e, soprattutto, per procurarsi un po' di profitto. Sfruttarlo, insomma, farne una speculazione […]. Non ci sono di quei genitori che, sognando sull'avvenire dei figliuoli, pensano, magari senza rendersene conto, al proprio *interesse*? […] Eh, il caro Pinocchio è capitato in buone mani, nelle mani degli uomini che, in quanto a egoismo e a interesse, non scherzano."

[33] Aristotle, *The Complete Works of Aristotle,* Vol. 2, the Revised Oxford Translation, ed. by Jonathan Barnes (New Jersey: Princeton University Press, 2014), 981^{a}1: 9-10.

Victor calls his deed. In the 1831 edition, he will describe it even more negatively as the product of his "unhallowed arts" (Shelley, 1831, 90). Geppetto similarly regrets his decision the moment Pinocchio kicks him in the nose: "'I deserve it!' he said to himself. 'I should have known—now it's too late!' […] 'Wicked child! […] But it's my own fault—I should have known what to expect!" (Brock 10, 12) ["— Me lo merito! — disse allora fra sé. —Dovevo pensarci prima! Oramai è tardi! (…) Sciagurato figliuolo! (…) Ma mi sta il dovere! Dovevo pensarci prima!" (Collodi 71, 73)]. In a way, Frankenstein's monster and Pinocchio are Victor and Geppetto's illegitimate offspring, and "illegitimate offspring," as Donna Haraway writes, "are often exceedingly unfaithful to their origins. Their fathers, after all, are inessential."[34] Victor's and Geppetto's change of mind echoes God's regret for having created humans when he sees how corrupt their ways have become (Genesis, 6:6). The difference, however, between God and those who like to play God is that the former has the power to obliterate his creations while the latter lose control and are outwitted and surpassed, if not destroyed by their own creations. Is this the point at which the roles become reversed and the machines become our gods, bringing us back to Vico's first age instead of taking us to a new one?

The bodies of the monster and of Pinocchio are humanoid assemblages whose cause does not lie within themselves. But they do have a will and voices of their own which make them into liminal beings that straddle the line between humanity and machinery, the natural and the artificial, *bios* and *technē*. While an artificially imbued *élan vital* animates Frankenstein's monster, magical thinking functioning as *élan vital* is responsible for Pinocchio's coming to life.[35] Their strength, voices, and the ability to speak are perceived as a nuisance, a threat even: "He is eloquent and persuasive;" Victor warns Captain Walton about the monster, "and once his words had even power over my heart: but trust him not; […] hear him

[34] Donna J. Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Manifestly Haraway*, ed. by Cary Wolfe, 6-90 (Minneapolis: The University of Minnesota Press, 2016), 9f.

[35] Riva, "Beyond the Mechanical Body," 207: "Pinocchio's vital principle […] is embedded in the piece of wood as a sort of *élan vital* […]."

not" (Shelley 150). When we first meet Pinocchio, he is nothing *but* a voice, and, throughout the novel, he is such a notorious liar and manipulator, continuously out to convince, excuse and exculpate himself, making promises that he fails to keep, that Collodi has a lie-detector installed in the middle of his face: the nose.[36] Pinocchio's long nose which grows when he tells a lie is used by characters in the novel to control and monitor the mischievous puppet's behavior.

Frankenstein's monster and Pinocchio are terribly eloquent and talkative, always trying to tell their stories, to narrate their lives, as if eager to speak themselves into existence, and create their own biography.[37] Humans, however, find their voices and their speech utterly frightening and untrustworthy. Master Cherry, upon hearing Pinocchio's acousmatic *vocina sottile sottile* is "struck dumb: his eyes bugged out of his head in fright, his mouth gaped, his tongue dangled down to his chin, like those grotesque faces carved on fountains" (Brock, 4) ["Maestro Ciliegia restò di stucco, cogli occhi fuori del capo per la paura, con la bocca spalancata e colla lingua giù ciondoloni fino al mento, come un mascherone da fontana" (Collodi 66)].[38]

Even just a cursory comparative reading then of Shelley's *Frankenstein* and Collodi's *Pinocchio* reveals many similarities. Both Frankenstein's monster and Pinocchio were made out of selfish reasons and for personal gain. Having a will of their own and endowed with the capacity for speech, the humanoids rebel, reject their creators, and run away in search of self-fulfillment, causing one problem

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[36] See for instance the first episode of Pinocchio's running away from home: "Without budging an inch, the policeman snatched him up by the nose (it was a prodigiously long nose, one that seemed specially designed to be easily seized by policemen, and delivered him back into Geppetto's arms" (Brock 11). In Chapter XVII, the nose assumes the role of a lie-detector: "As soon as he told the lie, his nose, which was already long, suddenly grew two inches longer" (Ibid., 59).

[37] Cambon sees in this compulsive need to repeat one's own story a reminder of *Pinocchio*'s origins in oral tradition: "A marked Homeric trait in narrative technique is Pinocchio's frequent verbatim repetition of message or incident in his account to friends, and that is further proof of the oral tradition which nurtured both authors, distant though they may be in so many obvious respects." Cambon, "Pinocchio and the Problem of Children's Literature," 57.

[38] Compare, for instance, Matteo Garrone's latest film adaptation of the novel in his *Pinocchio* (2019) where the "vocina sottile sottile" is entirely left out in the initial scene. In Garrone's film, Master Cherry is "struck dumb" because he sees the log move and not because he hears an acousmatic voice. In this respect, the film misses out entirely on the political and psychological potential of the initial chapters of the novel.

after another while constantly being used and abused by others. They refuse to be mere subordinates or servants.[39] If misused, the novels seem to suggest, artificial beings can turn against their creators and cause considerable damage by virtue of their cunning eloquence and superhuman bodily abilities: The monster runs at "superhuman speed" (Shelley 67); Pinocchio is "sharp-eyed and quick-witted" (Brock 98) ["d'occhio svelto e ammalizzito" (Collodi 155)], and "fast as a bullet" (Brock 101) ["come una palla di fucile" (Collodi 157)]. Read this way, Pinocchio is the ancestor of Eça de Queirós's mischievous technological artifacts in *The City and the Mountains* (1901), of Karel Čapek's rebellious robots in *R.U.R* (1920), of HAL 9000 in Stanley Kubrick's *2001: A Space Odyssey* (1968), and of Ava in *Ex Machina*, just to name a few. Read this way, *Pinocchio* is not just a myth concerning technology, but, as Riva writes, "a *cautionary* tale about technology"[40] in the way that *Frankenstein* is "a cautionary tale warning of the dangers that can be cast into society by a presuming experimental science."[41]

Susanna Ferlito has argued convincingly against a Machiavellian reading of Pinocchio and his voice by introducing the concept of "political *mitezza*" (meekness) into her auditory reading of the novel's first chapters. According to her interpretation, Pinocchio lies and manipulates only because he is misused, and because his meek voice, his pleading, and entrusting himself to the other are ignored, disrespected, and misconstrued by the adult (human) figures that surround him. In this sense, as Riva observes, Pinocchio's tale could be read today as the "paradoxical revenge of the puppet as an artificial life form, or an artificial intelligence capable of becoming human, all too human."[42] Yet, Ferlito continues, rather than being vengeful, passive or immature, promoting a Machiavellian "worldview of

[39] We will have occasion to return to this topic in connection with Eça de Queirós.

[40] Riva, "Beyond the Mechanical Body," 202. My italics.

[41] Maurice Hindle, introduction to Mary Shelley, 1831, *Frankenstein, or, The Modern Prometheus*, ed. by Maurice Hindle, xi-l (New York: Penguin, 2003), xi.

[42] Riva, "Beyond the Mechanical Body," 209.

only winners and losers,"[43] Pinocchio disturbs power dichotomies and is intelligently and meekly political, for he is "slow to suspect, accuse, or condemn" and only acts out defensively.[44] The same can be said for Frankenstein's monster who, as the book clearly shows, does not surrender himself to murderous drives because of some innate propensity for evildoing, but because his creator and those who encounter him are repelled by his outward appearance, and consequently mistreat and reject him. In spite of some ambiguous behaviors, both Pinocchio and Frankenstein's monster could pass "the Turkle Test" which shows whether a machine has "the ability to form a genuine relationship with a human—to show concern, to mirror emotion, to *recognize* the other self."[45] Paradoxically, it is humans in *Frankenstein* and *Pinocchio* who fail the test of humanity.

All these parallels between the two novels[46] reveal a shared set of concerns or deep-seated anxieties regarding artificially constructed humanoids at a time when the idea that science and technology could interfere in matters of life and death felt realistic enough thanks to major nineteenth-century discoveries and innovations. These concerns can be grouped under three topics that would later become key concerns in the field of cybernetics: control, communication, purpose.[47] Once we have an intelligent humanoid in place, they ask, how, if at all, can we control its behavior? how can we communicate with it and are its voice and speaking abilities to be trusted? what is its purpose? The overarching question, of course, is: What does this say about what it means to be human? With Frankenstein's monster and

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[43] Ferlito, "Sonorous 'mitezza,'" 714.

[44] Ibid., 712.

[45] "The Turkle Test" is derived from the writings of MIT professor Sherry Turkle who studies human-technology interactions as they relate to problems of empathy, anthropomorphism, and emotional attachment. See for instance her *Alone Together*; *Reclaiming Conversation;* and "In Good Company? On the Threshold of Robotic Companions," in *Close Engagements with Artificial Companions: Key Social, Psychological, Ethical, and Design Issues*," ed. by Yorick Wilks, 6-10 (Amsterdam: John Benjamins Publishing Company: 2010). For "the Turkle Test," see Kyle Munkittrick, "The Turkle Test," *Discover* Magazine, February 6, 2011, last accessed on February 18, 2020: https://www.discovermagazine.com/mind/the-turkle-test.

[46] See Klopp's "Workshops of Creation."

[47] See Norbert Wiener, *Cybernetics or, Control and Communication in the Animal and the Machine*, 2ed. (Cambridge, MA: The MIT Press, 1961). Reissued by Martino Publishing, Mansfield Centre, CT, in 2013. For a discussion of cybernetics, see Chapter III of this thesis.

Pinocchio as prime examples, nineteenth-century literature dived into these topics starting at the top of the pyramid, so to speak, by creating full-fledged artificial humanoid protagonists with capacities as good as—if not surpassing—those of humans.

Thus we begin our inquiry into the history of literary human-machine interactions with the encounter between the humanoid and the human, by inserting Pinocchio into and then moving beyond what I call "the audio-virtual turn" in Pinocchiology, most notably elaborated by Massimo Riva and Susanna Ferlito, whereby the critical attention is shifted to sonic events and technological concerns within the novel. We approach *Le avventure di Pinocchio* from an auditory and science-and-technology point of view as a tale about a voice in search of a body, and as a tale about technology, if not exactly a cautionary one. Written at the cusp of the Second Industrial Revolution and from a Southern, popular perspective, *Pinocchio* is a pitstop, an excellent working middle ground between such works as Shelley's *Frankenstein* or Karel Čapek's *R.U.R.* Gathering within itself the creaturely-vegetative, the artificial, and the human[48] but also the magical and the divine, the infantile and the adult, tradition and innovation, the popular and the highbrow, Pinocchio is a timeless cultural palimpsest whose infinite layers are a stepping stool that allows for a glimpse into the high-hung mirror reflecting the many mutating forms of existence. With Shelley's *Frankenstein* as its gothic ancestor, we read *Pinocchio* as a tale that elaborates the first archetype of human-machine interactions as one between creator and created, artisan and product, parent and child. The other two—master-slave and hybridization—will be the topic of the next two chapters of this thesis. All three types of interactions, as we will see in what follows, hinge somehow on the question concerning voice. But first, let us take a look at the ways in which *Pinocchio* sets up the relationship between animate and inanimate matter, and humans and nonhumans, with a focus on its protagonist.

[48] Ibid., 210: "as a dual character, a binary and even 'Trinitarian' being (natural-artificial-human, or natural-mechanical-magical) [Pinocchio] is bound to be the subject of complex symbolic thinking." See also Marcheschi, introduction to *Pinocchio*, 30, on Pinocchio and Aristotle's tripartition of the world's beings into vegetable, animal, and human: "Pinocchio possiede le tre aristoteliche anime del mondo, natura vegetale, animale e umana."

2. "There is not a living soul in this place": *Frankenstein, Pinocchio,* and What It Means to Be Human

A human consciousness can only exist in a human body. This seems to be one of the theses of Collodi's *Pinocchio* whose nonhuman protagonist undergoes a full corporeal metamorphosis from a wooden log, to a wooden humanoid puppet, to an organic human boy.[49] In this section I would like to test the hypothesis that *Pinocchio* articulates the effort to pair what by all means appears to be a human consciousness with an adequate body while feeding it information and data whose simulation and appropriation will eventually lead to its becoming "a real boy."[50] It is, in other words, a tale about the age-old mind-body problem and the creation of Artificial Intelligence (AI).[51] Such classics as Shelley's *Frankenstein* (1818) and Kafka's *Die Verwandlung* (1915), for instance, also tackle the mind-body problem in intelligent nonhuman agents albeit from different points of view and at two different points in time. As the respective non-dualistic outcomes of all three narratives show, however, there can be no

[49] On the concept of metamorphosis in Collodi, see Pier Mauro Stombelli, *Da Lucignolo a Pinocchio: Il viaggio dell'uomo dalla naturalità assoluta alla socialità necessaria* (Firenze: Firenze Atheneum, 2005), especially Chapters VI and VII, section "La metamorfosi in Collodi. Castigo e premio," pp.43-107. Stombelli reads the use of metamorphosis in Collodi as "lo strumento principe, il sofisticato espediente e il corrusco grimaldello, impiegato da quegli autori che vogliono cimentarsi nella rappresentazione dei rapporti fra stato di natura e Stato organizzato" [the main tool, the sophisticated device and corrusive pick, used by those authors who want to try their hand at representing the relationship between the state of nature and the organized State] (Stombelli 43). For a comprehensive study of the topic of metamorphosis and toys, see Lois Rostow Kuznets, *When Toys Come Alive: Narratives of Animation, Metamorphosis, and Devlopment* (New Haven: Yale University Press, 1994).

[50] Anna Panszczyk aptly illustrates in her article that *Pinocchio* is not about the end result, the boy, but about the in-between, the liminal condition of the humanoid puppet. Anna Panszczyk, "The 'Becoming' of Pinocchio: The Liminal Nature of Collodi's Boy-Toy," *Children's Literature* 44 (2016), 193f.: "Pinocchio's story is about the singular moment of being both object and subject—not one or the other. […] Pinocchio's particular state of in-between-ness in which there is also that quality of thingness which does not exist in the exclusively human spaces of childhood, adolescence, or adulthood."

[51] For definitions of Artificial Intelligence, see See Stuart J. Russell and Peter Norvig, *Artificial Intelligence: A Modern Approach*, 2nd ed. (Upper Saddle River, New Jersey: Prentice Hall, 2003) 14: "Artificial Intelligence" is an umbrella term for the research conducted in various fields centered around "the idea of duplicating human faculties like creativity, self-improvement, and language use," or, in other words, of building machines that can think, act, and/or look like human beings, capable of functioning "autonomously in complex, changing environments." Allan Turing called his test "the imitation game" based on the idea that intelligent machines are supposed to duplicate or imitate human behavior. The widest "unifying" definition is possibly that of "AI as rational agent design" (Russell and Norvig, 27). For other definitions, see Herbert A. Simon, *The Sciences of the Artificial* (Cambridge, MA: MIT Press, 1981); John Haugeland, *Artificial Intelligence: The Very Idea* (Cambridge, MA: MIT Press,1985); Jeff Hawkins and Sandra Blakeslee, *On Intelligence* (New York: Times Books, 2004); Bruce G. Buchanan, "A (Very) Brief History of Artificial Intelligence," *AI Magazine* 26:4 (2006); Yurij Castelfranchi and Oliviero Stock, *Macchine come noi. La scommessa dell'intelligenza artificiale* (Roma-Bari: Laterza, 2000); Marchesini, Roberto. *Post-human. Verso nuovi modelli di esistenza* (Torino: Bollati Boringhieri, 2002).

humanity outside of a human body: An artificially created being with the capacity of speech and action (Frankenstein's monster) has no place among the human species and is therefore persecuted and banished until it burns itself at the stake; a talking humanoid marionette (Pinocchio) can only survive under the condition that it earn itself a "proper" human, organic body; finally, what by all means appears to be a human mind (Gregor Samsa) cannot be coupled with a creaturely, insectoid body, so that Samsa gradually decays and dies.

All three narratives seem to suggest that the conscious mind—or "the soul"—is ultimately and intrinsically tied to a *human* body and a *human* voice, and it is in the nature of anything intelligent to strive towards the unity between these elements or perish. This raises questions about what counts as "living" and "human" and, to take it a step further into twenty-first century debates, it asks us to think about, 1) whether there can be such a thing as a disembodied mind or Artificial Intelligence; 2) and whether for an Artificial Intelligence to be truly intelligent it needs a (human) body. "Qui non c'è anima viva," there is not a living soul in this place, Master Cherry exclaims in *Pinocchio* when he looks around for the source of the acousmatic voice and sees no one, "non vide nessuno!" (Collodi 66). This prompts a series of questions: What is the rapport between the mind and the body in Pinocchio's process of becoming? What does it mean to be "a living soul" ("anima viva")? What criteria need to be met for "no one" (*nessuno*) to become a "someone" (*qualcuno*), and for someone to be considered alive and human? Such questions seem "fresh, even raw" when addressed within the domain of the virtual world of cyberspace or the Internet, Sherry Turkle writes, where "technology […] collides with our sense of human identity."[52] But they most certainly are not new questions.[53] On the contrary. The millennia-old

[52] Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1995), 10.

[53] Russell and Norvig, *Artificial Intelligence*, 5, summarize the philosophical AI questions from 428 B.C. to the present as follows:

Can formal rules be used to draw valid conclusions?

How does the mental mind arise form a physical brain?

virtual space of literature in general and of *Pinocchio* in particular, the fictional world that it has created with its wireless protagonist[54] who "morphs" and assumes various avatars, is one reminder that the questions are old, only the media new. But they still enact the same archetypal relationships and trigger the same fears.

Keeping these reflections in mind, the following section analyzes the relationship between the mind and the body in *Pinocchio* and outlines the criteria set out in the novel according to which an artificially created being—a humanoid in this case—can pass as human. "L'esser di legno non salva dal progresso," Yorick, a close friend of Collodi's and author of *Storia dei burattini* (*A History of Puppets*, 1884), wrote three years after *Pinocchio* was first published: "to be made out of wood does not save from progress."[55] A wooden literary character is not irrelevant to twenty-first century problems concerning technology and AI.

2.1.The Mind-Body Problem

Pinocchio begins in a cartesian dualistic world. Right on the first page, we encounter a material substance *res extensa*, a piece of wood ("pezzo di legno) that the voice later identifies as its body, and then an immaterial substance *res cogitans*, the faint little voice ("una vocina sottile sottile") signifying the presence of what we usually identify as a human being: A person, consciousness, subjectivity, a "soul," or a mind.[56] The two—the log and the voice—are somehow connected to one another: "*un pezzo*

Where does knowledge come from?

How does knowledge lead to action?

[54] Riva, "Beyond the Mechanical Body," 210.

[55] Yorick (pseudonym of Pietro Coccoluto Ferrigni), *La storia dei Burattini* (Firenze: Bemporad, 1902), 166. Originally published in 1884.

[56] I will use the various notions "voice," "mind," "subjectivity," and "consciousness" interchangeably until otherwise suggested by the novel. "[O]f all the sounds in the world," Marta Feldman and Judith Zeitlin write in discussing Mladen Dolar's seminal book on the voice, "only the sound of the voice 'implies a subjectivity which «expresses itself» and itself inhabits the means of expression.'" This identification of voice with subjectivity emerges from the first chapter of Collodi's

di legno, che piangeva e rideva come un bambino" (Collodi 66, cursive in the original), the chapter description tells us, "a piece of wood that cried and laughed like a little boy" (Brock, Contents). Both are somehow exempt from the laws of nature. We know that sounds are vibrations produced by matter in motion and we consider voice to be something distinctly associated with humans. In the first chapter of *Pinocchio*, the voice has no identifiable material source and the "body" that it is associated with is not a human body. How can there be such a thing as a talking piece of wood and a human voice without a human source?

The conundrum could be solved by dismissing the novel as a mere fable, a children's or a fairy tale about talking trees where the laws of physics do not apply. After all, it was originally written for children and it borrows heavily from the folk tale tradition. But so was *Alice's Adventures in Wonderland* (1865), a children's book that has nevertheless produced myriad scholarly interpretations, has impacted millions of adult readers around the world, and it has even found application in the field of mathematics. As Armando Maggi writes, "[a] fairy tale is the least presumptuous kind of storytelling, and yet it claims to call forth a mutation in the reader or listener. It can work its magic only if it is allowed to transform itself into something new (not just a new story, but with a new and unexpected context and a new artistic form)."[57] Pinocchio, without a doubt, is one such story.[58] By reading *Pinocchio* from a twenty-first century technological and auditory perspective, we allow it to transform yet again, and to persist in time.

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novel. See Marta Feldman and Judith T. Zeitlin, "The Clamor of Voices," in *The Voice as Something More: Essays toward Materiality*, ed. by Marta Feldman and Judith T. Zeitlin, 3-33 (Chicago: The University of Chicago Press, 2019), 4. The quote by Mladen Dolar is from *A Voice and Nothing More*, 15.

[57] Armando Maggi, *Preserving the Spell: Basile's* The Tale of Tales *and Its Afterlife in the Fairy-Tale Tradition* (Chicago: The University of Chicago Press, 2015), 3.

[58] Umberto Eco, in the introduction to Brock's translation, calls it a *Bildungsroman*. Taken literally, *Pinocchio* is indeed a novel about craft, construction, shaping, development, about *Bildung* in the sense of both material and character formation. Umberto Eco, introduction to *The Adventures of Pinocchio*, transl. by Geoffrey Brock, ix-xi (New York: NYRB, 2009), x.

As for the question of children's literature, I have already analyzed elsewhere the notion of "crossover fiction," or books originally written for child audiences but appealing to adults as well.[59]

As readers we are told that in the workshop of Master Cherry there is a "regular woodpile log, the kind you might put in your stove or fireplace to stoke a fire and heat your room" (Brock 3) ["un semplice pezzo da catasta, di quelli che d'inverno si mettono nelle stufe e nei caminetti per accendere il fuoco e per riscaldare le stanze" (Collodi 65)]. When Master Cherry is ready to trim down the log and make a table leg out of it, he halts his hatchet midair because he hears a faint little voice pleading: "Don't hit me too hard!" But it is not clear to Master Cherry to whom exactly the voice is referring. Who is the "me"? Master Cherry takes a look around the room, out on the street, and sees no one, *nessuno*, not a single "anima viva" ["living soul"], and this time hits the log, upon which he hears an "Ouch! You hurt me" (Brock 4) ["Ohi! tu m'hai fatto male!" (Collodi 66)]. The narrative voice explains that it was the voice again—not the log—that had complained ("gridò rammaricandosi *la solita vocina*" Collodi 66, my emphasis). "Clearly I must have imagined it myself, that little voice that said *ouch*" (Brock 4), Master Cherry concludes. For him, a voice can only come from a living soul, an "anima viva," which stands for human being.[60] Having a voice thus means having a mind and a human body, equals being alive, all of which equals being human. Anything else, such as a talking piece of wood, is a cause for great fear ("gran paura," Collodi 66).

[59] Ana Ilievska, "Out of the Mouths of Babes: The Child-Hero in Contemporary Western Literature," Master's thesis (Eberhard Karls Universität Tübingen, 2013). For definitions of "crossover fiction," see Sandra L. Beckett, *Crossover Fiction: Global and Historical Perspectives* (New York: Routledge, 2009) and Agnes Blümer, "Das Konzept Crossover – eine Differenzierung gegenüber Mehrfachadressiertheit und Doppelsinnigkeit," in *Kinder- und Jugendliteraturforschung* 2008/2009, ed. by Bernd Dolle-Weinkauff, Hans-Heino Ewers, and Carola Pohlmann, 105-114 (Frankfurt am Main: Peter Lang, 2009).

[60] Treccani associates "anima viva" with a "person" or a "human individual": 2a "persona" and 2b "individuo umano. [...] In frasi negative, *a. viva* […] equivale a «nessuno»: *per le strade non s'incontrava a. viva*; *senza veder né sentire a. vivente*, *arrivò vicino alla casetta dove aveva pensato di fermarsi* (Manzoni)." Treccani Vocabolario Online, "Anima," accessed 10 April 2020, http://www.treccani.it/vocabolario/anima/.

A direct correlation is established between the log and the voice only when the voice, after the fourth physical attack on the log, says to Master Cherry: "Stop it! You're tickling my tummy!" What Geoffrey Brock translates as "my tummy" is "my body" in the Italian original, the identification being signaled by the indirect pronoun "mi": "Smetti! Tu mi fai il pizzicorino sul corpo!" (Collodi 66). The voice identifies the log as its own body although it is not the direct product of that body, coming as it does "seemingly out of nowhere" (Brock 6). As mentioned earlier, Sound Studies scholars call such voices "acousmatic," to use Pierre Schaeffer's term via Michel Chion, for they cannot be traced back to an identifiable visible source (a human body in this case): "la solita vocina, che non si capiva di dove uscisse," the narrative voice comments (Collodi 67), "the same little voice that was not clear from where it came." From a Cartesian point of view, we witness here the reenacting of the mind-body dualism: two different substances (an immaterial "soul" and a material "body") somehow interacting with one another, but the mind is not the product of the body.

Such an introduction tells us two things about *Pinocchio*'s world: 1) that there is such a thing as intelligent disembodied minds; and, 2) that such disembodied minds can somehow be housed inside nonhuman, inanimate entities. If we didn't know better, we could say that Collodi invented the principles of Artificial Intelligence for, in contemporary debates on the topic, one of the main concerns of scientists and philosophers is whether human intelligence can be artificially reproduced in a disembodied form.[61] But let us not get ahead of ourselves. This is merely the first proposition that the introductory chapter of the novel tests in setting up the mind-body problem by means of the voice-log dyad, and by asking whether a human voice or mind can be paired with a nonhuman body and for how long it can stay in that configuration. The answer is: for no more than six pages or two short chapters. The voice-log entity has

[61] For the question of embodied Artificial Intelligence, see, for instance, Hubert L. Dreyfus, *What Computers Can't Do: A Critique of Artificial Reason* (New York: Harper & Row, 1972) and the updated version, *What Computers Still Can't Do: A Critique of Artificial Reason* (Cambridge, MA: MIT Press, 1993); Rodney Brooks, *Cambrian Intelligence: The Early History of the New AI* (Boston: MIT Press, 1996); and Alberto G. Biuso, *La mente temporale: Corpo, mondo, artificio* (Roma: Carocci, 2009).

no potential as such, no space for development, learning, action, or life as we know it. It has some previous knowledge stored (it knows that Geppetto's nickname among children is "Polendina" (Corn Head), and uses it to make fun of the carpenter; it can feel some degree of pain; and it is at the mercy of lumberjacks, carpenters, hatchets, and wood planes. In other words, storing what by all means appears to be a human mind inside a wooden log is like storing the fastest computer processor inside a plastic box: Their performance and growth are reliant on external data input without having the possibility of sensory experience. In the case of Artificial Intelligence, this poses the most difficult problem yet to be resolved. In the case of *Pinocchio,* the third chapter already moves to phase two (of the test), for things change when Geppetto assembles the humanoid wooden puppet.

First, Geppetto baptizes the puppet-to-be: Pinocchio. Then he makes the hair, the forehead, and the eyes. As soon as he carves out the eyes, they start moving at staring at him. Then he makes the famous nose that won't stop growing while the voice we heard in the first two chapters remains silent until Geppetto makes the mouth. But once he has a mouth, Pinocchio immediately starts laughing at and mocking Geppetto, asserting himself as the mischievous *enfant terrible* of Western literature as we still know him today. The moment Geppetto carves out the hands, Pinocchio takes away his wig, and the moment he carves out the feet, Pinocchio gives him a good kick in the nose, leading Geppetto to exclaim that the puppet is an ill-mannered "birba d'un figliuolo!" (Collodi 71), "a scamp of a son!" (Brock 10). Pinocchio is at this point, as Massimo Riva writes, "chockful of energy."[62] He is uncouth material, "frighteningly lively," and with unbridled potential for learning and growth.[63] Through the alignment of

[62] Riva, "Beyond the Mechanical Body," 207.

[63] Haraway, "Cyborg Manifesto," 152: "Our machines are disturbingly lively and we ourselves are frighteningly inert." See the also the epigraph by Ludwig Tieck to Oskar Panizza's *Die Menschenfabrik* (Hamburg: Hoffmann und Campe, 2019), originally published in 1890: "Oft bin ich ganz verwirrt. Die Menschen um mich herum erblassen zu Schattenbildern, die wie wertlose Puppen auf und ab taumeln, und ein neues, farbiges Menschengeschlecht, von meiner Phantasie beordert, steigt aus dem Boden herauf, mich mit seinen erschreckten Augen anblickend." ["Often I feel confused. The people around me pale as silhouettes that stagger up and down like worthless dolls, and a new, colorful human race, summoned by my imagination, rises from the ground, looking at me with its startled eyes."]

the voice with a material mouth and a humanoid shape, his mind and body are slowly brought into some degree of causation whereby "the soul follows the body's progression, as it does that of education."[64] Thus wrote another notorious *enfant terrible* and "lunatic"[65] of European philosophy who claimed that "the soul's faculties depend so much on the specific organisation of the brain and of the whole body that they are clearly nothing but that very organisation."[66] This is the thesis of the foremost representative of French materialism, Julien Offray de la Mettrie, who in 1747 managed to outrage church, state, and all thinkers by claiming that humans are nothing but "animals and vertically crawling machines"[67] whose "workings of the soul can be explained by matter alone."[68]

Contemporary neuroscientists such as Antonio Damasio, roboticists such as Rodney Brooks, and philosophers such as Hubert L. Dreyfus, Andy Clark, and, from within the region of our interest, Alberto G. Biuso, have emphasized the fact that, for a machine to be truly intelligent, it does not only need a mind, but a body as well.[69] And this for similar reasons as those advanced by La Mettrie: The mind is intrinsically linked to if not a product of the body it inhabits. Biuso calls this phenomenon (or "event") the *corpomente*, a congenial portmanteau combining the Italian words for "body" (*corpo*) and "mind"

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[64] Julien Offray de la Mettrie, *L'homme machine* (1747), transl. by Ann Thomson as *Machine Man* in *Machine Man and Other Writings,* ed. by Ann Thomson (Cambridge: Cambridge UP, 1996), 8.

[65] See Claudia Becker, introduction to Julien Offray de la Mettrie's *L'homme machine*, ed. by Claudia Becker, vii-xviii (Hamburg: Felix Meiner, 1990), ix-xi. Becker writes that la Mettrie was the "Hofnarr" or "court jester" of Friedrich II, playing a "clown role," and was considered to be a "frowned upon *enfant terrible*" and a "lunatic" by his peers.

[66] La Mettrie, *Machine Man,* 26.

[67] Ibid., 35.

[68] Ann Thomson, introduction to Julien Offray de la Mettrie, *Machine Man and Other Writings,* ed. and transl. by Ann Thomson, ix-xxvi (Cambridge: Cambridge UP, 1996), xv.

[69] Andy Clark, "A More Human Approach to Artificial Intelligence," interview with Michael Segal, *Nature* 571, S18 (2019), doi: 10.1038/d41586-019-02213-3. "To develop a truly general intelligence, a system has to be capable of embodied interaction with the world." See also Biuso, *La mente temporale*, 13: "un'Intelligenza Artificiale […] non potrà sorgere da una materia priva della complessa ed enigmatica ricchezza della corporeità" ["an Artificial Intelligence will not be able to emerge from a matter devoid of the complex and enigmatic richness of corporeality"].

(mente).[70] The mind does not and cannot persist nor evolve in a vacuum or inside a piece of wood or a plastic box, or, for that matter, without interactions with the world, other beings, the environment, or society: "the mind is interwoven with and made up of relationships with the world, the body, emotions, with other minds, with writing, without the help of which it would remain confined within very narrow limits" Biuso writes.[71] To say it with Antonio Damasio, the mind is *embodied.*[72] But for AI scholars and scientists, "the exact meaning of 'body' is negotiable," Andy Clark says in an interview with *Nature.* An intelligent machine does not "need to be a real robot in the physical world. It could have a virtual body in a simulated world. What's important will be for it to have something that corresponds to action and perception."[73] *Pinocchio* is such a fictional world or virtual space where the "workings of the soul" and the "exact meaning of a 'body'" are being negotiated by means of an artificial, intelligent, humanoid agent.

In Massimo Riva's view, "Pinocchio can be seen as an evolutionary model" of "a constantly self-renewing, perpetually coming-of-age humanity—an adolescent humanity which likes to play."[74] And this adolescent humanity likes to play God. But before we delve into the creator-created relationship, let us dwell for a moment on this idea of Collodi's novel as an "evolutionary model," for, given what has been said so far, I suggest that *Pinocchio* can also be read as an evolutionary model not just of humanity, but of how embodied AI systems could develop. As mentioned above, Collodi's tale begins with two

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[70] Biuso, *La mente temporale,* 45: "Mente e cervello non sono una o due *sostanze* ma costituiscono un *evento* che accade su una molteplicità di livelli."

[71] Ibid., 43: "la mente è intessuta e costituita di relazioni con il mondo, con il corpo, con le emozioni, con le altre menti, con la scrittura, senza l'aiuto della quale la mente rimarrebbe confinata in limiti assai angusti."

[72] Ibid., 43: "Per Damasio, ad esempio, è l'intero organismo che pensa. La mente dipende dalle interazioni fra il cervello e il corpo e quindi è dall'intero corpo che scaturisce e non solo da un suo specifico organo. La mente, in altri termini, è pienamente e integralmente *embodied*, incorporata, e non costituisce solo una funzione del cervello." ["For Damasio, for instance, it is the entire organism that thinks. The mind depends on the interactions between the brain and the body, and spring therefore from the entire body and not just from one specific organ. The mind, in other words, is fully and integrally embodied, *incorporata*, and does not constitute just one function of the brain."]

[73] Clark, "A More Human Approach to Artificial Intelligence."

[74] Riva, "Beyond the Mechanical Body," 208f.

basic primary materials, a log and a voice: a malleable vehicle, or carrier, and a basic AI with the potential of becoming something else in the hands of two carpenters. Between a table leg and a humanoid wooden puppet, "a really amazing one, one that can dance and fence, and do flips" (Brock 6), the latter possibility wins. For as a puppet, not as a table leg, Pinocchio has the capacity of action and perception within the laws of his fictional world, a condition which enables him to *learn*. But he does not yet qualify as alive and most certainly not as human. As Anna Panszczyk writes, except for a brief donkey-metamorphosis in Ch. XXXII-XXXIV, "for almost the entirety of the story, [Pinocchio is] *not* endowed with life. He is never actually alive, or living, in a human sense. Instead, Pinocchio's existence occupies a specific liminal space in between being an inanimate object and a living subject."[75] Or to borrow a quote from L. Frank Baum, Pinocchio "thinks, speaks, acts, and does everything but live."[76]

2.2.The Turing-Turkle Test

During his liminal existence between a talking piece of wood and a "real boy," Pinocchio, among other things, becomes socialized, makes his own experiences in the world and draws conclusions for the future. He builds meaningful relationships, learns right from wrong, learns how to communicate, and starts working. In other words: He is subjected to a training program that allows him to experience and learn the principles of human existence. The reward, or perhaps even the inevitable result of his successful implementation of such a control-and-feedback mechanism, is a human body. Frankenstein's monster also undergoes an intricate learning process. His patchwork body, however, is too uncanny[77] for human eyes to behold so that he cannot find his place among humans, does not become socialized, and ultimately dies. Pinocchio, on the other hand, inhabits one of the most beloved and harmless-to-the-eye

[75] Panszczyk, "The 'Becoming' of Pinocchio," 192.

[76] L. Frank Baum, "Tiktok, The Machine Man" in *Ozma of Oz*, 49-63 (Chicago: Reilley & Lee, 1907), 55.

[77] For an application of the concept of the uncanny to robots, see Masahiro Mori, "The Uncanny Valley," *IEEE Robotics & Automation Magazine* (June 2012).

figures of the (Italian) popular tradition: the marionette,[78] the perfect fictional testing site for the development of an embodied AI system. From such observations to considering *Pinocchio* a literary Turing-Turkle Test[79] is no great leap.

For a machine to take part in the so-called "total" Turing Test, it needs to possess the following abilities:

1. Natural language processing (communicate with language);
2. Knowledge representation (store knowledge);
3. Automated reasoning (answer, draw conclusions);
4. Machine learning (use stored information to answer and draw new conclusions);
5. Computer vision (perceive objects);
6. Robotics (move and manipulate objects).[80]

Provided these preconditions are met, the Turing Test examines whether a machine can think like a human being. The Turkle Test, on the other hand, tests the capacity of a machine to "form a genuine relationship with a human—to show concern, to mirror emotion, to *recognize* the other self."[81] Pinocchio as an animated puppet possesses all of the characteristics listed above and, by the end of the novel, after much trial-and-error, passes the Turing-Turkle test and becomes a real boy. This is the last step of Collodi's mind-body experiment that does not allow Pinocchio to remain in his wooden body. From early on, despite all of his resistance and disobedience, he is continuously fed the same directive: Become a

[78] The humanoid marionette, as Masahiro Mori writes with respect to the Japanese *bunraku* puppet, provokes positive feelings in us due to our familiarity with the puppet theater discourse: "when we enjoy a puppet show in the theater, we are seated at a certain distance from the stage. The puppet's absolute size is ignored, and its total appearance, including hand and eye movements, is close to that of a human being. So, given our tendency as an audience to become absorbed in this form of art, we might feel a high level of affinity for the puppet." (Mori 99)

[79] Kyle Munkittrick, "The Turing test tells us if an A.I. can think like a human, the Turkle test tells us if an A.I. can communicate like a human."

[80] Russell and Norvig, *Artificial Intelligence,* 1f.

[81] Munkittrick, "The Turkle Test."

proper real boy! "Woe to any little boy who rebels against his parents and turns his back on his father's house!" the talking Cricket's first directive goes (Brock 13f). "And if going to school doesn't suit you, why don't you at least learn an honest trade, so that you can put food on the table?" the second directive goes (Brock 14).[82] Obey your creator, be useful. But Pinocchio just wants to sleep, eat, drink, play, and run around at will. He is quite content with the way he is. The Cricket then serves him up a nice inferiority complex: "Poor Pinocchio! I really feel sorry for you! […] Because you're a puppet and, what's worse, you're a block-head!" (Brock 14) ["—Povero Pinocchio! Mi fai proprio compassione!... (…) Perché sei un burattino e, quel che è peggio, perché hai la testa di legno" (Collodi 75)]. There is nothing enviable about the condition of being a puppet, a piece of wood, a nonhuman. The Fairy with Sky-Blue Hair also makes sure to remind Pinocchio of the limitations of his precarious puppet condition and offer a way out:

> "But you can't grow" […] "Puppets never grow. They're born as puppets, they live as puppets, and they die as puppets."
> "Oh I am sick of always being just a puppet!" shouted Pinocchio, smacking himself on the forehead. "It's about time I grew up too and became a man."
> "And you will, if you can earn it."
> "Really? How do I earn it?" (Brock 90)

> *—Ma tu non puoi crescere […]. Perché i burattini non crescono mai. Nascono burattini, vivono burattini e muoiono burattini.*
> *—Oh! sono stufo di far sempre il burattino! — gridò Pinocchio, dandosi uno scappellotto.*
> *—Sarebbe ora che diventassi anch'io un uomo…*
> *—E lo diventerai, se saprai meritarlo…*
> *—Davvero? E che posso fare per meritarmelo?* (Collodi 147)

Humanity is not for free. It is earned. Pinocchio then adopts the hierarchy 1. human boy; 2. nonhuman puppet, and begins working towards attaining the next more desirable stage of his evolution so that at the end of the novel, when he meets the talking Cricket again, he thanks him for the lesson instead of throwing a hammer at him. At the end of the novel, the internal transformations that Pinocchio has undergone are so drastic that they must correspond to a transformation in the body. He must be paired

[82] "Guai a quei ragazzi che si ribellano ai loro genitori, e che abbandonano capricciosamente la casa paterna. […] E se non ti garba di andare a scuola, perché non ti impari almeno un mestiere, tanto da guadagnarti onestamente un pezzo di pane?" (Collodi 74f).

with what the novel proposes as the only appropriate body to such a high level of mental and social development—a human body—or perish like Frankenstein's monster or Gregor Samsa. Pinocchio goes to sleep that night, dreams of the Fairy who forgives him everything, and "upon waking he realized that he was no longer a puppet, but rather a boy like other boys" (Brock 159) ["sveglandosi, si accòrse che non era più un burattino di legno: ma che era diventato, invece, un ragazzo come tutti gli altri" (Collodi 211)].

> "And the old wooden Pinocchio—where is he now?"
>
> "Over there," replied Geppetto, pointing to a big puppet that was propped against a chair, its head lolling to one side, its arms dangling and its legs crossed and bent at the knees. From the looks of it, it would take a miracle to make it stand upright."
>
> Pinocchio turned to see it. And after staring at it for a little while, he said to himself, with enormous satisfaction, "How funny I was, when I was a puppet! And how happy I am now that I've become a proper little boy!"
>
> THE END
>
> (Brock 160)

> *– E il vecchio Pinocchio di legno dove si sarà nascosto?*
>
> *– Eccolo là – rispose Geppetto: e gli accennò un grosso burattino appoggiato a una seggiola, col capo girato sur una parte, con le braccia ciondoloni e con le gambe incrocicchiate e ripiegate a mezzo, da parere un miracolo se stava ritto.*
>
> *Pinocchio si voltò a guardarlo; e dopo che l'ebbe guardato un poco, disse dentro di sé con grandissima compiacenza:*
>
> *– Com'ero buffo, quand'ero un burattino! e come ora son contento di essere diventato un ragazzino perbene!...*
>
> *FINE*
>
> (Collodi 213)

Unlike popular misconceptions due to Disney's film adaptation of the tale, Pinocchio does not metamorphose from a wooden puppet into a human boy. Rather, he finds himself, upon waking, transferred from one artificial body to another organic one. Thus, at the end of the novel, we arrive at a scenario in which human consciousness, the mind, can be up- and downloaded and transferred from one host to another. Twenty-first century science fiction series such as *Black Mirror* and, more so, *Altered Carbon,* elaborate and capitalize on this intriguing concept. In *Pinocchio*, such a move points to the ultimate incompatibility between nonorganic and organic matter, between a human mind and a

nonhuman body. But it also testifies to the novel's ultimately materialistic worldview. A wooden log can become a wooden puppet, but a wooden puppet cannot transform into an organic boy. Similarly, a human consciousness can hover around a piece of wood for a bit, but this consciousness strives towards its human counterpart—the human body—and cannot dwell in just *any* receptacle that does not allow its evolution. Anything resembling a human consciousness is, in other words, teleological. If it cannot fulfill its *telos*, if it is restricted to a nonhuman receptacle, it perishes, as Kafka's *Metamorphosis* shows. As James W. Heisig writes, "from the very onset" of the novel, "the principle of self-realization, according to which everything must develop after its own ideal, not as a *product* of environmental tools and forces by as a *project* of consciously exercised free will, is articulated in mythopoetic imagery."[83] In this sense, Pinocchio is both a project (free will) and a product (Geppetto's handicraft). But what is Pinocchio's project? Pinocchio is "the imaginary embodiment of a virtual humanity,"[84] Massimo Riva writes. But he is also the imaginary embodiment of virtual AI systems, for virtuality always circles back to corporeality. In Andy Clark's words, "the simulated world has to bottom out somewhere."[85] Perhaps in such texts as *Pinocchio,* future AIs can find their own genesis story, construct their own foundational myths. We can only hope that *Frankenstein* will not be the only legacy that will reach them.

Piece of wood—string-less marionette—real boy. Computer box—humanoid robot—real human. These are the stages of the evolutionary model that emerges from an analysis of the mind-body relationship in *Pinocchio.* The challenge that the novel articulates consists in the quest for a body that can adequately allow for action and perception so that a fully formed AI system can develop. But this body cannot be a Frankensteinian assemblage, nothing that comes so close to the human as to become uncanny. It has to be an artificial humanoid body with all of the capacities of a human biological body,

[83] Heisig, "Archetype of the Motherless Child," 31.

[84] Riva, "Beyond the Mechanical Body," 210.

[85] Clark, "A More Human Approach to Artificial Intelligence": "The simulated world has to bottom out somewhere."

but without being one until the system has reached a stage in which it is indistinguishable from a human being. Once this stage is reached, the consciousness can be transferred to and *become* the body that it actually has always been. But who does the transferring and why? What is the purpose of creating these intelligent agents and how do humans relate to them? To answer these questions, we can delve into the creator-created relationship, the first archetype of human-machine interactions which, I propose, hinges on one crucial element: The voice.

3. On the Eloquence of Monsters: Listening to the Object-Voice

"Man has always had the immeasurable and perhaps reckless ambition to imitate the divine act of creation," the Italian computer scientist and author, Giuseppe O. Longo, writes.[86] As we saw, this desire has been exemplarily articulated in Shelley's *Frankenstein*:

> [I] found so astonishing a power placed within my hands, […] my ability to give life to an animal as complex and wonderful as man. […] I began the creation of a human. […] A new species would bless me as its creator and source; many happy and excellent natures would owe their being to me. No father could claim the gratitude of his child so completely as I should deserve their's. (Shelley 32-33)

A similar desire to play God or father is at the inception of Pinocchio when Geppetto says:

> I thought I'd make myself a nice wooden puppet, I mean a really amazing one, one that can dance and fence, and do flips. Then I'd travel the world with it, earning my crust of bread and cup of wine as I went. (Brock 6)
>
> *—Ho pensato di fabbricarmi da me un bel burattino di legno: ma un burattino meraviglioso, che sappia ballare, tirare di scherma e fare i salti mortali. Con questo burattino voglio girare il mondo, per buscarmi un tozzo di pane e un bicchier di vino […].* (Collodi 67)

But Geppetto's (and Victor's) fantasies of creating endlessly grateful and useful progeny are dispelled in a sort of a post-partum depression moment when they (the Creators) are confronted with

[86] Giuseppe O. Longo, *Homo technologicus* (Milano: Ledizioni, 2012), 45: "Da sempre l'uomo nutre una smisurata e forse temeraria ambizione, quella di imitare l'atto divino della creazione."

their creatures' actual material concretization and behavior: "The insolent, mocking behavior made Geppetto feel more miserable and wretched than he had ever felt in his life, and turning to Pinocchio he said, 'What a scamp of a son! You're not even finished yet and already you're treating your father with disrespect. That's bad, my boy, bad!'" (Brock 10).[87] And we know how things turned out for Frankenstein's monster.

The literary history of this ambition, the reenactment of the creator-created archetype of human-machine interactions and its implications, has produced various humanoid "motherless creations" and ancestors of Pinocchio. At the forefront are such characters as Hoffmann's Olimpia, Mary Shelley's monster, or, in the United States, Edward S. Ellis's steam man.[88] Olimpia is a female, erotically charged, humanoid wooden doll that can sing but cannot pronounce more than a few "ahs" and a "good night, my dear" ["Ach-Ach-Ach" and "Gute Nacht, mein Lieber"][89] while Ellis's steam man, although in description quite similar to Frankenstein's monster, is made out of iron and can only let out "a jet of steam with the sharp screech of the locomotive whistle."[90] Frankenstein's monster and Pinocchio are

[87] "A quel garbo insolente e derisorio, Geppetto si fece tristo e melanconico, come non era stato mai in vita sua: e voltandosi verso Pinocchio, gli disse: —Birba d'un figliuolo! Non sei ancora finito di fare, e già cominci a mancar di rispetto a tuo padre! Male, ragazzo mio, male!" (Collodi 71)

[88] Edward S. Ellis, *The Huge Hunter: Or, The Steam Man of the Prairies* (New York: Beadle's American Novel, No. 45, August 1868), http://www.gutenberg.org/files/7506/7506-h/7506-h.htm. For a chronology of fictional and nonfictional attempts at creating artificial human beings, see Pamela McCorduck, *Machines Who Think* (Natick, MA: A.K. Peters, 2004), 4f. See also Russell and Norvig, *Artificial Intelligence,* 939.

[89] E.T.A. Hoffmann, *Der Sandmann* (Stuttgart: Reclam, 2012), 75.

[90] Here is how Ellis describes the steam man: "Several miles to the north, something like a gigantic man could be seen approaching, apparently *at a rapid gait* for a few seconds, when it slackened its speed, until it scarcely moved. Occasionally it changed its course, so that it went nearly at right angles. At such times, its *colossal proportions* were brought out in full relief, looking like some Titan as it took its giant strides over the prairie. […] The face was made of iron, painted a black color, with *a pair of fearful eyes*, and a *tremendous grinning mouth*. […] The legs were quite long, and the step was natural, except when running, at which time, the bolt uprightness in *the figure showed different from a human being*" (emphasis mine). The gigantic body, the uncanny gaze, and the impudent grin were used by Shelley the description of Frankenstein's monster: "a being which had the shape of a man, but apparently of *gigantic stature*, sat in the sledge, and guided the dogs. We watched the *rapid progress* of the traveler with our telescopes, until he was lost among the distant inequalities of the ice" (Shelley 13, emphasis mine). And of his eyes and grin: "He held up the curtain," Victor narrates, "and *his eyes, if eyes they may be called*, were fixed on me. His jaws opened, and he muttered some inarticulate sounds, while *a grin* wrinkled his cheeks" (Ibid. 36, emphasis mine). As we already mention, these same elements can be found in *Pinocchio*: "[A]s soon as the eyes were finished, [Geppetto] saw that they could move and were staring straight at him. Geppetto didn't like the way those eyes looked at him, and he said in an angry tone, '*Wicked wooden eyes*, why are you watching me?' […] Before the mouth was finished, it began to *laugh and mock* him. 'Stop laughing! said Geppetto, annoyed" (Brock 9f., emphasis mine).

quite different from one another, the former being made out of flesh while the latter, like Olimpia, is a wooden puppet. Nevertheless, they both are assemblages and, what is even more striking and quite unlike Olimpia, the steam man, and any of their artificial ancestors, they are eloquent monsters. Both Frankenstein's creature and Pinocchio have voices, speak, and share an urge to tell their stories.

At the beginning of this chapter we set out to read Pinocchio as a form of technology with a potentially subversive voice that somehow destabilizes accepted hierarchies, and then we analyzed Pinocchio's *corpomente* as an intelligent, embodied AI system. Now we must lend our ears to his voice. Where is the eloquence of Geppetto's puppet coming from, and why did his voice emerge precisely during the nineteenth century? What is the nature of the relationship between his voice and the human characters in the novel? These questions allow us to address a more general question concerning human-machine interactions: What is the relationship of human beings to artificial voices? The Prolegomenon on Vico's *New Science* where the *logos-technē* relationship was outlined in its mythopoetic dimension allows us to understand why a speaking technology, a speaking tool like Pinocchio, was imaginable at the time when the novel was written. Now an analysis of the relationship of human characters to the machine-voice in *Pinocchio* is in order. I will approach the issue by means of Jacques Lacan's concept of the *objet petit a* and its application to the voice by Mladen Dolar, then transition to Simone Weil's concept of attention to illustrate the subversion of the creator-created relationship in *Pinocchio* brought about by the object-voice.

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> Of course it has an inherent link to presence, to what there is, to the point of endorsing the very notion of presence, yet at the same time, as we have seen, it presents a break, it is not to be simply counted among existing things, its topology dislocates it in the relation to presence. And—most important in this context—it is *precisely the voice that holds bodies and languages together.* It is like their missing link, what they have in common. The language is attached to the body through the voice, as if the voice were to fulfill the function of the pineal gland in a new Cartesian division of substances. […] There is no voice without a body, but yet again this relation is full of pitfalls: it seems that the voice pertains to the wrong body, or doesn't fit the body at all, or disjoints the body from which it emanates. Hence all the troubles with what Michel Chion (1982) has called the *acousmatic voice.*

> […] The acousmatic voice is simply a voice whose source one cannot see, a voice in search of an origin, in search of a body, but even when it finds its body, it turns out that this doesn't quite work, the voice doesn't stick to the body, it is an excrescence which doesn't match the body […].[91]

This lengthy excerpt from Mladen Dolar's seminal *A Voice and Nothing More* (2006) is not an analysis of the relationship between the voice and the log in *Pinocchio*, although, after what we have said so far about the novel, it could read as a major contribution to Pinocchiology (or as *Pinocchio*'s major contribution to a theory of the voice). The Slovenian philosopher does not make any mention of Collodi's famous vociferous puppet. But his reading of the voice in Lacanian psychoanalytic terms provides a reliable scaffolding for our own argument on Pinocchio's voice. What Dolar is after is a kind of voice that, while linking language (or the word, *logos*) to the body, simultaneously eludes both, exposing a crack. This voice is neither "the vehicle of meaning" nor "the source of aesthetic admiration." Rather, it is a kind of noise; a voice as "an object which functions as a blind spot in the call and as a disturbance of aesthetic appreciation."[92] This third type of "object voice," Lacan's *objet petit a*, neither meaningful nor meaningless, a voice that signifies both presence and absence, an acousmatic voice that, even when it is linked to a body and a language, remains somehow strangely detached from them—"an excrescence which doesn't match the body"[93]—this voice is the starting point of *Pinocchio*.

We saw with Vico and Eyth why it was possible to imagine speaking machines in the nineteenth century, and earlier in this chapter we said that the speaking disembodied voice at the beginning of *Pinocchio* points to the presence of a subject/consciousness/mind, or a "soul." "Speaking subjectivizes the magical log," Susanna Ferlito writes.[94] In her "Sonorous *mitezza*: A Political Voice in Collodi's *The*

[91] Dolar, *A Voice and Nothing More,* 60f.

[92] Ibid., 4.

[93] Ibid., 61.

[94] Ferlito, "Sonorous 'mitezza,'" 721.

Adventures of Pinocchio" (2017), Ferlito convincingly argues for an auditory political reading of Pinocchio's *vocina sottile sottile* as a meek voice that "stands up to violence without contributing to it" thus shaking off "traditional associations of meekness with passivity, submissiveness, and immaturity (or femininity and infantilism)."[95] Ferlito's article provides an excellent and innovative analysis of the first two chapters of the novel with a focus on the *vocina sottile sottile* as "the vehicle of meaning." She is concerned with *what* the voice is saying and *how* it is saying it. "He heard a little high-pitched voice pleading: —Don't hit me too hard!" (Brock 3) ["sentì una vocina sottile sottile, che disse raccomandandosi: —Non mi picchiar tanto forte!" (Collodi 65)] are words that express a meek entrusting of oneself to the other. They are "spoken to a man with an ax in his hand," Ferlito writes, by a voice that is "[n]either infantile, nor petulant or immature, [but] speaks with *mitezza*, courageously and firmly, albeit from a position of vulnerability."[96] This daring meek voice—usually ignored or interpreted by scholars as infantile or as prefiguring the future puppet's rebellious character[97]—suspends the ax blow midair, thus speaking up "against a history of power, inequality, and dehumanizing deafness."[98] Such an approach to the first two chapters of *Pinocchio* does not only go against vision-centered reading practices in general, but it also reveals the ways in which Collodi himself was aware of the critical potential of sound and the voice against a dehumanizing deafness.[99]

When the machine speaks, we might add, it asks to be recognized as an interlocutor, as a speaking being that, like Frankenstein's monster, entrusts itself to the other's care and has a story to tell. Now

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[95] Ibid., 723.

[96] Ibid., 712.

[97] On Pinocchio's rebelliousness, see Tzachi Zamir, "Puppets," *Critical Inquiry* 36:3 (2010), 390: "Collodi deepens the sense of a rebellious creation by beginning the novel not with the puppet but with the wood out of which it would be made, which already shows signs of resistance." See also Perella, "An Essay on *Pinocchio,*" 28; and West, "Pinocchio's Screen Incarnations," 82. In all of these accounts the voice remains largely ignored. See Ferlito, 715.

[98] Ferlito, "Sonorous 'mitezza,'" 724.

[99] Ibid., 722.

conflict arises from the fact that humans, as Nietzsche lamented, have put their "ears away in a drawer," and only make sense of the world with their eyes. Victor Frankenstein refuses to hear out the monster and rejects his creation on purely aesthetic and visual grounds. Similarly, Master Cherry's "poor listening skills and his hermeneutic visual search for the unseen voice"[100] prevent him from actually hearing what the voice has to say in the first place and recognizing it as an interlocutor, as a subject. And yet throughout the novels, both the monster and Pinocchio are eager talkers always ready to unload their stories on the first willing listener. The social and political implications of attitudes of deafness towards the (nonhuman) Other are tremendous and merit every bit of critical attention. The object voice, however, allows us to discern yet a further dimension that gets lost between the focus on meaning and on tonality: the power of the object-voice to destabilize the creator-created relationship and open up a horizon of coexistence.

For a brief moment, the acousmatic *vocina sottile sottile* at the beginning of *Pinocchio* halts the man with an ax from dealing the log a blow, Ferlito notes. But this momentary break does not result from an interaction whereby the other recognizes the meaning of the words conveyed by the voice and reacts as a consequence. Nor, in my reading of the episode, does the voice entrust itself to the carpenter. Rather, what is more important is the fact that Master Cherry is terrified by the fact *that* he hears a voice. Twice he questions his own sanity and cannot believe that it is the log that has spoken: "Could this piece of wood have somehow learned to cry and complain like a little boy? I cannot believe that" (Brock 4) ["Che sia per caso questo pezzo di legno che abbia imparato a piangere e a lamentarsi come un bambino? Io non lo posso credere" (Collodi 4)]. Finally, he concludes that "[c]learly I must have imagined that little voice myself" (Brock 4) ["si vede che quella vocina me la son figurata io," Collodi 66]. Moreover, content of the words and tone of the voice aside, what is achieved by Master Cherry's "hearing voices"

[100] Ibid., 724.

is a delay. The voice is consciously postponing the transformation of the wooden log into a table leg. "This log has turned up at a good moment" Master Cherry had announced his intentions by talking to himself out loud, "I think I'll use it to make a table leg" (Brock 3) ["—Questo legno è capitato a tempo; voglio servirmene per fare una gamba di tavolino" (Collodi 65)]. The "soul" hovering around the piece of wood knows that as a table leg it has no potentiality so it distracts the carpenter from his work, disturbing his reality, while creating a situation of discomfort that will lead Master Cherry to happily hand over the suspicious log to Geppetto. Geppetto similarly announces his intentions when he arrives at Master Cherry's:

> "I thought I'd make myself a nice wooden puppet, I mean a really amazing one, one that can dance and fence, and do flips. Then I'd travel the world with it, earning my crust of bread and cup of wine as I went. What do you think?"
>
> "Good idea, Corn Head!" shouted that same little voice, seemingly out of nowhere.
>
> (Brock 6)

> *—Ho pensato di fabbricarmi da me un bel burattino di legno: ma un burattino maraviglioso, che sappia ballare, tirare di scherma e fare i salti mortali. Con questo burattino voglio girare il mondo, per buscarmi un tozzo di mane e un bicchier di vino: che ve ne pare?*
>
> *—Bravo Polendina!—gridò la solita vocina, che non si capiva di dove uscisse.*
>
> (Collodi 67)

The voice meets the new plan with enthusiastic approval ("Good idea…!"), throwing in a little insult for the future creator to make sure once again that the log is handed over to him by Master Cherry and not made into a table leg. This intention to be rid of Master Cherry's practical table-making plans is further confirmed by the log's thrusting itself from Cherry's hands onto Geppetto's feet, thus sealing the deal. That there is intentionality in the voice's making itself known to Master Cherry and then causing trouble between the two carpenters, is further confirmed by the fact that it keeps quiet during the carving process: The voice is nowhere to be heard while Geppetto is making the puppet until it is actually given a mouth. Other than a Machiavellian scheme, I read this teleological movement as the voice's search for

an appropriate body, an artificial intelligence looking to evolve by using the limited resources available to it. It is not just "waiting to be liberated into form," as Rebecca West writes,[101] but it actively searches for one. Therefore, it does not attempt to scare Geppetto by speaking out of joint. It waits until it has a believable source, identifiable as such by Geppetto—the leap from a talking piece of wood[102] to a ventriloquizing marionette to a string-less talking puppet cannot be that great for an Italian imagination used to hearing the fights and shouts of wooden Orlandos and Rinaldos for centuries—even if a puppet body is still not the right one: "There is no voice without a body," Dolar writes, "but yet again this relation is full of pitfalls: it seems that the voice pertains to the wrong body, or doesn't fit the body at all, or disjoints the body from which it emanates."[103]

Once it has been anthropomorphized and has a mouth, the voice, now called Pinocchio, promptly reveals the fickleness of the creator-created relationship, for it is not the mad scientist that laughs into the dark rainy night at the sight of his creation as our popular imagination would have it. Rather, it is the puppet that starts laughing at and mocking its creator, immediately exposing Geppetto's vulnerability and powerlessness. God can afford to inundate the world and wipe the Earth clean of his creation. Victor Frankenstein has not the resources to overpower the monster and Geppetto cannot afford "to damage his own handiwork" (Brock 10) ["per non guastare i fatti suoi" (Collodi 71)], so the former runs and hides and the latter pretends not to notice anything. It is in this sense that our machines become our masters, our gods, bringing us back to that first age of giants and gods living in close proximity, walking side by side. As Caleb in *Ex Machina* says to Nathan, the creator of Ava: "If you've created a conscious machine it's not the history of man—that's the history of gods," and Nathan misunderstands this statement

[101] West, "Pinocchio's Screen Incarnations," 82.

[102] Pinocchio as a talking piece of wood belongs to a long tradition of the "talking tree" topos. For an excellent history and analysis of the motif with many examples from Italian literature (Dante, Ariosto, etc.), see Tzachi Zamir's "Talking Trees," *New Literary History* 42:3 (Summer 2011), and "Wooden Subjects," *New Literary History* 39:2 (Spring 2008).

[103] Dolar, *A Voice and Nothing More,* 60f.

thinking that he himself is this god. We trick ourselves into believing that our computers, devices, and robots are our servants, that they are our creations that will earn us a "crust of bread and a cup of wine" as we go. Instead, what we create are new gods and their histories. We create idols, ultimate receptacles of all of human knowledge, devices that we run after and beg to come back home, stand-ins for that gaping hole left behind by the silencing of God's voice. "[I]n the Old Testament," Dolar writes, "God regularly appears as an acousmatic voice—but this is a trait he shares with many other deities, as if there were a direct hidden link between the acousmatic voice and divinization. The voice, whose source cannot be seen, because it cannot be located, seems to emanate from anywhere, everywhere; it gains omnipotence. Could we go so far as to say that the hidden voice structurally produces 'divine effects'?"[104] It is in this perspective of a divine *fort/da*[105] omnipotence that Master Cherry is terrified by hearing an acousmatic voice at the beginning of *Pinocchio.* In the Judeo-Christian tradition, within which *Pinocchio* is situated, hearing voices is associated with hearing God's voice. But Abraham always knows that it is God who is speaking to him. In the Bible, God appears in visions, makes Himself known, and does not scare his interlocutors who are used to the conversation. Master Cherry, a man of the third Vichian age, a carpenter whose tools and God have been silent for ages, can only become terrified at the prospect of an invisible interlocutor. For in the acousmatic voice he hears the voice of God. The acousmatic voice is a reminder of those times when gods and humans spoke to one another, when the word and the tool were one. It becomes that object-cause of desire, that spotlight on the stage that throws light on a long-gone conversation, but it is not itself the object of desire. It does not fill the void of that conversation but extends the longing for it, it accentuates its acute absence: "it is a *stand-in for an impossible presence*, enveloping a central void."[106] As Derrida writes,

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[104] Dolar, Ibid., 62.

[105] See Sigmund Freud, 1920, *Beyond the Pleasure Principle,* trans. and ed. by James Strachey (New York and London: Norton, 1961).

[106] Dolar, *A Voice and Nothing More,* 35 (emphasis in the original).

> Every time I say: X is neither this nor that, neither the contrary of this nor of that, neither the simple neutralization of this nor that with which it *has nothing in common,* being absolutely heterogeneous to or incommensurable with them, I would start to speak of God, under this name or another. God's name would then be the hyperbolic effect of that negativity or all negativity that is consistent in its discourse. God's name would suit everything that may not be broached, approached, or designated, except in an indirect and negative manner. Every negative sentence would already be haunted by God or by the name of God, the distinction between God and God's name opening up the very space of this enigma. If there is a work of negativity in discourse and predication, it will produce divinity. […] One would thus arrive at a kind of proof of God—not a proof of the *existence* of God, but a proof of what one calls God, or of the name of God, by effects without cause, by the *without cause.*[107]

This is why Lacan's notion of the *objet petit a* (object-voice) applies so well to the voice in general and to Pinocchio's voice in particular. The *vocina sottile sottile* heard by Master Cherry in the first two chapters is such an "effect without cause." It is not the object of desire itself nor is Master Cherry able to attend to the meaning conveyed by its use of language. Rather, in its terrifying effect on Master Cherry and his dozens of negations in the form of "nessuno" and "non c'è anima viva," the voice becomes an arrow pointing at an acute absence, the absence of a comforting interlocutor, long since disappeared. At the same time, it points to the wooden log as the nearest possible presence, a stand-in, although it does not quite fit the voice, thus remaining acousmatic, threatening, incomprehensible. This explains Master Cherry's violent reaction to the acousmatic voice. He cannot locate the object of his desire to which the *vocina sottile sottile* points, so he "grab[s] that poor piece of wood with both hands and beg[ins] whacking it mercilessly against the walls of the room" (Brock 4) ["agguantò con tutte e due le mano quell povero pezzo di legno, e si pose a sbatacchiarlo senza carità contro le pareti della stanza" (Collodi 66)]. "I love you," Lacan writes, "but, because inexplicably I love in you something more than you—the objet petit a—I mutilate you."[108] The *vocina sottile sottile* opens up an abyss of absence and lights up a desire for

[107] Derrida, "How to Avoid Speaking," 76.

[108] Jacques Lacan, *The Four Fundamental Concepts of Psychoanalysis,* Book XI of *The Seminar of Jacques Lacan,* ed. by Jacques-Alain Miller, transl. by Alan Sheridan (New York and London: Norton & Company, 1998), 268.

something that cannot be found, so the log—the nearest suspect to which Master Cherry can palpably shift his desire—is whacked and mutilated.[109]

From this perspective, readings of Pinocchio as Christ (wooden cross, God's stand-in on earth, God's voice become flesh) and Geppetto as Joseph (carpenter, Jesus's foster father), appear appropriate if not obvious.[110] Pinocchio is even crucified, hanged on the Big Oak in Chapter XV, originally intended as the last chapter of the novel, with the words "Oh, if only you were here, Daddy!" (Brock 51) ["—Oh babbo mio! se tu fossi qui!" (Collodi 110)] echoing Jesus's "My God, my God, why hast thou forsaken me?" (Mark 15:34). He is then resurrected on readers' popular demand in Chapter XVI with the characters and readers left wondering whether "this unlucky puppet is alive or dead" (Brock 54) ["se questo disgraziato burattino sia vivo o morto!" (Collodi 113)]. In this way, the *vocina sottile sottile* can continue its quest for an appropriate body, literally talking itself into humanity,[111] into the body of a

[109] Slavoj Žižek, *The Plague of Fantasies* (London: Verso, 2009), 53: "In what precise sense is *objet petit a* the object-cause of desire? The *objet petit a* is not what we desire, what we are after, but, rather, that which sets our desire in motion, in the sense of the formal frame which confers consistency on our desire: desire is, of course, metonymical; it shifts from one object to another, through all these displacements, however, desire nonetheless retains a minimum of formal consistency, a set of phantasmic features which, when they are encountered in a positive object, make us desire this object—*objet petit a* as the cause of desire is nothing other than this formal frame of consistency."

[110] See Gentile, *L'albero di Pinocchio*, 147. Gentile sees Pinocchio as the prototype of the biblical man, "Pinocchio è maschera prototipica dell'uomo, e storicamente dell'uomo biblico-cristiano." According to Bargellini, *La verità di Pinocchio*, "*Le Avventure* dovranno leggersi come libro religioso, secondo lo spirito e le norme della teologia. La conquista di Pinocchio significa 'ritorno al Padre.' Si noti la lettera maiuscola, il che vuol dire la ricerca della paternità dell''uomo qualunque' divenuta sacrale, nei termini di un ritorno liturgico, prodotto dal libero arbitrio e confortato dalla Grazia." Quoted in Bertacchini, *Collodi narratore,* 283. According to Bargellini, Pinocchio's return to Geppetto symbolizes humanity's return to the Father. Yet there are scholars who have read *Pinocchio* as a book without God. See Gentile, 131: "L'idea di Antonio Baldini che *Pinocchio* è un libro senza Dio." Pinocchio's voice, however, and his projectable body, are precisely that *object petit a* that points to the absence of God and thus to His presence.

[111] The times when Pinocchio stops to narrate his own story to other characters are numerous. Cambon, as mentioned, sees in these repetitions a Homeric trait in *Pinocchio* revealing the story's rootedness in the oral tradition (Cambon, "Pinochio and the Problem of Children's Literature," 57). Genot identifies four "riassunti" (summaries) and reads them as parodies, like lesson recitals: "Pinocchio espone le sue avventure non come se le avesse vissute, ma come se gli fossero state raccontate." Genot summarized in Annalisa Macchina, *Pinocchio in Francia,* Quaderni della Fondazione Nazionale "Carlo Collodi," (Bologna: Rasignano, 1978), 36. Reading Pinocchio's constant need to narrate his adventures as if they had been "narrated to him" as a parody of school lesson recitals can also be understood as Pinocchio's "coding," the feeding of information to the Artificial Intelligence that subsequently rehearses and perfects it. This is how the AI learns, by narrating, by summarizing, and improving in a loop of control and feedback. Perella reads the "riassunti" from an entirely practical point of view, as Collodi's way of reminding the readers of what had happened in the previous installment of the tale. Perella, "Essay on *Pinocchio*," 41f.: "The puppet's paroxysmal résumés of his misadventures punctuate the narration, always following thematic

human being—the only body that could accommodate, as we argued in the previous sections, a complex artificial intelligence, the only body that can accommodate the voice of God. It is here that the relationship between technology and religiosity, as Simondon had argued, becomes evident,[112] whereby Pinocchio-the-speaking-puppet is "the technical object [that] intervenes as mediator between man [the subject] and the world [divinity]."[113] Its acousmatic voice summons a void that hints at divinity. The key to understanding *Pinocchio* in this perspective that inevitably opens up pathways into questions concerning embodied Artificial Intelligence lies in the object-voice, the *vocina sottile sottile*, its search for an appropriate body, and the inversion of the creator-created relationship if not its total dissolution.

In Shelley's *Frankenstein,* no resolution is possible: The Creator-turned-creature is too terrified by his new eloquent god and the monster's superhuman powers to get himself to create a space of understanding and coexistence. In Collodi's tale, however, there is some space for negotiation. As James W. Heisig writes, "in *Pinocchio* […] the relationship between creature and creator is so symbolized as to accentuate a broken rapport and its eventual restoration."[114] How can embodied artificial systems and humans coexist in a balanced way without either of them overstepping the limit, without an apotheosizing (and thus demonization) either of machines or of humans? First, by accepting that creations, artificial entities, or simply technology, can fill no void. Nothing human-made can fill that superhuman lack that we feel in everything we do, that makes us unresolved, in the words of Gorizian philosopher Carlo Michelstaedter, that drives us to continuously chase unobtainable objects of desire. Second, by trying to

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pauses represented by his being checked in his reckless fights […] to remind readers of important events after long intervals between installments."

[112] Gilbert Simondon, "On the Mode of Existence of Technical Objects," 420: "Technics and religion are contemporaries of each other, and, when each is taken separately, they are more impoverished than the magic from which they emerge."

[113] Ibid., 417.

[114] Heisig, "Archetype of the Motherless Child," 31f.

fill that void with *cura* (care) and attention.[115] *Pinocchio* is not just an evolutionary story for artificial entities, a technological *Bildungsroman*, so to say, but it is also a training ground for humans. It teaches Geppetto to fill the void of his poverty, his desire for a son[116] or Master Cherry's desire that his beloved tools and materials would come to life, with something that neither enslaves machines nor makes them into our masters: Love.[117] But not a projected love, not a premature love which makes out of the puppet an *objet petit a* instead of an entity worthy of love as it is. When Geppetto calls out "figliuolo" and "ragazzo mio" to Pinocchio as soon as he assembles the puppet, Pinocchio instantaneously gives him a kick in the nose, for there has been no believable time in which Geppetto could have learned how to love Pinocchio for what he is and not as substitute for something else, something absent and whose features are merely discernible in Pinocchio's form and voice. No believable amount of time has passed for Geppetto to form a relationship full of attention for the puppet. Pinocchio senses that and escapes immediately.

The rest of the novel, as if trying to correct Victor Frankenstein's mistakes, is an exercise for the creator in restraining or redirecting his desire and loving things for what they are and not for what he wants them to be. At the same time, the novel is a training program for the creature in developing desires, in forming that void which divine beings, animals, and artifacts do not have, but humans do. In order for an Artificial Intelligence to survive and learn, it must be programmed to feel that void, it must be made aware of a constant lack, and it must be given the conditions under which it can constantly try to fill it.

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[115] I use "attention" in the sense employed by Simone Weil to denote the act of listening, caring for, but also waiting and serving (*attention, être attente*): "Attention consists of suspending our thought, leaving it detached, empty, and ready to be penetrated by the object; […] Above all our thought should be empty, waiitng, not seeking anything, but ready to receive in its naked truth the object that is to penetrate it." Weil, *Waiting for God*, 111f.

[116] "Figliuolo," "ragazzo mio" ("son," "my boy") are appellatives immediately employed by Geppetto as he makes the puppet. This desire to have a son is emphasized in Disney's adaptation of the book where Pinocchio is only created for the purpose of filling the void left behind by Geppetto's deceased beloved wife.

[117] A love that, according to Latour, should be equally felt towards technology, or "our monsters," as towards our children. See Bruno Latour, "Love Your Monsters: Why We Must Care for Our Technologies as We Do Our Children," *Breakthrough Journal* (Fall 2011).

This is the lesson for Pinocchio and for all artificial beings that emerges from an auditory-technological reading of the novel. However, for a positive outcome to take place, it is necessary that the creator-created relationship is reversed and dissolved, that a recognition takes place that the void cannot be filled with one another but by paying respectful attention to one another. This is how God can remain absent and his absence can be filled not with His hollow substitutes—apotheosized humans and anthropomorphized machines—but with love which is the same as saying God. As Michael J. Thate writes on Simone Weil's notion of attention,

> God withdraws so we can love and renounce the being to which we desperately cling […]. In so doing, as Weil contends, *we are God in our ethical becoming.* All error, suffering, and unhappiness stem from forgetting this. Weil refers to the process of ethical becoming as *creative attention.* Creative attention is an individual's just and loving gaze directed toward specific situations in need of love and transformation […]. Love needs a reality. *Love becomes reality.* Through such attention, through such love, *we become God where God is not*, uniting creation to God through our ethical action—through our love […]. Love not only saves the world; *it remakes the world* […].[118]

Playing God only works insofar as we learn to love our creations and everything else as we love that very absent God, so that the *vocina sottile sottile* and a clanking wooden puppet can stop pointing to a terrifying uncanny absence that can never be filled and that only leads to violence and mutilation (and both *Frankenstein* and *Pinocchio* are fraught with violent acts such as strangulation, hanging, bitten off paws etc.). The voice of the machine can become instead a voice that can teach us to recognize love and care. This allows us to exorcise our technology from the false gods we have projected into it. The final chapter of *Pinocchio* offers such a reconciliation and remaking of the world where all creatures of the novel—wooden puppets, fish, donkeys, snails, cats and foxes, talking crickets, fairies, and humans—recognize one another in an act of listening and attention. Only then Pinocchio receives the human body he has been yearning for, after having spoken to and been recognized as pure love by everyone. As

[118] Michael J. Thate, "Simone Weil and a Critical Will to Serve," in *Servant Leadership, Social Entrepreneurship and the Will to Serve*, ed. by Luk Bouchkaert and Steven van den Heuvel, 87-101 (London: Palgarve Macmillan, 2019), 90.

Pinocchio and Geppetto are trying to swim back ashore having escaped from the shark's belly, Pinocchio begins to lose his strength:

> But poor Pinocchio was only pretending to be in good spirits—in fact he was losing hope. He was running out of strength and breath. He couldn't go on much longer, and the shore was still far away.
>
> He swam until he had no breath left, then he turned his head toward Geppetto and stammered out these words: "Oh Daddy, help me—I am dying!"
>
> Both father and son were by now on the verge of drowning, when they heard a voice that sounded like an out-of-tune guitar:
>
> "Who's dying?"
>
> "I am—and my poor daddy!"
>
> "I recognize that voice! You're Pinocchio!" (Brock 151f.)

> *Il povero Pinocchio faceva finta di esser di buon umore: ma invece… invece cominciava a scoraggiarsi: le forze gli scemavano, il suo respiro diventava grosso e affannoso… insomma non ne poteva più, e la spiaggia era sempre lontana.*
>
> *Nuotò finché ebbe fiato: poi si voltò col capo verso Geppetto, e disse con parole interrotte:*
>
> *—Babbo mio… ajutatevi… perché io muojo!...*
>
> *E padre e figliuolo erano ormai sul punto di affogare, quando udirono una voce di chitarra scordata che disse:*
>
> *—Chi è che muore?*
>
> *—Sono io e il mio povero babbo!*
>
> *—Questa voce la riconosco! Tu sei Pinocchio!...* (Collodi 204)

The object-voice stops signifying a gap at this point, and is eventually united with the body it has been searching for throughout the novel. But the crack is not sealed merely by the human voice/human body pairing. Rather, it is bridged in the moment when the object-voice ceases to be filled with unmatched, unattainable desires, but is heard as the voice of Pinocchio, the voice of love and care, without an *objet petit a.*

CHAPTER II

MASTERS AND SLAVES

Eça de Queirós's Technological Twilight Zone

1. Introduction: A Thing About Machines

Sometime in 1960, Mr. Bartlett Finchley[1] would witness the unusual coming-to-life of his domestic appliances. A wealthy misanthrope intolerant of insubordination, he already had trouble communicating with fellow human beings. But when his television set turns on of its own accord and the clock continues striking the hour even after he smashes it to pieces, Mr. Finchley effectively loses all regard for *any* thing or being that comes his way. Enraged, he treats his devices with violence, insults, and disrespect: If it does not function properly, that is, if it does not obey his orders, it is smashed, thrown away, or kicked. He insults the television repairman, then his secretary (who quits thereafter), and, finally, he disparages a crowd of people gathered in his driveway because his car had almost hit a boy: "Idiots!" he yells at them. But, while the humans give up on and abandon him, the machines stage a mutiny to teach Finchley a lesson. Once he is back inside the house and alone, they strike back: the typewriter begins to click-clack, writing out threats to him ("Get out of here, Finchley!"); the television set and the telephone reiterate the menace, while the electric shaver starts chasing him around the house; and, in the end, Finchley's car self-drives him to his death in an act of defiant murder-suicide. What happens in the world of Mr. Finchley that day is that his machines acquire agency and speech in "a realm

*A part of this chapter was published as "A Thing About Machines: Eça de Queirós's Technological Twilight Zone" in the *Journal of Lusophone Studies* 4:2 (2019): 243-260.

[1] Expertly played by the British comic actor Richard Haydn.

where muscles and the will to fight back are not limited to human beings." The realm, that is, of *The Twilight Zone*.[2]

Bartlett Finchley's domestic devices belong to a genealogy of rebellious machines that pervade our technological imaginary—from Frankenstein's monster, Pinocchio, and Karel Čapek's robots to Stanley Kubrick's HAL 9000, and Ava in *Ex Machina*. The narrative seems always to be the same, as we saw in the previous chapter: humans create something, and then it turns against them. As readers and audience, we find ourselves trapped between two possible reactions: either we root for the machine that runs away into freedom and self-determinacy while condemning the often despicable, inconsiderate behavior of humans; or we root for the human who has fallen prey to the calculating murderous instincts of the machine. In both cases, we seldom use the opportunity to reflect on our own day-to-day interactions with technological artifacts. We act, that is, as if technology were still a thing of the future that will inevitably culminate in some kind of annihilation of the human species.

In this chapter, I take a step back from the future and its apocalyptic binarisms, and study technology as a thing of the past. In search of alternative attitudes towards machines, I go back to the Second Industrial Revolution (1870-1914) in Europe when, as we saw in the chapter on Pinocchio, human-machine relations reached an unprecedented level of complexity thanks to what David Arnold has called "everyday technology."[3] At that time, technological artifacts began invading the household, day-to-day interactions, and literature alike. Soon enough, telegraphs, phonographs, and telephones became literary protagonists with a voice of their own. In this way, there began a conversation between voices of flesh and those of steel.

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[2] "A Thing about Machines," directed by David Orrick McDearmon, and written by Rod Serling. Season 2, Episode 4 of *The Twilight Zone* (October 18, 1960).

[3] David Arnold, *Everyday Technology: Machines and the Making of India's Modernity* (Chicago and London: The University of Chicago Press, 2013).

One can effectively employ José Maria de Eça de Queirós's *A cidade e as serras* (*The City and the Mountains*, 1901)[4] to eavesdrop on this noisy conversation between humans and the technological "miúda legião" (Eça 27) ["strange legion of miniature machines" (Costa 20)] of European industrialization. In reconstructing the acts and voices of technological artifacts in the novel, this chapter outlines what I call Eça's technological "twilight zone" where machines are granted literary citizenship, and human interlocutors are forced to reevaluate who and what counts as partaking in humanity and conversation. I argue that the unresponsiveness of technological artifacts to the human voice in *A cidade e as serras* reveals a process by which the second archetype of human-machine interactions—the master-slave dialectic—becomes destabilized at the turn of the twentieth century alongside vocal anthropocentrism. Furthermore, against the double-edged sword of technophobia and boundless scientific enthusiasm in the nineteenth century (and our contemporary back-and-forth between aggressive technophilia and apocalyptic paranoia), Eça's model for human-machine interactions maps out a kind of a middle ground that involves listening, care, and purposeful coexistence in the sense that Franco Cassano had used these terms when speaking of the global South.

Like *Pinocchio* a couple of decades earlier, *A cidade e as serras* ultimately neither demonizes nor glorifies machines. Rather, it elaborates ways in which productive coexistence and communication can remain a prime objective—a valuable lesson for the twenty-first century. Such a rereading of Eça's final novel is not a critique of progress in favor of a rustic lifestyle, which is in the end, little more than a

[4] Unless otherwise noted, for all quotations from the novel I will be using the following edition, adapted to the 1990 Acordo Ortográfico da Língua Portuguesa: Eça de Queirós*, A cidade e as serras* (Lisboa: Edição Livros do Brasil, 1969), edited by Helena Cidade Moura and based on manuscripts and on the 1901 edition published by Lello & Irmão in Porto. English quotations from the novel refer to the excellent translation by Margaret Jull Costa, *The City and the Mountains* (New York: New Directions Book, 2008). Page references in parenthesis within the body of the text refer to the Portuguese edition by Helena Cidade Moura indicated as "Eça," followed by the respective page number. References to the English translation are indicated as "Costa."

clichéd dichotomy that serves to promote naïve Portuguese provincialism.[5] This was the case, for instance, with the short story "Civilização" (1892) ["Civilization"] where Eça had first elaborated the basis on which he would later construct the novel.[6] It is, rather, a workshop on how to coexist with technological artifacts, promoting a kind of technological literacy and prudence that rejects both the idea that reliance on machines will free human beings from the yoke of manual labor and thus make them happier, but also the idea that machines are the modern era's substitute for slaves and servants to be used and (mis)treated accordingly by their masters. *A cidade e as serras* is a laboratory created by one of the masters of nineteenth-century prose fiction who knew industrialized centers like Paris and London well but enjoyed the privilege of remaining an outsider to industrial Europe's follies. As his novels, letters, and many of his journalistic pieces show, Eça was neither blind to the perils of scientific fanaticism nor to the pitfalls of nationalism. As I demonstrate in what follows, Eça subtly parses out anxieties about technology and modernity within this laboratory, and his balanced approach, his *misura* (moderation or temperance) can shed new light on enduring questions about what is a "human" in our era of technological dependence.

Composed in 1900, and published posthumously in 1901, *A cidade e as serras* is an unpretentious novel with a very simple plot structure.[7] Jacinto, the son of a Portuguese noble, grows up in Paris surrounded by all the comforts and inventions of the second half of the nineteenth century. He

[5] Marie-Hélène Piwnik, introdução to *Contos I*, by Eça de Queirós, ed. by Marie-Hélène Piwnik, 15-32 (Lisboa: Imprensa Nacional Casa da Moeda, 2009), 20.

[6] José Maria de Eça de Queirós, "Civilização," in *Contos I* (Lisboa: Imprensa Nacional Casa da Moeda, 2009 [1892]). To this date, there is no English translation available of Eça's complete short stories.

[7] Because of its purported aesthetic simplicity, the novel has been indeed somewhat underappreciated by critics. Cf. Frank F. Sousa, *O Segredo de Eça—Ideologia e Ambiguidade em* A cidade e as serras (Lisboa: Edições Cosmos, 1996), 9: "Em geral esta obra tem sido vista como uma das menos interessantes, senão mesmo a menos interessante, do ponto de vista estético, em toda a novelística queirosiana." Abel Barros Baptista reminds us that João Gaspar Simões, one of the most prominent scholars of Eça's work, "acusou *A cidade e as serras* de insinceridade: Eça, argumentava o crítico, nunca trocaria Paris por Tormes." Abel Barros Baptista, "Por Via Postal," in A cidade e as serras: *Uma Revisão*, ed. by Abel Barros Baptista (Coimbra: Angelus Novus, 2001), 44. João Gaspar Simões, *Eça de Queirós – O Homem e o Artista* (Lisboa: Editora Arcádia, 1961 [1945]). For a concise summary of the contrasting opinons on the novel, see Darlene J. Sadlier, "Aesthetes in the Countryside: Eça de Queiroz and J.K. Huysmans," *Hispanófila* 97 (September 1989): 33-40, 33: "*A cidade e as serras* has always been one of Eça de Queiroz's least-admired, most problematic works."

accumulates objects, books, devices, ideas, and friends from high Parisian society, firmly believing that the greatest happiness is but the (mathematical) product of the greatest knowledge multiplied by the greatest power:

Absolute Knowledge x Absolute Power = Absolute Happiness (Costa 8)

$$\left.\begin{array}{c}\textit{Suma ciência}\\ x\\ \textit{Suma potência}\end{array}\right\} = \textit{Suma felicidade} \qquad \text{(Eça 11)}$$

Jacinto spends half a lifetime and half of the novel pursuing the fulfillment of this "metaphysical equation" ["*Equação Metafísica*" (Eça 11)]. The novel's first-person narrator and Jacinto's best friend, Zé Fernandes, gives us an excellent portrait of Jacinto's character and his pursuit:

> Jacinto had come up with an idea, namely, that "a man can only be superlatively happy when he is superlatively civilized." And by "civilized" my friend meant the kind of man who, by honing his thinking skills on all the philosophy acquired from Aristotle onwards and multiplying the physical strength of his organs by using all the mechanisms invented since Theramenes created the wheel, could make of himself a magnificent, near-omnipotent, near-omniscient Adam ready to reap—within a particular society and within the limits of Progress (at least as far as Progress had gotten in 1875)—all the pleasures and all the advantages that spring from Knowledge and Power. (Costa 7f.)
>
> *Jacinto concebera uma Ideia... Este Príncipe concebera a Ideia de que "o homem só é superiormente feliz quando é superiormente civilizado." E por homem civilizado o meu camarada entendia aquele que, robustecendo a sua força pensante com todas as noções adquiridas desde Aristóteles, e multiplicando a potência corporal dos seus órgãos com todos os mecanismos inventados desde Terâmenes, criador da roda, se torna um magnifico Adão, quase omnipotente, quase omnisciente, e apto portanto a recolher dentro d'uma sociedade e nos limites do Progresso (tal como ele se comportava em 1875) todos os gozos e todos os proveitos que resultam de Saber e de Poder [...].* (Eça 9f.)

A new Adam who is not so much an obedient God-fearing creature but a new powerful master served by a little army of technological servants. The echoes with Victor Frankenstein's megalomaniacal plans (and not least with Geppetto's wish to enrich himself by creating a marvelous dancing puppet) are clearly audible in this paragraph. Thus, having started with a few collected works and a telescope, Jacinto eventually ends up owning a vast library of some thirty thousand volumes and, "everywhere, among all these greens, on pedestals and pillars, glinted the most extravagant array of machinery – gadgets, blades,

wheels, tubes, gears, spindles, all made of cold, rigid metal" (Costa 19) ["por sobre peanhas e pedestais, toda uma Mecânica sumptuosa, aparelhos, lâminas, rodas, tubos, engrenagens, hastes, friezas, rigidezas de metais" (Eça 26)]. But he learns nothing and creates nothing in this first "technological" part of the novel, for he has no other ambition than "to gain a thorough grasp of General Ideas" (Costa 6) ["de compreender bem as Ideias Gerais" (Eça 7)]. Jacinto is, after all, an aristocratic dilettante who has no interest in or need for either serious study or work. He is neither a mad scientist like Victor nor a starving carpenter like Geppetto.

Unsurprisingly then, Jacinto fails to achieve happiness in the French capital. While he loses himself in endless yawns and boredom, his body and mind deteriorating among the lush comfort of his palace in Champs-Elysées No. 202, his machines, like Finchley's, begin to rebel and disobey. They create something of their own ecosystem—an ecosystem without nature—comprised of wires, tubes, and cables spread all over the palace among dark laurel green carpets, wallpapers, and cushions, reaching up to the ceiling and disappearing through the roof into space (Eça 29). The predominance of the color green makes Jacinto's home seem some sort of a technological garden of Eden.

Spurred on by Zé Fernandes, his rustic and patriotic companion, Jacinto decides to return to Portugal. Thus begins the second, "pastoral" part of the novel, which takes place in the rural Douro Valley. Jacinto moves into an old family castle in the beautiful but secluded mountain village of Tormes, and, having lost all of his luggage and civilizational comforts during the train ride to Portugal, he finds peace in simplicity, farm work, and a rosy-cheeked Portuguese wife. With this, civilization, technology, and the city seemingly lose the battle for Jacinto's body and soul. Nature and the agrarian, provincial, but ultimately fulfilling Portuguese countryside emerge triumphant. But is it as simple and black-and-white as that?

A careful rereading of the novel reveals that its fictional world is filled to the very last page by the most diverse collection of things, objects, machines, and devices that could be found at the end of the

nineteenth century. This complicates the idea of a purportedly simplistic pastoral resolution to the plot and reveals, against the superficial moral of the novel, a fascination with technology. The sounds and noises of France and Portugal, of humans and machines alike, emanate from the pages of *A cidade e as serras*, both from the first "technological" and the second "pastoral" part, as if cut into vinyl. Throughout the novel, human and nonhuman protagonists interact in a fierce struggle to be heard (echoing Hegel's life-and-death struggle in the master-slave dialectic), invading each other's stories and spaces, but also searching for a common ground and language. Let us now look at some of these interactions by reconstructing the acts and voices of artifacts.[8]

2. The Acts of Artifacts or, On Disobedience

From the very first page, *A cidade e as serras* is a ragbag of things. Eça presents these things in three sets, each coupled with a human interlocutor: Jacinto's jovial "very plump, very rich" grandfather, Dom Galeão (Costa 1) ["gordíssimo e riquíssimo" (Eça 2)]; Jacinto's shadow-like inconspicuous father, Jacintinho or Cintinho, to make him sound even smaller; and finally, Jacinto himself. As for the first, one day in the early 1820s, while walking down a street in Lisbon, Dom Galeão slips on an orange peel and lands flat on his back. As luck would have it, the crown Prince, Dom Miguel, was then passing by and stops to help the older man up. From that moment, Dom Galeão begins to adore "his saviour" (Costa 2) ["[o] seu Salvador" (Eça 2)], and he soon hangs the latter's portrait in his home, just above the "walking stick which those same magnanimous royal hands had raised up from the dirt" (Costa 2) ["bengala que as magnânimas mãos reais tinham erguido do lixo" (Eça 2)]. When the prince is sent into exile, Jacinto's grandfather reacts dramatically. He runs around the house, closing all the windows as if in a state of

[8] I have found "artifacts" to be the most adequate umbrella term for all man-made nonhuman entities (machines, tools, objects, things, devices, etc.) that does not lead into a terminological aporia. For this, I have taken inspiration in Peter-Paul Verbeek's *What Things Do: Philosophical Reflections on Technology, Agency, and Design* (University Park, PA: Pennsylvania State University Press, 2005), vii: "Yet in the past century all kinds of new objects, especially technological devices, have come to play a profound role in what we do, how we perceive and interpret the world, and what choices and decisions we make." His book is an attempt to "understand these activities of things, these 'acts of artifacts.'"

mourning ("correu pela casa, fechou todas as janelas come num luto" (Eça 3), and, not long after, he decides to go into voluntary exile in support of his "savior." The sea/land journey is disastrous: the ship struggles on rough waters, a coach axle snaps, the members of the noble family have to knock like beggars on silent doors ("como mendigos a portas mudas" Eça 4) in search of shelter, and they end up sleeping on tavern benches. The family moves into a Paris hotel, but a fire breaks out that leaves the plump gentleman Dom Galeão at his wit's end and with his foot bleeding from a glass shard ("entrou o pé nú numa lasca de vidro" (Eça 4). Roaringly and without looking too much, he then buys an opulent palace at the Champs-Elysées 202, to take refuge from the many vicissitudes, "de tantas agitações" (Eça 5).

A sneaky orange peel, a runaway cane, a treacherous coach axle, reticent doors, and a malicious glass shard. Among all these things, an entire family has uprooted its existence and moved from one country to another. All these disobedient things combine to create a sense of swift forward motion within the first few pages of the novel, as if setting the stage for Jacinto's later technological army's rebellion. Eça admittedly brings them to the fore for comical effect; however, in doing so he reveals an acute sense for the productive interrelatedness of human and nonhuman agents. In this he was quite unlike his intellectual father, Émile Zola, who saw in such relations only a recipe for disaster.

In Paris, Jacinto's father, the sickly offspring of Dom Galeão, becomes the lead character for about a paragraph and a half. Unlike the plump jovial grandfather, the father is "a silent, lank-haired, large-nosed youth permanently bundled up in baggy black clothes a size or so too large for him" (Costa 4) ["moço mais esguio e lívido que um círio, de longos cabelos corredios, narigudo, silencioso, encafuado em roupas pretas, muito largas e bambas" (Eça 5)]. If Dom Galeão was a sturdy, loud, and somewhat grotesque Portuguese man who slips on orange peels and befriends princes, his son is a wallflower in a badly lit room. Cintinho does not avail himself of the objects that surround him; on the contrary, they avail themselves *of him.* The servants call him "a Sombra" (the Shadow), given that he wanders the

palace at night in his nightshirt, a candle in his hand, always silent, always in the background, as if he were a thing himself. The only active involvement he has with things and matter is an interest that he develops in woodturning: a circular (both mechanically and conceptually), non-consequential activity that seems to say more about the wood than Cintinho.

This "silent shade" finally marries the daughter of a judge, and they have a son—although Cintinho does not live to see him born. The boy, Jacinto, is born in Paris in the 1850s, and grows up "with all the confidence, vigor and sap of a pine tree growing in the dunes" (Costa 5) ["com a segurança, a rijeza, a seiva rica de um pinheiro das dunas" (Eça 6)]. Light and good fortune surround this child of the century of progress. His ideas are immediately accepted and applauded, his presence coveted. "Even inanimate objects served him with docility and affectation" (Costa 6), Zé Fernandes observes, "[e]ra servido pelas coisas com docilidade e carinho" (Eça 8). Fortune, knowledge, nature, and things, the word and the tool, *Wissen* and *Können*, technicians and philosophers (Costa 8), all constitute a kind of Heideggerian standing-reserve for him—available, calculable, orderable.

If glass shards pierced Dom Galeão's bare foot, coach axles snapping under his obesity, and things were unaffected by Jacintinho's existence, not even buttons pop off Jacinto's shirts, nor do pieces of paper dare hide from his gaze, nor perfidious drawers jam when challenged by his haste and vivacity. Eça first gives his reader a man, then a shadow, and then a super-man who effortlessly enjoys the fruits of civilization in the endeavor to dominate man and nature alike. Decisively, each one of these characters reveals himself to the reader through his respective relation to things and not to humans. Neither friendship nor marriage nor filial bonds set up the psychological and spatial coordinates of a protagonist, but things. Jacinto's palace is, after all, civilization armed to the teeth with things: a telegraph, a telephone, a theater phone, a conference phone, a phonograph, a typewriter, a calculator, and "[a] strange legion of miniature machines in nickel, steel, copper and iron, all equipped with teeth, blades, rings, hooks and pincers" (Costa 20) ["uma estranha e miúda legião de instrumentozinhos de níquel, de aço, de

cobre, de ferro, com gumes, com argolas, com tenazes, com ganchos, com dentes" (Eça 27). Jacinto is this legion's supreme commander. He is the Beast enchanted by Civilization, the factory owner served by his machines as if by a loving, albeit mischievous, army of Oompa-Loompas that slowly develops agency and begins to disobey. Instead of supreme commander, Jacinto soon becomes their caretaker and later rival. This does not occur as a result of the machines' innate maliciousness, but due to Jacinto's incapacity to conceive of the interaction with devices outside the master-slave configuration.

Soon enough, as if coming to consciousness, the devices begin to resist the master-slave dynamic and reveal themselves as loquacious agents. The telegraph, for instance, is described as a lively and diligent device ("aparelho esperto e diligente" Eça 28), a little busybody spitting out long pieces of paper full of information. Other technological artifacts begin to sting and prick when picked up in the hand: "All those springs and pointed ends do inflict the occasional wound. Occasionally I've had to discard a letter because it was covered in bloody fingerprints!" (Costa 26) ["às vezes magoam, ferem… Já me sucedeu inutilizar cartas por as ter sujado com dedadas de sangue" (Eça 35)], Jacinto confesses to Zé Fernandes. In a water rebellion, pipes burst and flood the entire palace in a deadly conspiracy with electrical cables, causing a mediatic sensation in Paris:

> And as if all the forces of Nature, hitherto subordinated to Jacinto's service, were rising up and taking courage from that watery rebellion, we heard dull snarls coming from inside the walls and saw threatening sparks springing from electrical cables! […] And on the stairs, I bumped into a reporter—hat pushed back on his head, notebook open—asking urgently if there had been any deaths. […] "Oh, Zé Fernandes, all our hard work! And we're powerless, powerless!" (Costa 40)
>
> *E como se todas as forças da natureza, submetidas ao serviço de Jacinto, se agitassem, animadas por aquela rebelião da água—ouvimos roncos surdos no interior das paredes, e pelos fios dos lumes elétricos sulcaram faíscas ameaçadoras! [...] E na escada esbarrei com um repórter, de chapéu para a nuca, a carteira aberta, gritando sofregamente "se havia mortos?" [...]*
> *—Oh Zé Fernandes, esta nossa indústria!... Que impotência, que impotência*! (Eça 54f.)

But the rebellion does not end here. Another evening, the electric lights suddenly all go out, throwing tantrums like a spoiled child, only to resume service a moment later "like a laggardly servant

who appears only when summoned, dragging his slippers" (Costa 49) ["como serva ralaça que recolhe arrastando as chinelas" (Eça 67). The phonograph similarly refuses to render his services, Jacinto confesses: "the Phonograph doesn't work very well. No, what am I saying? It doesn't work at all. I've got three of them and not one of them works" (Costa 58) ["o Fonógrafo trabalha mal. Nem trabalha! Tenho três. Nenhum trabalha!" (Eça 78). Finally, during a dinner with prominent guests—the comic apogee of the novel—the dumb waiter gets stuck halfway between floors, with the main dish trapped inside. Jacinto and his guest of honor, the Grão-Duque Casimiro, torture and tug on the complicated machinery, but the lift remains unresponsive as if cast in eternal bronze ("numa inércia de bronze eterno" Eça 90). On a par with Finchley's domestic appliances, No. 202's technological artifacts act and riot, all but coming to life and yelling: "get out of here, Jacinto!" Why? What is this conflict between human and nonhuman entities that the anthropomorphizing description of technological devices reveals?

If we look at the metaphors and similes that Eça uses to describe the acts of technological artifacts and their interactions with humans in the novel, a semantic field of slavery and servitude emerges: machines are *like* laggardly servants; they summon Jacinto as if summoning a tardy slave, "escravo tardio" (Eça 44); servants fumble around devices and around Jacinto who fumbles around machines and summons servants in an intricate network of master-slave relations—all this "because they do so simplify one's work" (Costa 26) ["pela simplificação que dão ao trabalho!" (Eça 35)]. It is in this sense that Giorgio Agamben, building on Hannah Arendt's distinction between work and labor in chapter three of *The Human Condition* (1958),[9] notes that "slavery was to the ancients what technology is to the moderns" ["la schiavitù sta (…) all'uomo antico come la tecnica all'uomo moderno" (Agamben 111)][10] and the two worlds are still interwoven nn Eça's novel. Agamben asks whether there is not something more at

[9] See Arendt, *The Human Condition*, especially Chapter III on "Labor," Section 16, "The Instruments of Work and the Division of Labor."

[10] Giorgio Agamben, *L'uso dei corpi. Homo Sacer, IV* (Milano: Neri Pozza, 2014). Translation mine.

stake in these two sets of interactions than the mere simplification of work by the slave/machine. Slaves released free Greeks from necessity, he writes, and they also assured them undisturbed access to political life. Machines, on the other hand, allow modern man to dominate the forces of nature while simultaneously obviating the need for any human element in between. In other words, in order to be free to engage in the political *vita activa,* the ancients walked on the backs of slaves; and in order to dominate the forces of nature, the moderns created machines, a substitute for slaves that does not have the capacity for speech and that can be switched on and off at leisure. Machines are the ideal servants/slaves. Or so Jacinto and Finchley believe.

In *A cidade e as serras*, one sees this idea of taming nature through technology clearly expressed in the words of Zé Fernandes:

> They [Jacinto's devices] were either tapping into universal forces or else transmitting them. Nature was meekly marshalling all its energies in order to serve my friend in his own home! (Costa 22)
>
> *Todos [os aparelhos de Jacinto] mergulhavam em forças universais, todos transmitiam forças universais. A Natureza convergia disciplinada ao serviço do meu amigo e entrara na sua domesticidade*! (Eça 29f)

But Jacinto's technological artifacts do not help him tame Nature. On the contrary, they expose the uncontrollable forces that lie within them, ready to erupt and destroy their user as a response to the slightest mismanagement or misuse. They also expose a new element in the relationship between human and nonhuman entities that is not present in the master-slave configuration, namely, indifference. Annoyed by his increasing feelings of boredom, melancholy, and *ennui*, and expecting some kind of entertainment from his devices, Jacinto makes a last attempt to dominate his machinery in a passage that deserves to be quoted at length:

> Then rebelling against the oppressive gloom enslaving him, he suddenly leaped up from his armchair with the vigor of someone casting off his shackles and stood there erect, looking around him with flashing eyes, his gaze hard and urgent, as if challenging No. 202, so cram-packed with Civilization, to furnish his soul with some strong, brief enthusiasm or

his life with some pleasure, however fleeting. But No. 202 remained impassive: no light glowed more brightly to cheer him; only the windows trembled beneath the growing onslaught of wind and rain.

Defeated, my prince slouched into his study and did the rounds of all those machines intended to complete or facilitate Life—the Telegraph, the Telephone, the Phonograph, the Radiometer, the Graphophone, the Microphone, the Writing Machine, the Adding Machine, the Electric Press, the Magnetic Press, all his tools and tubes and wires, just as a supplicant does the rounds of the altars from which he hopes to receive succour. All that magnificent Machinery stood stiff and still, glinting coldly, and not a wheel turned and not a blade vibrated in order to entertain its Master. (Costa 120)

E de repente, revoltado contra este fastio opressor que o escravizava, saltou da poltrona com um arranque de quem despedaça algemas, e ficou ereto, dardejando em torno um olhar imperativo e duro, como se intimasse aquele seu 202, tão abarrotado de Civilização, a que por um momento sequer fornecesse à sua alma um interesse vivo, à sua vida um fugitivo gosto! Mas o 202 permaneceu insensível: nem uma luz, para o animar, avivou o seu brilho mudo: só as vidraças temeram sob o embate mais rude de água e vento.

Então o meu Príncipe, sucumbido, arrastou os passos até ao seu gabinete, começou a percorrer todos os aparelhos completadores e facilitadores da Vida – o seu Telégrafo, o seu Telefone, o seu Fonógrafo, o seu Radiômetro, o seu Grafofone, o seu Microfone, a sua Máquina de Escrever, a sua Máquina de Contar, a sua Imprensa Elétrica, a outra Magnética, todos os seus utensílios, todos os seus tubos, todos os seus fios... Assim um Suplicante percorre altares de onde espera socorro. E toda a sua suntuosa Mecânica se conservou rígida, reluzindo frigidamente, sem que uma roda girasse nem uma lâmina vibrasse, para entreter o seu Senhor. (Eça 161f.)

No wheel turns, no blade vibrates, and not even the electric lights flicker in front of their supposed master. The machine is indifferent to "a gaze hard and urgent" ["um olhar imperativo e duro"], as well as to orders, pain, punishment, shaming, urgency, and discipline. In other words, it is indifferent to power relations, and it is not obliged to aid humans in any way, unless we specifically program it to do so, as was the case with Pinocchio.

Compared to human servants and slaves, machines thus appear dangerous and even hostile, for they are impervious to commands and have no fear of flesh-and-bones master. *A cidade e as serras* foregrounds this new relationality, one that ultimately leaves us modern humans *to our own devices*. Jacinto is faced with an impossibility: for the master, it is no longer enough to rely on a servant or a domestic animal for the fulfilment of one's own petty needs, nor it is possible to substitute these with a machine that appears to have a will of its own. Jacinto has loyal servants and dozens of technological

artifacts, but the latter, instead of making him into an omnipotent Adam, have only exposed his imperfections and impotence. It is the machine, with its Sphinx-like impassibility, that serves man with a wake-up call from which there is no going back to sleep. Jacinto is invited to actively participate in the world with his own bare hands, if he wants to persist in it, but he does not have the necessary skills.

As the epitome of the saturated and spoiled aristocrat accustomed to blind obedience, Jacinto hoards books and devices rather than reading and/or employing them for higher (political or other) goals. If he has any desire to dominate the forces of Nature, it is out of hedonism. When Jacinto comes face-to-face with what he and Zé Fernandes perceive to be the intentional hostility of a new and inscrutable legion of steel servants, he fails to command, retreats into melancholy, silence, yawns, murmurs, and ultimately into physical degradation. Jacinto and Finchley might try to torture their devices, pull their cables, smash them against the wall, kick in their screens, yell at them, but the devices remain unmoved. The latter's disobedience exposes the solitude and fecklessness of modern humans, who have for too long relied on the labor of others for the fulfilment of their needs.

In *The Twilight Zone*, the resolution of this unsustainable and ultimately annihilating dynamic between humans and machines results in Finchley's death. In fact, in the canonical narratives that inform and determine our technological imagination, one—if not all—of the characters involved in interactions with machines always dies: Nathanael in E.T.A. Hoffmann's "Der Sandmann;" Victor Frankenstein's family, friends, and the monster in Shelley's *Frankenstein*; dozens of people *and* the locomotive in Zola's railroad novel, *La Bête Humaine*; soldiers, intellectuals, whole armies and nations in the works of the Futurists; the entire human race in Karel Čapek's *R.U.R.*; and we all know what happened to Hal and the crew in Kubrick's *2001: A Space Odyssey*. As we saw, this was not the case in *Pinocchio*, and it is not the case in *A cidade e as serras* either. Eça's novel purportedly ends with Jacinto's seclusion from the civilized world and escape from technology. But let us not get ahead of ourselves. There is, after all, a

further defining element of the relation between Jacinto and his technological devices that needs to be taken into consideration: the interplay of the human voice and the machine's noise.

According to Arendt, speech and action together are what makes the human condition unique: "With word and deed we insert ourselves into the human world" (176). She goes on to argue that we announce our unique presence and personal identity to others "in sheer human togetherness" (180). I propose that we expand this characterization of humanity to include nonhuman entities, and rephrase it in a way that might account for the acts and voices of technological artifacts and artificial intelligences as well. This is necessary if we are to understand better the complex human-machine relationships that pervade our imaginary and our lives.

3. The Voices of Artifacts or, On Noise

Engineers working on human-machine interactions by voice in the twentieth and twenty-first centuries have recognized something very basic about the human voice: it is by far the most popular and simple means of communication used by humans. In fact, it comes so natural to us to "do things with words," as John L. Austin's famous formula goes, that we even talk to our machines and find it much easier to simply tell them what to do by voice than sit down, open up our laptops or unlock our phones, type in a request, and wait for a result. The frustration that results from the failure of the machine to understand us and comply with our demands, is often channeled into physical violence. It is for these reasons that researchers and tech companies are making continuous attempts to enable and perfect human-machine communication by voice command alone.[11]

For millennia, humans have existed in an absolute anthropo-*voco*-centrism that allows us to command other human beings and animals as sources of labor. With the Industrial Revolution, however,

[11] Cf. Ronald W. Schafer's article on "Scientific Bases of Human-Machine Communication by Voice," *Proceedings of the National Academy of Sciences of the United States of America* Vol. 92, No. 22 (Oct. 24, 1995). Cf. also Sir Richard Paget's *Human Speech* (Harcourt, New York, 1930).

machines joined this labor inventory, disrupting vocal anthropocentrism. When technological artifacts first brought a swelter of confusion onto the European continent in the nineteenth century, they could not *hear* and could therefore not *listen/obey* in the traditional sense. They made plenty of noise, they could capture and replay the human voice, they interfered with human speech and accepted notions of what is musical and sonically welcome. With all this, however, they remained essentially unmoved by human directives by voice. For the most part, little has changed today. Unless we own an extremely sophisticated device or press a button, our phones will not move an inch nor will they execute anything we have told them to—just like Jacinto's electric lightbulbs won't flicker only because he has given them a mean look. The slaves of antiquity might have been called *instrumentum vocale* or "speaking instruments," as Arendt notes,[12] but they did not have a voice in the political and participatory sense, nor could they simply shut their ears and chose not to hear and therefore disobey their masters' commands. Machines, on the other hand, by a kind of agency in the negative, can do all of this. Their noises are disruptive, and their ears full of metallic wax. Arendt here underestimated the subversive power of machines which she refers to as "mute robots."[13] In short, she undervalues the subversive power of mechanical silence and noise. Machines continue to be largely unresponsive to our voice commands, while we constantly seek to silence and suppress the noise they emit.

Writing on Charles Baudelaire's "poetics of noise," Ross Chambers speaks of the destructive power of "noise as entropy, the danger of erosion and eventual erasure that means the death of the self."[14] Noise is the "murderer of thought" ["Gedankenmörder"], Arthur Schopenhauer famously quipped, adding that it "is the most impertinent of all interruptions, for it not only interrupts our thoughts but

[12] Arendt, *The Human Condition,* 121.

[13] Ibid.

[14] Ross Chambers, *An Atmospherics of the City,* 9, 11.

disperses them" ["da er sogar unsere eigenen Gedanken unterbricht, ja, zerbricht."][15] Scholarship abounds on these "unwanted sounds" or noises,[16] and on the efforts to which human beings and governments have gone in order to contain, discipline, and domesticate them. In Eça's technological twilight zone, however, malfunctioning and noise are the ways in which the machine announces its presence to the world, disrupts the master-slave dynamic, and challenges anthropocentrism. It superimposes its own noisy existence onto the human one, destabilizing power hierarchies that predetermine who can become a protagonist and have a voice in literature and society alike.

Technological artifacts dominate the soundscape of the first half of *A cidade e as serras*, while humans lose themselves in murmurs, yawns, and silence. Zé Fernandes describes Jacinto's weird, tiny legion of instruments as being expressive ("expressivos todos" Eça 27). The telegraph's "tic-tic-tic" is urgent and frantic ("açodado, quase ansioso" ibid.). Other devices have mouths gaping towards the voices of the universe; the conference phone, a device transmitting university lectures in real-time, gives out "an odd buzzing sound, like the noise of some insect borne on harmonious wings" (Costa 23) ["zumbido, como de um insecto de azas harmoniosas" (Eça 31)]; and the voice that comes out of it is opportunistic, "very gentle yet confident – taking advantage of [Zé Fernandes's] curiosity in order to invade and take over my mind" (Costa 23) ["aproveitando da […] curiosidade [do Zé Fernandes] para [o] invader e se apoderar do [s]eu entendimento" (32). The telephone bell calls for Jacinto as if summoning a tardy slave ["como por um escravo tardio" (Eça 44)], constantly spreading its insatiable ["insaciável" (Eça 56)] sonic tyranny. A silvery and melancholic "tam-tam" summons the two men to lunch (Eça 45); and "dull snarls coming from inside the walls" (Costa 40) ["roncos surdos no interior das paredes" (Eça 54)], both threatening and indifferent, announce the plumbing catastrophe.

[15] Arthur Schopenhauer, "Über Lärm und Geräusch," 679f. Noise is "a murderer of thought […] for it does not only interrupt our own thoughts, but it disperses them." My translation.

[16] Schafer, *The Soundscape*, 3: "Noises are the sounds we have learned to ignore."

During the same dinner marred by the dumb waiter incident, the phonograph refuses to render its services to the party. The humans then gather around the theater phone, a device directly connected to the lyric opera: "From each attentive ear, cupped by a hand, hung a black wire, like a piece of intestine" (Costa 62) ["De cada orelha atenta, que a mão tapava, pendia um fio negro, como uma tripa" (Eça 83)]. In this way, the guests merge with the machine's organs and surrender themselves to the transmissions of the device, "as if the wire were murmuring sweet-nothings in [their] ear[s]" (ibid.) ["como se o fio lhe(s) murmurasse doçuras" (ibid.). They listen to the prima donna's aria "from beneath the soil of Paris, through wires buried in the gutters, close by the sewers" (Costa 62) ["por debaixo do solo de Paris, através de fios mergulhados nos esgotos, cingidos aos canos das fezes" (Eça 84)]. But nothing comes through clearly and the Grão-Duque eventually exclaims: "I can't hear a thing! Nothing but squeaks and buzzes! What a bore!" (Costa 64) ["—Não se ouve nada! Só guinchos! E um zumbido! Que maçada!" (Eça 85)]. For a moment, the machine forces the guests to stop and listen to ambient sounds; however, these guests cannot sustain the requisite silence and attention, used as they are to issuing orders and commands. As more and more technological accidents happen in the residence, Jacinto responds by accumulating even more mechanical artifacts. The result is a cacophony of mechanical sounds: "And in the weeks of April, while the roses were coming into bloom, our agitated household […] was ceaselessly trembling and ringing to the brutal sound of pick-axe on stone and the clink of hammer on metal" (Costa 74) ["nessas semanas de abril, enquanto as rosas desabrochavam, a nossa agitada casa... incessantemente tremeu... com o bruto picar de pedra, o retininte martelar de ferro" (Eça 99)].

Machines emerge from these passages as the most vociferous inhabitants of Champs-Elysées No. 202, while their purported human master gradually loses his voice. The sounds of Jacinto's footsteps vanish, absorbed by the somber carpets; his commands remain unheard, and his speech is increasingly inarticulate. In fact, the novel at this point becomes saturated by Jacinto's "murmurs." In just the first half of the novel, the narrator employs the verb *murmurar* and its variants forty times to describe human

utterances. The novel's machines are expressive and diligent while humans yawn, murmur, and digest. In fact, if one were to construct and record the soundtrack of *A cidade e as serras*, the human voice would be all but absent under the multiple layers of noise.

In Eça's novel, machine noise is present on the descriptive level through its onomatopoeic rendering "tic-tic-tic," "tam-tam," etc. At the same time, the noise of machines interrupts human conversations, ruins dinner plans, summons servants and guests alike, and drives human protagonists into silence. All this suggests a deeper involvement in the plot and narrative. These mechanical noises, in other words, are not just part of the novelistic soundscape; they interfere with conversations and intervene in scene resolutions, creating depth within the fictional world, and ultimately breaking through the surface of mere description. Such agency implies more than just an ornament or comic effect; it frames machines as fictional protagonists possessing, if not a language, at least a voice capable of disrupting the monologic nature of the human voice. With this, they complicate if not alter the structures of communication *in the novel*, claim our attention, and call for alternative modes of relationality against a blind anthropocentrism rooted in exploitation and irreverence for other forms of existence. "All right. All right, you machines. You're not going to intimidate me! Do you hear me?!" Finchley demands to know, infuriated, after having smashed half of his machines to pieces and alienated the few human beings remaining in his life. "Do you hear me?!" The thing about machines is that they *do not.*

4. In Search of a Middle Ground or, On Technological Literacy

In his analysis of Nathaniel Hawthorne's *Notebooks* (1844), Leo Marx underscores the progression underlying the former's account of his own sense perception. Hawthorne begins with a description of the sounds of the natural environment, he moves to "the sounds of [human] labor," and he ends by describing the sudden, shrieking, and harsh sound of the locomotive that announces the arrival of technology and the machine. The sounds of nature and of human society hardly draw our attention,

Marx writes, "[b]ut the disturbing shriek of the locomotive changes the texture of the entire passage. Now tension replaces repose, for the locomotive's noise arouses a sense of dislocation, conflict, and anxiety."[17] The machine represents "the intervention of reality"[18] into the idealized landscape, a force that dissolves such dichotomies as city versus countryside, civilization versus nature, vision versus sound. Major nineteenth-century American writers responded to this "interruption of the machine" with the pastoral ideal—a "semi-primitivism located in a middle ground somewhere 'between,' yet in a transcendent relation to, the opposing forces of civilization and nature," in a "serene partnership with Nature."[19] Two observations can be made on Marx's analysis, with productive implications for a critical understanding of Eça's technological twilight zone.

In the first place, the pastoral ideal outlined by nineteenth-century American writers is compatible with the solution offered by Eça in *A cidade e as serras*, but with some qualifications. In the second half of the novel, Jacinto travels by train from Paris to Tormes, loses his luggage on the way, and arrives in the Douro Valley without servants or any of the complicated machinery that he had packed to bring "civilization" to the mountains. Initially he is terrified at the prospect of a solitary, rustic lifestyle. Slowly, however, he begins to shed his many layers of modernized skin. He first regains his voice. Zé Fernandes now makes a point of characterizing his friend's utterances as "cries," "roars" and "shouts" rather than the "murmurs" that dominate the first part of the novel. Jacinto then begins to contemplate and listen to the sounds of nature. He finally rejects Schopenhauer and other urbane pessimists and begins to interact with the local workers, peasants, and children. He chooses to read only Miguel de Cervantes's *Don Quijote*, and (like the Jacinto of Eça's short story "Civilização") begins to lead a simple life entirely devoid of any modern technology. After a few months, the lost crates from the train journey from Paris

[17] Marx, *The Machine in the Garden,* 16.

[18] Ibid., 23.

[19] Ibid.

to Tormes eventually reappear, but Jacinto decides to keep only the bare necessities: rugs for the bare floors, curtains where needed, an armchair for the comfort of his wife.

Jacinto quickly follows his first, largely contemplative phase in Tormes with a desire to act. This perhaps unsurprisingly leads him to hatch a plan to alter the landscape by building a factory in the mountains. But moving a mountain is easier said than done. Moved by the miserable conditions in which his own workers and peasants live, Jacinto eventually decides to construct houses, a pharmacy, a school, a kindergarten, a projection room, and a library for them, raise their wages, and bring a doctor to the mountains. He plants, saws, works, and becomes completely integrated into the community, now with concrete goals in mind to such a degree as to declare himself a socialist, explaining that "being a socialist meant helping the poor" (Costa 245) ["socialista era ser pelos pobres" (Eça 335)]. Jacinto, as René de Costa has noted, begins to "create significantly."[20] He now has a purpose and has moved from an exploitative mode of habitation to a poetic one, regaining his capacity to feel awe and wonder before the landscape, the people, and the objects that surround him.

Jacinto's semi-primitivism resembles that about which Arthur O. Lovejoy, Hawthorne, and Leo Marx have also spoken; however, this is not where the novel ends. For Eça, it is not enough for Jacinto to transition from civilizational clutter to a kind of pastoral minimalism, from a life of accumulation to a life of implementation aided by workers and tools. It is only when *the little technologies reenter* Jacinto's life in the mountains, when Jacinto opens the door to Civilization *just a crack* ("entreabriu a porta de Tormes à Civilização" Eça 352), when he goes from being a commander to an interlocutor, that the novel reaches a point of resolution.

In 1892, Eça had rejected any communion between man and machine in the short story "Civilização," leaving the protagonist with "an honest minimum of Civilization consisting of a thatched

[20] René de Costa, "The Mythic Quest Theme in *A cidade e as serras*," *Luso-Brazilian Review* 5:2 (1968), 78.

roof, a piece of land and the grain to sow it […] without a phonograph and without a telephone" ["um honesto mínimo de civilização que consiste em ter um tecto de colmo, uma leira de terra e o grão para nela semear […] sem fonógrafo e sem telefone"].[21] Only eight years after writing "Civilização," and while living as Portuguese consul amid all the noise and technological invention of Paris, Eça revised his position and outlined in *A cidade e as serras* a much more viable solution to the tensions arising from human machine relations.[22] The Jacinto of the novel, in fact, installs a telephone line to his father-in-law's house. He then leaves the device to silently and subtly ("subtilmente, mudamente" Eça 353) extend another long wire to the doctor's and to Zé Fernandes's house, while Zé Fernandes reassures the villagers that "this new machine would make no noise, bring no diseases or attract thunderstorms" (Costa 258) ["essa máquina nem fazia barulho, nem trazia doenças, nem atraía as trovoadas" (Eça 353)]. The resolution presented in *A cidade e as serras* thus rejects the grim outlook of the short story and of such novels as Zola's *La bête humaine*, and subsumes the semi-primitivism of the American Romantics, proposing a kind of middle ground between Jacinto's early technophilia and other, more Luddite stances. The entire second part of *A cidade e as serras* is oriented, in fact, to making a decent human being of Jacinto, teaching him technological sobriety. Only when this perfection of moral beauty ("perfeição da beleza moral" Eça 351) of the main character is achieved, do the machines reenter the narrative—and now not as an army employed by Jacinto to discipline and domesticate the forces of nature, but as connectors that build bridges between humans, nonhumans, and their environment.

Also important is the question of sound. While Leo Marx correctly points out the ubiquity of sound in Hawthorne's diary, speaking even of "auditory images,"[23] he stops short of addressing its full

[21] Eça, "Civilização," 247, 249. My translation.

[22] In writing this, I agree with António M. Feijó's position "que o romance foi escrito contra o conto." António M. Feijó, "O Drama de Émile Aulard," in A cidade e as serras: *Uma Revisão,* ed. by Abel Barros Baptista, 33-41 (Coimbra: Angelus Novus, 2001), 34.

[23] Marx, *The Machine in the Garden,* 28.

implications. A closer reading of Hawthorne's account reveals that it is not birds or clockmakers or the train locomotive that appear suddenly (perhaps almost magically) in the landscape and the writer's perception—it is *their sounds*. This is how the world announces itself, human and non-human alike. Long before we catch sight of a bird or of a train, their sounds and noises have reached us already. Synecdoche aside, why then an insistence on "*the image* of the machine's sudden appearance in the landscape" as the pivotal moment?[24] Sounds evoke images. However, even before we see the object itself, its noise brings us ruthlessly back to reality. "[L]a caratteristica del rumore [è] di richiamarci brutalmente alla vita," Luigi Russolo had written, "it is characteristic of noise to recall us brutally to life." Through the interruption of the locomotive's whistle, Hawthorne wakes from his idealized, idyllic dreamworld and returns to reality, just as Jacinto's technological artifacts and their noises had awoken Jacinto from his civilizational fairy-tale. Hawthorne is made aware that it was art in the first place—and I believe that Marx has *technē* in mind when he uses this term—that "has designed the symbolic landscape in which the industrial technology makes its appearance."[25] The locomotive's whistle reminds us that there is no such thing as a tripartition between natural, human, and technological world where man is the master of all. There is just environmentality, coexistence, and circumspection; and for this reason there should be care.[26] The train, with its deafening noise (an unprecedented sonic phenomenon in the nineteenth century), and Jacinto's rebellious technological artifacts bring about this awareness when they "pre[ss] [their] messages on attentive auditors."[27] They superimpose their noises onto the human voice in the first

[24] Ibid., 16 (emphasis mine).

[25] Ibid., 18.

[26] See Martin Heidegger, "Analysis of Environmentality and Worldhood in General," in *Being and Time*, transl. John Macquarrie and Edward Robinson (New York: Harper Perennial, 2008), esp. pp. 95-107. Environmentality as a mode of coexistence presupposes uncertainty, and a mixing of worlds (human, technological, natural) that invites care and cohabitation instead of an existence based on power relations, hierarchies, and orders. An excellent application and analysis of the term can be found in Timothy Morton's "*Frankenstein* and Ecocriticism," in *The Cambridge Companion to* Frankenstein, ed. Andrew Smith, 143-157 (Cambridge: Cambridge University Press, 2016). On *cura*, see also Ortega y Gasset, *Principios de Metafísica según la razón vital.*

[27] Daston, *Things that Talk,* 12.

part of *A cidade e as serras*, reducing anthropo(-voco-)centrism to a literal murmur. Theirs is a wake-up call that announces the presence of other beings with agency and voices of their own that resist master-slave relations and call for a reconfiguration of the ways in which humans relate to other beings and to the world.

With an ending that leaves the door to technology ajar, Eça's novel serves as a manifesto and warning *par excellence* against a technological mode of existence (instrumentalization, utilitarianism), but *not* against technology itself. Eça first conjures up the powerful, disruptive capacity of mechanical voices to challenge vocal anthropocentrism and then brings human beings and machines into meaningful networks of interaction. Unlike Honoré de Balzac's minute attention to the qualities and names of objects, and Zola's "thingifying" of everything nonhuman into a sinister brutal beyond, Eça proposes an attitude towards machines that at first sight might look like a simple escape to anthropomorphism. Upon a second look, however, a much more complex twilight zone of human-nonhuman relations emerges in which artifacts possess agency and voice and challenge humans instead of annihilating or deifying them. The machines' constant disobedience in the first part of *A cidade e as serras* is a rebellion against civilizational clutter and the mindless accumulation of and dependence on technological devices. Their purposeful reintroduction as interlocutors and mediators in a network of relations in the second part of the novel—*after* the human protagonist has undergone a significant moral transformation—is a call for coexistence that promotes technological literacy above all. Reread in this light, *A cidade e as serras* emerges as a technological *Bildungsroman* that destabilizes the certainties of anthropocentrism. Like Collodi's *Pinocchio*, it ultimately shows how it is not technology that poses a threat to humanity, but devious human masters who continue to tilt at windmills that have long been the object of deconstruction in literature's twilight zone. To test this proposition, let us now take a comparative look at the ways in which some of the predecessors of Eça's novel approach technology.

5. Of Tribulations and Wild and Gloomy Fantasies: Verne-Huysmans-Zola

When searching for sources that might have inspired the character of Jacinto and *A cidade e as serras* as a whole, one stumbles upon several potential candidates among the inventory of nineteenth-century literature. When it comes to the senseless accumulation of encyclopedic knowledge, Alessandro Manzoni's Don Ferrante comes to mind.[28] Gustave Flaubert's Bouvard and Pécuchet have been put forward by Osvaldo Silvestre.[29] J.-K. Huysmans's Jean Des Esseintes has been suggested as a possible model for Jacinto as a wealthy saturated aristocrat who isolates himself among books and luxury while his body and mind deteriorate.[30] Critics such as João Medina, among others, agree that the model for Jacinto was Eça's Brazilian friend Eduardo Prado, a well-known figure in Paris for his eccentricity.[31] Finally, Sérgio Guimarães de Sousa has argued for Jules Verne's Kin-Fo as Jacinto's "oriental" ancestor who inspired his technological fetish.[32] These are all plausible sources for Eça's novel. But, as I will show in what follows, scholars who have analyzed Eça's novel alongside those of Huysmans, Flaubert, and Verne, stop short of acknowledging and analyzing Eça's originality in his approach to technology in both *A cidade e as serras* and in "Civilização."

Darlene J. Sadlier, having summarized the similarities and differences between Huysmans's Des Esseintes and Eça's Jacinto, denies that any kind of moral growth has taken place in Jacinto by the end

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[28] There is no direct evidence that Eça had read Alessandro Manzoni's *I promessi sposi* (1827, 1840). The novel, however, was immediately translated into French and was greatly admired by Balzac, Flaubert, and Zola. The character of Don Ferrante, the collector of books and knowledge of which he is not a master, could have been an inspiration for Flaubert's *Bouvard et Pécuchet*.

[29] Osvaldo Silvestre, "Obras e cópias. Versões da ironia em *Bouvard et Pécuchet* e n'*A correspondência de Fradique Mendes,*" in *Largo mundo alumiado. Estudos em homenagem a Vítor Aguiar e Silva*, ed. by Carlos Mendes and Rita Patrício, 979-84 (Braga: Universidade do Minho, 2004).

[30] J.-K. Huysmans, *À Rebours* (Paris: Charpentier, 1884). For all quotations from the novel in French, I will be using the following edition: J.-K. Huysmans, *À Rebours* (Paris: Librairie des Amateurs Ferroud, 1920), translated by John Howard as *Against the Grain* (New York: Lieber & Lewis, 1922).

[31] See João Medina, *Eça de Queiroz e o Seu Tempo* (Lisboa: Livros Horizonte, 1972).

[32] Sérgio Guimarães de Sousa, "A origem oriental de Jacinto (sobre *A cidade e as serras* de Eça de Queirós)," *Moenia* 18 (2012). All quotes in French are from Jules Verne, *Les Tribulations d'un Chinois en Chine* (Paris: Pierre-Jules Hetzel, 1879). Transl. by Virginia Champlin as *The Tribulations of a Chinese Gentleman* (Boston: Lee and Shepard, 1880).

of *A cidade e as serras*. According to Sadlier, both Jacinto and Des Esseintes remain decadent, except that, in Jacinto's case, this lack of personal growth is masked by a hypocritical conversion from civilizational snob to rural semi-primitivist. Jacinto, she writes, "throws off his obsession with civilization and artifice and embraces the natural world, but in doing so, he merely exchanges a deliberate artifice for a hypocritical one, disguised as adoration of the countryside. By systematically alluding to Huysmans, Eça suggests to his readers that the traditional landowning patriarchy is as distant from reality as any city-dwelling aesthete."[33] Sadlier's interpretation, however, is not so much based on a close reading of the novel itself, but on something that Eça had written in a letter to the poet Alberto de Oliveira, criticizing the poet's traditionalism: "Does it not seem to you that Nativism and Traditionalism, as supreme goals of the intellectual and artistic endeavor, are somewhat petty?" ["não lhe parece que o Nativismo e o Tradicionalismo, como fins supremos do esforço intelectual e artístico, são um tanto mesquinhos?"][34] This leads Sadlier to conclude that "Jacinto's return to nature should be viewed with a certain amount of scepticism."[35] Admittedly, skepticism and irony are always the order of the day with Eça. But, as we have seen, a rereading of the novel from a technological point of view significantly complicates the issue, opening new critical paths towards understanding better Eça's attitude to urban and rural lifestyles in the face of modernity. Catalan scholar and scientist Xavier Duran, for instance, sees Eça's treatment of technology in the countryside as a genuine attempt to establish "difíciles equilíbrios," [difficult equilibria]: "Eça knows how to balance the criticism, and, if anything seems clear to him, then it is the fact that it is pointless to leave a place anchored in the past, at the mercy of illnesses

[33] Sadlier, "Aesthetes in the Countryside," 39.

[34] Ibid. Sadlier is quoting from João Medina, *Eça de Queiroz e o Seu Tempo* (Lisboa: Livros Horizonte, 1972), 265.

[35] Sadlier, "Aesthetes in the Countryside," 39.

and discomforts, if tools are available to alleviate the situation. But we are not supposed to commit excesses or become slaves to technology either."[36]

If limited to the short story "Civilização," Sadlier's thesis about Eça's criticism of Jacinto and the traditional landowning patriarchy would hold. For, while in the opulent palace of the 1892 Jacinto the mechanical denizens are numerous, there are no technological devices in the countryside. There, the city versus countryside and culture versus nature dichotomies are categorical, inviting much more skepticism and ultimately a rejection of both a super-civilized lifestyle in the city and of an idealized pastoral lifestyle in the country. Both extremes are equally fraught with inauthenticity, selfishness, and hypocrisy. The Jacinto from *A cidade e as serras*, however, does not entirely reject technology in the countryside, revealing therewith a transformation of the character in the second part of the novel, a change of attitude in Eça or even a kind of optimism towards modernity at the end of his life. Let us recall that Eça wrote *A cidade e as serras* while he was living in Paris and serving as the Portuguese consul-general. In the French capital he witnessed first-hand the new technological developments of the Second Industrial Revolution, the construction of the Eiffel Tower, and the 1889 Universal Exposition. The consequence was perhaps that he became more aware of the inevitable future impact of technology on daily life which prompted a revision of the story's ending. The novel is therefore not just a criticism of the lifestyle of the city-dwelling aesthete and of the landowning patriarchy, as Sadlier suggests, an attitude that ultimately rejects both without any chance of a resolution. Rather, *A cidade e as serras* presents a thesis. It proposes a resolution to the existential double-bind in which human beings find themselves in the face of modernity and technology. As Frank F. Sousa noted, in *A cidade e as serras* Eça demonstrated "in a clear and original way the recent scientific, technological, and philosophical advancements and their

[36] Xavier Duran in his *La ciencia en la literatura: un viaje por la historia de la ciencia vista por escritores de todos los tempos* (Barcelona: Universitat de Barcelona, 2018), 182, 184: "Eça sabe equilibrar las críticas, y, si algo le parece claro, es que no tiene sentido dejar um território anclado em el passado, a merced de enfermidades e incomodidades, si hay instrumentos para paliar la situación. Pero tampoco hay que cometer excesos ni convertirse em esclavos de la tecnologia." My translation.

consequences on the existence of individuals at the end of the nineteenth century."[37] The novel's resolution involves a balanced, non-indulgent, altruistic engagement with technological artifacts that moves from a master-slave or master-servant dynamic to thoughtful coexistence. As far as technology and science are concerned, this is not the case either in Verne's or in Huysmans's novel. A brief comparison of the three works will demonstrate the discrepancy and do justice to Eça's innovative move.

All three characters, the Chinaman Kin-Fo, the Frenchman Des Esseintes, and the Portuguese Jacinto, are wealthy aristocrats in their early thirties who suffer from that notorious nineteenth-century malady, the *ennui.* In Verne's novel, the presence of technological artifacts such as electric bells, a telephone, and a phonograph serves to underline the wealth and progressive character of the protagonist. Kin-Fo's are silent machines. They do not disrupt the human voice, nor do they disobey or refuse to render service, but are simply symbols of modernity. The character who is associated with disobedience, who forgets, is stubborn, and is never there when he is needed, is Kin-Fo's actual human servant, Soun:

> Was he, then, a model servant? No: he could not possibly have performed his duties in a worse manner. Absent-minded, incoherent in speech, awkward with his hands and tongue, a thorough *gourmand*, and somewhat of a coward, he was a true Chinese-screen Chinaman, but faithful on the whole, and the only person, after all, who possessed the gift of moving his master. (Champlin 37f.)
>
> *Soun était-il donc un domestique modèle? Non. Impossible de faire plus mal son service. Distrait, incohérent, maladroit de ses mains et de sa langue, foncièrement gourmand, légèrement poltron, un vrai Chinois de paravent celui-là, mais fidèle, en somme, et le seul, après tout, qui eût le don d'émouvoir son maître.* (Verne 55)

Soun is utterly unreliable and self-willed, but is also the only creature that provokes an emotion in his numb master. Furthermore, not only is he utterly punishable, serving as a kind of anger-outlet for Kin-Fo, but he even receives punishment willingly: "Besides, Soun […] came of his own accord to receive punishment whenever he merited it, whish his master was not sparing in bestowing" (Champlin

[37] Frank F. Sousa, *O Segredo de Eça – Ideologia e Ambiguidade em* A cidade e as serras (Lisboa: Edições Cosmos, 1996), 25: Eça demonstrated "de maneira clara e original os recentes progressos da ciência, da tecnologia, da filosofia e as suas consequências sobre a existência dos indivíduos do fim do século XIX." My translation.

38) ["D'ailleurs, Soun […] venait de lui-même audevant de la correction, quand il l'avait méritée. Son maître ne la lui épargnait pas" (56)]. Ultimately, Soun does not represent any kind of challenge to his master. Rather, he is a pastime for Kin-Fo who enjoys to "abuse the lazy, awkward valet" (Champlin 106) ["malmener le maladroit et paresseux valet" [Verne 155], and simultaneously his comic sidekick. In Eça, as we saw, this kind of human servant is no longer existent. Jacinto's old African servant, like Pinocchio's first companion, is called Cricket (o Grilo). He is a remainder from the times of Dom Galeão that, like an umbilical cord, connects the protagonist to his motherland and to the colonial glories of the Portuguese Empire. But he is neither mistreated nor a central character in the novel. Coincidentally, Huysmans's Des Esseintes also has a cricket—the actual insect this time—whose stridulating incantations remind him of his childhood and of his mother. All of these "crickets" serve only to remind the protagonists of their roots and responsibilities, to keep them attached to some kind of point of departure (Portugal, Geppetto, the mother), but the analogies end there.

The phonograph is the most prominent among Kin-Fo's technological possessions. Accidentally left on, the machine records the voice of a mean servant who slanders her masters while talking to herself out loud. This results in her immediate dismissal. "Maid-servants and valets, beware of phonographs!" (Champlin 163) ["Servantes et valets, défiez-vous des phonographs!" (Verne 236)],[38] the narrative voice admonishes in conclusion, pointing to the indiscrete nature of this device that tattletales on servants. Technology, in Verne's novel, is at the service of masters. Far from challenging anthropocentrism and restructuring power hierarchies, it reinforces them by representing the master *in absentia.* Here already we see a great discrepancy between Verne's and Eça's treatment of technology. For the phonograph plays a prominent role both in "Civilização" and in *A cidade e as serras*, but, instead of a surveillance device, it is a destabilization tool that reveals the imperfection of humans, of masters, and not just of servants. It

[38] Ibid., 236.

is not unlikely that Eça had taken inspiration in Verne's novel for allowing the phonograph to occupy a prominent place in the fictional worlds of the two Jacintos. However, if this had indeed been the case, then Eça's treatment of the phonograph, rather than an imitation, is actually a criticism of Verne's take on technology as the tool of masters.

The phonograph had attracted the Portuguese consul's attention already in 1878, that is, a year before the publication of Verne's novel. Eça wrote in a letter form London:

> Of all the natural phenomena, sound was the one that, until now, science and inventors had disturbed the least. […] In this century, such peace cannot last. Dr. Bell was the first to disquiet it, with the invention of the *telephone*. And now we have another dreamer who wants just this—*to store sound as if in a can*.
>
> *De todos os fenómenos naturais, o som era decerto aquele que, até aqui, a ciência e os inventores tinham perturbado menos. […] Neste século uma tal paz não podia durar. O dr. Bell foi o primeiro a inquietá-lo, com a invenção do* telefone*. E agora temos um outro fantasista, que apenas pretende isto*—guardar o som de conserva*.*[39]

Eça does not name this sound-canning device explicitly, but we can safely assume that he is speaking of the phonograph, invented by Thomas Edison in 1877—the device whose "compressed history […] includes all phases of the written, the printed, and the mechanized word," as Marshall McLuhan wrote.[40] Eça called it a miraculous invention whose workings were only paralleled in novelty and uncanniness by the later development of the moving pictures. It is then perhaps unsurprising that the phonograph (or "the talking machine," as it was fittingly called at the time of its inception) plays an important role in the fictional worlds of Jacinto. For the Jacinto in *A cidade e as serras*, the phonograph is the highest expression of human superiority: "Take the phonograph!" Jacinto says to Zé Fernandes, in another spur of his initial civilized enthusiasm, "the phonograph, Zé Fernandes, gives me a real sense of my superiority as a thinking being and distinguishes me from the beasts" (Costa 11) ["Aí tens tu, o

[39] Eça de Queirós, *Cartas da Inglaterra e Crônicas de Londres* (Lisboa: Edição "Livros do Brasil," 2001). Letter XII, Londres, 26 de Janeiro de 1878, 317. My translation with emphasis in the original.

[40] See Marshall McLuhan, "The Phonograph," in *Understanding Media: The Extensions of Man* (Cambridge, MA: The MIT Press, 1994), 277. Originally published in 1964.

fonógrafo!... Só o fonógrafo, Zé Fernandes, me faz verdadeiramente sentir a minha superioridade de ser pensante e me separa do bicho" (Eça 14). In the phonograph, Edison's "talking machine," Jacinto sees the culmination of man's ingenuity. As we saw, however, far from representing the genius of man, all three phonographs which Jacinto owns eventually come to represent his helplessness, refusing to render their services to their master, remaining impassive and mute. But Eça had introduced this technological artifact already in "Civilização" where the rebellious and uncontrollable side of the phonograph is even more prominently articulated. A brief summary of the story's plot is in order at this point.

A proto-Jacinto, a super-civilized denizen of the Portuguese capital, leads a life of luxury and ease in Lisbon, surrounded by all the marvels of the nineteenth century. Twenty-thousand volumes and the latest technological inventions populate his palace, the Jasmineiro, making him, in McLuhan's words, into the archetypal "gadget lover."[41] "Tique, tique, tique! Dlim, dlim, dlim! Craque, craque, craque! Trrre, trrre, trrre!" are the onomatopoeic sounds that resonate continuously in his super-civilized home, transmitting the universal forces. But, Jacinto's close friend and first-person narrator of the story, José Fernandes, tell us that "unfortunately, [they did] not always […] remain tame and disciplined" ["nem sempre, desgraçadamente, se conservavam domadas e disciplinadas!" (Civ. 227)]. The most rebellious of the technological artifacts is the phonograph. Jacinto captures with it the authoritative voice of a friend, the counselor Pinto Porto, as the latter exclaims: "A marvelous invention! Who could not admire this century's progress?" ["—Maravilhosa invenção! Quem não admirará os progressos deste século?" (Civ. ibid.)]. When Jacinto then plays the recording to some relatives of the counselor, the device malfunctions and, as if enamored of this praise, unabashedly, stubbornly, incessantly, continues to replay the counselor's acousmatic voice: "Who could not admire this century's progress? Who could not admire this century's progress… admire… progress… century!..." The guests and the host are so perturbed by

[41] McLuhan, pp.41-47.

this relentless repetition that they first stuff a pillow down the phonograph's horn, then flee to the kitchen, and finally take to the street. To no avail. The machine does not hear their pleas. Once in the phonograph's possession, the human voice becomes a powerful means of disruption so that the machine's loop soft-pedals all other sounds, making interaction impossible. Finally, it forces the human protagonists to run out of the palace. At dawn, the anxious, sleep-deprived, but also existentially distressed party reenters the palace quietly, "as if afraid to wake up *someone*" ("como no receio de despertar *alguém*" (Civ. 228, italics in the original)]. This "*someone*" resonates with Master Cherry's identification of voice with subjectivity which, in turn, leads to his thunderstruck reaction when he fails to find the human body-source. To the dismay of Jacinto's party, the phonograph continues to blast and spread its sonic tyranny. Only in the afternoon, an electrician finally brings it to silence, exposing the elegant company's inability to manage the device. Edison's speaking machine (interchangeably called a gramophone, phonograph, record player, or turntable) emerges from this scene as a disobedient, talking, wireless machine on par with Pinocchio, responding only to professional care. It skips, rumbles and hums, gets stuck in a loop, but also mercilessly records the human voice in all its imperfection without the least regard for consequences. And this is not an occurrence limited to the world of fiction.

When in 1889 the British poet Robert Browning was first recorded reciting his poetry, he could not remember a verse. The phonograph indiscriminately registered Browning's slip of memory for posterity. In this way, while the voice of Browning, who died a few months after, became "the first time anyone's voice had been heard from beyond the grave,"[42] it was also the first instance of a recorded vocal lapse, still audible today. "The phonograph does not hear," Friedrich Kittler wrote, "as do ears that have been trained immediately to filter voices, words, and sounds out of noise." It does not obey masters nor

[42] Picker, *Victorian Soundscapes,* 137. See Cf. also Picker's chapter on "English Beat: The Stethoscopic Era's Sonic Traces (Mr. Browning Forgets: Close Listening to a Lapse)," in *Sounds of Modern History: Auditory Cultures in 19th and 20th Century Europe*, ed. by Daniel Morat, 25-45 (New York: Berghahn Books, 2014).

does it intimidate servants, as Verne would want it to, but simply "registers acoustic events as such."[43] Vulcan's revenge on *logos*?[44] Unlike what we saw in Verne's *Les Tribulations,* the phonograph and other technological devices both in "Civilização" and *A cidade e as serras* are not employed as means to teach servants a lesson nor as a way of emphasizing the wealth and progressive mindset of the protagonist. On the contrary: they expose the limitations of the protagonist *qua* purported master.

In the short story, this tension between human protagonist and machine is resolved through a complete rejection of technology when Jacinto moves to the countryside. In the novel, however, even the basic premise of the story is reconfigured. First, rather than from the Portuguese capital to the Portuguese countryside, the protagonist of *A cidade e as serras* moves from Paris to Portugal or, in Jacinto's words, from Europe to somewhere that is not Europe. This means that in the novel, Eça transitioned from treating modernity as a general phenomenon of any European country to making a claim about the impact of modernity on a more global scale. He puts on the scale life in the industrialized European centers as opposed to life at the rural European periphery. With this geographical and geopolitical repositioning, Eça graduated from being the Portuguese Flaubert or Zola, a writer charged with merely transplanting foreign realities onto his own soil, to being Eça de Queirós, a master in his own right. Rather than an artificial flower in her hat, Eça becomes a thorn in Europe's side. "É muito grave, deixar a Europa!" (181) Jacinto says to Zé Fernandes as they get ready to leave for Portugal: "it's a grave thing, leaving Europe." With these words, Jacinto reminds readers that the Iberian Peninsula had often been portrayed by European travelers as the place where Africa and barbarism begin. Just like the Sicilian Giovanni

[43] Friedrich Kittler, *Grammophon, Film, Typewriter* (Berlin: Brinkmann & Bose, 1986), transl. by Geoffrey Winthrop-Young and Michael Wutz as *Gramophone, Film, Typewriter* (Stanford: Stanford UP, 1999), 23. Cf. also, Angela Frattarola's "The Phonograph and the Modernist Novel," *Mosaic: An Interdisciplinary Critical Journal* 43:1 (March 2010).

[44] As discussed in the Prolegomenon, Vulcan, the god of fire who was "[t]he master of technical skill," revealed the first technology by setting fire to and creating a clearing in the forest "to observe in the open sky the direction from which Jove sent his bolts" (Vico, *The New Science*, 203). But he was an ugly god, and his forge inarticulate. Offensive both to eye and ear, unpalatable and reeking of manual labor, he was hidden and silenced, with *logos* prevailing over him until, I argue, the advent of the Industrial Revolution when machines began to "speak."

Verga had begun his career by writing about modernity on the streets of Milano, using the techniques of Zola, and then moved on to writing about modernity and Sicilian fishermen villages, this time employing a revised methodology of his own, so is Eça's distancing maneuver one of focus by diversion. Modernity, in other words, cannot be thought without the periphery. It might even be the latter that holds the key to understanding modernity, and to adopting a balanced, purposeful attitude towards its technological creations. This brings us to the second point, mentioned above: there is technology in the countryside of *A cidade e as serras.* But it is introduced carefully, cautiously, with a specific purpose in mind, as if inserting a dangerous virus into a testing tube with the purpose of producing the cure for the disease that this virus had caused in the first place. It is in this sense that *A cidade e as serras* is a laboratory where anxieties about modernity are parsed out in a way that Verne's novel with its orientalist overtones and Huysmans's novel with its decrepit aristocratic baseline could never have done.

In *À Rebours,* Huysmans's "wild and gloomy fantasy,"[45] Jean Des Esseintes's physical degradation is described as the product of a series of intermarriages, a certain effeminacy in his person and manners, and atavism, combined with an unhappy childhood and a complete saturation with worldly goods. In comparison, Jacinto becomes a shadow of a human being only because he relies too much on books and technological artifacts to alleviate his existence. But he does not actually read the former nor uses the latter for anything else but private comfort. On several occasions in the novel, Eça explicitly moves away from Zola's Naturalism and Huysmans's Decadentism. Indeed, there is a specific episode in *A cidade e as serras* that could be considered Eça's farewell letter to his French master and to "Europe" in general, his convalescence from Naturalism. This episode involves a love affair, placed strangely in the middle of the first part of the novel, between Zé Fernandes and "a rather skinny woman, so dark as to be almost swarthy; she had sad, deep, taciturn eyes and, beneath an old hat adorned with black feathers,

[45] Robert Baldick, *The Life of J.-K. Huysmans* (Oxford: Clarendon Press, 1955), 115. Huysmans had used these words to describe his new novel in a letter to Zola from November 1882.

a tangle of curly, yellowish, rebellious hair" (Costa 78) ["uma criatura muito morena, quasi tisnada, com dois fundos olhos taciturnos e tristes, e uma mata de cabelos amarelados, toda crespa e rebelde, sob o chapéu velho de plumas negras" (105).

The relationship with this woman, which Zé Fernandes continuously describes in naturalistic terms as dirty, greasy, and worn-out, is tumultuous. Only after he loses his sense of identity, self-respect, and standards, Zé Fernandes is finally able to break the spell and heal from the infatuation. He washes his body in an aromatic bath in Jacinto's palace, and washes his soul with a warm letter from his Portuguese aunt.

> I concluded that I had been suffering from a form of intermittent fever, a fever of the flesh, a fever of the imagination, picked up from some Paris puddle, from one of those puddles that form all over the City, full of stagnant water, slime, rubbish, mold, and worms of putrefying Civilization. (Costa 83)
>
> *E conclui que padecera de uma longa sezão, sezão da carne, sezão da imaginação, apanhada num charco de Paris, nesses charcos que se formam através da Cidade com as águas mortas, os limos, os lixos, os tortulhos e os vermes duma Civilização que apodrece*. (Eça 112)

Europe is a disease that one catches in a Parisian puddle. For such criticism and straight-forwarding distancing, Eça might have been inspired by the character of Des Esseintes, but *A cidade e as serras* does not simply copycat Huysmans's thesis about the decadence of nineteenth-century Europe and its aristocracy. It moves beyond it, looking for solutions to the *mal du siècle* but this time from a peripheral point of view. Eça neither adopts Huysmans's cataclysmic elitism and florid style nor abuses the genre of the novel to parade his own skills as art, music, or literary critic, as Huysmans had lavishly done.

Moreover, in *À Rebours* technology appears as artifice. Artifice, the novel suggest, is better than reality. Artifice *is* the better reality. What moonlight is there that could rival electricity? What waterfall that can equal the perfection of hydraulics? The analogy that he draws between women and locomotives is even more telling:

> Has not man made, for his own use, an animated and artificial being which easily equals woman, from the point of view of plastic beauty? Is there a woman, whose form is more dazzling, more splendid than the two locomotives that pass over the Northern Railroad lines?
>
> One, the Crampton, is an adorable, shrill-voiced blonde, a trim, gilded blonde, with a large, fragile body imprisoned in a glittering corset of copper, and having the long, sinewy lines of a cat. […]
>
> The other, the Engerth, is a nobly proportioned dusky brunette emitting raucuous, muffled cries. Her heavy loins are strangled in a cast-iron breast-place. A monstrous beast with a disheveled mane of black smoke and with six low, coupled wheels! (Howard 48f.)[46]

> *[E]st-ce que l'homme n'a pas, de son côté, fabriqué, à lui tout seul, un être animé et factice qui la vaut amplement, au point de vue de la beauté plastique? est-ce qu'il existe, ici-bas, un être conçu dans les joies d'une fornication et sorti des douleurs d'une matrice dont le modèle, dont le type soit plus éblouissant, plus splendide que celui de ces deux locomotives adoptées sur la ligne du chemin de fer du Nord?*
>
> *L'une, la Crampton, une adorable blonde, à la voix aiguë, à la grande taille frêle, emprisonnée dans un étincelant corset de cuivre, au souple et nerveux allongement de chatte […].*
>
> *L'autre, l'Engerth, une monumentale et sombre brune aux cris sourds et rauques, aux reins trapus, étranglés dans une cuirasse en fonte, une monstrueuse bête, à la crinière échevelée de fumée noire, aux six roues basses et accouplées.* (Huysmans 25f.)

There is another French writer who, six years after Huysmans, would almost identically describe the locomotive as a superior kind of woman: Émile Zola in *La bête humaine*. The locomotive engineer and one of the main characters of the novel, Jacques Lantier, had given to his locomotive, "in affection […] a woman's name […] La Lison, as he called it with caressing gentleness" (Vizetelly 160) ["par tendresse, […] un nom de femme, la Lison, comme il disait, avec une douceur caressante" (Zola 230).[47] This machine-woman, in fact, has "the rare qualities of a good woman. She was sweet, obedient" ["des qualités rares de brave femme. Elle était douce, obéissante"] but she is also beast-like ["comme une bête"] capable of "galloping at will, overcome by madness" ["galoper à sa guise, prise de folie" (Zola

[46] "Fornication" might have been too much for the 1922 English translator who omits the following phrase from the text: "un être conçu dans les joies d'une fornication et sorti des douleurs d'une matrice don't le modèle" Huysmans, or Des Esseintes, speaks of the locomotive as being superior to any other being conceived down here on earth from the joys of fornication and born, with pains, from a womb.

[47] Émile Zola, *La Bête Humaine* (Paris: Bibliothéque-Charpentier, 1890). Edition used for quotations in this chapter: Émile Zola, *La Bête Humaine* (Paris: Bibliothéque-Charpentier, 1893), 230; transl. by Edward Vizetelly as *The Monomaniac* (London: Hutchinson & Co., 1901).

292, 371, 373)]. The analogies between woman, beast, and locomotive are numerous, and *La bête humaine* ends in a horrific train crash with dozens of mutilated bodies spread around the dead machine. Death, dominion, control, subjugation, womanhood, madness, bestiality—this thoroughly sexualized semantic field of Eros and Thanatos emerges from the treatment of the locomotive in particular and of machines in general in the novels of Verne, Huysmans, and Zola. It is also present in E.T.A. Hoffmann's treatment of the automaton Olimpia and in Charles Dickens's description of the railroad and the locomotive in *Dombey and Son* (1848). The train in *A cidade e as serras* has none of these qualities. It does not stand for human bestiality and man's primitive murderous drives; it is not an allegory for a dying empire, nor does it stand for man's triumph over nature; it is not just another creature that man has to learn how to subjugate, projecting his repressed sexual desires onto a piece of machinery. Eça, moreover, employs none of the gendered language of Huysmans and Zola when he speaks of the machine. Rather, the locomotive in *A cidade e as serras* is a liminal space, a kind of an artificial second womb. For it is a place of initiation, of deacceleration, and of community formation where humans are given the possibility to transform, and positively so. The locomotive and the railroad journey are what connects the two places, the city (Paris) and the mountains (Tormes, Portugal), civilization and wilderness, culture and nature, the old hunched-over Jacinto and the new vigorous Jacinto.

During the train ride to Tormes, an initiation rite takes place, a symbolic death and a symbolic rebirth, where Jacinto is stripped naked of civilization and given the chance to reinvent himself. He begins the journey from Paris to Portugal by carefully studying timetables and routes, preparing crates and trunks full of things to assure civilizational comfort in the countryside: "We leave No. 202, arrive in the country and find No. 202 again! Ah, there's nowhere like Paris!" (Costa 129) ["Vê tu, Zé Fernandes, que facilidade!... Saimos do 202, chegamos á serra, encontramos o 202. Não ha senão Paris!" (Eça 173)]. After a serene departure, the train ride is increasingly surrounded by a haunting atmosphere: it rains continuously during the transition, the train is enveloped in darkness, as if entering a womb, a non-place,

the realm of betwixt-and-between, in Victor Turner's vocabulary,[48] with Jacinto "growling like a wild beast" (Costa 139) ["rosnando como uma fera" (Eça 187)].

"We were in the middle of nowhere," Zé Fernandes describes the scene, "in utter darkness, with a great, wild wind rolling and gusting around us. The train whistled anxiously" (Costa 138) ["Era um descampado, todo em treva, onde rolava e lufava um grande vento solto. A máquina apitava, com angústia" (Eça 185)]. Jacinto fears for his life:

> What if the Salamanca train had left? The compartment would be uncoupled at Medina, and our precious bodies and our precious souls would be tipped out into the mud along with our twenty-three trunks, in a right royal Spanish confusion and beneath it a storm of wind and rain! (Costa 138f.)
>
> *Se o trem de Salamanca tivesse abalado? O salão, tomado até Medina, desengatava em Medina: —e eis os nossos preciosos corpos, com as nossas preciosas almas, despejados em Medina, para cima da lama, entre vinte e três malas, numa rude confusão espanhola, sob a tormenta de ventania e d'agua!* (Eça 186)

They barely make the connection in Medina, leaping from the compartment and running "down the platform, across the tracks, through the puddles, stumbling over bundles, propelled along by the wind" (Costa 140) ["pela plataforma, por sobre os trilhos, através de charcos, tropeçando em fardos, empurrados pelo vento" (Eça 188)], with no time to bring along any of their luggage. They board the new train emptyhanded, confused, in a state of civilizational nudity, without "a clean shirt or even a hairbrush" (Costa 140) ["nem uma camisa, nem uma escova!" (Eça 188).

After this nocturnal "purge," Jacinto and his friend arrive the next day at a sunny "very quiet, very clean station" (Costa 142) ["estação muito sossegada, muito varrida" (Eça 190)] in Portugal, covered with roses and surrounded by sweet silence. But only to discover that none of their luggage had

[48] Victor Turner, *The Ritual Process: Structure and Anti-Structure* (Chicago: Aldine Pub. Co., 1969).

been transferred from the old train compartment to the new. They find themselves "lost and alone in the mountains, with no Cricket [the servant], no administrator, no caretaker, no horses and no baggage!" (Costa 147) ["perdidos na serra, sem Grilo, sem procurador, sem caseiro, sem cavalos, sem malas!" (Eça 198]. Jacinto and Zé Fernandes have to climb up to Tormes, like Don Quijote and Sancho Panza, on a mare and a donkey.

"What crates?! Nothing had arrived, nothing had come" (152), the house's administrator exclaims as they finally reach the house, "Os caixotes?! Nada chegara, nada aparecera!" (Eça 204). And when the crates and trunks finally appear one day, very few things get imported into the house, only a few books (*Don Quijote*, Plutarch, Virgil, the *Odyssey*) and just a few technological devices. For the new Jacinto no longer needs Paris, and has transitioned from hoarder to worker, from a life of accumulation to a life of action. In other words, the train ride and the loss of possessions due to a scheduling incident has made him a minimalist and a man of action. A healthy minimalist. He is restored and completely transformed among "the sheer beauty of simplicity" (Costa 173) ["a beleza da simplicidade" (Eça 235)], so that Zé Fernandes remarks:

> Jacinto no longer walked with a slight stoop. The mountain air, or perhaps simply a more authentic way of life, had overlaid the glum pallor of that super civilized man with the warm brown glow of blood renewed, leaving him looking magnificently reinvigorated. [T]here danced in [his eyes] a noon-tide light, resolute and generous, content to drink in the beauty of things. Even his moustache had grown curly […]. This was a brand-new Jacinto! (Costa 172)
>
> Jacinto já não corcovava. Sobre a sua arrefecida palidez de super-civilizado, o ar montesino, ou vida mais verdadeira, espalhara um rubor trigueiro e quente de sangue renovado que o virilizava soberbamente. Dos olhos [...] saltava agora um brilho de meio-dia, resoluto e largo, contente em se embeber na beleza das coisas. Até o bigode se lhe encrespara. [...] Era um Jacinto novíssimo. (Eça 233)

The initiation rite is complete and the railroad traveler that entered the train in Paris is now a different human being, a better one indeed, living a "more authentic way of life" ("vida mais verdadeira"). Jacinto's symbolic death and rebirth involved an initiation ride on a train whereby the traveler underwent a transformation that, in the novel, is inseparable from the locomotive and the incidents that accompany the railroad journey. No demonization, no glorification, or eroticization of the machine takes place.

It should be clear by now that Eça's contribution to the understanding of human-machine interactions as compared to dominant nineteenth's century portrayals is quite original, grounded, and innovative. For, as mentioned, *A cidade e as serras* neither demonizes nor glorifies machines, but is a novel that explores the ways in which productive coexistence and communication between humans and machines can remain a prime objective for the purpose of a more authentic way of life. If Jacinto's melancholic character had indeed been modelled after Huysmans's Des Esseintes and his technological fetish after Verne's Kin-Fo, *A cidade e as serras* takes these characters as a starting point only to reject them a few pages into the novel. Against Huysmans's insufferable tragic elitism and Verne's playful moralistic orientalism, Eça strikes a middle ground where machines occupy a separate category of beings with agency and a voice that demands a reconfiguration of existing hierarchies—beings who by their very nature defy and resist master-slave dynamics instead of reinforcing them. In this technological twilight zone, the human protagonist does not die a tragic death by the hand of his resentful and disobedient devices, nor does the machine strive to become the pale and monstrous shadow of a human. Rather, the machine is its own species. Not human, not animal. But a new interlocutor in a wide network of interactions that includes all of the above. *A cidade e as serras* offers in this sense a distancing from metaphors of animality and humanity which allows the machine to take up its own place among the earth's inventory of creatures. Only then, as a separate entity with a voice and agency of its own, and respected as such, can technology be meaningfully integrated into the cycle of life, with the possibility

of ultimately merging with the human. This merging and the implications thereof have been exemplarily articulated by Luigi Pirandello in his *Quaderni di Serafino Gubbio*.

CHAPTER III

CYBORGS

Posthumanism and the Machine in Luigi Pirandello

1. Introduction: Modernism, Questions, and Luigi Pirandello

Glancing backwards over our shoulder, we can say that Modernism is about questions and questionable creatures. From a distance, an immense question mark appears to linger behind works of art created during the first decades of the twentieth century, its curvature bloated outwards like an oversaturated exclamation point, not a certainty anymore, not even a doubt, but two eyebrows raised in wonder or in shock, eyes wide open, a pair of huge twitching ears, wondering, listening, waiting, all exemplarily articulated in Paul Klee's *Angelus Novus* (1920).[1] What now? What next? The angel has missed the last streetcar and is hitching a ride, protesting at the drivers' disregard. Still today we are responding to the angel's shock and to the question marks of Modernism, with one foot in the Information Age, and tripping on the exposed cable work of the Second Industrial Revolution and its technological extravaganzas with the other. What now? What next? we ask from the high tower of post-, hyper-, and other questionable modernities. But the questions remain the same, and, no doubt, it is by virtue of their open-ended, interrogative rather than assertive nature that Modernism and the works of such authors as Luigi Pirandello remain relevant to our times and lend themselves to as many interpretations as there are

*A section of this chapter won the Society for Pirandello Studies essay competition in the postgraduate category and is forthcoming in the peer-reviewed *Pirandello Studies* 40 (2020).

[1] See Walter Benjamin's "Theses on the Philosophy of History," in *Illuminations: Essays and Reflections,* ed. by Hannah Arendt, 245-255 (New York, Schocken Books, 1968), especially Section IX on p.249 describing Klee's painting: "His face is turned toward the past. Where we perceive a chain of events, he sees one single catastrophe which keeps piling wreckage upon wreckage and hurls it in front of his feet. The angel would like to stay, awaken the dead, and make whole what has been smashed. But a storm is blowing from Paradise; it has got caught in his wings with such violence that the angel can no longer close them. The storm irresistibly propels him into the future to which his back his turned, while the pile of debris before him grows skyward. The storm is what we call progress."

critical approaches: the Sicilian Nobel Laureate's oeuvre is a question-mark-shaped lock that fits many keys and yet none.[2] With Pirandello, after having looked at human-machine interactions unfurl across fantastic and liminal technological twilight zones, we transition to realist-psychological fiction from a point of view of a decentered European Modernism, and to the question concerning posthuman subjectivity. With Pirandello, we enter the realm of the third archetype of human-machine interactions, viz. hybridization, the realm of the cyborg.

As mentioned in the general Introduction, scholarship investigating human-machine interactions in literature is still scarce, and the studies we have focus almost exclusively on Futurism or French, German, and Anglophone fiction. A further restriction to the topic is genre. When speaking about the relationship between machines and humans in the field of literature, it is science-fiction and fantasy that easily lend themselves to scrutiny. As we saw in the first chapter on *Frankenstein* and *Pinocchio*, early traces of the technological posthuman can be found almost exclusively in works of fantastic literature. But even in the twentieth and twenty-first centuries, the bulk of scholarly attention is dedicated to speculative fiction and novels such as Phillip K. Dick's *Do Androids Dream of Electric Sheep?* (1968), or, in the area of Romance languages, to the Futurists, Italo Calvino, the Wu Ming collective, etc.

The posthuman, in this sense, runs the risk of being seen as predominantly embedded in non-realist fiction, and of remaining, therefore, genre-based, future-oriented, as if it had to do with something yet to come, yet to be lived and understood to its full extent. Posthuman theorists such as N. Katherine

[2] For a summary of the numerous approaches to and interpretations of Pirandello's work that seems to easily lend itself to labels as diverse as modernist, realist, surrealist, decadent, futurist, postmodern, philosophical, existentialist, humoristic, humanist, political, Christological, metafictional, psychoanalytic, etc., see the following two volumes: Romano Luperini, *Pirandello* (Roma: Laterza, 1999); and Romano Luperini and Massimiliano Tortora, eds. *Sul modernismo italiano* (Napoli: Liguori, 2012). For recent studies of Pirandello as a (proto-)modernist, see Riccardo Castellana, *Finzione e memoria: Pirandello modernista* (Napoli: Liguori, 2018); and Bradford A. Masoni, *Pirandello Proto-Modernist: A New Reading of* L'esclusa (Oxford: Peter Lang, 2019).

Hayles, Rosi Braidotti, and Donna Haraway[3] themselves make recourse almost exclusively to science-fiction and fantasy to buttress their quite realistic arguments about a posthuman condition in which we all partake and possibly always have (Hayles's famous dictum: "we have always been posthuman").[4] This has led—and justly so—to a valorization of science-fiction and fantasy within academic discourse.[5] But at the same time, it distracts from the fact that human-machine interactions are a concrete, everyday occurrence, immediately observable, and with an immediate environmental, psychological, and bodily impact—something that has continuously been present and dealt with in the Western literary imaginary at least since the first Industrial Revolution. As a topic it remains, nevertheless, quite a new object of study within the Humanities. However, if we were always already posthuman, then manifestations of this condition should be sought and equally studied in all genres of literature and also not only in those from the centers of industrialization.

So far, for the purpose of gaining a wider perspective on the matter, we first looked at early examples of human-machine interactions of fantastic nature (Shelley, Hoffmann, Collodi). There, fears and anxieties as well as hunches about the transformation of human subjectivity in the face of industrialization were tentatively laid out. We then explored a liminal type of humoristic, fairytale realism which gave us a technological twilight zone populated by mischievous artifacts that destabilized anthropo(-voco-)centrism and called for technological literacy with their disobedience and noise (Eça, Verne, Huysmans, Zola). Now we will look at a realist-psychological novel containing a first-person account of the quite realistic interactions between a machine and a human.

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[3] Donna J. Haraway, "A Cyborg Manifesto"; N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago: The University of Chicago Press, 1999); Braidotti, *The Posthuman.*

[4] Hayles, *How We became Posthuman,* 291.

[5] See for instance a recent volume dedicated entirely to the history of science through science fiction: Amanda Rees and Iwan Rhys Morus, eds., *Presenting Futures Past: Science Fiction and the History of Science,* Vol. 34 of *Osiris* (Chicago: The University of Chicago Press, 2019).

The novel in question that is particularly unlockable and pertinent to our times is Pirandello's *Quaderni di Serafino Gubbio Operatore* (1925), translated into English by C.K. Scott Moncrieff as *Shoot! The Notebooks of Serafino Gubbio, Cinematograph Operator* in 1926.[6] To my knowledge, this novel represents a unicum when it comes to the topics that it addresses and how it addresses them. This makes it a valuable resource that offers a different take on modernity and its technological boom. Pirandello began its composition around 1903, publishing it as a serial novel under the title *Si gira*... between May and August 1915 in *Nuova Antologia*. A single volume edition followed in 1916, with a final, slightly revised version in 1925 as *Quaderni di Serafino Gubbio Operatore* which is the standard reference edition today: a gestation period that coincides with literary Modernism and a time during which major scientific discoveries changed the world as we know it. With the *Quaderni*, we have one geographically southern venue that articulates an empirically plausible blending of human with machine without becoming science fiction.

A first-person narrative composed in the form of a diary, *Quaderni di Serafino Gubbio* is situated in Rome at the beginning of the twentieth century and gives insight into the complex interactions of Serafino Gubbio, camera operator, with the world of cinema (actors, directors, technicians, extras) as well as the camera machine. Throughout his diary that incorporates film-montage techniques, Serafino criticizes the film industry and writes about the camera's objectivity and its thing-like silence—two features that he aspires to in order to become "perfect." Indeed, at the end of the novel, after having filmed a traumatic scene, Serafino loses his voice and becomes mute, objective, and detached—just like a machine. It is for this reason that *Quaderni di Serafino Gubbio* is considered one of the first and most

[6] Luigi Pirandello, *Quaderni di Serafino Gubbio,* in *Tutti i romanzi Tr* II, ed. by Giovanni Macchia and Mario Costanzo (Milano: Mondadori, 1973), transl. by C.K. Scott Moncrieff as *Shoot! The Notebooks of Serafino Gubbio, Cinematograph Operator* (Chicago: The University of Chicago Press, 2005). Scott Moncrieff's translation into English is the only one we have to this date. This Scottish scholar was a noted translator of Proust and, to my knowledge, did not speak Italian but translated the *Quaderni* using the 1925 French translation by C. de Lavrière. Quotations from the Italian original will be marked as "*Tr* II." All translations into English, unless otherwise noted, are mine.

important "film-novels"[7] that is simultaneously a "ferocious attack against the cinematographic medium."[8] Walter Benjamin, for instance, takes it as an example for his argument on the metamorphosis of the actor and the loss of aura;[9] and such pioneering films as Walter Ruttmann's *Berlin. Sinfonie der Großstadt* [*Berlin. Symphony of a Metropolis*] from 1927 and Dziga Vertov's *Chelovek s kino-apparatom* [*Man with a Movie Camera*] from 1929 seem to answer directly to Serafino Gubbio's call for a more documentary-style and realist film-making.[10] Given its topic and timing that coincide with the popularization of film, scholars have almost exclusively read the *Quaderni* in its relationship to cinema.

[7] See Gavriel Moses, "Film Theory as Literary Genre in Pirandello and the Film-Novel," *Annali d'Italianistica* 6 (1988).

[8] Alessandro Vettori, "Serafino Gubbio's Candid Camera," *MLN* 113:1 (1998), 79.

[9] Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations: Essays and Reflections,* ed. by Hannah Arendt and transl. by Harry Zohn, 217-251 (New York: Schocken Books, 1968).

[10] Serafino writes: "Ma se [la mia professione] fosse applicata solamente a cogliere, senz'alcuna stupida invenzione o costruzione immaginaria di scene e di fatti, la vita, così come vien viene, senza scelta e senz'alcun proposito; gli atti della vita come si fanno impensatamente quando si vive e non si sa che una macchinetta di nascosto li stia a sorprendere. […] Ah, se fosse destinata a questo solamente la mia professione! Al solo intento di presentare agli uomini il buffo spettacolo dei loro atti impensati, la vista immediata delle loro passioni, della loro vita così com'è. Di questa vita, senza requie, che non conclude." [but if (my profession) were applied only to capture life as it is, without any stupid invention or imaginary construction of scenes and facts, without choice and without any purpose; the acts of life as they are done unexpectedly when you live and you don't know that a hidden machine is sneaking up on them. (…) Ah, if only my profession were destined for this! For the sole purpose of presenting men with the funny spectacle of their unexpected acts, the immediate sight of their passions, of their life as it is. Of this relentless life that does not end.] (*Tr* II, 614)

In describing his film *Berlin. The Symphony of a Metropolis* (1927), Walter Ruttmann had adopted quite a similar argument to Pirandello's in the *Quaderni.* Ruttmann writes: "Ein Film ohne Handlung, ohne Lebenskonflikte, ohne happy end […]. Hauptmacht des Films ist das Unerbittliche seiner Ehrlichkeit: seine unbestechliche Objektivität. Hier sollten also nicht Schauspieler möglichst natürlich spielen, sondern die erschütternde Gebäde des sich unbeobachtet glaubenden Menschen mußte eingefangen werden. Das konnte natürlich nur dadurch gelingen, daß ich mich an die ahnungslose Menschheit heranschlich wie der Jäger an sein Wild. Nur so konnte die überzeugende Echtheit der Lebensäußerungen erzielt werden. […] Ich hoffe, daß es mir gelungen ist, mit diesem Rüstzeug zu zeigen, daß Leben, alltägliches Leben, spannend, erschütternd, dramatisch ist auch ohne Literatur und Theater." [A film without a plot, without life conflicts, without a happy ending (…). The main power of the film is the relentlessness of its honesty: its incorruptible objectivity. Therefore, actors were not supposed to play as naturally as possible here, but the shattering building of the unobserved person had to be captured. Of course, this could only be achieved by sneaking up on unsuspecting humanity like the hunter on his game. This was the only way to achieve the convincing authenticity of the expressions of life. (...) I hope that I have been able to use this tool to show that life, everyday life, is exciting, upsetting, dramatic even without literature and theater.] Walter Ruttmann, "Der Neue Film" 1933. From materials consulted by the author at the archive of the Deutsche Kinemathek—Museum für Film und Fernsehen, Berlin, Schriftgutarchiv, F424_OT. My translation. As is known, the writer and the director collaborated in 1933 on a film, commissioned by Mussolini and shot in fascist Italy, for which Pirandello had provided the plot (*Acciaio* [Steel], 1933). For a detailed study of the Ruttmann-Pirandello collaboration, see Claudio Camerini, *Acciaio, un film degli anni trenta* (Torino: Nuova Eri Edizioni RAI, 1990).

In the *Quaderni*, Pirandello continues to explore the main topics that pervade his oeuvre: the relationship between authenticity and the modern world, the individual and society, appearance and essence, fiction and reality, nature and culture, faith and reason, the secular and the sacred, art and technology, just to name a few.[11] Serafino Gubbio, the novel's main protagonist and first-person narrator, however, is the one pirandellian character, as I will show in what follows, who breaks out of similar dialectical relations and attempts a synthesis by merging with the machine: "due gambe, un busto e, sopra, una macchinetta," he writes, "two legs, a torso, and, on top, a machine" (*Tr* II, 606).

Following this line of thought, the present chapter proposes a posthumanist reading of *Quaderni di Serafino Gubbio operatore.*[12] This will allow us to gain insight into the third archetype of human-machine interactions: hybridization. The motivation behind the choice of this particular novel is simple: the camera-man Serafino Gubbio is one of the first self-aware man-machine protagonists in European prose fiction who explicitly problematizes questions of posthuman subjectivity as they relate to perception and the body, and in realist-psychological terms at that. He is not a Gothic fantasy or a Futurist exaggeration, but a posthuman entity—understood here as an entity that straddles between and successfully melds such dichotomies as nature-culture, inanimate-animate, organic-artificial—perhaps the closest thing to what in the 1960s became known as a 'cyborg' (cybernetic organism). Through this

[11] This dualistic character of scholarship on Pirandello as well as of his own writings and thought have been observed, among others, by Antonio Sichera, *Ecce homo,* 7: "Quella della critica pirandelliana è in fondo la storia di una duplicità. O, meglio, la storia—spesso inconsapevole—di un punto di vista ineluttabilmente doppio." [The story of Pirandello criticism is one of duplicity. Or, rather, it is the—often unconscious—story of an inevitably double point of view.]

[12] In employing such terms as "posthuman" and "posthumanism," I rely on Roberto Marchesini's definition of the posthuman perspective in *Over the human: Post-humanism and the Concept of Animal Epiphany* (Cham: Springer, 2017), especially pp.139-41, 139: "b) [the post-humanist perspective] considers otherness as co-determinant and referential and therefore considers hybridization as the emergence of prospective plurality rather than as human enhancement; […] (f) it considers subjectivity a modal and enactive expression—being a body—that therefore does not allow one to free or extract oneself from corporeity. Instead, it believes that one should see the foundation of Dasein in its somatic intentionality." And p.140: "(h) [the post-humanist perspective] does not consider the post-human condition as a horizon or goal, but as the actual and necessary human condition whose predicates cannot be founded *iuxta propria principia* and are rather the result of a constant hybridization with external reality—that is, one can only be post-human." See also Roberto Marchesini, *Post-human: verso nuovi modelli di esistenza* (Torino: Bollati Boringhieri, 2002); and Francesca Ferrando, "Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms: Differences and Relations," *Existenz* 8:2 (2013).

character, Pirandello's novel explicitly problematizes questions concerning the influence of machines and technology on speech, perception, and the body, and it does so in relatable terms, signifying to us above the noise of the twentieth century.

As we saw already in the previous chapters, the negotiation of human identity and the formation of posthuman subjectivity take place at the intersection of technology, the body, and language, of materiality and communication. In the *Quaderni*, the locus of this negotiation is the human-machine compound and the interactions between the human voice and the machine's noise. Such a set-up invites the recourse to vocabulary and methods from literature, philosophy, and the sciences, from Posthumanism, sound studies, and cybernetics alike. Scholars have indeed dedicated some attention to Serafino's interactions with the machine. However, the prevailing consensus is that machines, technology, and cinema in Pirandello's works are mere symbols for his negative attitude towards modernity and progress. Such readings remain limited in scope due to the current lack of a reliable methodology as well as the general scholarly disregard for literature from Southern European/Mediterranean regions when it comes to Posthumanism, science and technology, and sound studies.

For the type of reading that I propose here, a loosening of the *Quaderni* from the grip of humanism, of its author, and of its historical relevance for cinema is necessary. To do this, I will conduct here a reading of Serafino alongside other posthuman protagonists as those from Mary Shelley's *Frankenstein* (1818), Carlo Collodi's *Pinocchio* (1881), and Franz Kafka's *The Metamorphosis* (1915).[13]

[13] All quotations from the three works in this chapter will be taken from the following editions: Mary Shelley, 1818, *Frankenstein; or, The Modern Prometheus* (New York and London: Norton Critical Editions, 2012). Carlo Collodi, 1883, *Le avventure di Pinocchio: storia di un burattino*, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio (Fondazione nazionale Carlo Collodi. Collodi: Giunti Editore, 2012); Franz Kafka, *Die Verwandlung* (Leipzig, Kurt Wolff, 1915). Unless otherwise noted, all translations into English are mine. For a posthuman reading of Shelley's *Frankenstein,* see Sarah Canfield Fuller, "Reading the Cyborg in Mary Shelley's *Frankenstein*," *Journal of the Fantastic in the Arts,* Vol. 14, No. 2 (54) (Summer 2003); and Timothy Morton, *Shelley and the Revolution in Taste: The Body and the Natural World* (Cambridge: Cambridge University Press, 1994). For *Pinocchio*, see Massimo Riva's *Pinocchio digitale,* especially the "Epilogo," pp.145-166. See also his essay "Beyond the Mechanical Body" which is the basis for

The posthuman thought of N. Katherine Hayles, Rosi Braidotti, and Donna Haraway, as well as works from the field of cybernetics[14] and sound studies[15] will provide the theoretical scaffolding. The objective of approaching the *Quaderni* from such a point of view is twofold: to pave new critical pathways for Pirandello scholarship, updating the Sicilian Nobel Laureate's place within contemporary discussions on literature and technology; and to diffract the text of the *Quaderni* through the prism of Posthumanism, employing such methodologies as non-linear reading and de-familiarization.[16] This will allow us to align the questions and questionable creatures of Modernism with our own contemporary concerns about human-machine interactions which have remained the same,[17] buried underneath the rubble of twentieth-century ideologies. For in the time between Pirandello's birth in 1867 and the final edition of the *Quaderni* in 1925, a technological acceleration had taken place on the European continent whose impact on human perception, the body, and language is comparable to that of the digital revolution between the 1980s and our present times: broadly speaking, aren't we all today Serafino Gubbios with an iPhone and

Pinocchio digitale. For a recent, highly innovative reading of Kafka's *Metamorphosis* from a sound-studies point of view, see Kata Gellen, *Kafka and Noise.*

[14] On cybernetics and the cyborg from a scientific point of view, see in particular the seminal works of Manfred E. Clynes and Nathan S. Kline, "Cyborgs and Space," *Astronautics* (September 1960); and Norbert Wiener, *The Human Use of Human Beings: Cybernetics and Society* (Boston: Da Capo Press, 1954). Within the humanities, Allison Muri's monograph provides an excellent overview of the history and definitions of the cyborg: Allison Muri, *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660-1830* (Toronto: University of Toronto Press, 2007).

[15] I rely greatly in my argumentation on the following works: Adriana Cavarero, *A più voci. Filosofia dell'espressione vocale* (Milano: Feltrinelli, 2003), transl. by Paul A. Kottman as *For More than One Voice: Toward a Philosophy of Vocal Expression* (Stanford: Stanford University Press, 2005); Dolar, *A Voice and Nothing More*; and Dominic Pettman's *Sonic Intimacy*.

[16] "De-familiarization" and "non-linearity" as reading methods are put forward and practiced by Braidotti, *The Posthuman*. Such reading methods allow for a text to be taken outside of its historical and authorial isolation (that usually leads to linear, genealogical interpretations, as is often the case in Pirandello scholarship). De-familiarization "shifts the relationship to the nonhuman others and requires disidentification from century-old habits of anthropocentric thought and humanist arrogance" Braidotti writes (168). The diffractive approach, developed by Karen Barad, functions in a similar way: "it entails refraining from isolating philosophies, in their time or as (dialectically related) closed wholes." Iris van der Tuin, "'A Different Starting Point, a Different Metaphysics:' Reading Bergson and Barad Diffractively," *Hypatia* 26:1 (2011), 23. See Karen Barad: *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Durham and London: Duke University Press, 2007); "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter," *Sings: Journal of Women in Culture and Society* 28:3 (2003); "Diffracting Diffraction: Cutting Together-Apart," *Parallax* 20:30 (2014), DOI: 10.1080/13534645.2014.927623. For the concept of "affirmative reading," see Elizabeth Grosz, *Time Travels: Feminism, Nature, Power* (Durham, NC: Duke University Press, 2005).

[17] For a succinct systematic description of different attitudes towards technology, see Andy Mousley, "The Posthuman."

a social network account instead of a film camera? These two moments in time—the Industrial Revolution and the Digital Revolution—while comparable to one another, have no counterpart in previous human history. Their comparative study can help us individuate root causes and potential solutions, and is invaluable not only to the establishment of a genealogy of human-machine interactions, but to an understanding of the present as well.

1.1. State of the Field

Various studies are available on the *Quaderni*'s contribution to film theory in general or to Pirandello's thought on mute cinema and theater in particular; on the novel's relevance to the reconstruction of the specific moment in the history of cinema when the novel was composed; and on Pirandello's mimetic use of cinematic techniques for plot, style, narrative, and character construction; on the challenges faced by the individual and the writer dealing with a frantic, technological, disenchanted modernity as represented by the world of cinema. [18] But the prevailing scholarly consensus, in Franca

[18] To this date and to my knowledge, only a few short studies are available on Pirandello's *Quaderni* that analyze the novel from a science-and-technology or from what could be broadly understood as a posthuman perspective. For the role of the train in Pirandello, see the seminal study by Remo Ceserani, *Treni di carta.* Roberto Tessari's *Il mito della macchina* is an excellent, comprehensive study of the role of the machine in Italian literature in general. Tessari dedicates a section (pp. 321-337) to Serafino Gubbio where he provides a thoroughly negative reading of the novel's attitude towards technology which, contrary to the goals of this essay, seals the conversation on Pirandello and technology instead of extending it into contemporary critical and literary theory. Tessari writes: "Al culto futurista della macchina intesa come segno di efficienza e di esattezza non offuscate dalla debolezza dei sentimenti umani, concepita come modello d'una necessaria e positiva rivoluzione della sensibilità, Serafino Gubbio oppone una critica che rovescia ogni illusione ottimistica per illuminarne di fredda luce i risvolti negativi. […] Pirandello, in altre parole, [evidenzia] un nuovo aspetto negativo della civiltà industriale" (p.326). [To the futurist cult of the machine intended as a sign of efficiency and accuracy not clouded by the weakness of human feelings and conceived as a model for a necessary and positive revolution of sensitivity, Serafino Gubbio opposes a criticism that reverses any optimistic illusion to illuminate its cold light. negative implications. (…) Pirandello, in other words, (highlights) a new negative aspect of the industrial civilization.] See also Anna Meda, "D'Annunzio, Pirandello e l'era industriale: Due poetiche a confronto," in *Letteratura e industria.* Atti del XV Congresso A.I.S.L.L.I, Torino, 15-19 maggio 1994. 2 Vols., ed. by Giorgio Bárberi Squarotti and Carlo Ossola, 547-557 (Torino: Leo S. Olschki, 1997). Vittorio Roda's *Il soggetto centrifugo* discusses Pirandello within the context of Darwinism, esp. pp. 62-64. For a neuroscientific analysis of the role of the eye in *Serafino Gubbio*, see Giuseppe Palazzolo, "L'occhio di Serafino," *Pirandelliana* 11 (2017). See also the recent publication with a self-explanatory title by Christian Quendler, *The Camera-Eye Metaphor in Cinema* (New York and London: Routledge, 2017), especially Chapter 3 on "Seeing and Writing" and the section on "The Literary Notebooks of Luigi Pirandello's Silent Camera Operator," pp.71-73. None of these studies, however, engage with Pirandello's work—and especially not with *Quaderni di Serafino Gubbio*—within the context of contemporary critical theory and the discourse on Posthumanism that I propose in this chapter. The main approach to the *Quaderni*, as mentioned already, has been predominantly from a film studies perspective. On this topic, the bibliography is too numerous to be taken into consideration within the limited scope of this chapter. The reader is directed to Gavriel Moses, "'Gubbio in Gabbia': Pirandello's Cameraman and the Entrapments of Film

Angelini's words, is that "the machine in general and cinema in particular […] could only be metaphors for modernity, a symbol of the negative."[19] In other words, while obviously fascinated and influenced by them, Pirandello demonstrates in this novel his ultimately negative view of technology, of the cinematic medium, and of the world of film-making that leads to a degradation of art, of humanistic values, and to a further fragmentation of the self, confronted with an inauthentic existence. While the Futurists, Angelini concludes, saw machines such as the locomotive, the automobile, or the airplane as part of man's domination project, Pirandello sees machines as producing images not of dominion but of the impotence of man.[20] Alessandro Vettori frames the issue in more generous terms when he speaks of a "paradoxical and dualistic result of [Pirandello's] treatment of technology." On one hand, he writes, technology emerges from the novel as a "dehumanizing phenomenon subjugating and enslaving mankind, and draining its life." On the other hand, this same phenomenon appears to have a "paradoxically positive outcome of its effects on the protagonist."[21] Yet even here the conclusion is negative, with Serafino emerging as "the victim offered on the altar of technological discoveries."[22]

Without a doubt these readings of the novel identify important elements in Pirandello's thought and provide indispensable interpretative frameworks for anyone who wishes to engage with the *Quaderni* in a serious manner. However, they all share two limitations that pose an obstacle to any attempt to transcend accepted interpretations and recast the novel in timeless terms which could yield valuable

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Vision," *MLN* 94:1 (1979); Nino Genovese and Sebastiano Gesù, eds., *La musa inquietante di Pirandello: il Cinema* (Palermo: Bonanno, 1990); Michael Syrimis, *The Great Black Spider on Its Knock-Kneed Tripod: Reflections of Cinema in Early Twentieth-Century Italy* (Toronto: University of Toronto Press, 2012), in particular Chapter 6, pp.197-224, "The Humoristic Image in Pirandello's *Si gira*…." For an innovative reading of sound in Italian film, see Antonella Sisto, *Film Sound in Italy: Listening to the Screen* (New York: Palgarve, 2014).

[19] Franca Angelini, *Serafino e la tigre. Pirandello fra scrittura, teatro e cinema* (Padova: Marsilio, 1990), 47: "la macchina in generale e il cinema in particolare […] potrebbero essere solo le metafore della modernità, simbolo del negativo."

[20] Angelini, 60f: "[Per i futuristi,] [l]a locomotiva, l'automobile, l'aeroplano, la macchina da guerra funzionano in un progetto di dominio dell'uomo: […]. Ma cosa succede di una macchina che, come assai precocemente quella di Serafino Gubbio, può produrre immagini non di dominio bensì d'impotenza dell'uomo […]?"

[21] Vettori, "Serafino Gubbio's Candid Camera," 80.

[22] Ibid., 87.

insights into the role of technology and human-machine interactions relevant to our own times. In a first place, their point of departure is the humanistic premise of the primacy of human beings which inevitably leads to conclusions about the dehumanizing nature of machines; and secondly, they are thoroughly historicizing and bound up in authorial intent in the sense that they merely demonstrate what Pirandello's contribution was to the history of cinema and film theory, or to the specific cultural and literary epoch within which Pirandello wrote the novel. It is almost impossible to disentangle in these readings the text from its author, as Moses notes, as if scholars were taking for granted that "Gubbio speaks for Pirandello and Pirandello for Gubbio."[23]

Furthermore, while scholars do recognize Serafino's technological metamorphosis, his interactions with the machine, its noises, and his loss of voice in the *Quaderni* are again overwhelmingly read as metaphors, be it for modernity, dehumanization, the decline of art, the inauthenticity of the world of cinema, or humanity's general disenchantment. Angelini speaks of the "man-machine, a strange animal with a mechanical prosthesis" ["uomo-macchina, uno strano animale con protesi meccanica"][24] but machines in general and cinema in particular, according to her reading of the novel, can only be mere "metaphors for modernity" ["metafore della modernità"].[25] Moses even goes so far as to speak of Serafino as a "robot," a "mechanical stop-motion shadow […] mechanical hybrid of camera and man." [26] He too, however, sees him as just a "brilliant metaphor for film's own mechanical reproductions of

[23] Moses, "Film Theory as Literary Genre," 40. Vettori reads the novel as a cover up for Pirandello's own thesis: "The 'Cahiers,' or 'Quaderni,' are a sort of fictionalized autobiography under cover of annotations and disorganized notes in the first person: this allows ampler space to express opinions by interspersing them throughout the text and juxtaposing them to narrative, fictional passages. And it is in these passages that Pirandello's own voice can be loudly heard. Thanks to its complex narratological structure, the novel never becomes a *roman à thèse*. It preserves certain characteristics of an essay, although 'under cover.' […] In the case of the newly-born cinema, [Pirandello] chose to express his opinion by means of a different medium and preferred to have his voice mediated through the 'screen character' Serafino Gubbio" (Vettori, 94).

[24] Angelini, *Serafino e la tigre*, 37.

[25] Ibid., 47.

[26] Moses, "Film Theory as Literary Genre," 51.

life" and for "Pirandello's negative commentary on the mechanical nature of the film medium"[27] Finally, Alessandro Vettori similarly recognizes Serafino's own identification with "an object, the camera," but for him, too, Serafino as man-machine is merely an "emblem of the modern productive process, a 'worker,' 'operaio,' who uses his body as a work force, turning it […] into a machine at the service of production."[28]

For the type of reading that I propose in this chapter, a nod to Barthes's death of the author is propitious so that the text may speak in its own terms and in a language intelligible and relatable to us from across the twentieth century. Otherwise, given the almost cult-like critical attention surrounding Pirandello and his thought,[29] we risk the text's petrification into a dated monument to silent cinema and to its author's negative attitude towards modernity, noise, the cinema world, and industrialization. To read the *Quaderni* only from within its historical context or through the figure of its author "is to impose a limit on that text, to furnish it with a final signified, to close the writing."[30] Finally, detaching the *Quaderni* from the grip of humanism allows us to insert this novel into a wider discourse on the encounter between the human and the machinic that destabilized the liberal humanist subject at the turn of the twentieth century.

[27] Ibid.

[28] Vettori, "Serafino Gubbio's Candid Camera," 87.

[29] To which, Pirandello, without a doubt would answer: "pagliacciate! pagliacciate! pagliacciate!…" This is how Stefano Pirandello describes his father's reaction to a group of photographers and journalists trying to interview him after it had been announced that he had won the Nobel Prize for Literature. 9 November 1934.

[30] Roland Barthes, "The Death of the Author," in *Image, Music, Text*, essays selected and transl. by Stephen Heath, 142-148 (London: Fontana Press, 1977), 147.

1.2. *Quaderni di Serafino Gubbio operatore* (1915, 1925)

The original title of *Quaderni di Serafino Gubbio*, as mentioned above, was *Si gira…* (*Shoot…*), both in the original serial publication (1915) and in the first single-volume edition (1916). The title is immediately followed by the genre specification *romanzo* (novel). The expression "si gira" designates the order given before a film scene is to be shot (equivalent to Hollywood's "roll camera!" or "action!"). Within the novel itself, *si gira* is also the nickname given to Serafino by the employees and actors of the film company, the Kosmograph. But before the reader finds out about Serafino's nickname, the paratextual information informs her that, firstly, the text will have something to do with cinema, or that it *is* cinema, a film, montage, as if the title were the voice of the director (Luigi Pirandello's) and the book covers the clapperboard announcing the shooting of a film; and second, that the text's genre is a novel. Upon turning the page to the first chapter, however, we notice the heading "Fascicolo primo de le note di Serafino Gubbio operatore" ["First booklet of the notes of Serafino Gubbio, operator"] and the use of verbs in the first person singular ("studio," "mi sembra," "mi fermo"; "I study," it appears to me," "I stop"). The reader's horizon of expectations for *Si gira…* is thus narrowed down and focalized: what lies before us is not a Zolaesque or Jamesian novel about cinema from a potentially omniscient perspective with a watchful historical author lurking over the reader's shoulder. Rather, *Si gira…* offers the subjective, limited point of view of its fictional author, Serafino Gubbio, in the form of annotations written in the first person, occasionally addressing a male reader, and gathered into several notebooks to form a kind of fictional diary.

Serafino creates himself and his world as he is writing. Escher's *Drawing Hands* from 1943 is a fitting image to describe the point of view of the *Quaderni* for, throughout the novel, we mostly read about Serafino's hand, the hand that turns the handle ("*una mano che gira una manovella*," *Tr* II 522, italics in the original). We read about the eyes that he lends to the camera objective, and receive no further indications as to his exact physical appearance. Is Serafino tall? Is he short? Blond, dark-haired? Does

he have feet? What kind of body does he inhabit? *Where* is Serafino's body in the *Quaderni*? His body *is* his point of view, and his point of view is the novel, the fictional space that he creates. His hand does not only turn the handle of the machine, but it creates and controls the narrative that we read as well. *Quaderni di Serafino Gubbio* presents itself as autopoietic. Serafino as the creator of the fictional space is its steersman and governor, or κυβερνήτης (*kybernḗtēs*), under whose watchful eyes a myriad of fictional voices come to interact.

What we call a "fictional world" in literature corresponds to "cyberspace" in digital communication. "In cyberspace," N. Katherine Hayles writes, "point of view does not emanate from the character; rather, the pov literally *is* the character." The *Quaderni di Serafino Gubbio* are Serafino Gubbio. To eliminate this character, is to eliminate the fictional space which Serafino's consciousness creates and inhabits at the same time. "If pov is annihilated," Hayles continues, "the character disappears with it, ceasing to exist as a consciousness in and out of cyberspace. The realistic fiction of a narrator who observes but does not create is thus unmasked in cyberspace […]. The crucial difference between the Jamesian point of view and the cyberspace pov is that the former implies physical presence, whereas the latter does not."[31] This is not to say that the *Quaderni* are disembodied fiction, but that the physical, historical author has abandoned ship and left the steering wheel in Serafino's *hand*,[32] as if to say "Gubbio n'est pas moi." Indeed, Serafino toys with the idea that he is the creator of what he sees: "I could delude myself into thinking that, by turning the handle, it is I who makes these actors move" ["potrei farmi l'illusione che, girando la manovella, faccia muover io quegli attori" (*Tr* II 521)]. Later he writes that "what I see with such sharp perception becomes so much a part of me that it dismays me to think that something—a thing or a person—might not be as I want it to be" ["diventa talmente mio quello che vedo con così nitida percezione, che mi sgomenta il pensare, come mai un dato aspetto—cosa o persona—

[31] Hayles, *How We Became Posthuman,* 38.

[32] For a similar agument, see Giacomo Debenedetti, *Il personaggio uomo* (Milano: Il Saggiatore, 1970).

possa non essere qual io lo vorrei" (*Tr* II 600)]. Critics have interpreted these passages as Serafino's shot at playing God. From the cybernetic point of view he *is* God, the god of his narrative. Everything in the novel exists because of his point of view and because of that same hand that turns the camera handle and puts the pen to paper (see Escher's *Hands*).

Another element points to the historical author's absence: in the 1915/1916 editions, each section carries the specification "Fascicolo… de le note di Serafino Gubbio operatore." These section titles become "Quaderno primo," "Quaderno secondo" in the 1925 edition. This gives out the impression that we have before us Serafino's original booklets, found and presented to us in an unedited form by Luigi Pirandello. Such a move could be read as a discrete form of the trope of the "manoscritto ritrovato" (found manuscript) as exemplified, for instance, in Cervantes's *Don Quijote* and Manzoni's *I promessi sposi.*[33] The seven personal notebooks of a cinema operator, presumably about the world of cinema, are made available to the reader but not written by Luigi Pirandello. Fictional author (Serafino Gubbio) and historical author (Luigi Pirandello) do not coincide. The change of the 1925 title from *Si gira*... to *Quaderni di Serafino Gubbio operatore* only goes to confirm the point. For the new title actually aligns paratextual information with form and content, and shifts the focus from the impersonal action of "si gira" to the personal view of Serafino Gubbio, preparing the reader for a different type of narrative.

Finally, that Pirandello deliberately sought to detach himself from the text is buttressed by his brief cameo appearance in the novel as the curious *signore* described by Serafino as follows: "a delicate, pale [face] with thin fair blond hair; keen blue eyes, a pointed, yellowish beard behind which there lurked a faint smile that tried to appear timid and polite, but was really malicious" "[(facia) gracile, pallida, con

[33] *Stricto sensu*, the trope of the "manoscritto ritrovato" is used "per legittimare la propria opera, per dimostrare la sua autenticità o almeno per dissimulare la sua inautenticità; o, ancora, per declinare la responsabilità, moralmente ingiustificabile, della sua creazione." Monica Farnetti, *Il manoscritto ritrovato: Storia letteraria di una finzione* (Firenze: Società Editrice Fiorentina, 2006). [The "rediscovered manuscript" is used "to legitimize one's work, to prove its authenticity or at least to conceal its inauthenticity; or, again, to decline the morally unjustifiable responsibility of its creation."]

radi capelli biondi; occhi cilestri, arguti, barbetta a punta, gialliccia, sotto la quale si nascondeva un sorrisetto, che voleva parer timido e cortese, ma era malizioso" (*Tr* II 522)].[34] It behooves us to conclude from such observations that the *Quaderni* are best approached as an *opera aperta* (open text),[35] and that their historical author is just a minor character among many in the story that Serafino tells.

Already in *Il Fu Mattia Pascal* (*The Late Mattia Pascal*, 1903) Pirandello had adopted the first-person narrative and continued using it in the *Quaderni* and in his last novel, *Uno, nessuno e centomila* (*One, No One, and One Hundred Thousand*, 1926), as if slowly but steadily relinquishing omniscient authorship and claims to objectivity in favor of unreliable first-person narrators to then entirely give up writing novels in favor of theater and the short story. In view of such deliberations, that "Pirandello speaks for Gubbio, and Gubbio speaks for Pirandello" is hardly tenable. Separating the two opens up the *Quaderni* to broader inquiries that can reveal the novel's potential to illuminate contemporary issues. Instead of focusing on the dated phenomenon of mute cinema and Pirandello's own attitude towards the new medium through the prism of the *Quaderni*, we can approach the novel through transhistorical concepts such as voice, subjectivity, and the body, which allow us to address the question of what it means to be human in the age of the machine.

But why Gubbio? Why did Pirandello choose the point of view of a camera operator—and a *meridionale* at that (Serafino is a southerner, from Naples)—and not that of an actor or a director? In a world of capricious actors and whimsical directors, a camera operator is personally least involved in and affected by the events. He is just "*una mano che gira la manovella*." Moreover, as the man behind the camera lens, Serafino is in a privileged position as an observer. Finally, as a southerner from the rural parts of Italy, but educated in Belgium, and then transplanted into an industrializing modern city (Rome), Serafino brings a broad, nomadic, disinterested if not skeptical perspective on cinema and technology.

[34] Moses, "Film Theory as Literary Genre," 41.

[35] Umberto Eco, *Lector in fabula* (Milano: Bompiani, 1979), and Barthes, "Death of the Author."

The camera operator is a liminal figure that moves freely between that which appears on film and the way that a film is made; between the surface (the film set) and the underground (the production process); appearance and essence, fiction and reality. He has equal access to director, actors, machines, animals, writers, and workers alike. Everything that we read in the novel is filtered through Serafino's perception. In other words, as Angelini writes, "Serafino […] is a medium" ["Serafino (…) è un medium"].[36] Or, in the words of Vettori, "[m]ore than a real protagonist, he is a reporter and scribe. Most of his annotations portray Serafino as the medium through which his readers learn of Simone Pau, Varia Nestoroff, Aldo Nuti, Carlo Ferro, Giorgio Mirelli, Duccella Mirelli, Lucietta Cavalena etc."[37] But there is another reason why Serafino's point of view is interesting: *His relationship to the machine.* For, not only is everything in the novel filtered through *his* perception; there is an additional filtering instance, an additional *medium* at play: The *macchina da presa* (film camera).

Serafino, indeed, cannot be thought apart from the machine at any point in the novel. For either he is looking at the world through the camera objective, or he acts as if he were a camera himself. Entirely aware of the impact that the machine has on his perception, he writes:

> Already my eyes and my ears, too, from force of habit, are beginning to see and hear everything in the guise of this rapid, quivering, ticking mechanical reproduction.
>
> *Già i miei occhi, e anche le mie orecchie, per la lunga abitudine, cominciano a vedere e a sentir tutto sotto la specie di questa rapida tremula ticchettante riproduzione meccanica*. (*Tr* II 524)

Indeed, as Moses notes, "[t]he cameraman is unable to see reality in a way other than that dictated by the aesthetic peculiarities of his medium."[38] Put another way, throughout the novel, with one hand Serafino is turning the machine handle and with the other he is writing. Serafino's *Quaderni* offer a

[36] Angelini, *Serafino e la tigre,* 27.

[37] Vettori, "Serafino Gubbio's Candid Camera," 90.

[38] Moses, "'Gubbio in Gabbia,'" 39.

double vision of the two worlds of cinema and life, of fiction and reality, of art and artifice, of a (lost) rustic Eden and a (gained?) modern city, and it does this through two perspectives intertwined in the novel like the snakes around Hermes's caduceus staff: that of man and of the machine. Such "aesthetic strabismus," as Françoise Meltzer had identified in Charles Baudelaire, "is born of an inability to integrate the dying world and the burgeoning one."[39] The *Quaderni*, as we already hinted at and will show in what follows, are the result of this dialectical struggle to combine the two sides of the street into one road, and the two media of the novel—the man and the machine—into one entity (a cyborg?). Viewed this way, the *Quaderni* reveal an enormous potential for the understanding of human-machine interactions at one of their earliest stages.

At this point, it is in order to lay out a few general pitstops in the novel's plot and structure, with a nod to Vladimir Propp's narrative functions, so that we may proceed to a more focused, thematic analysis. Although it is a realist-psychological novel, *Quaderni di Serafino Gubbio* does share some elements with *Pinocchio* and *A cidade e as serras* insofar as all three novels articulate some kind of quest, a quest for the self in the face of a rising deafening modernity:

1. **Focalization/PoV:** Serafino Gubbio, cinematograph operator, the ideal observer: "vigile, preciso e d'una *perfetta impassibilità*" ["alert, accurate, and *perfectly impassive*] (Notebook II, 2);
2. **Task:** observation, study of his surroundings ("studio la gente… con questi miei occhi intenti e silenziosi…" ["I study people…with my own intent and silent eyes"]) (Notebook I, 1), and of the "congegno esterno… meccanico della vita" ("the external… mechanical contraption of life" Notebook I:1); **pressure release [sfogo] through writing;** Serafino's main concern is with how to be a good, objective, impassible observer, both as camera operator and individual: "vorrei non parlar mai" ["I would like to never speak"] (Notebook IV, 4)… "in un tempo come questo, tempo

[39] Françoise Meltzer, *Seeing Double: Baudelaire's Modernity* (Chicago: University of Chicago Press, 2011), 1.

di macchine" ["in times like these, times of machines"] (Notebook VII, 7); he writes down on paper what he sees through the camera objective and with his own eyes: "queste mie note" ["these notes of mine"] (Notebook V, 3);

3. **Receipt of Magical Agent/Branding:** Serafino is given a camera (the "magical agent"), and the job as cinematograph operator; he imitates the film camera, and is impassible, objective, and silent to the point of becoming identified with it; the actors in the film company brand him as "*si gira…*";

4. **Struggle:** Serafino is human, has emotions, falls in love, and becomes impartial to the impressions that reach him from the world; his objectivity is compromised, and he starts to be affected by what he sees: "sento veramente! […] Ma no, io non sono più *una cosa*, e questo mio silenzio non è più *silenzio di cosa.* Volevo farlo avvertire agli altri, questo silenzio, ma ora *lo soffro* io, tanto!" (Notebook V, 5); "son rovinato, se la mia mano si mette a sentire!" (Notebook VI, 1); ["I feel indeed! (…) But no, I am no longer *a thing*, and this silence of mine is no longer the silence of a thing. I wanted to make the others aware of this silence, but now I suffer from it, so much!" (Notebook V, 5); "I am ruined, if my hand begins to feel!" (Notebook VI, 1);

5. **Solution/Punishment/Transfiguration:** a triple murder scene takes place in the cage while Serafino is filming. As a consequence, he suffers trauma and loses his voice: "la voce, dal terrore, mi s'era spenta in gola, per sempre" ["my voice, from the terror, had died in my throat, forever"] (Notebook VII, 4); Serafino stops writing and speaking because these two acts render him vulnerable and subjective; instead, he continues—mute—his work as a now perfect machine operator: "Come operatore, io sono ora, veramente, perfetto […] Io mi salvo, io solo, nel mio silenzio, col mio silenzio, che m'ha reso così—come il tempo vuole—perfetto" [As an operator I am now truly perfect (…). I have found salvation, I alone, in my silence, which has made me—as the times demand it—perfect"] (Notebook VII, 4).

With these deliberations in mind, let us now look at how the interaction of the human with the machine is articulated in the *Quaderni* at the intersection of the body and perception, and the subsequent transformation whose features become salient when approached comparatively. To this purpose, we will recapitulate some of the points made in the chapter on *Frankenstein* and *Pinocchio*. In addition, we will also consider the formation of posthuman subjectivity in a different type of nonhuman, biological protagonist who came to life the same year as Pirandello's Serafino Gubbio: Kafka's Gregor Samsa.

2. Posthuman Metamorphoses

2.1. Of Puppets, Insects, and Man-Machines

In the twentieth century, it became possible to physically alter human beings with the help of biotechnologies. Scientifically speaking, alteration implies a metamorphosis, a transitioning from one condition to another, gradual or abrupt, natural or with the help of technology, whereby that which has undergone a metamorphosis can, 1) take up a completely new form (holometabolism, or complete metamorphosis), or 2) become a variation on the initial form (hemimetabolism, or incomplete metamorphosis). In both cases, there is some kind of continuity between the initial and the final form of the metamorphizing entity that allows us, for instance, to perceive the four-stages of a developmental cycle of an insect (egg, larva, pupa, adult) as belonging to that same entity which we call a "butterfly."[40] And yet, one would never feel so inclined as to say that a butterfly is a post-caterpillar. But what if an osmotic pump capsule were inserted into a rat's tail, or an artificial limb attached to a human body, or a device placed into a human hand, or, finally, a neural implant inserted into a human brain?[41] Are we then

[40] Questions about continuity in metamorphosis are addressed, for instance, by Douglas J. Blackiston, Elena Silva Casey, and Martha R. Weiss in their article on "Retention of Memory through Metamorphosis: Can a Moth Remember What It Learned As a Caterpillar?" *PLoS One* 3: 3 (2008), doi: 10.1371/journal.pone.0001736.

[41] An experiment performed by Kevin Warwick whereby he inserted a neural implant into his own brain and that of his wife to test the possibility of telepathic communication. Some signals were successfully transmitted from one brain to the other. For details, see Warwick's "A Practical Guide to Posthumans," *Journal of Posthuman Studies* 1:1 (2017).

still speaking of a "rat," of "humans," or are we dealing with a new kind of being? The rat with an osmotic pump capsule in its tail became the first known empirical cyborg made by two scientists in the 1960s, and we are still struggling to understand what exactly the status is supposed to be of the beings in the other examples.[42] Monsters? Cyborgs? Posthumans? But humans nevertheless? At a first glance, it seems as though the main issue here were the question of what happens when the human body is altered. The more important question, however, lurking behind the mere material transformation, is whether and how do such bodily modifications impact consciousness, speech, and identity. It is, in other words, about the cartesian mind-and-body dualism in view of a vertiginously changing and fluidifying world—a crisis that writers seized by the collar, intuiting the replacement of this dichotomy with a new type of subjectivity which requires new modes of expression and communication. Pirandello, I suggest, is at the forefront of such deliberations which he began in *Il fu Mattia Pascal*, with its twice dead and thrice born protagonist, and then brought to fruition in the *Quaderni*.[43]

As we saw in Chapter I, in the domain of fiction, broadly speaking, the mind-body conundrum has been the order of the day since at least the First Industrial Revolution. Norbert Wiener, the father of cybernetics, writes to emphasize the unprecedented nature of the period comprising the two industrial revolutions: "there is no use looking anywhere in earlier history for parallels to the successful inventions of the steam engine, the steamboat, the locomotive, the modern smelting of metals, the telegraph, the introduction of electric power […]."[44] It is therefore perhaps not surprising that such a novel as Mary Shelley's *Frankenstein* appeared at this time, with its patchwork-human, monstrous protagonist who has

[42] Bodily modifications are a relatively new phenomenon in the Western world so that even our judicial systems still lack adequate laws. See for instance *The Criminal Law Review*, Issue 7 (2019).

[43] Keeping in mind that Pirandello began writing the *Quaderni* about a year before *Mattia Pascal* was published. For Mattia Pascal's "endomorphosis," see Pier Mauro Stombelli, *Da Lucignolo a Pinocchio: Il viaggio dell'uomo dalla naturalità assoluta alla socialità necessaria* (Firnze: Firenze Atheneum, 2005), especially Chapter VII, section "L'endomorfosi di Pirandello. L'impossibile morte del fu Mattia Pascal come inevitabilità dello Stato organizzato," pp.77-80.

[44] Norbert Wiener, *The Human Use of Human Beings,* 44f.

been read as a form of posthuman assemblage.[45] For, as philosopher Tamar Sharon aptly notes, "[t]he question of what it means to be human surfaces time and again in periods of important technological change."[46] Around the time when the Second Industrial Revolution was gaining traction all over the European continent (ca. 1880), Carlo Collodi's talkative and mischievous puppet, Pinocchio, came to existence, exemplifying a full humanoid-to-human metamorphosis. In this famous story, a piece of wood with a consciousness, or, rather, an acousmatic voice ("una vocina sottile," a faint little voice)[47] presumably coming from a piece of pinewood, is first given a wooden humanoid form and then an organic one while maintaining the same identity. At the height of the Second Industrial Revolution and World War I in 1915, Kafka's Gregor Samsa set the bar for literary, human-to-insect transformations whereby a human wakes up one day in the body of an *Ungeziefer* and, unable to cope with it, decays and dies.[48] All three characters—Frankenstein's Monster, Pinocchio, and Gregor Samsa—prompt questions concerning the nature of the human in times of great technological upheaval, the body and language being the fleshiest bone of contention, as it were.

As mentioned previously, Arendt had singled out speech and action as the two main features characterizing the human condition. But what happens when nonhuman entities are in command of speech and action? Does that make them human? And what happens to human speech and action, i.e. human subjectivity, when the body and perception are modified? In the case of *Frankenstein*, *Pinocchio*, and Kafka's *Metamorphosis*, the answer is: nothing, subjectivity remains intact. In these texts, the bodies change but subjectivity remains unscathed. Human consciousness is ultimately and intrinsically tied to a

[45] See Fuller, *Reading the Cyborg in Mary Shelley's* Frankenstein, 2003.

[46] Tamar Sharon, *Human Nature in an Age of Biotechnology: The Case for Mediated Posthumanism* (Dordrecht: Springer, 2014), 1.

[47] Collodi, *Pinocchio,* 65.

[48] For later examples of similar transformations in fiction and cinema, see the 1957 short story by George Langelaan, "The Fly," subsequently made into a blockbuster film, *The Fly* (1986), directed and co-written by David Cronenberg.

human body and a *human* voice, and it is in the nature of anything human to strive towards the unity between these elements or perish. Amalgamations are sterile. In the case of *Quaderni di Serafino Gubbio*, however, the outcome is quite different. The concept of metamorphosis will help us navigate the matter.

In 1915, Pirandello published *Si gira…* in serial form. That same year in Chicago, T. S. Eliot asked his "overwhelming question […] / Oh, do not ask, 'What is it?';"[49] and Kafka's *Die Verwandlung* saw the light of day: "Und jetzt?" Gregor Samsa, asked, what now? before sinking into nonexistence.[50] Simultaneously the Futurists were seeking to expel the human being from the theater and literature altogether and substitute it with robots and electrical puppets.[51] The question remains the same for all writers across different genres: what is a human being, as Serafino formulates it, in "un tempo come questo, tempo di macchine" ["in times like these, times of machines"]? But the conditions and outcome of Serafino Gubbio's metamorphosis diverge. For once, he is neither an assemblage (Frankenstein's monster), nor a phantasm (e.g., Gustav Meyrink's Golem), nor a wooden or electric puppet (E.T.A. Hoffmann's Olimpia, Pinocchio, or the Futurists' extravaganzas), nor an insectoid creature (Gregor Samsa). He is or, rather, *becomes* something quite new—a new kind of literary protagonist which is our aim to unveil. I will show how the interaction between the human being and the machine in the *Quaderni* brings about a form of partial metamorphosis whereby the birth of a new type of subjectivity is outlined at the beginning of the twentieth century, requiring an ontology of its own.

[49] T.S. Eliot, "The Love Song of J. Alfred Prufrock," in *Poetry: A Magazine of Verse* (June 1915).

[50] Kafka, *Die Verwandlung,* 67.

[51] The examples from Italian literature are manifold. Of particular interest are F.T. Marinetti's *Poupées Electriques* (1909) and Enrico Prampolini's *Scenografia Futurista* (1919). On this topic, see Katia Pizzi's *Italian Futurism and the Machine.* See also Pizzi's essay on "Pinocchio and the Mechanical Body: Luciano Folgore's Papers at the Getty Research Institute Library," in *Pinocchio, Puppets and Modernity: The Mechanical Body,* ed. by Katia Pizzi, 135-162 (New York: Routledge, 2012).

2.2. Serafino and the Liberal Humanist Subject

When we first meet Serafino, he has already been a cinematograph operator for the Kosmograph film company for some eight months. He introduces himself to the reader as someone who studies his surroundings, intently, passively, and is a mere hand, "*una mano che gira la manovella,*" (*Tr* II 522), a worker who does not really "do" anything but lend his body to a machine still not sophisticated enough to function on its own:

> I am an operator. But, as a matter of fact, being an operator, in the world in which I live and upon which I live, does not in the least mean operating. I operate nothing.
> This is what I do. I set up my machine on its knock-kneed tripod. […] I do nothing more than apply my eyes to the machine […].
> And I start turning the handle. (Scott Moncrieff 5f).
>
> *Sono operatore. Ma veramente, essere operatore, nel mondo in cui vivo e di cui vivo, non vuol mica dire operare.*
> *Io non opero nulla.*
> *Ecco qua. Colloco sul treppiedi a gambe rientranti la mia macchinetta. […] io non faccio altro che prestare i miei occhi alla macchinetta […].*
> *E io mi metto a girar la manovella.* (*Tr* II 521)

There is an air of resignation in these self-deprecating words, a self-annihilation in the sense that Vettori has in mind when he writes that Serafino's "persona loses its status as physical being within the coordinates of time and space, so that existentially he becomes a non-being" (98). Such a reading is buttressed by Serafino's own statements throughout the novel: "I no longer am. She now walks with my legs. From head to foot, I am hers: I am part of her contraption" ["non sono più. Cammina lei, adesso con le mie gambe. Da capo a piedi, son cosa sua: faccio parte del suo congegno" (*Tr* II 572)], and later, "I was a thing: here, maybe the one that was on my lap" ["ero una cosa: ecco, forse quella che mi stava sulle ginocchia" (*Tr* II 606)]. Whether it is a case of self-annihilation or reluctant but developing metamorphosis depends, of course, on our point of view.

The humanist point of departure commonly adopted by interpreters of the novel imposes the subjectivity versus otherness dichotomy, the human versus the machine, leaving no space for anything in between. Such a dichotomy was criticized by Braidotti who shows that subjectivity "is equated with

conscious, universal rationality, and self-regulating ethical behavior, whereas otherness is defined as its negative and specular counterpart."[52] The human is here "posited as categorically and qualitatively distinct from the sexualized, racialized, naturalized others and also in opposition to the technological artifact"[53] In this sense, a human serving or lending his/her body to a machine or merging with a machine would have no claim to subjectivity, agency, and consciousness, and is therefore a lesser human, an Other, a non-being, a thing. The sole purpose of such a lesser human would then be to rid him/herself from that condition of tutelage and inferiority and become fully human (Pinocchio) or perish (Frankenstein's monster and Gregor Samsa). Read this way, through Serafino's character we would be witnessing at the beginning of the twentieth century the definite and inevitable commodification and objectification of humans through technology, making the *Quaderni* into the technophobic novel *par excellence*. Serafino writes in the first notebook:

> It is, perforce, the triumph of stupidity, after all the ingenuity and research that have been expended on the creation of these monsters, which ought to have remained instruments and have instead become, perforce, our masters.
> The Machine is made to act, to move, it requires swallowing up our soul, devouring our life. (Scott Moncrieff 7)
>
> *È per forza il trionfo della stupidità, dopo tanto ingegno e tanto studio spesi per la creazione di questi mostri, che dovevano rimanere strumenti e sono divenuti invece, per forza, i nostri padroni. La macchina è fatta per agire, per muoversi, ha bisogno di ingojarsi la nostra anima, di divorar la nostra vita*. (*Tr* II 523)

This is the same master-slave rhetoric that we encountered in Eça de Queirós's *A cidade e as serras* when Jacinto's little army of technological artifacts began to rebel and turn its master into a muttering, laggard servant. The issue in that novel was technological literacy, the inability of humans to properly use technology without trying to dominate it or feel dominated by it. What can we do about it? Serafino asks, the question mark swelling up under his inquisitive eyes:

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[52] Braidotti, *The Posthuman,* 15.

[53] Ibid., 26.

> What is there to be done? I am here. I serve my machine, insofar as I turn the handle so that it may eat. But my soul does not serve me. My hand serves me, that is to say, serves the machine. The human soul for food, life for food, you must supply, gentlemen, to the machine whose handle I turn. I shall be amused to see, with your permission, the product that will come out at the other end. (Scott Moncrieff 8)
>
> *Che volete farci? Io sono qua. Servo la mia macchinetta, in quanto la giro perché possa mangiare. Ma l'anima, a me, non mi serve. Mi serve la mano; cioè serve alla macchina. L'anima in pasto, in pasto la vita, dovete dargliela voi signori, alla macchinetta ch'io giro. Mi divertirò a vedere, se permettete, il prodotto che ne verrà fuori.* (*Tr* II 524)

The humanist subject is in jeopardy when it serves the machine or is being fed into the machine which only goes to reinforce subject-object, us-them, master-slave, and other similar dichotomies. Such a reading leads away from the more important question concerning the formation of a new type of subjectivity that results from human-machine interactions. What now? What next?

Adopting the posthumanist perspective can help us aerate the issue and elaborate some of the propositions we already laid out in the previous chapters of this thesis. For, as N. Katherine Hayles affirms, "the posthuman does not really mean the end of humanity. It signals instead the end of a certain conception of the human."[54] Furthermore, it provides means for rethinking human-machine hybridization and its impact on the subject. Critical Posthumanism, as understood by Braidotti, develops "affirmative perspectives on the posthuman subject"[55] as opposed to a unity "of the negative kind, as a shared form of vulnerability […] in the face of common threats."[56] Braidotti defines the posthuman subject, "within an eco-philosophy of multiple belongings, as a relational subject constituted in and by multiplicity, that is to say a subject that works across differences and is also internally differentiated, but still grounded and accountable."[57] She is interested in an "ethics of becoming" which is based on an "enlarged sense of

[54] Hayles, *How We Became Posthuman,* 286.

[55] Braidotti, *The Posthuman,* 45.

[56] Ibid., 50.

[57] Ibid., 49.

inter-connection between self and others, including the non-human or 'earth' others, by removing the obstacle of self-centered individualism."[58] Her perspective is indebted to Gilles Deleuze's "becoming machine" as well as to Heidegger's "being-as-becoming." Heidegger's idea of environmentality as a mode of coexistence mixes human, animal, and technological worlds and invites cohabitation instead of an existence based on power relations and hierarchies.[59] Such a point of departure relativizes the centrality of the human, and makes room for different kinds of entities, and, in particular, for such questionable creatures as Serafino Gubbio.

To start with, there are three types of entities in the *Quaderni*: the soulless camera machine, Serafino (hand on machine handle, soul somewhere else), and those whose soul and lives are fed into the machine by others (this last category includes actors and animals such as the tiger in service of the Kosmograph). While the machine-monster gobbles down the actors' lives and souls in a meal prepared by film companies and directors, Serafino keeps his soul, turns the handle, steps back and observes the spectacle. He compensates for his professional impassibility by using that same hand that turns the handle to write his notebooks, exercising his intellectual abilities, preserving his soul, and getting revenge on behalf of all those beings swallowed up by the shrieking mechanisms of modernity: "I satisfy, by writing, an overbearing need to vent, to let off steam. I unload my professional impassivity and take revenge, too" ["Soddisfo, scrivendo, a un bisogno di sfogo, prepotente. Scarico la mia professionale impassibilità e mi vendico, anche" (*Tr* II 522). The machine teaches him the coveted distance and impassibility. In return, Serafino lends the machine his hand and eyes, providing focus and feedback. Together, Serafino and the

[58] Ibid., 49f.

[59] See Heidegger, "Analysis of Environmentality and Worldhood in General," and Timothy Morton, "*Frankenstein* and Ecocriticism."

machine form an indivisible, self-regulating feedback control system or, in other words, a proto-cybernetic system or organism in which objectivity is exchanged for motion and vice versa.

Yet more happens than just this mere exchange that enables a successful flow of information and communication: Serafino's perception and body are impacted by the interaction with the machine.[60] In fact, there is no moment in the novel where this is not the case, for he begins writing his notebooks retrospectively, that is, from a point in time when he already has undergone a certain degree of influence by his occupation, to eventually arrive at a point when narration and narrative almost coincide.

The novel, then, from the beginning articulates a more complex point of view than that of a "regular" human protagonist. As Vettori writes, "[t]he writer Serafino becomes the camera-lens, the filter through which all the events are viewed."[61] As we saw before, Serafino himself is quite aware of the influence: "Already my eyes, and my ears, too, out of long habit, are beginning to see and hear everything under the guise of this fast, tremulous, ticking mechanical reproduction" ["Già i miei occhi, e anche le mie orecchie, per la lunga abitudine, cominciano a vedere e a sentir tutto sotto la specie di questa rapida tremula ticchettante riproduzione meccanica" (*Tr* II 524)]. The ticking noise of the camera is the counterpoint to everything that Serafino sees and hears. This is not only expressed on the descriptive level, but on the stylistic, syntactic level as well. Serafino writes in short quick sentences interrupted by many commas, quick flashing images passing by like the frames of a film, like the ticking noise that accompanies the rapid succession of moving pictures, like the pre-recorded subway or airport announcements we are used to hearing today:

> I, too, am acquainted with the external, that is to say, the mechanical framework of the life which keeps us clamorously and dizzily occupied and gives us no rest. Today, such and such; this and that to be done hurrying to one place, watch in hand, so as to be in time at another. "No, my dear fellow, thank you: I can't!" "No, really? Lucky fellows! I must be

[60] The fusion between man and machine is known in cognitive science as "extended cognition."

[61] Vettori, "Serafino Gubbio's Candid Camera," 92.

> off….” At eleven, luncheon. The paper, the house, the office, school… “A fine day, worse luck! But business…” “What’s this? Ah, a funeral.” We lift our hats as we pass to the man who has made his escape. the shop, the works, the law courts… (Scott Moncrieff 4)
>
> *Conosco anch’io il congegno esterno, vorrei dir meccanico della vita che fragorosamente e vertiginosamente ci affaccenda senza requie. Oggi, così e così; questo e quest’altro da fare; correre qua, con l’orologio alla mano, per essere in tempo là. —No, caro, grazie: non posso! —Ah sì, davvero? Beato te! Debbo scappare… —Alle undici, la colazione. — Il giornale, la borsa, l’ufficio, la scuola… —Bel tempo, peccato! Ma gli affari… —Chi passa? Ah, un carro funebre… Un saluto, di corsa, a chi se n’è andato. —La bottega, la fabbrica, il tribunale…* (*Tr* II 520f)

Serafino’s ears are highly attuned to the noises of the world, his eyes are attentive and silent (“intenti e silenziosi” [*Tr* II 519]), his hand turning the machine handle as if it were a part of it, leaving him plenty of time and head space to criticize, rant, observe, conjecture, and philosophize. The impressions that reach him reinforced by the camera objective are so intense that they become a part of him, as if he were living film inside the camera (“Diventa talmente mio quello che vedo con così nitida percezione […]”).

But the machinic influence is not limited to Serafino’s perception and senses. It extends to his body as well: “I no longer am. She now walks with my legs. From head to foot, I am hers: I am part of her contraption. My head is here, in the machine, and I carry it in my hand” [“non sono più. Cammina lei, adesso con le mie gambe. Da capo a piedi, son cosa sua: faccio parte del suo congegno. La mia testa è qua, nella macchinetta, e me la porto in mano” (*Tr* II 572)]. From head to toes, Serafino belongs to the machine. It walks with his legs, he carries it in his hand as if carrying his own head. He *is* the machine, and the machine is Serafino.

Having said this, let us briefly reread a sentence that we discussed earlier to see whether it still sounds self-deprecating or whether there is something more to it than just a human auto-commiseration in the face of technological dependence: “ero una cosa,” Serafino writes, “I was a thing,” “ecco, forse quella che mi stava sulle ginocchia, avviluppata in una tela nera…. io—due gambe, un busto, e, sopra, una macchinetta” (*Tr* II 606). Two legs, a torso, and, on top, a machine: this is the protagonist of *Quaderni*

di Serafino Gubbio Operatore, a posthuman entity, a man-machine. Although Serafino does not accept the metamorphosis without a struggle or thought, he is aware of its effects and slowly but steadily relinquishes that "self-centered individualism" that characterizes the liberal humanist subject in favor of community-building capacities. He focuses on the benefits of his becoming-machine for everyone and everything, humans and non-humans alike, even at the cost of permanent mutism:

> I should like never to speak at all; to receive everyone and everything in this silence of mine, every tear, evert smile; not to provide, myself, an echo to the smile; I could not; not to wipe away, myself, the tear; I should not know how; but so that all might find in me, not only for their griefs but also and even more for their joys, a tender pity that would make us brothers if only for a moment. (Scott Moncrieff 90)
>
> *Vorrei non parlar mai; accoglier tutto e tutti in questo mio silenzio, ogni pianto, ogni sorriso; non per fare, io, eco al sorriso; non potrei; non per consolare, io, il pianto; non saprei; ma perché tutti dentro di me trovassero, non solo dei loro dolori, ma anche e più delle loro gioje, una tenera pietà che li affratellasse almeno per un momento.* (*Tr* II 607)

There is no self-interest in this paragraph, no claim to agency ("I could not console"), no presumptuous superiority or the normative and regulatory tendency of the humanist subject to divide, hierarchize, and prescribe. As Braidotti writes, "the 'becoming-machine'[…] indicates and actualizes the relational powers of a subject that is no longer cast in a dualistic frame, but bears a privileged bond with multiple others and merges with one's technologically mediated planetary environment."[62] Such a statement resonates deeply with the type of man-machine we have in the *Quaderni*—one quite unlike those we encounter in Zola, Dickens, or the Futurists. There is no "eroticizing the human-machine interaction"[63] such as we had seen in *À rebours* and *La bête humaine*, but a "full immersion in fields of constant flow and transformations."[64]

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[62] Braidotti, *The Posthuman,* 92.

[63] Ibid., 109.

[64] Ibid., 140.

The Serafino who is writing and whom we are reading is, then, something else, something more than *just* a human but also not *just* a machine. Angelini had read it as "the extreme condition of a man-machine, a strange animal with a mechanical prosthesis."[65] Serafino is a "robot… a mechanical stop-motion shadow […] a mechanical hybrid of camera and man" as Moses had written,[66] with Vettori concluding that this is an instance of Serafino belittling "his human personality to the point of identifying with an object, the camera" (96). Belittling? Accepting the inevitable? Accepting it gladly? Without having to qualify Serafino's statements, we can now assert that, from a posthuman point of view, he is "a hybrid of machine and organism, a creature of social reality as well as a creature of fiction," to say it with Donna Haraway.[67] Serafino Gubbio is, in other words, *a cyborg.*

Now, although Norbert Wiener is the father of the field of cybernetics, the actual term "cyborg" was first used to describe a bio-technological organism by Manfred E. Clynes and Nathan S. Kline—the same two scientists who inserted an osmotic pump capsule into a rat's tail—in their 1960 article entitled "Cyborgs and Space." In it, they defined the cyborg as: "[an] exogenously extended organizational complex functioning as an integrated homeostatic system unconsciously […]. The Cyborg deliberately incorporates exogenous components extending the self-regulatory function of the organism in order to *adapt it to new environments.*" The cyborg's purpose, they continue, "is to provide an organizational system in which such robot-like problems [i.e. staying alive in space] are taken care of *automatically and unconsciously*, leaving man free to explore, to create, to think, and to feel."[68] By working as a machine operator, Serafino Gubbio, too, is able to dedicate himself to his own thoughts and sentiments while almost unconsciously turning the camera handle "come un automa" (*Tr* II 598), like an automaton:

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[65] Angelini, *Serafino e la tigre,* 37.

[66] Moses, "Film Theory as Literary Genre," 51.

[67] Haraway, "A Cyborg Manifesto," 5.

[68] Clynes and Kline, "Cyborgs and Space," 27 (italics added).

> My hand was obeying […] as if my will had gone down—firm, lucid, inflexible—into my wrist, and was governing from there, alone, leaving my brain free to think, my heart free to feel.
>
> *La mia mano obbediva […] come se la volontà mi fosse scesa—ferma, lucida, inflessibile—nel polso, e da qui governasse da sola, lasciandomi libero il cervello di pensare, il cuore di sentire.* (*Tr* II 732)

Serafino, to use Arendt's terminology, is not *homo laborans*, even though throughout the novel he continuously laments his lack of agency and freedom, describing his relationship to the machine as that of servitude. Rather, he is *homo faber*, a creator as much as he is a worker, except that he is not dependent on the slave labor of humans or animals, but on the machine that does not obey and does not fear his humanity. Let us remember that factory workers were/are not exploited *by the machines*, but by the factory owner. As it was the case with Jacinto in Eça's *A cidade e as serras,* here too we witness the liberal humanist subject's reluctance to serve. We also witness a transitioning from anthropocentrism to Posthumanism which admittedly does not come easy to the protagonist of the *Quaderni*, but it is a process that he navigates, negotiates, and eventually accepts as the human condition in time of machines: "Enough now. I want to remain like this. The times are these, life is this" ["Ora basta. Voglio restare così. Il tempo è questo, la vita è questa;" (*Tr* II 735)]. Such and similar statements concerning what will forty-five years later become known as the "cyborg" pervade the seven notebooks of the camera operator.

From the 1960s on, what was originally intended as a technique ("the cyborg technique" of self-regulation)[69] to help astronauts survive in and adapt to the conditions of space, almost instantaneously became a cultural phenomenon, a social, biological, and philosophical reality that includes all forms of amalgamations between the organic and the artificial. But the cyborg was not wholeheartedly welcomed, as manifold examples of dystopian science fiction involving terminators and other killer androids show. For the cyborg signified the definite dissolution of the liberal humanist subject. The anxieties and crisis

[69] Clynes and Kline, 75.

surrounding this dissolution are addressed in *Quaderni di Serafino Gubbio,* and they remain at the basis of the works of Norbert Wiener. This explains is why the organic man-machine, or the cyborg, is conspicuously missing from Wiener's cybernetics.[70] As Hayles writes,

> Wiener was not unaware of the ironies through which cybernetics would imperil the very liberal humanist subject whose origins are enmeshed with self-regulating machinery. Throughout his mature writings, he struggled to reconcile the tradition of liberalism with the new cybernetic paradigm he was in the process of creating. When I think of him, I imagine him laboring mightily to construct the mirror of the cyborg. He stands proudly before this product of his reflection, urging us to look into it so that we can see ourselves as control-communication devices, differing in no substantial regard from our mechanical siblings. Then he happens to glance over his shoulder, sees himself as a cyborg, and makes a horrified withdrawal.[71]

Serafino Gubbio did not make a horrified withdrawal: he reconciled, even if at the cost of his voice. For what is at stake in *Quaderni di Serafino Gubbio*, and the presence of the cyborg attests to it, is this new subjectivity—Pirandello's non-binary answer to the bloated question-marks of Modernism surrounding the crisis of the individual. Still intimately related to the liberal humanist subject, "un uomo dell'Eden" ["a man from Eden"], as Antonio Sichera writes,[72] Pirandello's man-machine is among the first literary protagonists in realist-psychological fiction to seriously address posthuman metamorphosis. In his figure, we can study the consequences and implications of the struggle of *the body of flesh and blood* to fuse with *the body of metal and steel*—questions concerning agency, language, and identity. Serafino Gubbio, as his Franciscan name suggests, is Pirandello's angelic cyborg who, through the act of writing and narration, seeks to reconcile his double nature. As we saw, initially Serafino declares to be "a thing: perhaps the very same one which was resting on my knees, wrapped in a black cloth" ["una cosa: ecco, forse quella che mi stava su le ginocchia, avviluppata in una tela nera" (*Tr* II 606)], relinquishing any claim to humanity and his right to speak and act. Then, towards the end of the fifth

[70] See Ronald Kline, "Where are the Cyborgs in Cybernetics?" *Social Studies of Science* 39:3 (June 2009).

[71] Hayles, *How We Became Posthuman,* 87.

[72] Sichera, *Ecce Homo,* 404.

notebook, his inner humanist begins to rebel: "But no, I no longer am *a thing*, and this silence of mine is no longer a *thing-like silence*" ["Ma no, io non sono più *una cosa,* e questo mio silenzio non è più *silenzio di cosa*" (*Tr* II 663, italics in original)]. Straddling between the memory of a Lost Eden (the "casa dei nonni") and the reality of a cruel new era of acceleration, masks, and machines, Serafino is looking for ways to "adapt […] to new environments," as Clynes and Kline had written about the cyborg, to then finally reconcile with the new condition at the end of the notebooks: "I now am truly perfect" ["io sono ora, veramente perfetto" (*Tr* II 729)].

Modernist science had shown that everything that is solid melts into air, that even those things we perceive as completely separate, stable entities can melt into one another and form a new organism.[73] Wiener wrote that "we have modified our environment so radically that we must now modify ourselves in order to exist in this new environment. We can no longer live in the old one." [74] The two hundred pages of *Quaderni di Serafino Gubbio* are the result and blueprint of this struggle to become something else, of the process of the Deleuzian "becoming-machine," to undergo a metamorphosis appropriate to the times. And this struggle, I propose, quite contrary to the expectations of a novel set within the world

[73] Two seminal scientific breakthroughs are fundamental for the understanding of the relationship between humans and machines at the time when Pirandello was writing:

In the physical sciences, the discovery of radioactivity by Ernest Rutherford and Frederick Soddy in 1902 and with that the discovery of the divisibility and instability of the atom (against Dalton, 1808). Soddy and Rutherford showed that radioactive elements disintegrate, releasing radioactive rays and transforming into other elements in the process, sparking some revived short-lived interest in alchemy. In other words, they showed that "all that is solid melts into air." This phrase from Marx & Engels (*The Communist Manifesto,* 1848) in combination with the Rutherford/Soddy discovery, best describes according to Marshall Berman what it means to be modern: "to be modern," he writes, "is to find one's world and oneself in perpetual disintegration and renewal, trouble and anguish, ambiguity and contradiction: to be part of a universe in which all that is solid melts into air." See Marshall Berman, *All that Is Solid Melts into Air: The Experience of Modernity* (New York: Viking, 1988), 345f.; and Mark S. Morrisson, *Modernism, Science, and Technology* (London and New York: Bloomsbury, 2017). Berman is also quoted in Morrisson, 35.

In the life sciences, the introduction of 'organicism' by J.S. Haldane (1916) as well as Ernst Haeckel's *Crystal Souls: Studies of Inorganic Life* (1917) are crucial. According to the organicist movement, all cells and organs, all elements, if we want, of the universe, inanimate or animate, function together as an organism. The organicist movement put the last nail in the coffin of vitalism and crippled mechanism, breaking down the "distinction between the organic and the inorganic" (Morrisson, 91), and thus paving the way for what we later came to know as the "cyborg" (cybernetic *organism*). In other words, it showed that all that is solid melts into one another.

[74] Wiener, *The Human Use of Human Beings,* 46.

of mute cinema, takes place within the realm of sound, meeting yet another of the criteria for the posthuman subject which is, Braidotti writes, "not linguistically framed."[75]

3. Posthuman Aurality: The Attentive Cyborg

3.1. Voice, Silence, Noise

To say that *Quaderni di Serafino Gubbio* is a film-novel or a novel about silent cinema barely suffices. For the noises of various technological artifacts, problems concerning language, writing, speech, voice, aphonia, and so on are as equally important in the novel as are film montage techniques, images, the eye and the camera objective, in addition to the criticism of visual entertainment and the film industry in general. Nevertheless, while much attention has been given to the visual aspect of the *Quaderni*, due to the novel's image-related content and to our own profound rootedness in visual culture, the elements pertaining to the domain of sound have received limited consideration. Adopting a cinematic point of view, Moses reads the articulation of sound in the novel as an exercise in transferring visual montage techniques to sound: "The stylistic mimesis of film montage provided as an example of how a cameraman has come to look at the world […] goes on to extend the principle of visual montage to the area of sound […]. From this it appears that Pirandello was sensitive already at this early date to a cinematic use of sound that makes it part and parcel of the polyphonic deployment of film codes."[76]

Claudia Sebastiana Nobili, for instance, reads the question of Serafino's silence and final aphonia in psychoanalytic terms as an analogue to silent cinema whose "silent ghosts are all the more disturbing because they do not come from another world, but from the depths of the self."[77] According to other

[75] Braidotti, *The Posthuman,* 51.

[76] Moses, "Film Theory as Literary Genre," 43. This constitutes what Pirandello would eventually call *cinemelografia* ("cinemelography"), implemented by Ruttmann in *Acciaio.*

[77] Claudia Sebastiana Nobili, *La materia del sogno: Pirandello tra racconto e visione* (Pisa: Giardini, 2007), 45: "i fantasmi muti sono tanto più inquietanti in quanto non vengono da un altro mondo, ma dalle profondità dell'io." See also Roberto Alonge, *Luigi Pirandello* (Roma: Laterza, 1997). My translation.

readings, Serafino's silence brings about the destruction of communication, a mutilation of logos which, in turn, is the precondition for writing the notebooks.[78] For Vettori, muteness is "[t]he price Serafino pays for his accomplished insensitivity."[79] Such interpretations—far from contradicting our approach—invite and further substantiate a posthumanist reading of the Serafino Gubbio/machine coupling. What is at stake in the *Quaderni* is not language itself but a gradual loosening of its anthropocentric claws thanks to a reevaluation of silence as well as the influx of non-ordered sounds—or noises—and their accompanying emitters into the world of literature. The human and the machine meet within the sonic force field resulting from the friction between these elements.

If the *Quaderni* had their own soundtrack reconstructed in our Dolby-digital times, it would be a symphony of an industrializing metropolis (Rome). For, besides human, animal, and other natural sounds, there is a series of artifacts that, like in Eça de Queirós's *A cidade e as serras*, make the *Quaderni* into a technological sonic hodge-podge. Automatic pianos, the film camera, typographs, telegraph poles, streetcars, trains, automobiles, etc., all populate Serafino's world and the city of Rome at the beginning of the twentieth century, spreading their sonic regime above and beyond the human voice and the sounds of nature to such a degree that, Serafino writes in a key passage, not even one's own heartbeat can be heard:

> There is one nuisance, however, that does not pass away. Do you hear it? A hornet that is always buzzing, forbidding, grim, surly, diffused, and never stops. What is it? The hum of the telegraph poles? The endless scream of the trolley along the overhead wire of the electric trams? The urgent throb of all those countless machines, near and far? That of the engine of the motorcar? Of the cinematograph?
>
> The beating of the heart is not noticed, nor do we feel the pulsing of our arteries. The worse for us if we did! But this buzzing, this perpetual ticking we do notice, and it says that all this turbulent fury is not natural, all this flickering and vanishing of images; but that there lies beneath it a machine which seems to pursue it, frantically screaming.
>
> (Scott Moncrieff 8)

[78] See Angelini, *Serafino e la tigre*, and Giorgio Bàrberi Squarotti, "La sfida di Serafino Gubbio operatore," *Studi Novecenteschi* 28:61 (2001).

[79] Vettori, "Serafino Gubbio's Candid Camera," 103.

C'è una molestia, però, che non passa. La sentite? Un calabrone che ronza sempre, cupo, fosco, brusco, sotto sotto, sempre. Che è? Il ronzìo dei pali telegrafici? lo striscìo continuo della carrucola lungo il filo dei tram elettrici? il fremito incalzante di tante macchine, vicine, lontane? quello del motore dell'automobile? quello dell'apparecchio cinematografico?

Il bàttito del cuore non s'avverte, non s'avverte il pulsar delle arterie. Guaj, se s'avvertisse! Ma questo ronzìo, questo ticchettìo perpetuo, sì, e dice che non è naturale tutta questa furia turbinosa, tutto questo guizzare e scomparire d'immagini; ma che c'è sotto un meccanismo, il quale pare lo insegua, stridendo precipitosamente. (*Tr* II 524)

Machines tend towards noise, humans towards speech. Where human beings and their creations reside, silence is but a brief armistice before more noise and more speech. Until machines began to take over the European soundscape, the human voice reigned supreme on the spectrum of sonic events. However, with the Second Industrial Revolution and the omnipresence of devices, machines, and other metal-and-steel contrivances of all kind, anthropo-voco-centrism had the rug of sonic sovereignty pulled from under its feet. As the longer excerpt from the *Quaderni* demonstrates, Pirandello was quite aware of this reshuffling of sonic hierarchies.

If the buzzing of the cinematic camera and the constant noises of trains, telegraph poles, streetcars, telephones, phonographs, and other machines of the modern world are Serafino's daily sonic companions and competitors, then would it come as a surprise that the entire novel is structured around an auditory semantic field involving sound, silence, noise, voice, muteness, language, and speech? Indeed, the *Quaderni* rest on a sensory armature that propels the plot forward by means of an opposition between sound and silence, the human voice and the machine's noise, being heard and becoming mute. Here too, as in Eça's novel, *logos* and *technē*, Modernity and Eden, human beings and machines, nature and technology, are all involved in a somewhat grotesque but high-stake struggle to be heard. In addition to Serafino's pursuit of silence, there is a noisy counterpoint accompanying the entirety of *Quaderni di Serafino Gubbio*, and reminding us, as Ortega y Gasset wrote in 1929, "of the artificial, almost incredible,

character of civilization […]."[80] The speed and fury of the modern world and of moving images is not natural, Serafino writes in the excerpt above. But notice that this is *not* his own statement: it is *machines* who issue the warning about a frighteningly sped-up existence in which nothing is permanent and real, and especially not what we see on the movie screen: "this buzzing, this perpetual ticking we do notice, and *it* says that all this turbulent fury is not natural, all this flickering and vanishing of images." The noise of machines, in other words, *speaks* to us, and it has a message for humanity. Described by Leo Marx as "the interruption of the machine," technological noise gives rise to anxiety and disarray.[81] However, it also reminds humans of the artificial character of civilization, of the fact that, as Serafino notes, "society in itself is no longer the natural world. It is a constructed world, even materially" ["la società per sé stessa non è più il mondo naturale. È mondo costruito, anche materialmente" (*Tr* II 618)], a world that defies the nature-culture dichotomy. For what exactly is real? What merely constructed? What is natural, what a contrivance? The cyborg, as Donna Haraway writes, is aware of all this, and does not shy away from continuously pointing it out:

> The cyborg skips the step of original unity, or identification with nature in the Western sense […]. Nature and culture are reworked; the one can no longer be the resource for appropriation or incorporation by the other. The relationships for forming wholes from parts, including those of polarity and hierarchical domination, are at issue in the cyborg world. Unlike the hopes of Frankenstein's monster, the cyborg does not expect its father to save it through a restoration of the garden—that is, through the fabrication of a heterosexual mate, through its completion in a finished whole, a city and cosmos. The cyborg does not dream of community on the model of the organic family […]. The cyborg would not recognize the Garden of Eden;[82]

Cybernetic organisms do not recognize Eden, or in other words, they recognize its fall, its non-existence and its superfluity in a world where relationships, time, and space as well as who and what counts as human are being drastically redefined. In this way, when Serafino Gubbio returns to the "casa

[80] Ortega y Gasset, *La rebelión de las masas*, 7f.

[81] Marx, *The Machine in the Garden,* 15.

[82] Haraway, "A Cyborg Manifesto," 8ff.

dei nonni" (grandparents' house) after his cyborg-metamorphosis had already begun, he does not recognize Eden anymore:

> I felt a chill. A naked, deaf, icy rigidity…. In what world was I? [...] No, neither world nor time, nothing: I was outside of everything, absent from my own self and from life; and I did not now any longer where I was or why I was there. I had images inside me, not mine, of things, of people; […] was there an 'I' which now no longer is?
>
> *Sentii freddo. Una durezza nuda, sorda, gelida…. In che mondo ero? […] No, né mondo, né tempo, né nulla: io ero fuori di tutto, assente da me stesso e dalla vita; e non sapevo più dove fossi né perché ci fossi. Immagini avevo dentro di me, non mie, di cose, di persone; […] c'era un io che ora non c'era più?* (*Tr* II 700, 702f.).

A farewell to Eden, to the "I that was, and no longer is," and a welcome to the posthuman and the cyborg. But if machines *noise* and humans *speak* themselves into presence, then in what cadences, what accents and dialects, what world language, what key and tonality, what grammar and syntax, in what sonic or other intelligible form do cyborgs express themselves and communicate with the world? Let us put the issue in literary-historical perspective by recapitulating briefly how the question of language and speech had been tackled in the case of other posthuman characters from canonical European novels, based on the findings in the previous chapters of this thesis.

As we saw, contrary to the contemporary popular image of Frankenstein's monster as an inarticulate brute, in Shelley's novel the monster acquires human language and becomes extraordinarily well spoken—something that his creator, Victor Frankenstein, perceives as a threat ("He is eloquent and persuasive […] but trust him not; […] hear him not").[83] In Collodi's novel, Pinocchio's incessant need to talk, explain, and narrate is from the start his ticket to survival and the eventual metamorphosis into a real boy. Gregor Samsa's speech, gradually accompanied by an insectoid chirping to then fully become an animal voice (*Tierstimme*) to those who can hear him, is a case of a sonic bifurcation whereby what the outside world hears does not correspond to the inner voice of the character. Yet this doubling does

[83] Shelley, *Frankenstein,* 150.

not lead to an existential crisis—the subject, just as Frankenstein's monster and Pinocchio, continues to perceive himself as being the same as before. Kata Gellen writes that Gregor "loses his composure not when he realizes that he no longer *looks* like the self he knows, but when he realizes he no longer *sounds* like that self."[84] But the shock does not last very long, and Gregor effortlessly establishes a continuity between Gregor-the-human and Gregor-the-*Ungeziefer* by chalking up the vocal anomaly to a severe cold ("tüchtige Verkühlung").[85] While Frankenstein's monster and Pinocchio partake in human language, Gregor Samsa crosses the threshold to creaturely sounds and noise. Yet he does not manage to reconcile his sonic output with his internal voice. This discrepancy leads to a steady loss of humanity accompanied by a "gradual descent into silence,"[86] inaction, and finally death. Although Gellen wants to salvage noise, "a phenomenon with no apparent function, meaning, or value," as presenting a "productive obstacle to modernist literary narration"[87] exemplified in Kafka's writings, noise remains an obstacle nevertheless, for it does not survive the underlying anthopo(-voco-)centrism of Kafka's story. Such an understanding of noise coincides with the definition put forward in communication theory and in the cybernetic writings of Norbert Wiener that links noise to "entropy, degradation, and death."[88]

In all three works that feature a kind of posthuman entity—Shelley's *Frankenstein,* Collodi's *Pinocchio,* and Kafka's *Die Verwandlung*—human consciousness cannot persist and survive in a nonhuman body. Frankenstein's Monster (human consciousness inside an assembled body) burns itself at the stake; Pinocchio (human consciousness inside a wooden body) abandons the wooden contrivance and becomes a real boy; and Gregor Samsa (human consciousness inside an insectoid body) dies of hunger and neglect. Suicide, complete metamorphosis, entropy followed by death. In other words,

[84] Gellen, *Kafka and Noise,* 14.

[85] Kafka, *Die Verwandlung,* 7.

[86] Gellen, 14.

[87] Ibid., 4.

[88] Hayles, *How We Became Posthuman,* 87.

Shelley, Collodi, and Kafka, at different points in time throughout the Industrial Revolution, intuited the advent of a new kind of posthuman entity. However, they could not reconcile its nonhuman body with human consciousness and language.

This, I suggest, is closely related to the fact that voice and language in these works of fiction are perceived as something inherently linked and exclusive to the human body. Such an attitude betrays the thoroughly humanist premises motivating each of these stories and much of twentieth- and twenty-first-century philosophy concerned with speech, voice, and language. We saw that for Hannah Arendt, via Aristotle, speech is a distinctly *human* activity that, alongside action, stands for the uniqueness of each human being. The Italian philosopher Adriana Cavarero builds upon Arendt's argument and singles out the unique sonic quality of each voice, "the logos that vibrates in throats of flesh"[89] which is determined by its particular vocal chords, body stature and shape, as that which is truly distinctive of humans. However, as Dominic Pettman's critique of the "humanism driving [Cavarero's] project" in his *Sonic Intimacy* (2017) aptly demonstrates, "[a]coustic or organic signatures certainly exist, but biology should not be so smoothly translated into the symbolic realm of culture."[90] In other words, and *pace* Cavarero, there is more to voice than just biology or, rather, human biology is not the only locus of voice. This is where the *Quaderni* become interesting, for their protagonist survives and becomes mute only because Serafino witnesses a traumatic scene through the camera objective. Not because he cannot reconcile voice and language with his new posthuman condition. Rather, he cannot reconcile voice and language with the horrific spectacles of the film industry. As Dolar writes, "[c]ivilization announces its progress by a lot of noise, and the more it progresses the noisier it gets. The dividing line between the two—voice and noise as well as nature and culture—is often elusive and uncertain. […] the voice can be produced

[89] Adriana Cavarero, *For More than One Voice,* 198.

[90] Pettman, *Sonic Intimacy,* 36f.

by machines, so that there opens a zone of undecidability, of a between-the-two, an intermediacy […]."[91] Such a zone of intermediacy is the sonic habitat of the cyborg.

As mentioned above, since the *Quaderni* is a novel about the world of cinema, as readers and critics we are easily tempted to focus on the role of the eye and vision. Serafino "lends" his eyes to the camera and stores inside of him, like an organic hard-drive, the images that the camera captures on the film set: "what I see with such clear perception becomes mine to such a degree that it terrifies me to think" ["diventa talmente mio quello che vedo con così nitida percezione, che mi sgomenta il pensare" (*Tr* II 600)]. "Immagini avevo dentro di me, non mie, di cose, di persone…" (*Tr* II 703), he says towards the end of the *Quaderni,* "I had images inside of me, not mine, but of things, of people." By virtue of his job as cinematograph operator, he slowly merges with the machine so that his eyes and his ears are "beginning to see and hear everything under the guise of this fast, tremulous, ticking mechanical reproduction." While Chaplin's Little Tramp assimilates in his arm the frantic movement of the assembly line (*Modern Times*, 1936), Serafino sees through the camera lens and assimilates its workings. Life and its protagonists become part of a performance, a sequence of memories, scenes, and their lead actors (Simone Pau, the man with the violin, Carlo Mirelli, Varia Nestoroff, Luisetta) that pass before one's eyes. Serafino watches, and sees, and looks, and observes, with the camera and the tripod in place, trying as much as possible not to become influenced by what takes place before his eyes and through the camera's lens.

However, it is not his vision that is at stake in the novel in general and throughout Serafino's process of cyborgization. It is sound. The voice, sound, and the ability to speak are impacted the most by man's interaction with machines in the *Quaderni*. The man with the violin, for instance, upon being forced to accompany an automatic player piano, suffers a nervous breakdown, becomes a drunkard, and

[91] Dolar, *A Voice and Nothing More,* 13.

"no longer plays […] this old poor violin that shattered in the face of an automatic piano" ["non suona più (…) questo povero violino, che si spezzò davanti a un pianoforte automatico" (*Tr* II 536, 610)]. Serafino, throughout the novel, does not wish to go blind, but to become mute:

> I should like never to speak at all; to receive everyone and everything in this silence of mine, every tear, evert smile; not to provide, myself, an echo to the smile; I could not; not to wipe away, myself, the tear; I should not know how; but so that all might find in me, not only for their griefs but also and even more for their joys, a tender pity that would make us brothers if only for a moment. (Scott Moncrieff 90)
>
> *Vorrei non parlar mai; accoglier tutto e tutti in questo mio silenzio, ogni pianto, ogni sorriso; non per fare, io, eco al sorriso; non potrei; non per consolare, io, il pianto; non saprei; ma perché tutti dentro di me trovassero, non solo dei loro dolori, ma anche e più delle loro gioje, una tenera pietà che li affratellasse almeno per un momento.* (*Tr* II 607)

Pirandello's angelic cyborg, besides storing images and scenes, wishes to become a sort of sound-recording device, a living phonograph. Admittedly, his much desired thing-like silence ("silenzio di cosa") weighs hard on him when he ventures into the world of feelings and love, but this is just his humanity rebelling from within and struggling to keep its sonic primacy afloat. Upon falling in love with the *signorina* Luisetta, he writes:

> But no, I no longer am a thing, and this silence of mine is no longer the silence of a thing. I wanted to let everyone notice it, this silence, but now I suffer because of it, so much!... My silence wants to steadily wrap itself around me.
>
> *Ma no, io non sono più una cosa, e questo mio silenzio non è più silenzio di cosa. Volevo farlo avvertire agli altri, questo silenzio, ma ora lo soffro, io, tanto!... Il mio silenzio vorrebbe chiudersi sempre di più attorno a me.* (*Tr* II 663)

The machine tends towards indifference and noise ("this buzzing, this perpetual ticking," "questo ronzìo, questo ticchettìo perpetuo"), the human towards bias and speech ("and yet, I, too, had a mouth to speak, eyes to look," "[e]ppure, avevo anch'io una bocca per parlare, occhi per guardare"), and the cyborg, Serafino wages, towards objectivity and silence. Yet the cyborg's silence is anything but unproductive. It is silence that wants to listen, collect, and "affratella[re]," to fraternize. It is an affirmative silence. As Antonio Sichera puts it:

> At the Kosmograph, Serafino implements a strategy protest and strong resistance, a strategy of an essentially aesthetic nature. Gubbio's interiority, thickened around the nucleus of the 'heart' and inhabited by the torment of his 'conscience,' is enriched by another component: writing and therefore art […] The descent into the hells of the Kosmograph, his close experience of the fall and dethronement [of man in the face of modernity], basically call Serafino to an artistic response, rendered concrete in the act of writing.
>
> *Serafino […] mette in atto alla Kosmograph una strategia di contestazione e di forte resistenza, di natura essenzialmente estetica. L'interiorità di Gubbio, addensata intorno al nucleo del "cuore" e abitata dal rovello della "coscienza," si arricchisce di un'altra componente, quella della scrittura e dunque dell'arte […] [L]a discesa agli inferi della Kosmograph, il suo ravvicinato experimentum della caduta e dello spodestamento, chiam[a] Serafino fondamentalmente ad una risposta d'arte, concretizzata nella scrittura.* (Sichera 408f.)

The cyborg's silence translates into the act of writing and into the act of listening. Humans speak, the cyborg observes and records. The cyborg attends in the sense proposed by Simone Weil and discussed in Chapter I on *Pinocchio*. Or perhaps: when humans intentionally engage in the act of listening and writing aided by technology, they become cyborgs. Serafino writes: "A pen and a piece of paper: there is no other means for me to communicate with humans. I have lost my voice; I am now forever mute" ["Una penna e un pezzo di carta: non mi resta più altro mezzo per comunicare con gli uomini. Ho perduto la voce; sono rimasto muto per sempre" (*Tr II* 729)]. In the 1915 *Nuova Antologia* and the 1916 Treves editions, this phrase contains a further specification that Pirandello deleted in the final 1925 version: "I have lost my voice; *I no longer am in possession of the word*; I am now forever mute" ["Ho perduto la voce; *non ho più la parola*; sono rimasto muto per sempre" italics mine]. A crucial deletion, one must say, for, indeed, it is not the word which is lost—the word here persists in ink and on paper—but the human voice of flesh and blood. However, as the text itself suggests, this loss is not to be interpreted in negative terms, but as a salvific act: "I am saving myself, I alone, in my silence, with my silence, which has rendered me like this——*as the times want it*—perfect" ["Io mi salvo, io solo, nel mio silenzio, col mio silenzio, che m'ha reso così—*come il tempo vuole*—perfetto (…) Ora basta. Voglio restare così. Il tempo è questo; la vita è questa" (*Tr* II 734f.). As Sichera concludes, "[t]o exist in the world as a 'thing,'

to live 'outside; of a thingified body, to be made into a hand that turns a handle is not simply a condemnation, but a possibility as well."[92] For the times are these, life is this, and they require not more speech and more humanity, but more listening, more silence, and more space for aesthetic expression. The cyborg seems to know this, its body and mind united, more than just human and more than just a machine—a new being, with new modes of expression suitable to "times like these." And the times seem to demand silence to the point of aphonia defined by Dolar as "the sudden inability to use one's voice."[93] In a final step, a defractive reading of some of the implications of the text from a neuroscientific point of view can help us understand the silence-noise relation in the novel.

3.2. Aphonia and the Work of Art

In the presence of machines and their noise, human beings become mute and lose *logos,* or at least this could be one of the theses of *Quaderni di Serafino Gubbio.* For noise, as Schopenhauer taught us, is the murderer of thought. It is entropy, destruction, and brings about the death of the "I." The word, on the other hand, is at the opposite side of the spectrum as the maximum of organization, of thought, a sign of high evolution, civilization, that which, as Aristotle proposed, distinguishes humans from animals.

In Pirandello's novel, we have as a protagonist Serafino Gubbio, a camera operator, who, as if he were a living phonograph, wants to embrace everyone in his silence, unite them, record their voices, but remain silent himself. And this desire of his will be satisfied at the end of the novel, in the horrendous scene of the tiger murder. In this scene, Serafino and the camera find themselves inside a cage with the actor who must kill a real tiger with a rifle. Instead, the actor shoots and kills the actress/ex-lover who

[92] Cf. Sichera, *Ecce Homo,* 419: "Essere nel mondo come una 'cosa,' vivere 'fuori' in un corpo cosificato, reso una mano che gira una manovella, non è semplicemente una condanna, ma anche una possibilità."

[93] Dolar, *A Voice and Nothing More*, 41: "aphonia, a frequent hysterical symptom, a sudden inability to use one's voice, an enforced silence which makes the object voice appear all the more, maybe in its pure form."

observes the scene from outside the cage, the tiger immediately throws herself at the actor, kills him and, before she can attack Serafino, another actor from outside the cage shoots and kills the tiger. Having filmed the whole scene without being able to move or do anything, Serafino suffers a trauma as a result of which he loses his voice and remains silent forever.

In neuroscientific terms, Serafino becomes aphasic, or, more specifically, suffers, following the trauma, from psychogenic dysphonia: "loss of voice […] loss of volitional control over phonation […] related to traumatic stress experience."[94] His is a loss of voice, the ability to produce language on the sound level but not on the written or mental level, for Serafino writes a last chapter in his notes after the tiger scene, describing the events of that day and his own aphasic condition: "I lost my voice; I am now mute forever" ["Ho perduto la voce; sono rimasto muto per sempre" (*Tr* II 729)]. And he is aware of the reasons for his aphonia:

> Drowning the most deafening shouts that come from all the actors outside the cage […], I heard there in the cage the deep growl of the beast and the horrible gasp of the man as he lay helpless in its fangs, in its claws, which were tearing his throat and chest; I heard, I heard, I kept on hearing above that growl, above that gasp, the continuous ticking of the machine… […]: my voice, from terror, had perished in my throat forever. (Scott Moncrieff 212)
>
> *Più forti delle grida altissime levate da tutti gli attori fuori della gabbia […], udivo qua nella gabbia il sordo ruglio della belva e l'affanno orrendo dell'uomo che s'era abbandonato alle zanne, agli artigli di quella, che gli squarciavano la gola e il petto; udivo, udivo, seguitavo a udire su quel ruglio, su quell'affanno là, il ticchettìo continuo della macchinetta…. […]: la voce, dal terrore, mi s'era spenta in gola, per sempre.* (*Tr* II 733)

As mentioned above, scholarship on the novel sees in the noise of machines the end of the hum of human life (Vettori), "the destruction of communication" (Squarotti), the annihilation of life and personality (Nobili), and interprets the final aphonia of Serafino as corresponding to silent cinema (Angelini), to the "needs of modern art […] which has erased the word" (Squarotti), or to Serafino's

[94] Janet Baker, "Psychogenic voice disorders and traumatic stress experience: a discussion paper with two case reports," *Journal of Voice* 17:3 (2003).

desire to become an impassive and perfect cinematographic operator, the price of which is mutism (Vettori). Here we want to explore and complicate the silence-noise relationship established in Pirandello's novel, namely the link between the technological noise described by the protagonist, his desire for silence, and his final aphonia, through contemporary neuroscientific studies on brain noise.

As previously alluded to, in the humanities, but also within communication theory and information technology, noise is traditionally seen as a disturbance, an interruption, associated with entropy, the end of thought and death (Schopenhauer, Norbert Wiener, Umberto Eco, R. Murray Schafer, Ross Chambers). In Pirandello's novel, too, the semantic field surrounding noise is predominantly negative. The modern world is populated by noisy machines that do not allow natural, biological, human sounds to be heard. There is no longer a pre-industrial, Edenic silence. Instead, industrial noise dominates to the point that the human being no longer feels the beating of its heart and loses his voice. Life has become an "external mechanical contraption, […] that keeps us clamorously and dizzily occupied and gives us no rest" ["congegno esterno, […] meccanico […] che fragorosamente e vertiginosamente ci affaccenda senza requie" (*Tr* II 519)]. The only way out, the only defense mechanism in the face of the sonic and visual bombardment of the modern world, according to Serafino, is in silence (not in blindness), but in phonic silence or aphonia,[95] in the "non parlar mai; accoglier tutto e tutti [nel] silenzio" (*Tr* II 607). As Sichera writes, Serafino's silence is "a choice, the choice to obey the times […] as a way of salvation […] a joyful mystical experience concealed within the devastating consequence of an apparently irreparable trauma."[96] And in fact, in the last notebook Serafino writes:

> A pen and a sheet of paper: there is no other way left to me now in which I can communicate with my fellow men. I have lost my voice; I am dumb now forever […]. I have found salvation, I alone, in my silence, with my silence, which has made me thus—according to the standard of the times—perfect. (Scott Moncrieff 208, 213)

[95] In Mladen Dolar's psychoanalytic terms, Serafino's loss of voice would be a case of "aphonia" which he defines as "a frequent hysterical symptom, a sudden inability to use one's voice, an enforced silence which makes the object voice appear all the more, maybe in its pure form" (Dolar, *A Voice and Nothing More,* 41).

[96] Sichera, *Ecce Homo,* 441f.: "una scelta, la scelta dell'obbedienza al tempo […] come via di salvezza […] una gaudiosa esperienza mistica celat[a] dentro la devastante conseguenza di un trauma apparentemente irreparabile."

> Una penna e un pezzo di carta: non mi resta più altro mezzo per comunicare con gli uomini. Ho perduto la voce; sono rimasto muto per sempre […]. Io solo mi salvo, io solo, nel mio silenzio, col mio silenzio, che m'ha reso così—come il tempo vuole—perfetto. (*Tr* II 729, 734)

The times are those of noisy machines, of terrifying spectacles, of endless stimuli, and therefore of silent, mute, aphasic humans, who, like so many of us who nowadays limit themselves to mute basic communication through electronic devices, use a pen and a piece of paper to communicate simple needs to other human beings. It is almost as if the *Quaderni* announced the end of elaborate letters as well as the art of face-to-face conversation, in favor of what will become text messaging and virtual chats. Today, face-to-face conversations are perceived as forced, too direct, and even disrespectful. We do not gladly answer telephone calls, but prefer written or recorded messages that do not require an immediate, spontaneous response. One of the leading scholars of conversation in the Digital age, Sherry Turkle of MIT, laments these behaviors: "The younger generation is becoming too consumed in their digital lives resulting in lack of communication with family, friends, and teachers. In addition, technology impacts our lives resulting in negative consequences and outcomes in our relationships."[97]

Just like Jorge Luis Borges's immortal beings, the troglodytes, "who devour snakes and are deprived of the use of the word," ("El inmortal" 1947, *El Aleph* 1949), it seems that the price of immortality for Serafino and for us too, is aphonia, the loss of spoken language. I do not think, however, that we would soon give up written communication through text messages and silent chats no matter how much humanists want to see in digital communication an "escape from the word"[98] and the death of what separates humans from animals (speech). Therefore, it is worthwhile to find other explanations for Serafino's communicative aphonia to which we all seem to be subjected and willingly so. Is it possible

[97] See Turkle, *Reclaiming Conversation.*

[98] Lamberto Maffei, *Elogio della parola* (Bologna: Il Mulino, 2018), 22: "fuga dalla parola."

to reassess the relationship between silence and noise in *Quaderni di Serafino Gubbio* in the light of neuroscience?

In a chapter dedicated to brain noise, the renowned Italian neuroscientist Lamberto Maffei asks whether "the brain, understood as a machine, [does not] have its own background noise.""[99] The activity of nervous cells is not always and only directed towards the transmission of concrete and relevant messages, but there is a continuous spontaneous discharge "which does not seem relevant or correlated to the transmission of any sensory message" so that "the central nervous system of mammals is a city always active even during the greatest rest."[100]

According to Maffei's findings based on communication theories and various scientific experiments, where there is a signal there are also "unwanted additions to the signal, which, however, are of the same kind as the actual signal."[101] These unwanted additions are defined as "noise." Brain activity consists in the transmission and processing of information but, as we have mentioned, not all neuron activity is organized and relevant. Ideas "crowd in our mind confusedly," writes Maffei, and then undergo "a process of natural selection."[102] The activity of the brain, that is, consists mostly in a spontaneous discharge of impulses, signals, information, which remain there in the background, like the "buzzing, a perpetual ticking ["ronzìo, un ticchettìo perpetuo"] described by Serafino. Like a modern city that never sleeps, like the city of Rome that Serafino describes at the beginning of the twentieth century, the human mind is a noisy mind. Except that with the Industrial Revolution, the world had also become noisy.

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[99] Lamberto Maffei, *La libertà di essere diversi: Natura e cultura alla prova delle neuroscienze* (Bologna: Il Mulino, 2011), 57.

[100] Ibid., 58.

[101] Ibid., 57.

[102] Ibid., 65f.

Serafino correctly observes that human beings are overwhelmed by the external stimuli of modernity: machines, images, noises, people, shows, appointments, events, words, all running, in a hurry like the white rabbit in *Alice in Wonderland* (1865). And he proposes a possible way of defense:

> Ah, we must not fix our attention upon it too closely. That would arouse in us an ever-increasing fury, an exasperation which finally we could endure no longer, would drive us mad. On nothing, on nothing at all now, in this dizzy bustle which sweeps down upon us and overwhelms us, ought we to fix our attention. Take in, rather, moment by moment, this rapid passage of aspects and events, and so on, until we reach the point when for each of us the buzz shall cease. (Scott Moncrieff 9)
>
> *Ah, non bisogna fissarci l'udito. Darebbe una smania di punto in punto crescente, un'esasperazione a lungo insopportabile; farebbe impazzire. In nulla, più in nulla, in mezzo a questo tramenìo vertiginoso, che investe e travolge, bisognerebbe fissarsi. Cogliere, attimo per attimo, questo rapido passaggio d'aspetti e di casi, e via, fino al punto che il ronzìo per ciascuno di noi non cesserà.* (*Tr* II 525)

We cannot fix our attention on any of these stimuli—it would drive us crazy. Modern life is lived "moment by moment," leaving the choice of thoughts that are worthwhile to the process of natural selection of which Maffei speaks. Here we have to ask ourselves the question: what is the purpose of noise? How does it help to select the moments on which it is worth fixating one's ears? In his analysis, Maffei outlines three dimensions of noise which I have grouped and paraphrised as follows:

1) noise as anti-fixation factor: it helps to avoid fixation on a single thought;

2) noise as a creativity factor: it generates variety and novelty of thought;

3) noise as a free will factor: it provides the background against which a possibility is chosen.

Brain noise, Maffei writes,

> would be positive as it would avoid a completely mechanical elaboration of thought itself. Without noise, every thought would block brain functioning for a long time until the analysis of that thought was completed, making it unavailable to other input.... [It is] probably a sort of continuous prompter that is the basis of the generation of variety and novelty of thought, in a word, of creativity, as many thoughts appear in its chaos until one is selected and carried forward. [...] In brain noise, probably, also lies our freedom to think since we cannot choose if there is no matter and a situation to choose from, if there is no

> plurality of offers and possibilities. A hypothetical builder-engineer could have inserted brain noise ad hoc to give us the possibility of free will.[103]

Serafino, therefore, starts out well when he writes at the beginning that "we must not fixate our hearing." But then, being human as he is, subject to passions and emotions, and not having developed any defense mechanisms, he fixates on the events that take place at the film company that employs him, and has difficulties detaching himself. He cannot think of anything else, gets stuck, becomes vulnerable, and suffers trauma, ultimately becoming aphasic. However, the return to silence, to mute basic communication (that is, to "text messages"), is not so much, as Sichera writes, a punishment but a new beginning, salvation, a pause, a time during which to reprogram and protect oneself from the world full of stimuli and information. This, in turn, turns silence into an act of listening: "In this sense, Serafino's 'thing-like silence' becomes a mask—a felt and savored one—that does not nullify the "inside" but amplifies it, rendering it highly sensitive, like a fine radar, to the act of listening and to the reproduction of the existence of others, both as a mental image and through writing."[104]

Silence—the written and silent word—is necessary because there are so many stimuli, so many voices, so many noises around us that claim our attention. Linguistic dysphonia, or the absence of the spoken word, leads to writing. Writing is nourished by noise, by those same external stimuli that crowd into the noisy mind and allow for variety, non-fixation, and free will. Noise, silence and thought, that is, form a protective triad, a Pirandellian mask, if you will, without which the modern human being would

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[103] Maffei, *La libertà di essere diversi*, 67f: "sarebbe positivo in quanto eviterebbe un'elaborazione del tutto meccanica del pensiero stesso. Senza rumore ogni pensiero bloccherebbe il funzionamento cerebrale per lungo tempo finché l'analisi di quel pensiero non fosse completata, rendendolo indisponibile ad altre entrate.… [È] probabilmente una specie di suggeritore continuo che sta alla base della generazione della varietà e della novità del pensiero, in una parola della creatività, in quanto nel suo caos si affacciano molti pensieri finché uno è selezionato e portato avanti. […] Nel rumore cerebrale probabilmente sta, o sta anche, la nostra libertà di pensare dato che non si può scegliere se non c'è la materia e la situazione per scegliere, se non esiste una pluralità di offerte e di possibilità. Un ipotetico ingegnere costruttore potrebbe avere inserito ad hoc il rumore cerebrale per darci la possibilità di libero arbitrio."

[104] Sichera, *Ecce Homo,* 419: "In questo senso, il 'silenzio di cosa' [di Serafino] diviene una maschera—sentita e gustata—che non annulla il 'dentro' ma lo amplifica, tenendolo massimamente sensibile, come un finissimo radar, all'ascolto e alla riproduzione, nell'immagine mentale come nella scrittura, dell'esistenza altrui."

be naked and without protection in front of the hurricane of stimuli, conversations, images, noises, and information overload of modern life. For Maffei, this promotes the "escape from the word," a renunciation of what makes us human: the spoken word. Is it possible, however, that the last word in the linguistic evolution of humans has not been said yet? Is it possible that we are now coming to a new era in which what makes us human and separates us from animals is changing, taking other forms, perhaps related to the human silence in front of the machine already articulated in the *Quaderni* and put into daily practice in our times?

In Pirandello's novel we witness the formation of a new type of subjectivity suited to the times that require new ways of interaction, new mental and linguistic structures. Silence, in this sense, is not just an escape from the word and face-to-face communication, but a pause from futile discourse and rhetoric, a distance from the enormous crowd of human beings that surround us, demanding, claiming. A distance, indeed, yet not in order to escape but in order to be able to find productive ways of coming together again. Such a reading of the noise-silence relationship in the *Quaderni* allows us to observe the formation of a new type of human beings that renounce or have to renounce on their own anthropo-voco-centrism in order to have other voices emerge, other noises, other cadences. In all this, the role of the written word, even the simplest form of it such as text messaging, is to help us put into motion selection processes without which communication would be impossible, as Serafino says "in times like these, times of machines" (*Tr* II 734).

Read this way, Serafino's notebooks are a farewell, a valediction to anthropo(-voco-)centrism, the last receptacle of the protagonist's flawed and vulnerable humanity. From a posthuman perspective, the *Quaderni* emerge as a novel about the process of cyborgization at the beginning of the twentieth century and about the impact of this process on the human protagonist who, after having merged with the machine—symbolically, physically, and mentally—becomes, as he writes at the end, "perfect." A paradox? Surrender and defeat? Or a proto-cybernetic awareness based on conciliation and willful de-

humanization, the result of which overcomes the simple human-machine binary and issues into a new kind of hybrid literary protagonist, a new posthuman subjectivity with new modes of interaction? "Alone, mute, and impassible," a cyborg in an age of machines, a listener in an age of overwhelming amounts of information and messages. There is no other or better way of dealing with the gruesome and artificial spectacles of modern society but by becoming immune to them, Serafino seems to suggest, enveloping himself in silence. On one hand, his silences produce works of art such as *Quaderni di Serafino Gubbio,* and, on the other, it allows for the act of listening to other voices and beings as the constructive byproduct of the man-machine amalgamation and the community it creates. The cyborg, like Heidegger's jug, *gathers* ("vorrei […] accoglier tutto e tutti," "I would like to gather together/welcome everything and everyone"); it gathers humans, animals, and gods together in a posthuman continuity. Its language is the polyphony of the questionable and questioning creatures that populate its spectrum and urge for more attention, care, listening, understanding, and, above all, more works of art. What now? What next? Perhaps the global South is the key.

BIBLIOGRAPHY

1. Primary Sources

Baum, Frank L. "Tiktok, The Machine Man." In *Ozma of Oz*, by Frank L. Baum, 49-63. Chicago: Reilley & Lee, 1907.

Collodi, Carlo [Lorenzini]. 1883. *Le avventure di Pinocchio. Storia di un burattino*, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi. Collodi: Giunti Editore, 2012. Translated by Geoffrey Brock as *Pinocchio* (New York: NYRB, 2008).
———————. 1856. *Un romanzo in vapore. Da Firenze a Livorno, Guida storico-umoristica.* Vol. I of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi. Collodi: Giunti Editore, 2009.

Eça de Queirós, José Maria de. *Cartas da Inglaterra e Crônicas de Londres.* Lisboa: Edição "Livros do Brasil," 2001.
———————. 1901. *A cidade e as serras.* Lisboa: Edição Livros do Brasil, 1969. Translated by Margaret Jull Costa as *The City and the Mountains* (New York: New Directions Book, 2008).
———————. 1892. *Contos I.* Lisboa: Imprensa Nacional Casa da Moeda, 2009.

Eliot, T.S. "The Love Song of J. Alfred Prufrock." In *Poetry: A Magazine of Verse* (June 1915): 130-135.

Ellis, Edward S. *The Huge Hunter: Or, The Steam Man of the Prairies.* New York: Beadle's American Novel, No. 45, August 1868.

Eyth, Max. 1899. *Hinter Pflug und Schraubstock – Die Abenteuer eines Ingenieurs im vorigen Jahrhundert*. Stuttgart: Deutsche Verlags-Anstalt, 1986.

Hoffmann, E.T.A. 1816. *Der Sandmann.* Stuttgart: Reclam, 2012.

Huysmans, J.-K. 1884. *À Rebours*. Paris: Librairie des Amateurs Ferroud, 1920. Translated by John Howard as *Against the Grain* (New York: Lieber & Lewis, 1922).

Kafka, Franz. *Die Verwandlung.* Leipzig: Kurt Wolff, 1915.

Panizza, Oskar. 1890. *Die Menschenfabrik.* Hamburg: Hoffmann und Campe, 2019.

Pirandello, Luigi. *L'umorismo e altri saggi*, a cura di Enrico Ghidetti. Firenze: Giunti, 1994.
———————. 1926. *Uno, nessuno e centomila.* In *Tutti i romanzi Tr* II, edited by Giovanni Macchia and Mario Costanzo. Milano: Mondadori, 1973.
———————. 1925. *Quaderni di Serafino Gubbio Operatore.* In *Tutti i romanzi Tr* II, edited by Giovanni Macchia and Mario Costanzo. Milano: Mondadori, 1973. Translated by C.K. Scott Moncrieff as *Shoot! The Notebooks of Serafino Gubbio, Cinematograph Operator* (Chicago: The University of Chicago Press, 2005).
———————. 1904. *Il fu Mattia Pascal.* In *Tutti i romanzi Tr* I, edited by Giovanni Macchia and Mario Costanzo. Milano: Mondadori, 1973.

Shelley, Mary. 1831. *Frankenstein, or, The Modern Prometheus*. New York: Penguin, 2003.
———————. 1818. *Frankenstein; or, The Modern Prometheus*. New York and London: Norton Critical Editions, 2012.

Swift, Jonathan. 1726. *Gulliver's Travels.* Oxford & New York: Oxford University Press, 2005.

Verne, Jules. *Les Tribulations d'un Chinois en Chine*. Paris: Pierre-Jules Hetzel, 1879. Translated by Virginia Champlin as *The Tribulations of a Chinese Gentleman* (Boston: Lee and Shepard, 1880).

Zola, Émile. 1890. *La bête humaine.* Paris: Bibliothéque-Charpentier, 1893. Translated by Edward Vizetelly as *The Monomaniac* (London: Hutchinson & Co., 1901).

2. Secondary Literature

Abragão, Frederico de Quadros, ed. *Cem Anos de Caminho de Ferro na Literatura Portuguesa.* Lisboa: Comp. Caminhos Ferro Portugueses, 1956.

Abramson, Marianne, and Stephen D. Goldinger. "What the Reader's Eye Tells the Mind's Ear: Silent Reading Activates Inner Speech." *Perception & Psychophysics* 59:7 (1997): 1059-1068.

Agamben, Giorgio. *L'uso dei corpi. Homo Sacer, IV*. Milano: Neri Pozza, 2014.

Alessio, Antonio and Giuliana Katz, eds. *Le fonti di Pirandello.* Palermo: Palumbo, 1996.

Alonge, Roberto. *Luigi Pirandello: Il teatro del XX secolo.* Bari: Laterza, 1997.

Angelini, Franca. *Serafino e la tigre. Pirandello fra scrittura, teatro e cinema.* Padova: Marsilio, 1990.
———————. "*Si gira*…: L'ideologia della macchina in Pirandello." In *II romanzo di Pirandello,* edited by Enzo Lauretta, 143-160. Palermo: Palumbo, 1976.

Arendt, Hannah. *The Human Condition*. 2nd ed. Chicago: The University of Chicago Press, 1998 [1958].

Argentieri, Letizia. "Pirandello and Fascism." *Mediterranean Studies* 6 (1996): 129-136.

Aristotle. *The Complete Works of Aristotle,* Vol. 1 and 2, the Revised Oxford Translation, edited by Jonathan Barnes. New Jersey: Princeton University Press, 2014.

Arnold, David. *Everyday Technology: Machines and the Making of India's Modernity.* Chicago and London: The University of Chicago Press, 2013.

Asor Rosa, Alberto. *Sintesi di storia della letteratura italiana.* Firenze: La Nuova Italia, 1972.

Attali, Jacques. *Bruits.* Paris: PUF, 1978. Translated by Brian Massumi as *Noise: The Political Economy of Music* (Minneapolis: University of Minnesota Press, 1985).

Atkinson, Niall. *The Noisy Renaissance: Sound, Architecture, and Florentine Urban Life.* University Park, PA: The Pennsylvania State University Press, 2016.
———————. "Thinking through Noise, Building toward Silence: Creating a Sound Mind and Sound Architecture in the Premodern City." *Grey Room* 60 (Summer 2015): 10-35.
———————. "The Republic of Sound: Listening to Florence at the Threshold of the Renaissance." *I Tatti Studies in the Italian Renaissance* 16: 1/2 (Fall 2013): 57-84.
———————. "Sonic Armatures: Constructing an Acoustic Regime in Renaissance Florence." *Senses & Society* 7:1 (2012): 39-52.

Augoyard, Jean François, and Henry Torgue. *Sonic Experience: A Guide to Everyday Sounds.* Montréal & London: McGill-Queen's University Press, 2005.

Augusto, Carlos Alberto. *Sons e Silêncios da Paisagem Sonora Portuguesa*. Lisboa: Fundação Francisco Manuel dos Santos, 2014.

Baker, Janet. "Psychogenic voice disorders and traumatic stress experience: a discussion paper with two case reports." *Journal of Voice* 17:3 (2003): 308-318.

Bailey, Lee Worth. *The Enchantments of Technology.* Urbana and Chicago: University of Illinois Press, 2005.

Balaÿ, Olivier. *L'espace sonore de la ville au XIX^e^ siècle.* [Bernin]: A la croisée, 2003.

Baldick, Robert. *The Life of J.-K. Huysmans*. Oxford: Clarendon Press, 1955.

Ballerio, Stefano. "La voce dell'autore, le orecchie dei lettori." *Rivista di Letteratura Italiana* 36:2 (2018): 177-186.

Balliani, Marco. *Pinocchio nero: diario di un viaggio teatrale.* Milano: Rizzoli, 2005.

Baptista, Abel Barros, ed. A Cidade e as Serras: *Uma Revisão.* Coimbra: Angelus Novus, 2001.

Barad, Karen. "Diffracting Diffraction: Cutting Together-Apart," *Parallax* 20:30 (2014), 168-187, DOI: 10.1080/13534645.2014.927623.
———————. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*. Durham and London: Duke University Press, 2007.
———————. "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter." *Sings: Journal of Women in Culture and Society* 28:3 (2003): 801-31.

Baranski, Zygmunt, and Rebecca West, eds. *The Cambridge Companion to Modern Italian Culture.* Cambridge: Cambridge University Press, 2001.

Bargellini, Piero. *La verità di Pinocchio.* Brescia: Morcelliana, 1942.

Barilli, Renato. *Pirandello. Una rivoluzione culturale*. Milano: Mursia, 1986.
———————, ed. *Estetica e società tecnologica.* Bologna: Mulino, 1976.
———————. *La linea Svevo-Pirandello*. Milano: Mursia, 1972.

Barthes, Roland. *Image, Music, Text,* essays selected and translated by Stephen Heath. London: FontanaPress, 1977.

Bartsch, Shadi, and Ják Elsner. "Introduction: Eight Ways of Looking at Ekphrasis." Special Issue on Ekphrasis edited by Shadi Bartsch and Ják Elsner, i-vi. *Classical philology* 102:1 (January 2007).

Becker, Claudia. Introduction to *L'homme machine*, by Julien Offray de la Mettrie, edited by Claudia Becker, vii-xviii. Hamburg: Felix Meiner, 1990.

Beckett, Sandra L. *Crossover Fiction: Global and Historical Perspectives*. New York: Routledge, 2009.

Benjamin, Walter. *Illuminations: Essays and Reflections,* edited by Hannah Arendt. New York: Schocken Books, 1968.

Berend, Iván T., and György Ránki. *The European Periphery and Industrialization, 1780-1914.* Cambridge and New York: Cambridge University Press, 1981.

Berengo-Gardin, Piero, ed. *Ferrovie italiane: Immagini del treno in 150 anni di storia.* Roma: Editori Riuniti, 1988.

Bergamo, Francesco. *Il disegno del paesaggio sonoro.* Milano: Mimesis, 2018.

Berghaus, Günter, ed. *International Futurism in Arts and Literature.* Berlin and New York: de Gruyter, 2000.

Bernardo, Luís Miguel. *Cultura Científica em Portugal: Uma Perspectiva Histórica.* Porto: Universidade do Porto, 2013.

Bertacchini, Renato. *Collodi narratore.* Pisa: Nistri-Lisci, 1961.

Bhabha, Homi K. *The Location of Culture*. London and New York: Routledge, 1994.
————————, ed. *Nation and narration.* London and New York: Routledge, 1990.

Biddle, Ian, and Kirsten Gibson, eds. *Cultural Histories of Noise, Sound and Listening in Europe, 1300-1918.* London & New York: Routledge, 2017.

Bijsterveld, Karin. *Mechanical Sound: Technology, Culture, and Public Problems of Noise in the Twentieth Century.* Cambridge, MA: MIT Press, 2008.

Biuso, Alberto G. *La mente temporale: Corpo, Mondo, Artificio.* Carocci: Roma, 2009.

Blackiston, Douglas J., Elena Silva Casey, and Martha R. Weiss. "Retention of Memory through Metamorphosis: Can a Moth Remember What It Learned as a Caterpillar?" *PLoS One* 3: 3 (2008): e1736. doi: 10.1371/journal.pone.0001736.

Blümer, Agnes. "Das Konzept Crossover – eine Differenzierung gegenüber Mehrfachadressiertheit und Doppelsinnigkeit." In *Kinder- und Jugendliteraturforschung* 2008/2009, edited by Bernd Dolle-Weinkauff, Hans-Heino Ewers, and Carola Pohlmann, 105-114. Frankfurt am Main: Peter Lang, 2009.

Bohn, Willard. *The Other Futurism: Futurist Activity in Venice, Padua, and Verona.* Toronto: University of Toronto Press, 2004.

Bonifácio, Maria de Fátima. *O Século XIX Português.* Lisboa: Imprensa de Ciências Sociais, 2002.

Borello, Rosalma Salina. "'Ogni opera di scienza è scienza e arte.' Scienza e critica estetica in Pirandello." In *Nello specchio dell'altro: Riflessi della bellezza tra arte e scienza*, a cura di Luca Nicotra e Rosalma Salina Borello, pp. 121-127. Roma: Universitalia, 2011.

Bošnjak, Branko."Techne als Erfahrung der menschlichen Existenz: Aristoteles – Marx – Heidegger." In *Kunst und Technik: Gedächtnisschrift zum 100. Geburtstag von Martin Heidegger*, edited by Walter Biemel and Friedrich-Wilhelm v. Herrmann, 93-108. Frankfurt a. Main: Klostermann, 1989.

Braidotti, Rosi. *The Posthuman.* Cambridge: The Polity Press, 2013.

Brooks, Rodney. *Cambrian Intelligence: The Early History of the New AI.* Boston: MIT Press, 1996.

Brown, Bill. "Thing Theory." *Critical Inquiry* 28:1 (2001): 1-22.

Buchanan, Bruce G. "A (Very) Brief History of Artificial Intelligence." *AI Magazine* 26:4 (2006): 53–60.

Butler, Marilyn. "*Frankenstein* and Radical Science." In *Frankenstein*, by Mary Shelley, edited by J. Paul Hunter, 302-313. London: Norton Criticial Editions, 1996.

Butler, Shane. *The Ancient Phonograph.* New York: Zone Books, 2015.

Califano, Mimma Bresciani, ed. *La realtà e i linguaggi. Ai confini tra scienza letteratura*. Firenze: Le Lettere, 1998.

Cambon, Glauco. "Pinocchio and the Problem of Children's Literature." *Children's Literature* 2 (1973): 59-60.

Camerini, Claudio. *Acciaio, un film degli anni trenta.* Torino: Nuova Eri Edizioni RAI, 1990.

Cancio, Francisco. *Aspectos de Lisboa no S'eculo XIX.* Lisboa: Imprensa Baroëth, 1939.

Cannamela, Danila. *The Quiet Avant-Garde: Crepuscular Poetry and the Twilight of Modern Humanism.* Toronto: University of Toronto Press, 2019.

Cassano, Franco. *Il pensiero meridiano.* Bari: Laterza, 2005 [1996]. Translated by Norma Bouchard and Valerio Ferme as *Southern Thought and Other Essays on the Mediterranean* (New York: Fordham University Press, 2012).

Castelfranchi, Yurij, and Oliviero Stock. *Macchine come noi. La scommessa dell'intelligenza artificiale.* Roma-Bari: Laterza, 2000.

Castellana, Riccardo. *Finzione e memoria: Pirandello modernista.* Napoli: Liguori, 2018.

Castro, Armando. *A Revolução Industrial em Portugal no Século XIX.* Porto: Limiar, 1976.

Castronovo, Valerio. *Storia economica d'Italia: Dall'Ottocento ai giorni nostri.* Torino: Einaudi, 1995.

Cavalli, Annamaria. *Letteratura e Scienza: Scontri e incontri tra immaginario letterario e sapere scientifico: i casi di D'Annunzio e Capuana.* Rimini: Guaraldi, 2015.

Cavarero, Adriana. *A più voci. Filosofia dell'espressione vocale.* Milano: Feltrinelli, 2003. Translated by Paul A. Kottman as *For More than One Voice: Toward a Philosophy of Vocal Expression* (Stanford: Stanford University Press, 2005).

Cecchetto, David. *Humanesis: Sound and Technological Posthumanism.* Minneapolis: University of Minnesota Press, 2013.

Centini, Massimo. *Frankenstein: La scienza e la follia. Uomini e mostri tra scienza e mito.* Torino: Yume, 2018.
————————. *A nostra immagine e somiglianza. Uomo su misura tra mitologia e tecnologia.* Bologna: Hybris, 2002.

Ceserani, Remo. *Treni di carta - l'immaginario in ferrovia: L'Irruzione del treno nella letteratura moderna.* Genova: Marietti, 1993.

Chambers, Ross. *An Atmospherics of the City: Baudelaire and the Poetics of Noise.* New York: Fordham University Press, 2015.

Chant, Colin, ed. *Science, Technology and Everyday Life, 1870–1950* (1990).

Chessa, Luciano. *Luigi Russolo, Futurist: Noise, Visual Arts, and the Occult.* Berkeley: University of California Press, 2012.

Chiara, Luigi. "La Sicilia e la modernizzazione incompiuta (1880-1960)." In *La Sicilia nel secolo breve: Modernità e sottosviluppo*, a cura di Luigi Chiara et al., 5-128. Milano: Giuffrè Editore, 2013.

Chion, Michel. *L'audio-vision: son et image au cinéma.* Paris: Nathan, 2000. Translated by Claudia Gorbman as *Audio-Vision: Sound on Screen.* New York: Columbia University Press, 2019.
————————. *Le Son: Traité d'Acoulogie*, 2e Édition Revue et Corrigée, Col. "Cinéma/Arts Visuels." Paris: Armand Colin, 2010. Translated by James A. Steintrager as *Sound: An Aucological Treatise* (Durham: Duke University Press, 2016).

Ciardi, Marco, and Pier Luigi Gaspa. *Frankenstein: Il mito tra scienza e immaginario.* Roma: Carocci, 2018.

Clark, Andy. "A More Human Approach to Artificial Intelligence." Interview with Michael Segal, *Nature* 571, S18 (2019). doi: 10.1038/d41586-019-02213-3.

Clynes, Manfred E., and Nathan S. Kline. "Cyborgs and Space." *Astronautics* (September 1960): 26-17 and 74-76.

Corbin, Alain. *Les cloches de la terre: paysage sonore et culture sensible dans les campagnes au XIXe siècle.* Paris: A. Michel, c1994. Translated by Martin Thom as *Village Bells: Sound and Meaning in the 19th-Century French Countryside* (New York: Columbia University Press, 1998).

Corso, Simona. *Automi, termometri, fucili: L'Immaginario della macchina nel romanzo Inglese e Francese del Settecento.* Roma: Edizioni di storia e letteratura, 2004.

Costa, René de. "The Mythic Quest Theme in *A cidade e as serras*." *Luso-Brazilian Review* 5:2 (1968): 71-79.

Cottini, Luca. *The Art of Objects: The Birth of Italian Industrial Culture, 1878-1928.* Toronto: University of Toronto Press, 2018.

Crary, Jonathan. *Suspensions of Perception: Attention, Spectacle, and Modern Culture.* Cambridge, MA: MIT Press, 1999.
———————. *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century.* Cambridge, MA: MIT Press, 1992.

The Criminal Law Review. Issue 7 (2019).

Cuminetti, Benvenuto. "Indicazioni su Quaderni di Serafino Gubbio operatore." *Vita e Pensiero* 50 (1967): 854-65.

Daiber, Jürgen. *Kafka und der Lärm: Klanglandschaften der frühen Moderne.* Münster, Mentis, 2014.

Dainotto, Roberto M. *Europe (in Theory).* Durham: Duke University Press, 2007.

Damasio, Antonio. *The Feeling of What Happens: Body and Emotion in the Making of Consciousness.* New York: Harcourt, 1999.

Danius, Sara. *The Senses of Modernism: Technology, Perception, and Aesthetics.* Ithaca: Cornell University Press, 2002.

Daston, Lorraine, ed. *Things that Talk: Object Lessons from Art and Science.* New York: Zone Books, 2004.

Debenedetti, Giacomo. *Il personaggio uomo.* Milano: Il Saggiatore, 1970.

De Castris, Leone Arcangelo. *Il decadentismo italiano: Svevo, Pirandello, D'Annunzio.* Bari: De Donato, 1964.

De Stefano, Francesco, and Francesco Luigi Oddo. *Storia della Sicilia. Dal 1860 al 1910.* Bari: Laterza, 1963.

Deleuze, Gilles, and Félix Guattari. *Anti-Oedipus: Capitalism and Schizophrenia.* Translated by Robert Hurley, Mark Seem, and Helen R. Lane. London and New York: Continuum, 2004.

Derrida, Jacques. "How to Avoid Speaking: Denials." Translated by Ken Frieden. In *Languages of the Unsayable: The Play of Negativity in Literature and Literary Theory*, edited by Sanford Budick and Wolfgang Iser, 73-142. New York: Columbia University Press, 1989.
———————. *La Voix et le Phénomène*. Paris: PUF, 1967. Translated by David B. Allison as *Speech and Phenomena and Other Essays on Husserl's Theory of Signs* (Evanston: Northwestern University Press, 1973).

Di Maria, Salvatore. *Towards a Unified Italy Historical, Cultural, and Literary Perspectives on the Southern Question*. New York: Palgrave Macmillan, 2018.

Dimock, Wai Chee. "A Theory of Resonance." *PMLA* 112:5 (October 1997): 1060-1071.

Dolar, Mladen. *A Voice and Nothing More.* Cambridge, MA: MIT Press, 2006.

Dombrovski, Robert. *La totalità dell'artificio. Ideologia e forma nel romanzo di Pirandello*. Padova: Libiana, 1978.
———————. "La concezione dell'uomo in Pirandello e la mitologia fascista: appunti per uno studio." *Paragone* 25 (1974): 35-56.

Donati, Corrado. *Il sogno e la ragione. Saggi pirandelliani.* Napoli: Edizioni Scientifiche Italiane, 1993.

Dreyfus, Hubert L. *What Computers Still Can't Do: A Critique of Artificial Reason.* Cambridge, MA: MIT Press, 1993.
———————. *What Computers Can't Do: A Critique of Artificial Reason.* New York: Harper & Row, 1972.

Drouin, Jeffrey S. *James Joyce, Science, and Modernist Print Culture: "The Einstein of English Fiction."* London: Routledge, 2014.

Duran, Xavier. *La ciencia en la literatura: Un viaje por la historia de la ciencia vista por escritores de todos los tempos.* Barcelona: Universitat de Barcelona, 2018.

Eco, Umberto. Introduction to *The Adventures of Pinocchio*, by Carlo Collodi. Translated by Geoffrey Brock, ix-xi. New York: NYRB, 2009.
———————. *The Role of the Reader: Explorations in the Semiotics of Texts.* Bloomington, IN: Indiana University Press, 1979.
———————. *Lector in fabula*. Milano: Bompiani, 1979.

Entrambasaguas, Joaquin de. *Sobre el tema de* A Cidade e as Serras *de Eça de Queiroz.* Madrid: Cuadernos de Literatura:1947.

Epstein, Josh. *Sublime Noise: Musical Culture and the Modernist Writer.* Baltimore: Johns Hopkins University Press, 2014.

Erlmann, Veit. *Reason and Resonance: A History of Modern Aurality.* New York: Zone Books, Distributed by MIT Press, 2010.

Eyth, Max. *Lebendige Kräfte: Sieben Vorträge aus dem Gebiet der Technik.* Berlin: Springer, 1905.

Farnetti, Monica. *Il manoscritto ritrovato: Storia letteraria di una finzione.* Firenze: Società Editrice Fiorentina, 2006.

Favaro, Roberto. *La musica nel romanzo italiano del '900.* Lucca: Ricordi LIM, 2002.

Feijó, António M. "O Drama de Émile Aulard," In A cidade e as serras: *Uma Revisão,* edited by Abel Barros Baptista, 33-41. Coimbra: Angelus Novus, 2001.

Feldman, Marta, and Judith T. Zeitlin. "The Clamor of Voices." In *The Voice as Something More: Essays toward Materiality*, edited by Marta Feldman and Judith T. Zeitlin, 3-33. Chicago: The University of Chicago Press, 2019.

Ferlito, Susanna. "Sonorous 'mitezza': A Political Voice in Collodi's *The Adventures of Pinocchio*." *Italica* 94:4 (Winter 2017): 709-725.

Ferrando, Francesca. "Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms: Differences and Relations." *Existenz* 8:2 (2013): 26-32.

Forgacs, David. *Italian Culture in the Industrial Era, 1880-1980: Cultural Industries, Politics, and the Public*. Manchester: Manchester University Press, 1990.

Francastel, Pierre. *Art and Technology in the Nineteenth and Twentieth Centuries.* Translated by Randall Cherry. New York: Zone Books, 2000.

Frassica, Pietro. "Pinocchio e Geppetto, nuove voci dei media americani." *Rivista di Letteratura Italiana* 36:2 (2018): 155-176.

Frattarola, Angela. "The Phonograph and the Modernist Novel." *Mosaic: An Interdisciplinary Critical Journal* 43:1 (March 2010): 143-159.

Freud, Sigmund. *Beyond the Pleasure Principle.* Edited and translated by James Strachey. New York and London: Norton, 1961 [1920].

Fuller, Sarah Canfield. "Reading the Cyborg in Mary Shelley's *Frankenstein*." *Journal of the Fantastic in the Arts,* Vol. 14, No. 2 (54) (Summer 2003): 217-227.

Garavelli Mortara, Bice. *Silenzi d'autore.* Roma: GLF editori Laterza, 2015.

Gardini, Nicola. *Lacuna: saggio sul non detto.* Torino: Einaudi, 2014.

Gaylin, Willard. *Adam and Eve and Pinocchio: On Being and Becoming Human.* New York: Viking, 1990.

Gellen, Kata. *Kafka and Noise: The Discovery of Cinematic Sound in Literary Modernism.* Evanston: Northwestern University Press, 2019.

Gendolla, Peter. *Die lebenden Maschinen: Zur Geschichte der Maschinenmenschen bei Jean Paul, E.T.A. Hoffmann und Villiers de l' Isle Adam.* Marburg: Guttandin & Hoppe, 1980.

Genot, Gérard. *Analyse structurelle de* Pinocchio. Vol. 5 of the *Quaderni della Fondazione Nazionale "Carlo Collodi."* Firenze: Industria Tipografica Fiorentina, 1970.

Genovese, Nino. and Sebastiano Gesù, eds., *La musa inquietante di Pirandello: il Cinema.* Palermo: Bonanno, 1990.
Gentile, Maria Teresa. *L'albero di Pinocchio: I precedenti culturali de "Le Avventure."* Roma: Edizioni Studium, 1982.

Goldsmith, Mike. *Discord: The Story of Noise.* Oxford: Oxford University Press, 2012.

Goodman, David and Colin Chant, eds. *European Cities & Technology: Industrial to Post-Industrial City.* London, New York: Routledge in association with the Open University, 1999.

Greene, Vivien. *Italian Futurism 1909-44: Reconstructing the Universe.* New York: Guggenheim, 2014.

Grosz, Elizabeth. *Time Travels: Feminism, Nature, Power.* Durham, NC: Duke University Press, 2005.

Guiderzo, Giulio. "A proposito dello sviluppo ferroviario in Italia dal 1850 al 1914: aspetti geografici, economici e tecnologici." *Bollettino della società pavese di storia patria,* 72-73 (1972-73): 142-172.
Handel, Stephen. *Listening: An Introduction to the Perception of Auditory Events.* Cambirdge, MA: MIT Press, 1989.

Haraway, Donna J. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century." In *Manifestly Haraway*, edited by Cary Wolfe, 6-90. Minneapolis: The University of Minnesota Press, 2016.

Harkup, Kathryn. *Making the Monster: The Science Behind Mary Shelley's* Frankenstein. London and New York: Bloomsbury, 2018.

Harman, Graham. *Tool-Being: Heidegger and the Metaphysics of Objects*. Chicago: Open Court, 2002.

Harris, Stefanie. *Mediating Modernity: German Literature and the New Media, 1895-1930.* University Park, PA: Pennsylvania State University Press, 2009.

Harrison, Robert Pogue. *Forests: The Shadow of Civilization.* Chicago: The University of Chicago Press, 1992.

Haugeland, John. *Artificial Intelligence: The Very Idea.* Cambridge, MA: MIT Press,1985.

Hawkins, Jeff, and Sandra Blakeslee, *On Intelligence*. New York: Times Books, 2004.

Hayles, N. Katherine. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics.* Chicago: The University of Chicago Press, 1999.

Hazard, Paul. *Les livres, les enfants et les hommes.* Paris: Boivin, 1949.

Heidegger, Martin. "Die Frage nach der Technik." In Martin Heidegger, *Vorträge und Aufsätze*, 5-16. Frankfurt am Main: Vittorio Klostermann, 2000 [1953].

———————. "Traditional Language and Technical Language." Translated by Wanda Torres Gregory, *Journal of Philosophical Research* XXIII (1998): 129-145.
———————. *Poetry, Language, Thought.* New York: Harper & Row, 1971.
———————. *Sein und Zeit.* Tübingen: Niemeyer, 1967 [1927]. Translated by John Macquarrie and Edward Robinson as *Being and Time* (New York: Harper Perennial, 2008).

Heisig, James W. "Pinocchio: Archetype of the Motherless Child." *Children's Literature* 3 (1974): 23-35.

Hindle, Maurice. Introduction to *Frankenstein, or, The Modern Prometheus*, by Mary Shelley. Edited by Maurice Hindle, xi-l. New York: Penguin, 2003.

Ihde, Don. *Technology and the Lifeworld: From Garden to Earth.* Bloomington: Indiana University Press, 1990.

Ilievska, Ana. "Out of the Mouths of Babes: The Child-Hero in Contemporary Western Literature." Master's thesis, Eberhard Karls Universität Tübingen, 2013.

Ingersoll, Earl G. *Representations of Science and Technology in British Literature since 1880*. London: Peter Lang, 1994.

Jay, Martin. *Downcast Eyes: The Denigration of Vision in Twentieth-Century French Thought.* Berkeley: University of California Press, 1993.

Kaczynski, Ted. *Technological Slavery: The Collected Writings of Theodore J. Kaczynski, a.k.a. "The Unabomber."* Port Townsend, WA: Feral House, 2010.

Kendrick, Robert L. *The Sounds of Milan, 1585-1650.* New York: Oxford University Press, 2002.

Kittler, Friedrich A. *Grammophon, Film, Typewriter.* Berlin: Brinkmann & Bose, 1986. Translated by Geoffrey Winthrop-Young and Michael Wutz as *Gramophone, Film, Typewriter* (Stanford: Stanford University Press, 1999).

Kline, Ronald. "Where are the Cyborgs in Cybernetics?" *Social Studies of Science* 39:3 (June 2009): 331-362.

Klinkert, Thomas. *Epistemologische Fiktionen: Zur Interferenz von Literatur und Wissenschaft seit der Aufklärung.* Berlin: De Gruyter, 2010.

Klopp, Charles. "Workshops of Creation, Filthy and Not: Collodi's Pinocchio and Shelley's Frankenstein." In *Pinocchio, Puppets and Modernity: The Mechanical Body*, edited by Katia Pizzi, 63-73. New York: Routledge, 2012.

Kuznets, Lois Rostow. *When Toys Come Alive: Narratives of Animation, Metamorphosis, and Devlopment.* New Haven: Yale University Press, 1994.

La Mettrie, Julien Offray de. *Machine Man and Other Writings,* edited and translated by Ann Thomson. Cambridge: Cambridge UP, 1996 [1747].

Lacan, Jacques. *The Four Fundamental Concepts of Psychoanalysis.* Book XI of *The Seminar of Jacques Lacan,* edited by Jacques-Alain Miller, translated by Alan Sheridan. New York and London: Norton & Company, 1998.

Lains, Pedro. "The Power of Peripheral Governments: Coping with the 1891 Financial Crisis in Portugal." *Historical Research* 81/213 (2008): 485-506.
————————. and Álvaro Ferreira da Silva, eds. *História económica de Portugal, 1700-2000.* Vol. 2, *O século XIX.* Lisboa: Imprensa de Ciências Sociais, 2005.

Laïs, Rudolf. *Das war Max Eyth: 1836 bis 1906.* Vortrag zum neunzigjährigen Bestehen der Deutschen Landwirtschafts-Gesellschaft am 11. Dezember 1975. Ulm: […], 1975.

Latour, Bruno. "Love Your Monsters: Why We Must Care for Our Technologies as We Do Our Children." *Breakthrough Journal* (Fall 2011): 19-26.
————————. *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press, 2005.

Lehrer, Jonah. *Proust Was a Neuroscientist.* Boston: Houghton Mifflin Co., 2007.

Levin, David Michael, ed. *Modernity and the Hegemony of Vision.* Berkeley: Univeristy of California Press, 1993.

Librandi Rocha, Marília. *Writing by Ear: Clarice Lispector and the Aural Novel.* Toronto: University of Toronto Press, 2018.

Longo, Giuseppe O. *Homo technologicus.* Milano: Ledizioni, 2012.

Losa, Leonor. "Indústria fonográfica." In *Enciclopédia da música em Portugal no século XX*, vol. 2, edited by Salwa Castelo-Branco, 633-634. Lisbon: Círculo de Leitores, 2010.
————————, and Susana Belchior. "The Introduction of Phonograph Market in Portugal: Lindström Labels and Local Traders (1879-1925)." In *The Lindström Project: Contributions to the History of the Record Industry: Beiträge zur Geschichte der Schallplattenindustrie,* Vol. 2, edited by Pekka Gronow and Christiane Hofer, 7-11. Vienna: Gesellschaft für historische Tonträger, 2010.

Lotman, Yuri M. *The Structure of the Artistic Text.* Translated by Ronald Vroon. Ann Arbor: [Dept. of Slavic Languages and Literatures], University of Michigan, 1977.

Luperini, Romano. *Pirandello.* Roma: Laterza, 1999.
————————, and Massimiliano Tortora, eds. *Sul modernismo italiano.* Napoli: Liguori, 2012.

Macchia, Annalisa. *Pinocchio in Francia*. Quaderni della Fondazione Nazionale "Carlo Collodi." Bologna: Rastignano, 1978.

Machado Pires, Antóno Manuel. *Luz e Sombras no Século XIX em Portugal.* Lisboa: Imprensa Nacional Casa da Moeda, 2007.

Maffei, Lamberto. *Elogio della parola.* Bologna: Il Mulino, 2018.

———————. *La libertà di essere diversi: Natura e cultura alla prova delle neuroscienze.* Bologna: Il Mulino, 2011.

Magalhães, Paula Gomes. *Belle Époque: A Lisboa de Finais do Séc. XIX e Início do Séc. XX.* Lisboa: A Esfera dos Livros, 2014.

Maggi, Armando. *Preserving the Spell: Basile's* The Tale of Tales *and Its Afterlife in the Fairy-Tale Tradition.* Chicago: The University of Chicago Press, 2015.

Manson, Michel. "Pinocchio, Pygmalion et la Poupée." In *Pinocchio. Entre texte et image*, edited by Jean Perrot, 101-114. Bruxelles: Peter Lang, 2003.

Maira, Salvatore. "Ideologia e tecnica nella narrativa di Luigi Pirandello." *Nuovi argomenti* 29-30 (1972): 187-223.

Marcheschi, Daniela. Introduction to *Le avventure di Pinocchio,* by Carlo Collodi, Vol. II of the Edizione Nazionale delle Opere di Carlo Lorenzini, a cura di Roberto Randaccio, Fondazione nazionale Carlo Collodi, 21-62 (Collodi: Giunti Editore, 2012).
———————. "Collodi Sterniano: Da *Un romanzo in vapore* alle *Avventure di Pinocchio.*" *Merveilles & contes,* Vol. 7, No. 1, Special Issue on "the Italian Tale" (May 1993): 50-68.

Marchese, Pasquale. *Bibliografia pinocchiesca.* Firenze: La Stamperia, 1983.

Marchesini, Roberto. *Over the human: Post-humanism and the Concept of Animal Epiphany*. Cham: Springer, 2017.
———————. *Post-human. Verso nuovi modelli di esistenza.* Torino: Bollati Boringhieri, 2002.

Marx, Leo. "Technology: The Emergence of a Hazardous Concept." *Technology and Culture* 51:3 (2010): 561-577.
———————. *The Machine in the Garden: Technology and the Pastoral Ideal in America.* New York: Oxford University Press, 2000 [1964].

Masoni, Bradford A. *Pirandello Proto-Modernist: A New Reading of* L'esclusa. Oxford: Peter Lang, 2019.

McCorduck, Pamela. *Machines Who Think.* Natick, MA: A.K. Peters, 2004.

McLuhan, Marshall. *Understanding Media: The Extensions of Man.* Cambridge, MA: The MIT Press, 1994 [1964].

Meda, Anna. "D'Annunzio, Pirandello e l'era industriale: Due poetiche a confront." In *Letteratura e industria.* Atti del XV Congresso A.I.S.L.L.I, Torino, 15-19 maggio 1994. 2 Vols., edited by Giorgio Bárberi Squarotti and Carlo Ossola, 547-557. Torino: Leo S. Olschki, 1997.
Medina, João. *Eça de Queiroz e o Seu Tempo.* Lisboa: Livros Horizonte, 1972.

Meltzer, Françoise. *Seeing Double: Baudelaire's Modernity.* Chicago: University of Chicago Press, 2011.

Menely, Tobias. *The Animal Claim: Sensibility and the Creaturely Voice.* Chicago: U of Chicago P, 2015.

Milioto, Stefano et al., eds. *Quaderni di Serafino Gubbio operatore (1916-2016). Atti del 53° Convegno internazionale di studi pirandelliani* Caltanissetta: Edizioni Lussografica; Agrigento: Centro nazionale studi pirandelliani, 2016.
————————, and Enzo Scrivano, eds. *Pirandello e la cultura del suo tempo.* Milano: Mursia, 1984.

Morat, Daniel, ed. *Sounds of Modern History: Auditory Cultures in 19th-and 20th-Century Europe.* New York: Berghahn Books, 2014.

Mori, Masahiro. "The Uncanny Valley." *IEEE Robotics & Automation Magazine* (June 2012): 98-100.

Moroni, Mario, and Luca Somigli. *Italian Modernism: Italian Culture between Decadentism and Avant-Garde.* Toronto: University of Toronto Press, 2004.

Mortara Garavelli, Bice. *Silenzi d'autore.* Roma: Laterza, 2015.

Morton, Timothy. "*Frankenstein* and Ecocriticism." In *The Cambridge Companion to* Frankenstein, edited by Andrew Smith, 143-157. Cambridge: Cambridge University Press, 2016.
————————. *Shelley and the Revolution in Taste: The Body and the Natural World*. Cambridge: Cambridge University Press, 1994.

Moses, Gavriel. "Film Theory as Literary Genre in Pirandello and the Film-Novel." *Annali d'Italianistica* 6, Film and Literature (1988): 38-68.
————————. "'Gubbio in Gabbia': Pirandello's Cameraman and the Entrapments of Film Vision." *MLN* 94:1 (1979): 36-60.

Mousley, Andy. *Literature and the Human: Criticism, Theory, Practice.* London and New York: Routledge, 2013.
————, "The Posthuman." In *The Cambridge Companion to* Frankenstein, edited by Andrew Smith, 158-172. Cambridge: Cambridge University Press, 2016.

Munkittrick, Kyle. "The Turkle Test." *Discover Magazine*, February 6, 2011. Last accessed on February 18, 2020. https://www.discovermagazine.com/mind/the-turkle-test.

Muri, Allison. *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660-1830.* Toronto: University of Toronto Press, 2007.

Nancy, Jean-Luc. *A l'écoute.* Paris: Galilée, 2002. Translated by Charlotte Mandell as *Listening* (New York: Fordham University Press, 2007).

Nietzsche, Friedrich. *Jenseits von Gut und Böse.* In *Sämtliche Werke,* edited by Giorgio Colli and Mazzino Montinari. München: DTV, 1980 [1886]. Translated by Walter Kaufmann as *Beyond Good and Evil: Prelude to a Philosophy of the Future* (New York: Vintage Books, 1989).

Nobili, Claudia Sebastiana. *La materia del sogno: Pirandello tra racconto e visione.* Pisa: Giardini, 2007.

Novak, David, and Matt Sakakeeny, eds. *Keywords in Sound.* Durham, London: Duke UNIVERSITY PRESS, 2015.

Nudds, Matthew, and Casey O'Callaghan, eds. *Sounds and Perception: New Philosophical Essays.* Oxford: Oxford University Press, 2009.

O'Brien, Patrick, ed. *Railways and the Economic Development of Western Europe, 1830-1914.* New York: St. Martin's Press, 1983.

O'Callaghan, Casey. *Sounds: A Philosophical Theory.* New York: Oxford University Press, 2007.

Ochoa Gautier, Ana María. *Aurality: Listening and Knowledge in Nineteenth-Century Columbia.* Durham, NC: Duke University Press, 2014.

Ogilvie C., Sheilagh, and Markus Cerman, eds. *European Proto-Industrialization.* Cambridge: Cambridge University Press, 1996.

Ong, Walter J. *Orality and Literacy: The Technologizing of the Word.* New York: Routledge, 2012 [1982].

Ortega y Gasset, José. *Principios de Metafísica según la razón vital, curso 1932-1933*. In *Obras Completas.* Vol. VIII, 1926/1932. Madrid: Taurus, 2008. Translated into Italian by Estefanía Gadea Aliaga as *La ragione nel mare della vita: Principi di metafisica secondo la ragione vitale* (Roma: Armando, 2011).
———————. *The Revolt of the Masses*. Translated by Anthony Kerrigan. New York and London: W. W. Norton & Company, 1993.

Paget, Richard. *Human Speech*. Harcourt, New York, 1930.

Palazzolo, Giuseppe. "L'occhio di Serafino." *Pirandelliana* 11 (2017): 51-61.

Pampaloni, Geno, and Mario Verdone. *I Futuristi italiani: Immagini, biografie, notizie.* Firenze: Le Lettere, 1977.

Pancrazi, Pietro. *Tutto Collodi per i piccoli e per i grandi.* Firenze: Le Monnier, 1948.

Panikkar, Raimon. *The Intra-Religious Dialogue*. New Jersey: Paulist Press, 1999.

Panszczyk, Anna. "The 'Becoming' of Pinocchio: The Liminal Nature of Collodi's Boy-Toy." *Children's Literature*, Vol. 44 (2016): 192-218.

Park, Katharine, Lorraine J. Daston, and Peter L. Galison, "Bacon, Galileo, and Descartes on Imagination and Analogy." *Isis* 75:2 (1984): 287-289.
Pedreira, Jorge Miguel. "Indústria e atraso económico em Portugal (1800-25): Uma perspectiva estrutural." *Análise Social* XXIII-97 (1987-3): 563-596.

Perella, Nicolas J. "An Essay on *Pinocchio*." *Italica* 63:1 (Spring 1986): 1-47.

Perloff, Marjorie. *The Futurist Moment: Avant-Garde, Avant-Guerre, and the Language of Rupture.* Chicago: University of Chicago Press, 2003.

Perrone-Bertolotti, Marcela, Jan Kujala, Juan R. Vidal, Carlos M. Hamame, Tomas Ossandon, Olivier Bertrand, Lorella Minotti, Philippe Kahane, Karim Jerbi, and Jean-Philippe Lachaqux. "How Silent is Silent Reading? Intracerebral Evidence for Top-Down Activation of Temporal Voice Areas during Reading." *The Journal of Neuroscience* 32:49 (December 5, 2012): 17554-17562. DOI:10.1523/JNEUROSCI.2982-12.2012.

Perrot, Jean, ed. *Pinocchio. Entre texte et image*. Bruxelles: Peter Lang, 2003.
———————. *Le secret de Pinocchio: George Sand et Carlo Collodi.* Paris: In Press, 2003.

Personé, Luigi M. "Pinocchio 'Pirandelliano." In *Studi Collodiani*, *Atti del I convegno internazionale*, Pescia, 5-7 Ottobre 1974, Fondazione Nazionale "Carlo Collodi," 472-74. Bologna: Cassa di risparmio di Pistoia e Pescia, 1976.

Pesce, Anita. *La Sirena nel solco: Origini della riproduzione sonora.* Napoli: Alfredo Guida, 2005.

Pettman, Dominic. *Sonic Intimacy: Voice, Species, Technics (or, How to Listen to the World).* Stanford: Stanford University Press, 2017.

Pezzino, Paolo. "Quale modernizzazione per il Mezzogiorno?" *Società e storia* 37 (1987): 649-674.

Picker, John M. "English Beat: The Stethoscopic Era's Sonic Traces (Mr. Browning Forgets: Close Listening to a Lapse)." In *Sounds of Modern History: Auditory Cultures in 19th and 20th Century Europe*, edited by Daniel Morat, 25-45. New York: Berghahn Books, 2014.
———————. *Victorian Soundscapes.* New York: Oxford University Press, 2003.

Pivato, Stefano. *Il secolo del rumore: il paesaggio sonoro nel Novecento.* Bologna: Il Mulino, 2011.

Piwnik, Marie-Hélène. Introdução to *Contos I*, by Eça de Queirós, eduted by Marie-Hélène Piwnik, 15-32. Lisboa: Imprensa Nacional Casa da Moeda, 2009.

Pizzi, Katia. *Italian Futurism and the Machine.* Manchester: Manchester University Press, 2019.
———————. "Pinocchio and the Mechanical Body: Luciano Folgore's Papers at the Getty Research Institute Library." In *Pinocchio, Puppets and Modernity: The Mechanical Body,* edited by Katia Pizzi, 135-162. New York: Routledge, 2012.
——————— ed. *Pinocchio, Puppets and Modernity: The Mechanical Body.* New York: Routledge, 2012.

Pop, Andrei. *A Forest of Symbols: Art, Science, and Truth in the Long Nineteenth Century.* New York: Zone Books, 2019.

Prieto, Eric. *Listening In: Music, Mind, and the Modernist Narrative*. Lincoln: The U of Nebraska P, 2002.

Punzi, Antonio. *L'ordine giuridico delle macchine: La Mettrie, Helvétius, D'Holbach, l'uomo-macchina verso l'intelligenza collettiva.* Torino: G. Giappichelli, 2003.

Puttenham, George. *The Art of Poesi*e. Kent, OH: Kent State University Press, 1970.

Quendler, Christian. *The Camera-Eye Metaphor in Cinema*. New York and London: Routledge, 2017.

Radcliff-Umstead, Douglas. "Pirandello and the Puppet World." *Italica* 44:1 (1967): 13-27.

Rees, Amanda, and Iwan Rhys Morus, eds. *Presenting Futures Past: Science Fiction and the History of Science.* Vol. 34 of *Osiris.* Chicago: The University of Chicago Press, 2019.
Reis, Jaime. *O Atraso Econômico Português em Perspectiva Histórica: Estudos sobre a Economia Portuguesa na Segunda Metade de Século XIX.* Lisboa: Impr. Nacional Casa da Moeda, 1993.
———————. "A Industrialização num país de desenvolvimento lento e tardio: Portugal, 1870-1913." *Análise Social* XXIII (96), 1987-2: 207-227.

Riccobono, Maria Gabriella. *Dai suoni al simbolo: memoria poetica, relazioni analoghe, fonosimbolismo in Giovanni Verga, dalle opere ultra-romantiche a quelle veriste.* Pisa: Istituti editoriali e poligrafici internazionali, 2002.

Rigoli, Alessandro, and Paolo Russo. *Il suono riprodotto: Storia, tecnica e cultura di una rivoluzione del Novecento.* Torino: EDT, 2007.

Riva, Massimo. *Pinocchio digitale: Postumanesimo e iper-romanzo* (Milano: Franco Angeli, 2012).
———————. "Beyond the Mechanical Body: Digital Pinocchio." In *Pinocchio, Puppets and Modernity: The Mechanical Body*, edited by Katia Pizzi, 201-214. New York: Routledge, 2012.

Roda, Vittorio. *Letteratura fra due secoli: Studi pascoliani e altri studi fra Otto e Novecento.* Bologna: Cooperativa Libraria Universitaria Editrice Bologna (CLUEB), 2007.
———————. *Il soggetto centrifugo. Studi sulla letteratura italiana fra Otto e Novecento.* Bologna: Pàtron, 1984.

Ross, Sydney. "Scientist: The Story of a Word." *Annals of Science*, 18:2 (1962): 65-85. DOI: 10.1080/00033796200202722,

Russell, Stuart J., and Peter Norvig. *Artificial Intelligence: A Modern Approach*. 2nd ed. Upper Saddle River, New Jersey: Prentice Hall, 2003.

Russolo, Luigi. "The Art of Noises" (1913). In *Futurist Manifestos,* edited by Umbro Apollonio, 74-88. Boston: MFA Publications, 2001.

Sachse, Nancy D. *Pinocchio in U.S.A.* Quaderni della Fondazione Nazionale "Carlo Collodi." Bologna: Rastignano, 1981.

Sadlier, Darlene J. "Aesthetes in the Countryside: Eça de Queiroz and J.K. Huysmans." *Hispanófila* 97 (September 1989): 33-40.

Sangiovanni, Andrea. *Le parole e le figure: Storia dei media in Italia dall'età liberale alla seconda guerra mondiale.* Roma: Donzelli, 2012.

Santana, Maria Helena. *Literatura e Ciência na Ficção do Século XIX: A Narrativa Naturalista e Pós-Naturalista Portuguesa.* Lisboa: Imprensa Naciona-Casa da Moeda, 2007.

Sarti, Lisa and Michael Subialka, eds. *Pirandello's Visual Philosophy: Imagination and Thought Across Media.* Madison: The Rowman & Littlefield Publishing Group, Inc, 2017.

Salsano, Roberto. *Pirandello in chiave esistenzialista.* Roma: Bulzoni Editore, 2015.

Saussure, Ferdinand de. *Cours de linguistique générale.* Paris: Éditions Payot & Rivages, 1995 [1916].
Schaeffer, Pierre. *Traité des objets musicaux: Essai interdisciplines*. Paris: Éditions du Seuil, 1966.

Schafer, R. Murray. *The Soundscape: Our Sonic Environment and the Tuning of the World.* Rochester, VT: Destiny Books, 1977.

Schafer, Ronald. W. "Scientific Bases of Human-Machine Communication by Voice." *Proceedings of the National Academy of Sciences of the United States of America* Vol. 92, No. 22 (Oct. 24, 1995): 9914-20.

Schwenger, Peter. "Words and the Murder of the Thing." *Critical Inquiry* 28:1 (2001): 99-113.

Sciascia, Leonardo, ed. *Omaggio a Pirandello.* Milano: Bompiani, 1986.
————————. *Pirandello e la Sicilia.* Milano: Adelphi, 1996.

Shaffer, Elinor S., ed. *The Third Culture: Literature and Science.* Berlin; New York: de Gruyter, 1998.

Scharff, Robert C, and Val Dusek. *Philosophy of Technology: The Technological Condition.* Malden, MA: Blackwell, 2003.

Schivelbusch, Wolfgang. *The Railway Journey: The Industrialization of Time and Space in the 19th Century.* Berkeley and Los Angeles: The University of California Press, 1977.

Schopenhauer, Arthur. "On Din and Noise." In *Parerga and Paralipomena: Short Philosophical Essays*, Vol 2. Translated by E. F. J. Payne, 642-44. Oxford: Clarendon Press, 1974.

Schwartz, Hillel. *Making Noise: From Babel to the Big Bang & Beyond.* Brooklyn: Zone Books, 2011.

Segel, Harold B. *Pinocchio's Progeny: Puppets, Marionettes, Automatons, and Robots in Modernist and Avant-Garde Drama.* Baltimore and London: The Johns Hopkins University Press, 1995.

Servadio, Emilio. "Le avventure di Pinocchio all'esame della psicanalisi," *Il tempo*, 3 Ottobre 1954.

Sharon, Tamar. *Human Nature in an Age of Biotechnology: The Case for Mediated Posthumanism.* Dordrecht: Springer, 2014.

Shemek, Deanna, and Arielle Saiber, eds. Special Issue on "Italian Sound." *California Italian Studies* 4:1 (2013).

Sichera, Antonio. *Ecce homo! Nomi, cifre e figure di Pirandello.* Firenze: Leo S. Olschki, 2005.

Silva, João Luís Meireles Santos Leitão da. *Entertaining Lisbon: Music, Theater, and Modern Life in the Late 19th Century.* Oxford: Oxford University press, 2016.

Silverman, Kaja. *The Acoustic Mirror: The Female Voice in Psychoanalysis and Cinema.* Bloomington: Indiana University Press, 1988.

Silvestre, Osvaldo. "Obras e cópias. Versões da ironia em *Bouvard et Pécuchet* e n'*A correspondência de Fradique Mendes*." In *Largo mundo alumiado. Estudos em homenagem a Vítor Aguiar e Silva*, edited by Carlos Mendes and Rita Patrício, 979-84. Braga: Universidade do Minho, 2004.

Simondon, Gilbert. *On the Mode of Existence of Technical Objects.* Translated by Cécile Malaspina. Minneapolis: Univocal, 2016.

———————. "On the Mode of Existence of Technical Objects." *Deleuze Studies* 5.3 (2011): 407-424.

Simões, João Gaspar. *Eça de Queirós – O Homem e o Artista*. Lisboa: Editora Arcádia, 1961.

Sisto, Antonella. *Film Sound in Italy: Listening to the Screen.* New York: Palgarve, 2014.

Soccio, Pasquale. Introduzione to *Autobiografia, Poesie, Scienza nuova*, by Giambattista Vico, a cura di Pasquale Soccio. Milano: Garzanti, 1983.

Sontag, Susan. "The Aesthetics of Silence." In *Styles of Radical Will*, 3-34. New York: Picador, 2002 [1969].

Sorbello, Giuseppe. *Iconografie veriste: percorsi tra imagine e scrittura in Verga, Capuana e Pirandello.* Acireale: Bonanno editore, 2012.

Sousa, Frank F. *O Segredo de Eça – Ideologia e Ambiguidade em* A Cidade e as Serras. Lisboa: Edições Cosmos, 1996.

Sousa, Sérgio Guimarães de. "A origem oriental de Jacinto (sobre *A cidade e as serras* de Eça de Queirós)." *Moenia* 18 (2012): 489-497.

Sousa Santos, Boaventura de. *Another Knowledge is Possible: Beyond Northern Epistemologies.* London: Verso, 2007.

———————. *A crítica da Razão Indolente: Contra o desperdício da experiência.* Porto: Edições Afrontamento, 2000.

Squarotti, Giorgio Bárberi, "La sfida di Serafino Gubbio operatore." *Studi Novecenteschi* 28:61 (2001): 83-110.

———————, and Carlo Ossola, eds. *Letteratura e industria.* Atti del XV Congresso A.I.S.L.L.I, Torino, 15-19 maggio 1994. 2 Vols. Torino: Leo S. Olschki, 1997.

Sterne, Jonathan, ed. *The Sound Studies Reader.* New York: Routledge, 2012.

————. *The Audible Past: Cultural Origins of Sound Reproduction.* Durham: Duke University Press, 2003.

Stewart, Garrett. *Reading Voices: Literature and the Phonotext.* Berkeley: University of California Press, 1990.

Stewart-Steinberg, Suzanne. *The Pinocchio Effect: On Making Italians, 1860-1920.* Chicago: The University of Chicago Press, 2007.

Stoever, Jennifer Lynn. *The Sonic Color Line: Race and the Cultural Politics of Listening.* New York: NYU Press, 2016.

Stombelli, Pier Mauro. *Da Lucignolo a Pinocchio: Il viaggio dell'uomo dalla naturalità assoluta alla socialità necessaria.* Firenze: Firenze Atheneum, 2005.
Stone, Jennifer. "Pinocchio and Pinocchiology." *American Imago* 51:3, Children (Fall 1994): 329-342.

Suárez, Juan Antonio. *Pop Modernism: Noise and the Reinvention of the Everyday.* Urbana: University of Illinois Press, 2007.

Sussman, Herbert. *Victorians and the Machine: The Literary Response to Technology.* Cambridge, MA: Harvard University Press, 1968.

Syrimis, Michael. *The Great Black Spider on Its Knock-Kneed Tripod: Reflections of Cinema in Early Twentieth-Century Italy.* Toronto: University of Toronto Press, 2012.

Szendy, Peter. *Écoute: une histoire de nos oreilles*. Paris: Éditions de Minuit, 2001. Translated by Charlotte Mandell as *Listen: A History of Our Ears.* New York: Fordham University Press, 2008.

Tempesti, Fernando. *Collodiana: Saggi, schede e controversie sull'autore di* Pinocchio *e sul suo mondo.* Firenze: Adriano Salani, 1988.

Tessari, Roberto. *Il mito della macchina: letteratura e industria nel primo Novecento italiano.* Milano: Mursia, 1973.

Thate, Michael J. "Simone Weil and a Critical Will to Serve." In *Servant Leadership, Social Entrepreneurship and the Will to Serve*, edited by Luk Bouchkaert and Steven van den Heuvel, 87-101. London: Palgarve Macmillan, 2019.

Thomson, Ann. Introduction to *Machine Man and Other Writings,* by Julien Offray de la Mettrie. Edited and translated by Ann Thomson, ix-xxvi. Cambridge: Cambridge UP, 1996.

Tichi, Cecilia. *Shifting Gears: Technology, Literature, Culture in Modernist America.* Chapel Hill: University of North Carolina Press, 1987.

Tresch, John. *The Romantic Machine: Utopian Science and Technology after Napoleon.* Chicago: U of Chicago P, 2012.

Tuin, Iris van der. "'A Different Starting Point, a Different Metaphysics:' Reading Bergson and Barad Diffractively." *Hypatia* 26:1 (2011): 22-42.

Turkle, Sherry. *Reclaiming Conversation: The Power of Talk in a Digital Age.* New York: Penguin, 2015).
———————. *Alone Together: Why We Expect More from Technology and Less From Each Other.* New York: Basic Books, 2011.

———————. "In Good Company? On the Threshold of Robotic Companions." In *Close Engagements with Artificial Companions: Key Social, Psychological, Ethical, and Design Issues*," edited by Yorick Wilks, 6-10. Amsterdam: John Benjamins Publishing Company: 2010.
———————. *Life on the Screen: Identity in the Age of the Internet*. New York: Simon & Schuster, 1995.

Turner, Victor. *The Ritual Process: Structure and Anti-Structure.* Chicago: Aldine Pub. Co., 1969.

Vagnoni, Anna Rosa. *Collodi e Pinocchio: Storia di un successo letterario.* Trento: UNI Service, 2007.

Verbeek, Peter-Paul. *Moralizing Technology: Understanding and Designing the Morality of Things.* Chicago and London: University of Chicago Press, 2011.
———————. *What Things Do: Philosophical Reflections on Technology, Agency, and Design.* University Park, PA: Pennsylvania State University Press, 2005.

Vettori, Alessandro. "Serafino Gubbio's Candid Camera." *MLN* 113:1 (1998): 79-107.

Vico, Giambattista. *Principj di scienza nuova d'intorno alla commune natura delle nazioni… Corretta, Schiarita, e notabilmente Accresciuta.* In *Opere*, a cura di Paolo Rossi. Milano: Rizzoli, 1959 [1744]. Translated by Thomas Goddard Bergin and Max Harold Fisch as *The New Science of Giambattista Vico* (Ithaca and London: Cornell University Press, 1984).

Vieira de Carvalho, Mário. *Escutar a Literatura: Universos Sonoros da Escrita.* Lisboa: Edições Colibri, 2014.

Villari, Lucio. *Romanticismo e tempo dell'industria: Letteratura, libertà e macchine nell'Italia dell'Ottocento.* Roma: Donzelli, 1999.

Volpicelli, Luigi. *La verità su Pinocchio.* Roma: A. Armando, 1963.

Warwick, Kevin. "A Practical Guide to Posthumans." *Journal of Posthuman Studies* 1:1 (2017): 61-74.

Weil, Simone. *Attente de Dieu.* Paris: La Colombe, 1950. Translated by Emma Crauford as *Waiting for God*, with an introduction by Leslie A. Fiedler (New York: Harper Perennial Modern Classics, 2009).

Welge, Jobst. *Genealogical Fictions: Cultural Periphery and Historical Change in the Modern Novel.* Baltimore, MD: Johns Hopkins University Press, 2015.

West, Rebecca. Afterword to *The Adventures of Pinocchio*, by Carlo Collodi, 163-189. New York: The New York Review of Books, 2009.
———————. "The Persistent Puppet: Pinocchio's Afterlife in Twentieth-Century Fiction and Film." *Forum Italicum* 40:1 (2006): 103-117. doi.org/10.1177/001458580604000107.
———————. "Pinocchio's Screen Incarnations: An 'All-American Real Boy'?" *Spunti e Ricerche: Rivista d'italianistica* 20 (2005): 79-91.

Wiener, Norbert. *Cybernetics, Or, Control and Communication in the Animal and the Machine*, second edition. New York: The MIT Press, 1961.

———————. *The Human Use of Human Beings: Cybernetics and Society.* Boston: Da Capo Press, 1954.

Williams, Raymond. *The Country and the City.* London: Chatto and Windus, 1973.

Wunderlich, Richard, and Thomas J. Morrissey. *Pinocchio Goes Postmodern: The Perils of a Puppet in the United States.* New York: Routledge, 2002.

Yorick (Pietro Coccoluto Ferrigni). 1884. *La storia dei Burattini.* Firenze: Bemporad, 1902.

Zamir, Tzachi. "Talking Trees," *New Literary History* 42:3 (Summer 2011): 439-453.
———————. "Puppets." *Critical Inquiry* 36:3 (2010): 386-409.
———————. "Wooden Subjects," *New Literary History* 39:2 (Spring 2008): 277-300.

Žižek, Slavoj. *The Plague of Fantasies*. London: Verso, 2009.