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THE MECHANICAL DAUGHTER OF RENE DESCARTES: THE ORIGIN AND HISTORY OF AN INTELLECTUAL FABLE

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This article pursues the origin and mutation of a fantastic story concerning an automaton in the shape of a young girl that was supposedly built by René Descartes. In recent decades it has been retold and reimagined so many times that the tale has become an iconic narrative in the context of the reassessment of Descartes's significance in intellectual history. But a close reading of the original story, found in a 1699 work entitled Mélanges d'histoire et de littérature *by Vigneul-Marville, reveals an overtly stated agenda of saving the philosopher's moral reputation, which makes most recent interpretations of the story problematic. The vast majority of modern retellings demonstrate no awareness of the content or the significance of the first tale even as it has been used to shed light on Descartes, Cartesian ideas, and early modern thought in general.*

I

A fantastic story concerning René Descartes relates how the philosopher once built an automaton in the shape of a young girl and took it aboard a ship. When the captain of the vessel found it, he became terrified by its mechanical movements and threw it overboard. The tale originates in the early modern period but it has reappeared with noticeable frequency since the 1990s in both academic and popular writings on varied fields including history, philosophy, psychology, political science, education, physical science, mathematics, robotics, cybernetics, literary criticism, and film studies. Modern versions of the narrative also feature numerous differences in details. According to some writers, Descartes made the automaton in order to demonstrate his physiological ideas, namely that the corporeal body operates like a machine and that animals are soulless automata, while others have asserted that the object was a substitute for his deceased daughter Francine.[1] Some have described the story as prurient, seeing intimations

[1] For the idea of Descartes creating the automaton to deal with the loss of his daughter, see Deborah Levitt, "Animation and the Medium of Life: Media Ethology, An-ontology,

of a sexual relationship between the philosopher and his artificial companion.[2] Some provide no detail concerning the sea voyage on which Descartes lost his creation, but others claim that he was travelling on the Holland Sea,[3] or on his way to Holland,[4] or to Sweden,[5] in around 1620,[6] the early 1640s,[7] or in 1649.[8] Most accounts say that the captain of the ship discovered the automaton and cast it out, but some claim that it was "others" on the ship[9] —sailors or deckhands or a fellow traveler—who threw it overboard[10] or reported it to the captain who ordered it to be jettisoned.[11] There are a number of explanations for the captain's

Ethics," *Inflexions*, 7 (March 2014), 118–61, at 138; Carolyn Jess-Cooke, *Inroads* (Bridgend, 2010), 60 n. 42; David Berlinski, *Infinite Ascent: A Short History of Mathematics* (New York, 2005), 40; Sidney Perkowitz, *Digital People: From Bionic Humans to Androids* (Washington, DC, 2004), 56; Gaby Wood, *Living Dolls: A Magical History of the Quest for Mechanical Life* (London, 2002), 4; and Susan Brodo, "Introduction," in Brodo , ed., *Feminist Interpretations of René Descartes* (University Park, PA, 1999), 1–29, at 4.

2 Stephen Gaukroger, *Descartes: An Intellectual Biography* (Oxford, 1995), 1–2.

3 Ibid., 1.

4 Mark Ward, *Virtual Organisms: The Startling World of Artificial Life* (New York, 1999), 148; and Brodo, "Introduction," 2.

5 Cohen, *How to Love: Wise (and Not-so-Wise) Advice from the Great Philosophers* (Lewes, 2014), 24; Yujin Nagasawa, *The Existence of God: A Philosophical Introduction* (London, 2011), 15; Jason Wallin, "Constructions of Childhood," in Benjamin Frymer, Matthew Carlin, and John Broughton, eds., *Cultural Studies, Education, and Youth* (Lanham, MD, 2011), 165–89, at 172; Kara Reilly, *Automata and the Mimesis on the Stage of Theatre History* (Basingstoke, 2011), 68; Eric G. Wilson, *The Melancholy Android: On the Psychology of Sacred Machines* (Albany, 2006), 95; Perkowitz, *Digital People*, 56; and Wood, *Living Dolls*, 3.

6 Christine Woesler de Panafieu, "Automata: A Masculine Utopia," in Everett Mendelsohn and Helga Nowotny, eds., *Nineteen Eighty-Four: Science between Utopia and Dystopia* (Dordrecht, 1984), 127–45, at 142 n. 10.

7 Jonathan Sawday, *Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (Milton Park, 2007), 201; Gaukroger, *Descartes*, 1; and Geoff Simons, *Is Man a Robot?* (Chichester, 1986), 16.

8 Nagasawa, *The Existence of God*, 15; Reilly, *Automata and Mimesis*, 68; Wilson, *The Melancholy Android*, 95; and Daniel Crevier, *AI: The Tumultuous History of the Search for Artificial Intelligence* (New York, 1993), 2.

9 Nagasawa, *The Existence of God*, 15.

10 Scott Maisano, "Infinite Gesture: Automata and the Emotions in Descartes and Shakespeare," in Jessica Riskin, ed., *Genesis Redux: Essays in the History and Philosophy of Artificial Life* (Chicago, 2007), 63–84, at 63; and Linda Strauss, "Reflections in a Mechanical Mirror: Automata as Doubles and as Tools," *Knowledge and Society*, 10 (1996), 179–209, at 193.

11 Cohen, *How to Love*, 24; Wallin, "Constructions of Childhood," 172; Koen Vermeir, "RoboCop Dissected: Man-Machine and Mind–Body in the Enlightenment," *Technology and Culture*, 4 (Oct. 2008), 1036–44, at 1036; Wilson, *The Melancholy Android*, 95; and Wood, *Living Dolls*, 3.

action as well: that he initially went through Descartes's belongings because he suspected that the philosopher was a kidnapper;[12] that when he discovered the automaton he thought it monstrous,[13] a work of diabolical magic,[14] or a witch;[15] or that he thought it was causing the storm the ship was floundering in.[16] One version claims rather obscurely that the captain discarded the object because it "worked well enough like a woman with a soul—meaning not very much."[17]

There are also differing interpretations of the story's meaning. Stephen Gaukroger, in his 1995 intellectual biography of Descartes, explicates it as propaganda that was deployed in the eighteenth century against the materialist philosophy of Julien Offray de La Mettrie. Since Descartes was perceived at the time to be "the ultimate instigator of this pernicious doctrine," the story with its "sexual innuendo" was used to ridicule him and his ideas.[18] Susan Brodo accepts Gaukroger's interpretation of the "almost certainly apocryphal" tale as an antimaterialist one that was "invented to demonstrate the perversity of mechanism."[19] She does not, however, see Descartes in the narrative as "a cold scientist for whom a lifeless mechanism is as good as a real person," but rather as a grief-stricken father who seeks to console himself after the death of his daughter Francine by traveling with a doll made in her image.[20]

The education scholar Jason Wallin offers an entirely different reading of the story, linking it to Philippe Ariès's theory on the view of childhood that was changing during Descartes's time. Wallin regards the automaton as a representation of a child, but a monstrously mechanical one that is the "dark twin" of the natural one of purity and innocence. The casting of the demonized

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12 Wallin, "Constructions of Childhood," 172; and Dave Robinson and Chris Garratt, *Introducing Descartes* (Cambridge, 1998), 102.

13 Jean-Claude Heudin, *Les créatures artificielles: Des automates aux mondes virtuel* (Paris, 2008), 51; Brodo, "Introduction," 2; and Gaukroger, *Descartes*, 1.

14 Cohen, *How to Love*, 24; Wallin, "Constructions of Childhood," 172; Vermeir, "RoboCop Dissected," 1039; Maisano, "Infinite Gesture," 63; Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, 2003), 73; Wood, *Living Dolls*, 3–4; Raymond Kurzweil, *The Age of Intelligent Machines* (Cambridge, 1999), 29; Robinson and Garratt, *Introducing Descartes*, 102; and Tom Flynn, *The Body in Three Dimension* (New York, 1998), 10.

15 Panafieu, "Automata," 142, n. 10.

16 Cohen, *How to Love*, 24; Reilly, *Automata and Mimesis*, 68; Vermeir, "RoboCop Dissected," 1039; Wilson, *The Melancholy Android*, 95; and Wood, *Living Dolls*, 3–4.

17 Nicholas P. Money, *The Amoeba in the Room* (Oxford, 2014), 46.

18 Gaukroger, *Descartes*, 1–2.

19 Brodo, "Introduction," 1–4.

20 Ibid., 4–5.

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artificial child into the sea is a symbolic act of willfully forgetting the socially constructed nature of childhood.[21]

And for the psychologist Paul Bloom, the story is essentially about the "disturbing, even revolting … notion of a soulless body, a purely physical creature that acts as though it were a person," as exemplified by the captain's horrified reaction to the automaton.[22] While both Gaukroger and Brodo have pointed out that the characterization of Descartes as a materialist is a distorted caricature, Bloom ultimately champions materialism by asserting, "We do not have immaterial souls: we are material beings, no less than the 'monstrosity' drowned by the captain. We are Descartes' babies."[23]

The story of Descartes's mechanical daughter, a kind of intellectual fable, has emerged as an iconic narrative in the contemporary imagination, evidenced by its popularity as well as by the great variety of versions and interpretations in recent writings.[24] In the course of this essay I will explicate the phenomenon as part of the reassessment of Descartes's place in the history of modern thought that began in the 1990s. After being lionized as the father of modern philosophy and then blamed in the twentieth century for just about every ill of the times, he

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21 Wallin, "Constructions of Childhood," 173.

22 Paul Bloom, *Descartes' Baby: How the Science of Child Development Explains What Makes Us Human* (New York, 2004), xii.

23 Ibid., xii–xiii.

24 One major category of sources that I chose not deal with, though it provides further proof of the story's popularity in recent decades, is those on the Internet. A quick search will reveal countless websites that mention the narrative. Other references to the story in English and French works published since the 1990s that I have not yet referred to in the notes above are Davide Panagia, "Why Film Matters to Political Theory," *Contemporary Political Theory*, 12 (2013), 2–25, at 15; Nicholas Humphrey, "Introduction," in René Descartes, *Meditations & Other Writings* (London, 2011), xiii; Ronald Schleifer, *Intangible Materialism: The Body, Scientific Knowledge, and the Power of Language* (Minneapolis, 2009), 35–6; Laurent Guido, "Modèles et images de la danse(use) mécanique des automates à l'électro-humain," in Laurence Schifano, ed., *La vie filmique des marionettes* (Paris, 2008), 107–25, at 108 n. 3; Alison Muri, *The Enlightenment Cyborg: A History of Communications and Control in the Human Machine, 1660–1830* (Toronto, 2007), 28; Margaret A. Boden, *Mind as Machine: A History of Cognitive Science*, vol. 1 (Oxford, 2006), 74; Rose-Marie Godier, *L'automate et le cinéma* (Paris, 2005), 11; Graham Burnett, *Descartes and the Hyperbolic Quest: Lens Making Machines and Their Significance in the Seventeenth Century* (Philadelphia, 2005), 39; Klaus Benesch, *Romantic Cyborgs: Authorship and Technology in the American Renaissance* (Amherst, 2002), 203; Daniel Cavallaro, *Critical and Cultural Theory: Thematic Variations* (London, 2001), 194; Timothy Colburn, *Philosophy and Computer Science* (Abingdon, 1999), 42; Sarah L. Higley, "The Legend of the Learned Man's Android," in Thomas Hahn and Alan Lupack, eds., *Telling Tales: Essays in Honor of Russell Peck* (Rochester, 1997), 127–60, at 146–7; and Philippe Breton, *A l'image de l'homme: Du golem aux créatures virtuelles* (Paris, 1995), 35.

came to be appreciated as an essential figure of the Scientific Revolution as well as a kind of proto-cybernetic theorist. In that context, the fable of Descartes and his mechanical daughter became the perfect representation of the new image of the philosopher. I will then show that the use of the story for that purpose is highly problematic as it ignores the content and intent of the original tale found in a 1699 book entitled *Mélanges d'histoire et de littérature*. Almost all modern retellings are unaware of the source, relying on three references made in the 1960s that overlook the essential purpose of the seventeenth-century narrative, which was to save the philosopher's moral reputation. In the final part I will provide a detailed description of how new additions and interpretations appeared in the twentieth- and twenty-first-century variants of the story. Particular attention will be paid to two versions in Gaukroger's biography and Gaby Wood's popular history of automata *Living Dolls* (2002, published in the US under the title *Edison's Eve* in 2003) as they feature the most elaborate retellings and have become the most widely cited sources of the legend.

The story is a fantasy—though some recent writers have presented it as history[25] or wondered if it could be based on a real event[26]—tantalizing readers and testing their credulity at the same time. But what makes a historical exploration of the tale necessary is the fact that even as contemporary writers have described it as a story, a legend, a rumor, or as mythic or apocryphal, they have used it to shed light on the life of Descartes, Cartesian philosophy, and early modern thought in general. In other words, the very scholars who declared their skepticism toward the story's veracity claimed to have discerned in it some symbolic meaning that provides insight into the subjects of their study. Unfortunately, most versions of the narrative are recent in origin and reveal more about contemporary intellectual concerns than about those of the early modern period. It is crucial, then, that the provocative tale of the philosopher and his mechanical daughter be placed in proper historical context for a full understanding of its significance.

II

Despite Descartes's enduring status as an essential thinker in the canon of modern philosophy, his ideas came under significant attack in the twentieth century from such major figures as Martin Heidegger, Ludwig Wittgenstein, Gilbert Ryle, and W. V. Quine. Their critiques undermined essential Cartesian

[25] Kurzweil, *The Age of Intelligence Machines*, 29; Cavallaro, *Critical and Cultural Theory*, 194; Ward, *Virtual Organisms*, 147–8; and Crevier, *AI*, 2.

[26] Gaby Wood, *Living Dolls*, 4, writes, "It is hard to know if this story is true." See also Wilson, *The Melancholy Android*, 95.

ideas like the *cogito*, mind–body dualism, and the mechanistic conception of the world.[27] Furthermore, in the larger intellectual and cultural discourse of the post-World War II era, the adjective "Cartesian" has been used to describe the excesses of Enlightenment rationality responsible for such major ills of modernity as the instrumental dehumanization of people, unrestrained exploitation of the natural environment and of animals, and even totalitarian politics.[28]

Starting in the 1990s, however, a reassessment of Descartes has led to a new appreciation of his contribution to modern thought. While major Descartes scholars like John Cottingham have critiqued the critiques of Cartesian ideas by analytic philosophers like Ryle and Anthony Kenny,[29] much of the recent defense of the thinker has shifted the attention away from his philosophy to his scientific achievements. As part of this Cartesian revival, no less than five new biographies have appeared which have emphasized his contribution to mathematics, natural philosophy, and technology.[30] Bruce Watson, for instance, claims that the "modern world is Cartesian to the core—this world of high technology, mathematical physics, calculators and robots, molecular biology and genetic engineering,"[31] while Desmond M. Clarke asserts that Descartes "is best characterized as a philosopher of the Scientific Revolution."[32] And Roger Kimball, in "What's Left of Descartes?", his review essay on Gaukroger's biography, points out that for many the term "Cartesian" is "little more than a handy negative epithet, an all-purpose term of abuse suggesting by turns sterile rationalism, a predatory attitude toward nature, and even nasty capitalist habits

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27 On twentieth-century critiques of Descartes and his reputation see Tom Sorell, "Excusable Caricature and Philosophical Relevance: The Case of Descartes," in G. A. J. Rogers, Tom Sorell, and Jill Kraye, eds., *Insiders and Outsiders in Seventeenth-Century Philosophy* (New York, 2010), 153–63; and John Cottingham, "Descartes' Reputation," in ibid., 164–76.

28 For instances of such negative views of Cartesian ideas see Richard Watson, *Cogito, Ergo Sum: The Life of René Descartes* (Boston, 2002), 18–21.

29 See Cottingham, "Descartes' Reputation."

30 Gaukroger, *Descartes*; Geneviève Rodis-Lewis, *Descartes: Biographie* (Paris, 1995), translated into English as *Descartes: His Life and Thought*, trans. Jane Marie Todd (Ithaca, 1998); Watson, *Cogito, Ergo Sum*; Desmond M. Clarke, *Descartes: A Biography* (Cambridge, 2006); and A. C. Grayling, *The Life and Times of Genius* (New York, 2005). A number of other works on more specific aspect of Descartes's life have appeared, including the fate of his remains, the famous painting of him, and his interest in occult philosophy. See Amir D. Aczel, *Descartes's Secret Notebook: A True Tale of Mathematics, Mysticism, and the Quest to Understand the Universe* (New York, 2005); Russell Shorto, *Descartes' Bones: A Skeletal History of the Conflict between Faith and Reason* (New York, 2008); and Steven Nadler, *The Philosopher, the Priest, and the Painter: A Portrait of Descartes* (Princeton, 2013).

31 Watson, *Cogito, Ergo Sum*, 3.

32 Clarke, *Descartes*, 2.

of acquisitiveness."[33] After criticizing the simplistic and overblown attitude as "spasms of late Romantic irrationalism" and "feeble protests against a world that seems unaccountably indifferent to our desires," Kimball explicates Descartes's reputation in terms of our ambivalent attitude toward modernity itself. In his overview of Gaukroger's book, he also notes the author's emphasis on Descartes's essential contribution to science and mathematics.

> To better appreciate the extent of Descartes' continuing presence, one need only consider the triumph of scientific rationality and its handmaiden, technology. Descartes did not single-handedly invent these defining features of modernity, the foundations of which belong to an even earlier era. But along with Copernicus, Galileo, Bacon, and others, Descartes was one of the key figures in the formulation of the so-called "New Science" that was destined to replace the contemplative model of science inherited from the Greeks.[34]

An entertaining evidence of the revival of Descartes is that in 2005 the city of Utrecht, which had banned the teaching of his ideas in 1642, rehabilitated him in the manner that the Vatican had recently done with Galileo. As Russell Shorto tells it, "In a formal ceremony (with a Latin text, no less), officials of the city and the university issued a public apology to Descartes for the treatment he had received." One participant pointed out that "Utrecht was the first place in the world to recognize Cartesianism and the first place to ban it. We've finally corrected that."[35]

It is possible to speculate that a crucial impetus for this reassessment of Descartes was the revival and popularization of cybernetic discourse that followed the personal-computer revolution of the 1980s.[36] In the context of the spectacular technological achievements of the era, the scientific and philosophical issues raised by the possibilities of artificial intelligence, virtual reality, advanced robotics, and bio-digital convergence pointed to questions that Descartes was interested in. As a major early modern thinker who tackled the mind–body problem, described organic bodies as automata made of dead matter, and laid out a comprehensive mechanistic world view, many scholars found it fruitful to revisit his philosophy. Even those who ultimately rejected his ideas recognized his

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33 Roger Kimball, "What's Left of Descartes?", *New Criterion*, 13/10 (1995), 8–14, at 14.

34 Kimball, "What's Left of Descartes?", 8–9.

35 Shorto, *Descartes' Bones*, 29.

36 For the context of revived cybernetic discourse see N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago, 1999). Hayles characterizes the current cybernetic discourse as "the third wave": see 11–12 and 222–46. For a more concise overview of the history of cybernetic discourse see Bruce Clarke, "From Thermodynamics to Virtuality," in Bruce Clarke and Linda Dalrymple Henderson, eds., *From Energy to Information: Representation in Science and Technology, Art, and Literature* (Stanford, 2002), 17–33.

relevance in the digital, cybernetic, posthuman age as a figure whose legacy has to be contended with in our time.[37] Consequently, the new Descartes has been portrayed, with different degrees of anachronism, as a kind of proto-cybernetic thinker who anticipated many of today's questions.[38] Anthony Grafton described this situation most aptly in his profile of Descartes that was published in 1996:

> [Descartes] provokes more now than he did twenty years ago. In the last generation, development in a wide range of disciplines—computer and software design, primate research, neurology, psychology—have [*sic*] made the question of how to define human consciousness more urgent, perhaps, than it has ever been ... New interdisciplinary programs for the study of consciousness or artificial intelligence provide forums for the debate—which remains fierce—on these and other issues. And these debates are, if anything, becoming fiercer ... From whatever side they come, a great many of the contributions to these debates start with reference to, or amount to, a sustained attack on Descartes.[39]

From this cultural and intellectual context the legend of Descartes as an automaton-maker emerged as a representative fable. The tale became popular from the 1990s onward, appearing in no less than thirty-nine English and French works that I have been able to find. And the cybernetic context of its recent popularity is evidenced by its appearance in a number of works dealing with computers, robots, artificial intelligence, and posthuman theory.[40]

Another important factor in the popularization of the story is the impact of the science fiction genre in the larger culture. Many recent works on cybernetics, robotics, and posthuman theory have used themes from popular science fiction to explicate their ideas, most notably movies like *Blade Runner* (1982), *The Terminator* (1984), *The Matrix* (1994), and *Ghost in the Shell* (1995).[41] In that context, the legend can be read as a kind of science fiction story, with Descartes as an early modern Frankenstein, or more appropriately Rotwang, the builder of the female robot in Fritz Lang's 1927 film *Metropolis*.

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37 A good example of this is the neurologist Antonio R. Damasio's book on the embodiment theory of consciousness that was originally published in 1994. Antonio R. Damasio, *Descartes' Error: Emotion, Reason, and the Human Brain* (New York, 2000).

38 For example, see Muri, *The Enlightenment Cyborg*, 13–17.

39 Anthony Grafton, "Descartes the Dreamer" in Grafton , *Bring Out Your Dead: The Past as Revelation* (Cambridge, 2001), 244–58, at 246–7.

40 See, for instance, Perkowitz, *Digital People*, 55–6; Ward, *Virtual Organisms*, 147–8; Kurzweil, *The Age of Intelligent Machines*, 29; Colburn, *Philosophy and Computer Science*, 42; Crevier, *AI*, 2; and Simons, *Is Man a Robot?*, 16.

41 See, for instance, Levitt, "Animation and the Medium of Life"; Muri, *The Enlightenment Cyborg*; and Hayles, *How We Became Posthuman*.

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III

The vast majority of modern retellings of the story of Descartes's mechanical daughter display no awareness of the content and significance of the original tale from 1699. Most point to Gaukgroger's biography or Wood's history of automata due to the critical approbation received by the former and the popular success of the latter.[42] Others, including Gaukroger, refer to three earlier references from the 1960s by John Cohen, Leonora Cohen Rosenfield, and Derek J. De Solla Price, with only a few acknowledging pre-twentieth-century sources. A detailed examination of the early modern writings exposes a major problem with the recent versions of the legend. The original story was told with the specific agenda of saving the philosopher's reputation from the accusation of a moral lapse on his part. In the twentieth century, however, that purpose became lost, allowing writers to interpret the story in any way they saw fit. This situation makes the modern use of the legend anachronistic not only in the intrusion of themes from contemporary intellectual concerns, but also in neglecting the narrative's original meaning. Given the current popularity of the story in both scholarly and popular works, it would be timely to gain a proper historical understanding of the tale through a thorough examination of its origin, transmission, and mutation.

The year 1691 saw the publication of Adrien Baillet's *La vie de Monsieur Des-Cartes*, the first comprehensive biography of the philosopher that is to this day the central source of information on his life. The work proved to be controversial as anti-Cartesians perceived it to be overly flattering toward the thinker, while others found the two-volume work needlessly long and detailed, compelling the author to put out an abbreviated version in the following year.[43] In Book V, chapter 11, of the work, Baillet recounts that during Descartes's time in

[42] Works that directly cite Gaukroger are Vermeir, "RoboCop Dissected," 1036 n. 1; Sawday, *Engines of the Imagination*, 201, 362 n. 142; Maisano, "Infinite Gesture," 63, 80 n. 1; Burnett, *Descartes and the Hyperbolic Quest*, 39 n. 96; Bloom, *Descartes' Baby*, x, xii; Reilly, *Automata and Mimesis*, 68, and 190–91 n. 47; and Brodo, "Introduction," 2, 25 n. 1. Ones that cite Wood are Panagia, "Why Film Matters to Political Theory," 15, 23 n. 23; Nagasawa, *Existence of God*, 162 n. 23; Wallin, "Constructions of Childhood," 172; Wilson, *The Melancholy Android*, 152 n. 1; and Maisano, "Infinite Gesture," 80 n. 1. Some works provide no reference but they are clearly informed by Wood as they feature specific themes like Descartes's travel to Sweden. See Cohen, *How to Love*, 24; Perkowitz, *Digital People*, 56; and Jess-Cooke, *Inroads*, 60 n. 42.

[43] For the history and the controversy over Baillet's biography see Gregor Sebba, "Adrien Baillet and the Genesis of His *Vie de M. Des-Cartes*," in Thomas M. Lennon, John M. Nicholas, and John W. Davis, eds., *Problems of Cartesianism* (Kingston and Montreal, 1982), 9–60. Sebba argues (at 41) against the notion that Baillet set out to write a kind of hagiography of Descartes. See also Leonard J. Wang, "A Controversial Biography: Baillet's *La Vie de Monsieur Des-Cartes*," *Romanische Forschungen*, 75/3–4 (1963), 316–31.

Amsterdam, he conceived a child out of wedlock, a daughter named Francine who was born in 1635.[44] The mother was Helena Jans, a maid at the house of Thomas Sergeant, a bookseller and French teacher who hosted Descartes.[45] This is the only known instance of his having a physically intimate relationship with a woman.[46] Descartes acknowledged his paternity, and he may have lived with Helena and Francine in Leiden from 1636 to 1637.[47] But in September of 1640, even as he was arranging for his daughter to be sent to France to be educated there, she succumbed to scarlet fever and died. As Baillet describes his reaction to the loss, "He mourned her with a tenderness that made him feel that true philosophy cannot suppress nature. He declared that her death had left him with the greatest regret he had ever felt in his life."[48] The veracity of this tragic episode is well supported by documents beyond the Baillet biography, including a letter in which Descartes refers to Francine as his niece.[49] Yet the account apparently raised the ire of at least one Cartesian.

In 1699, a monk of the Carthusian order by the name of Bonaventure d'Argonne (1634–1704) published a book of historical and literary anecdotes called *Mélanges d'histoire et de littérature* under the pseudonym Vigneul-Marville. Argonne was a moderate conservative who praised Louis XIV and defended the Church, but he was also an erudite intellectual who was generally supportive of the new philosophical ideas of his time.[50] He was an admirer of Descartes in particular and may have been personally acquainted with such major Cartesians as François Lamy, Jacques Rohault, and Claude Clerselier.[51] He also wrote books on a wide range of topics, starting with theology, then education, and finally literary matters. Unfortunately, as a *moraliste* writer he became consigned to minor status, eclipsed by his contemporary, Jean de La Bruyère. In fact, Argonne is known today primarily for his vociferous criticism of La Bruyère, while his own works have fallen into obscurity.[52]

In *Mélanges d'histoire et de literature*, Argonne tells the following story:

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44 Adrien Baillet, *La Vie de Monsieur Des-Cartes* (Paris, 1691), 89–90.

45 For details on this liaison see Clarke, *Descartes*, 131–6; and Gaukroger, *Descartes*, 294–5.

46 Gaukgroger, *Descartes*, 194. Gaukroger quotes an earlier biography by Jack Vrooman. See Jack R. Vrooman, *René Descartes: A Biography* (New York, 1970), 137.

47 Clarke, *Descartes*, 133.

48 Baillet, *La Vie de Monsieur Des-Cartes*, 90. Gaukroger has suggested that this reaction on the part of Descartes may have been exaggerated by Baillet. See Gaukroger, *Descartes*, 462 n. 202.

49 Clarke, *Descartes*, 133–4; and Gaukroger, *Descartes*, 294.

50 See Richard Rountree, *Bonaventure d'Argonne: The Seventeenth Century's Enigmatic Carthusian* (Geneva, 1980).

51 Ibid., 151–2.

52 Ibid., 157–67.

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On what M. Baillet reported in la Vie de Descartes, that this philosopher had had a daughter named *Francine* in Holland, a very zealous Cartesian informed me that this story was a tall tale invented by Descartes' enemies when he made a mechanical automaton with great industry in order to prove demonstratively that animals do not have souls and that they are nothing but highly complex machines that move when foreign bodies strike them and communicate part of their movement to them. This Cartesian added that when Mr. Descartes put this machine on a ship, the captain was curious enough to open the case in which it was enclosed and that, surprised by the movements he saw in this machine, which moved as though it were animated, he threw it in the sea, thinking that it was a devil.[53]

It is impossible to know whether this storyteller actually existed, or if Argonne fabricated the tale himself, using the literary convention of a heard tale, or how seriously it is meant to be taken. While Argonne supported Cartesian ideas, his characterization of the narrator as "un Cartesian fort zélé" seems to indicate that we are supposed to take the story with a grain of salt, as nothing more than an amusing anecdote. But the point of this two-sentence tale is clear. A Cartesian, scandalized by Baillet's account of Descartes's illegitimate daughter, tries to save the philosopher's reputation by denying its veracity, claiming that it is a slander that arose from his building an automaton. In other words, the mechanical daughter is put forward to explain away and erase the existence of the human daughter. If the narrative is taken seriously, it should be read as an attempt by a Cartesian partisan to remove what was perceived as a stain on the philosopher's moral reputation, in his succumbing to lust with a lowborn maid and subsequently fathering a child out of wedlock. As bizarre as the idea of building an automaton in the shape of a young girl may be, it is justified as part of his intellectual work in demonstrating his physiological ideas. So Descartes's moral failing is covered up with a respectable explanation of his mechanical creation.

One of Descartes's most celebrated as well as controversial views was the notion that the corporeal body should be regarded as a device that operates under mechanistic principles, an automaton constructed by God. A human being is such a machine endowed with an immaterial soul, while an animal, Descartes claimed, is soulless. In the fifth part of *Discours de la méthode* (1637) he asserts that such a view would not seem so strange to those familiar with "automatons, or moving machines, [which] the skill of man can construct with the use of very few parts, in comparison with the great multitude of bones, muscles, nerves,

53 Vigneul-Marville, *Mélanges d'histoire et de littérature*, vol. 2 (Paris, 1725), 134. Thanks to Tili Boon Cuillé for her help with this passage.

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arteries, veins and all the other parts that are in the body of any animal."[54] He elaborates on this topic in the second part of his posthumously published work *Le monde*, in which he also utilizes automata to illustrate his ideas.[55]

The notion that he constructed such devices himself was first introduced in 1670 by Nicolas-Joseph Poisson, an early editor of Descartes's selected works. In his *Commentaire ou remarques sur la méthod de René Descartes*, Poisson claims to have read in the philosopher's writings how he made various automata, including a magnet-operated figure of a man on a tightrope, a flying pigeon, and a pheasant chased by a spaniel.[56] Poisson admits, however, that he had not seen the devices himself. Dennis Des Chene has plausibly speculated that Poisson misread or deliberately misrepresented a passage in Descartes's early writings (its surviving fragments gathered under the title *Cogitationes privatae*) in which the philosopher describes the magnet-operated figure as either a speculative object or something that he may have witnessed in operation.[57] Despite the total lack of evidence that Descartes actually made automata himself, it has become a persistent myth that appears uncritically in some retellings of the story of the mechanical daughter.[58]

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54 René Descartes, *The Philosophical Writings of Descartes*, vol. 1, trans. John Cottingham, Robert Stoothhoff, and Dugald Murdoch (Cambridge, 1985), 139 (on his notion of animals as soulless machines see 139–41). For details on Cartesian physiology see Dennis Des Chene, *Spirits and Clocks: Machine and Organism in Descartes* (Ithaca, 2001); Gordon Barker and Katherine J. Morris, *Descartes' Dualism* (London, 1996); and Gaukroger, *Descartes*, 269–99. For older works see Richard B. Carter, *Descartes' Medical Philosophy: The Organic Solution to the Mind–Body Problem* (Baltimore, 1983), esp. 175–9; Sergio Moravia, "From *Homme Machine* to *Homme Sensible*: Changing Eighteenth-Century Models of Man's Image," *Journal of the History of Ideas*, 39 (1978), 49–60; Leonora Cohen Rosenfield, *From Beast-Machine to Man-Machine* (New York, 1940); Julian Jaynes, "The Problem of Animate Motion in the Seventeenth Century," *Journal of the History of Ideas*, 31 (1970), 119–234; Thomas S. Hall, "Descartes' Physiological Method: Position, Principles, Examples," *Journal of the History of Biology*, 3 (1970), 53–81; and Hall, *Ideas of Life and Matter*, vol. 1 (Chicago, 1969), 250–63.

55 On Descartes's use of the automaton idea see Minsoo Kang, *Sublime Dreams of Living Machines: The Automaton in the European Imagination* (Cambridge, 2011), 116–24.

56 Nicolas-Joseph Poisson, *Commentaire ou remarques sur la méthode de René Descartes* (Vendôme, 1670), 156.

57 Des Chene, *Spirits and Clocks*, 65–6. For Descartes's description of the magnet-operated figure see René Descartes, *Oeuvres inédites de Descartes*, trans. (Latin–French) Foucher de Careil (Paris, 1859), 35–7.

58 Derek J. De Solla Price reported the claim in his 1964 essay on the history of automata, which became the source for other references to Descartes as an automaton maker. Derek J. De Solla Price, "Automata and the Origins of Mechanism and Mechanistic Philosophy," *Technology and Culture*, 5/1 (1964), 9–23, at 23. See also Nagasawa, *Existence of God*, 15; Boden, *Mind and Machine*, 74; Perkowitz, *Digital People*, 55; Sterne, *The Audible Past*, 72–3; Wood, *Living Dolls*, 4; and Kurzweil, *The Age of Intelligent Machines*, 29.

In the second part of *Le monde*,[59] Descartes explains how "the machine of the body" moves by drawing an analogy to existing automata:

> you may have observed in the grottoes and fountains of royal gardens that the force that drives the water from its sources is all that is needed to move various machines ... For [people] cannot enter without stepping on certain tiles which are arranged in such a way that, for example, if they approach a Diana bathing they will cause her to hide in the reeds, and if they move forward to pursue her they will cause a Neptune to advance and threaten them with his trident; or if they go in another direction they will cause a sea monster to emerge and spew water in their faces; or other such things depending on the whim of the engineers who constructed them.[60]

Although Descartes does not identify these works in the writing, they are undoubtedly the moving figures in the artificial cave at the royal château of Saint-Germain-en-Lay that was constructed by the Italian engineering brothers Tommaso and Alessandro Francini between 1589 and 1609. Given Descartes's admiration for the Francinis, Julian Jaynes has pointed to the possibility that he named his daughter after them.[61] This is, of course, pure speculation but it is a tantalizing one. It suggests that after Descartes "made" a child with Helena Jans, just as the Francini brothers made the automata at Saint-Germain-en-Lay, Descartes may have given his daughter the feminine version of the name of the automaton makers. In that case, it is a rather magnificent irony that a legend would be told that Francine was actually an automaton that Descartes built to demonstrate his physiological theories that he once illustrated with the example of the Francini automata.

Another significant part of the story is the destruction of the automaton by the fearful captain, which may have been inspired by an older legend. The art historian Eugenio Battisti, in a discussion of the symbolism of the automaton in the medieval imagination, recounts several stories of wondrous machines, including the "episode of the living doll of Albertus Magnus, which was thrown into the sea by mariners to calm a storm that they believed was caused or provoked by it."[62] This is certainly a mistake on Battisti's part as he apparently confused

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59 This work has a rather complicated publication history. Descartes completed it in the late 1620s; but after hearing of the persecution of Galileo, he declined to publish it in his own time as it was full of Copernican ideas. After his death, only the second part of the work on physiology was published in 1662 in a Latin translation, and then in French, under the title of *Traité de l'homme*, in 1664. The entire work was published as *Traité du monde* in 1677.

60 René Descartes, *The World and Other Writings*, trans. Stephen Gaukroger (Cambridge, 1998), 107.

61 Jaynes, "The Problem of Animate Motion in the Seventeenth Century," 224.

62 Eugenio Battisti, *L'Antirinascimento* (Milan, 1962), 226. Thanks to Rebecca Messbarger for translating this passage from Italian.

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Descartes with the medieval philosopher Albertus Magnus. But it is a productive mistake since there is an actual connection between the Descartes legend and one concerning Albertus.[63]

The narrative is of medieval origin and can be found in a 1373 moral treatise called the *Rosario della vita*:

> We find that Albertus Magnus, of the Preaching Friars, had such a great mind that he was able to make a metal statue modeled after the course of the planets, and endowed with such a capacity for reason that it spoke: and it was not from a diabolical art or necromancy—great intellects do not delight in such things because it is something that makes one lose his soul and body; such arts are forbidden by the faith of Christ. One day a monk went to find Albertus in his cell. As Albertus was not there, the statue replied. The monk, thinking that it was an idol of evil invention, broke it. When Albertus returned, he was very angry, telling the monk that it had taken him thirty years to make this piece and "that I did not gain this knowledge in the Order of the Black Friars." The monk replied, "I have done wrong; please forgive me. What, can't you make another one?" Albertus responded that it would be thirty thousand more years before another could be made, as that planet had made its course and it would not return before that time.[64]

In this story an unnamed monk destroys the speaking statue, but in a later version by Alfonso Tostado (Alonso Fernández de Madrigal, 1400–55), he is identified as Albertus's pupil Thomas Aquinas.[65]

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63 Many modern versions of the Descartes story also mention the Albertus tale. See Sawday, *Engines of the Imagination*, 193; Berlinski, *Infinite Ascent*, 40; Heudin, *Les créatures artificielle*, 66; Gaukroger, *Descartes*, 418 n. 1; Strauss, "Reflections in a Mechanical Mirror," 193; John Sladek, "Roderick, or the Education of a Young Machine" in Sladek, *The Complete Roderick* (New York, 2004), 1–339, at 327; Price, "Automata and the Origins of Mechanism," 23; Cohen, *Human Robots in Myth and Science*, 30; and Louis d'Elmont, "L'homme peut-il frabriquer un homme?" *Le petit journal illustré*, 19 May 1935, 3.

64 A slightly different translation of this passage, rendered from Italian by Arielle Saiber, has previously been published in Kang, *Sublime Dreams of Living Machines*, 70–71. For the original text see Matteo Corsini, *Rosaio della vita* (Firenze, 1845), 15–16. The identification of Corsini as the author of the *Rosaio* was made in the nineteenth century by the Florentine librarian and historian Luigi Passerini through a comparison of the alleged date of the work's composition to the biographical details of Corsini's life, but his reasoning has not been universally accepted. See Luigi Passerini, *Genealogia e storia della famiglia Corsini* (Florence, 1858), 45–8.

65 See Alonso Fernández de Madrigal, *Beati Alphonsi Thostati Episcopi Abulensis super explanatio litteralis amplissima nunc primum edita in apertum* (Venice, 1528), II, 15a. Ben Halliburton identified this text from this reference: Arthur Dickson, *Valentine and Orson: A Study in Late Medieval Romance* (New York, 1929), 214 n. 147. For more on the symbolism of moving and speaking statues and artificial heads in the medieval and renaissance contexts see E. R. Truitt, *Medieval Robots: Mechanism, Magic, Nature and Art* (Philadelphia, 2015), esp. 69–95; Kang, *Sublime Dreams of Living Machines*, 68–79; and Dickson, *Valentine and Orson* 201–16.

The theme this story shares with the Descartes legend is of a scholar of great knowledge who constructs an artificial device endowed with the ability to imitate a human being (speech in the case of Albertus, movement in the case of Descartes). A lesser man comes across the marvel and destroys it, thinking it diabolical. They are both fables of the extraordinary achievement of the intellect that is undone by ignorance and superstition, featuring the inherently fascinating object that is the automaton evoking wonder in the reader. It is somewhat ironic, however, that the knowledge Albertus uses is natural magic, the practice of studying and manipulating occult qualities in nature without the involvement of supernatural beings (i.e. astrology and alchemy).[66] Descartes famously rallied against its practitioners, decrying "the promises of an alchemist or the predictions of an astrologer, the tricks of a magician, or the frauds and boasts of those who profess to know more than they really do."[67] But as different as the world views of the thirteenth-century alchemist and the seventeenth-century mechanistic philosopher were, storytellers found the tale of the destruction of an automaton captivating enough to retell it. What both Albertus and Descartes were engaged in when they constructed their wonders was high intellectual work that was respectable in their respective contexts, while the people who destroyed their creations acted out of ignorance and superstition. And as a sign of the great revolution in knowledge that occurred during Descartes's lifetime, the alchemy and astrology of the medieval legend were replaced by mechanistic philosophy and mechanical craft.

Almost a century after the initial appearance of the Descartes story, it was retold in English for the first time. In 1791, the literary scholar Isaac D'Israeli (1766–1843), the father of future prime minister Benjamin Disraeli, published the initial volume of his five-volume work *Curiosities of Literature*. In it, the following story is told:

THE WOODEN DAUGHTER OF DESCARTES

When Descartes resided in Holland, with great labour and industry he made a female Automaton—which occasioned some wicked wits to publish that he had an illegitimate

66 See William R. Newman, *Promethean Ambitions: Alchemy and the Quest to Perfect Nature* (Chicago, 2004); and William Eamon, *Science and the Secrets of Nature: Books of Secrets in Medieval and Early Modern Culture* (Princeton, 1994). For Albertus's interest in alchemy and astrology see James A. Weishipl, ed., *Albertus Magnus and the Sciences: Commemorative Essays* (Toronto, 1980); and Lynn Thorndike, *A History of Magic and Experimental Science*, vol. 2 (New York, 1923), 521–92. Similar stories about the construction of a magical head through the use of natural magic has been told about other celebrated intellectuals of the Middle Ages, including Gerbert (Pope Sylvester II), Roger Bacon, and Robert Grosseteste. See Kang, *Sublime Dream of Living Machines*, 68–79.

67 Descartes, *The Philosophical Writings of Descartes*, vol. 1, 115.

daughter named Francine—to prove demonstratively that beasts have no souls, and that they are but machines nicely composed, and move whenever another body strikes them, and communicates to them a portion of their motions. Having put this singular machine into a case aboard a vessel, the Dutch captain, who sometimes heard it move, had the curiosity to open the box. Astonished to see a little human form extremely animated, yet, when touched, appearing to be nothing but wood; little versed in science, but greatly addicted to superstition, he took the ingenious labour of the Philosopher for a little Devil, and terminated the experiment of Descartes by throwing his *Wooden Daughter* into the sea.[68]

There are four minor variations in this version. First, the material the automaton is made of is identified as wood, whereas Argonne makes no mention of it. Second, the original story mentions Holland only as the place where Descartes fathered a daughter, which it denies, but in this version he constructs the automaton there. Third, D'Israeli identifies the captain of the ship as "Dutch," which is also not mentioned in the original.[69] And fourth, it is the sound of the automaton's movement that draws the captain's attention to it.

Beyond such minor changes and additions, no significantly different version of the story can be found until the late nineteenth century. When Jacques-André Emery recounts it in his 1811 work *Pensées de Descartes sur la religion et la morale*, he quotes Argonne verbatim.[70] And in Louis-Gabriel Michaud's 1814 *Biographie universelle, ancienne et modern*, the entry on Descartes features a note with a synopsis of the story that indicates that it denied the existence of his illegitimate daughter. In fact, while the zealous Cartesian in Argonne describes the story of Francine Descartes as "un conte fait à plaisir" told by Descartes's enemies, Michaud points out that it is the story of the automaton that has "l'air d'un conte faite à plaisir."[71]

It was only in 1892 that a significantly different version of the story appeared, in the comic *Bildungsroman* of Anatole France *La rôtisserie de la reine Pédauque*. In the work, the alchemist Asterac is obsessed with the topic of the salamander (not the amphibian but the mythic spirit of fire). In one of his many lectures on the nature of the supernatural creature, the figure of Descartes makes an unexpected appearance:

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68 Isaac D'Israeli, *Curiosities of Literature*, vol. 1 (New York, 1971), 441–2. The story, in the same form, was published in 1795 in *Lady's Magazine*. See "The Wooden Daughter of Descartes," *Lady's Magazine* (Jan. 1795), 7.

69 Some of the modern versions of the story feature the Dutch theme, having Descartes travel to or from Holland on a ship captained by a Dutchman. See Ward, *Virtual Organisms*, 148; Brodo, "Introduction," 2; and Gaukroger, *Descartes*, 1.

70 Jacques-André Emery, *Oeuvres complètes* (Paris, 1857), 749.

71 "A tall tale." Louis-Gabriel Michaud, *Biographie universelle, ancienne et moderne*, vol. 11 (Paris, 1814), 158.

You have no doubt heard of the marvel that accompanied M. Descartes on his travels. Some say that she was his natural daughter whom he took with him everywhere; others think that she was an automaton made with inimitable art. In fact, she was a Salamander, whom that clever man had taken as his close friend. He never left her side. During a voyage on the Holland Sea he took her with him on board, shut up in a box made of precious wood and lined with satin inside. The appearance of this box, and the care with which M. Descartes handled it, attracted the attention of the captain who, while the philosopher was asleep, lifted up the cover and discovered the Salamander. This ignorant and coarse man imagined that such a marvelous creature was the work of the devil. Terrified, he threw it into the sea. But you can believe that the beautiful person did not drown, and that it had no trouble rejoining M. Descartes. She stayed faithful to him while he lived and at his death she left this world never to return.[72]

Even though this story appears in a work of fiction and asserts that Descartes's companion was neither human nor an automaton but a salamander, it exerted a significant influence over future versions of the tale. Its description of the philosopher taking on the salamander as "sa bonne amie" is the first time that an intimate relationship is suggested.

Prior to the appearance of this radically reimagined version by Anatole France, all the early accounts of the story made clear its central purpose, namely the salvaging of Descartes's reputation through the denial of the existence of his illegitimate daughter. That purpose got lost in the twentieth century as numerous writers began to claim that Descartes deliberately perpetrated a fraud by naming the machine Francine himself and claiming that the object was his daughter. Consequently, by the 1960s, when three scholars retold the story without a discussion of its original intent, it became open to a wide variety of retellings and reinterpretations.

IV

Some recent scholars have speculated that the story of Descartes and his mechanical daughter is centuries old, but its exact source has been described as obscure and uncertain,[73] and most accounts have been content to label it a legend. This is surprising from a scholarly perspective since the origin of the narrative has been identified in a few works, though with no discussion of its content or historical context.[74] This situation allowed many writers to interpret

[72] Anatole France, *La rôtisserie de la reine Pédauque* (Paris, 1893), 137–8. For an alternate translation see Anatole France, *The Romance of Queen Pédauque* (no translator credited) (New York, 1931), 83–4.

[73] For instance, Gaukroger, *Descartes*, 1.

[74] As far as I have been able to ascertain, the first twentieth-century scholar to correctly identify the origin of the story was Leonora Cohen Rosenfield in her 1968 book on

and reimagine the mysterious story at will, to fit whatever scholarly or creative purpose at hand. In this section, I will show how the legend entered into twentieth-century discourse and mutated into differing versions through the addition of new details and the forgetting of the story's original purpose. Consequently, it became part of the new perspective of Descartes in the 1990s, one that is based on a kind of false genealogy of the story's development that is detached from the significance of the late seventeenth-century tale.

The first twentieth-century retelling of the legend may be in *Newnes' Pictorial Knowledge*, an encyclopedia for young people that was published in Britain during the 1930s. In an article describing the lives of famous scientists, it is claimed that Descartes "was very good at making little machines, and at one time he made a wooden doll which was a very wonderful piece of work indeed, because it was able to perform all sorts of movements. People in fact said that this doll was a real girl and that she was the daughter of Descartes."[75] The source for this story seems to be D'Israeli since it refers to the doll's material as wood, and it is unclear whether Descartes was on the ship at all as both versions only say that he put his invention on the vessel. But the ending is given a new twist with the description of the doll's animate action:

> Descartes wanted to send his wonderful doll to a friend oversea, so he carefully packed up the doll in a box and put it aboard a ship. The rolling of the vessel, however, put the machinery in motion, and the captain of the ship was very startled when he heard something tapping away inside the box. He at once opened the lid of the box, whereupon the wooden doll jumped out and danced about the ship. So frightened became the captain that he seized the doll and threw it overboard into the sea. And that was the end of Descartes' "Wooden Daughter," as the doll was sometimes called.[76]

The narrative is accompanied by a striking illustration of the jettisoning of the wooden doll, which is probably the first pictorial depiction of the legend (Fig. 1).

As with the Argonne narrative, this version claims that the "wooden doll" gave rise to the false impression that Descartes had a daughter. Yet other twentieth-century retellings have the philosopher pretending that the lifelike automaton was his daughter, making him responsible for creating the impression.

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animal automatism. See Rosenfield, *From Beast-Machine to Man-Machine*, 203 and, more importantly, 236 n. 44. Stephen Gaukroger refers to it as one of his sources but does not discuss the Vigneul-Marville text that is quoted in it. Since then, the original story has been referred to in Reilly, *Automata and Mimesis*, 190 n. 47; Kang, *Sublime Dreams of Living Machines*, 123; and Higley, "The Legend of the Learned Man's Android," 146.

75 *Newnes' Pictorial Knowledge*, vol. 6 (London, n.d. but probably 1933–4), 2234. Thanks to Rebecca Hutchins and Barnaby Hutchins for finding and sending me the article and image.

76 Ibid.

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Fig. 1. From *Newnes' Pictorial Knowledge*, vol. 6 (London, n.d. but probably 1933–4), 2237.

This is a significant alteration to the story since rather than portraying Descartes as a victim of a false rumor, it depicts him as a perpetrator of a deliberate fraud. This can be seen in several versions in which Descartes refers to the automaton as "ma fille Francine" or "sa fille Francine."

In 1923, the popular writer Gaston Leroux, most famous for his novel *Le fantôme de l'opéra* (1911), published an early science fiction novel entitled *La machine à assassiner* about a mad scientist who constructs an automaton and animates it by endowing it with the still-living brain of an executed criminal. A character explains previous attempts to create such artificial beings:

> Descartes constructed an automaton which he gave the appearance of a young girl, and which he called his daughter Francine. On a sea voyage, the captain became curious and opened the case in which Francine was enclosed; but, surprised by the movement of this

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machine, which made it seem as though it were animate, he threw it overboard, fearing that it was an instrument of magic.[77]

This is the very first account in which Descartes is the one who names the machine.

Likewise, in a 1935 article in the popular magazine *Le petit journal illustré* entitled "L'homme peut-il fabriquer un homme?" Louis d'Elmont tells the story in the following manner:

> It was Descartes who constructed the first automaton endowed with movement which, it seems, could utter a few words. The famous philosopher wanted to thereby prove his theory according to which animals did not have souls. He went further, for his automaton represented a young girl, whom he called "his daughter Francine." That talking doll had an unfortunate fate. Descartes took it on one of his voyages. On a ship he was on, one of the sailors accidentally broke open the case containing Francine. At the sight of that woman of metal which moved, he believed it to be a sacrilege and threw the doll out to the sea.[78]

In addition to repeating Leroux's phrase "sa fille Francine," the author invents the notion of a "talking" automaton (like the speaking statue of Albertus Magnus, which Elmont also mentions in the article) made of metal (as opposed to wood in D'Israeli) and a *matelot* who discovers the device (as opposed to the captain). What is missing is mention of Descartes's actual daughter, which is a crucial omission since it deprives the story of its original *raison d'être*.

And in John Sladek's 1980 science fiction novel *Roderick, or the Education of a Young Machine*, the sight of a robot being lynched inspires a character to meditate on the phenomenon of the destruction of artificial objects for ritualistic purposes:

> Toys. A show. Revenge of the common man upon the common object, wasn't that it? Because it wouldn't do. It had never done to think of the object of their cruelty as fully human. So the effigy is created by Albertus Magnus (smashed down by Aquinas) turns up as Friar Bacon's talking head (to be smashed by a servant) and again as the automaton of Descartes ("ma fille Francine"), flung into the sea by yet another fearful soul . . .[79]

In nonfiction works, Daniel Crevier also uses the phrase "my daughter Francine" in his recounting of the story;[80] Eric Wilson writes that when Descartes traveled

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77 Gaston Leroux, "La machine à assassiner," in *Adventures incroyables* (Paris, 1992), 485–622, at 555. For an alternate translation see Gaston Leroux, *The Machine to Kill* (no translator credited) (New York, 1935), 134.

78 Elmont, "L'homme peut-il frabriquer un homme?", 3.

79 Sladek, "Roderick," 327.

80 Crevier, *AI*, 2.

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he claimed to be accompanied by his "young daughter Francine";[81] Jean-Claude Heudin asserts that after Descartes made an automaton with the appearance of a human being, he baptized it "La fille Francine";[82] and Martin Cohen has Descartes telling the crew of the ship that he will be travelling with his "young daughter."[83]

Three texts published in the 1960s played the most important role in inspiring the retellings of the 1990s onward. The references in works by Derek J. De Solla Price, John Cohen, and Leonora Cohen Rosenfield need to be examined in some detail to show the problematic influence they had in future interpretations of the story.

In 1964, the historian of science and technology Derek J. De Solla Price published the pioneering article on the history of automata "Automata and the Origins of Mechanism and Mechanistic Philosophy." In a survey of early interest in automata he recounts the legend:

> Long before [Descartes] published his *Discourse*, and perhaps before he had become interested in theology, he toyed with the notion of constructing a human automaton activated by magnets. One of his correspondents, Poisson, says that in 1619 he planned to build a dancing man, a flying pigeon, and a spaniel that chased a pleasant [*sic*[84]]. Legend has it that he did build a beautiful blonde automaton named Francine, but she was discovered in her packing case on board a ship and dumped over the side by the captain in his horror of apparent witchcraft. There is probably no more truth in these rumors than in similar stories about Albertus Magnus and many others, but it does at least suggest an early fascination with automata.[85]

In addition to uncritically reporting Poisson's claim that Descartes planned to construct actual automata, Price inexplicably adds that the automaton was "a beautiful blonde." Some of the works that reference Price have repeated this detail, creating the new image of a blonde-haired automaton.[86]

The psychologist John Cohen, in his 1966 book *Human Robots in Myth and Science*, adds the new detail of a "fellow traveler" who discovers the machine: "There is a story that Descartes himself constructed an automaton which he called *Francine*, and that during a sea voyage, an inquisitive fellow traveler opened the case in which *Francine* was lodged, and brought the robot to the captain, who,

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81 Wilson, *The Melancholy Android*, 95.

82 Heudin, *Les créatures artificielle*, 51.

83 Cohen, *How to Love*, 24.

84 This misspelling of "pheasant" (*perdrix* in the Poisson text; see note 56 above) unfortunately led Jonathan Sterne to write "peasant." See Sterne, *The Audible Past*, 72.

85 Price, "Automata and the Origins of Mechanism," 23.

86 Boden, *Mind as Machine*, 74; Benesch, *Romantic Cyborgs*; Sterne, *The Audible Past*, 73; and Kurzweil, *The Age of Intelligent Machines*, 29.

thinking that it was the work of a sorcerer, threw it overboard."[87] And Leonora Cohen Rosenfield, in her 1968 book on animal automatism, makes a rather odd choice in relating the legend. She points out that the Cartesian notion of animals as soulless machines that was much discussed in the seventeenth and eighteenth centuries remained an issue of interest to writers in the modern period. While she mentions Vigneul-Marville (Bonaventure d'Argonne), she quotes the passage from Anatole France's novel *La rôtisserie de la reine Pédauque* in full, reintroducing the notion of an intimate relationship between Descartes and his companion on his voyages, with "sa bonne amie" translated as "his lady love."[88] Rosenfield also quotes the entirety of the Vigneul-Marville story but only in an endnote and, unlike the Anatole France passage, it is not translated into English.[89] In other words, in presenting the legend to the English readers of the book, she inexplicably favors the account from the late nineteenth-century novel, in which Descartes's companion is not an automaton at all but a salamander, rather than the original story that pre-dates it by almost two hundred years.

This is a crucial and problematic development in the history of the transmission of the legend since all early works that feature versions of the story, from Vigneul-Marville to Leroux, have fallen into obscurity. As a result, the writings of Price, Cohen, and Rosenfield became the main referents for the vast majority of subsequent recountings of the legend. Unfortunately, Price and Cohen provided no information on the source of the legend, and Rosenfield put it in an endnote with no analysis of the Vigneul-Marville piece, which almost all subsequent scholars neglected to investigate. This created a major problem for the understanding of the story in its proper historical context as the three accounts failed to point out the single most important element of the original narrative: that it was told by a Cartesian who sought to use the idea of an automaton to save Descartes's reputation. While some versions after Price, Cohen, and Rosenfield point to Francine Descartes as the inspiration for the story, most writers display no awareness that its original purpose was to deny her existence.[90] Consequently,

87 John Cohen, *Human Robots in Myth and Science* (London, 1966), 69.

88 Cohen, *From Beast-Machine to Man-Machine*, 203.

89 Ibid., 236 n. 44.

90 The works that point to Francine Descartes are Levitt, "Animation and the Medium of Life," 138; Humphrey, "Introduction," xiii; Wallin, "Constructions of Chilhood," 171–2; Jess-Cooke, *Inroads*, 60; Reilly, *Automata and Mimesis*, 68; Sawday, *Engines of the Imagination*, 201; Vermeir, "RoboCop Dissected," 1036; Wilson, *The Melancholy Android*, 95; Maisano, "Infinite Gesture," 63; Bloom, *Descartes' Baby*, xii; Perkowitz, *Digital People*, 56; Berlinski, *Infinite Ascent*, 40; Wood, *Living Dolls*, 4; Ward, *Virtual Organisms*, 148; Brodo, "Introduction," 4; and Gaukroger, *Descartes*, 1. Sarah L. Higley refers to Cohen and Price, as well as Rosenfield, quoting the last of these quoting Vigneul-Marville, and she correctly points to the denial of Francine's existence in the original tale, but she still

modern commentators have found the significance of the legend both mysterious and tantalizing. And in their revisions of the tale, especially those that appeared from the 1990s onward, they freely added creative touches for various interpretive purposes.

Another major problem with these modern versions is that some of them try to add a veneer of verisimilitude to the legend by inserting historical details like the year when the story is supposed to have taken place. Christine Woesler de Panafieu, in her 1984 essay "Automata: A Masculine Utopia," briefly mentions the story in an endnote in which she not only adds her own creative touch, claiming that the captain of the ship destroyed the "android" because he thought it was a witch, but also asserts that this "widespread" story is supposed to have occurred around 1620.[91] She provides no reference to that date. And Daniel Crevier, in his 1993 book on the history of artificial intelligence, asserts that Descartes created the automaton that he called "my daughter Francine" in the year 1649 without pointing to the legendary nature of the story.[92] This allowed other writers to elaborate on the story through Descartes's actual activities in 1649.

This brings us to Stephen Gaukroger and Gaby Wood, whose narratives should be examined in detail as they have become the most influential of new versions. Gaukroger tells the story in the following manner:

> Since the eighteenth century, there has been in circulation a curious story about Descartes. It is said that in later life he was always accompanied in his travels by a mechanical life-sized female doll which, we are told by one source, he himself had constructed "to show that animals are only machines and have no souls". He had named the doll after his illegitimate daughter, Francine, and some versions of events have it that she was so lifelike that the two were indistinguishable. Descartes and the doll were evidently inseparable, and he is said to have slept with her encased in a trunk at his side. Once, during a crossing over the Holland Sea some time in the early 1640s, while Descartes was sleeping, the captain of the ship, suspicious about the content of the trunk, stole into the cabin and opened it. To his horror, he discovered the mechanical monstrosity, dragged her from the trunk across the decks, and finally managed to throw her into the water. We are not told whether she put up a struggle.[93]

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confesses that while she "managed to round up many of the early robots and trace their retellings ... Francine, rusting under the waves, still evades me." Higley, "The Legend of the Learned Man's Android," 129, n.1, and 146.

91 Panafieu, "Automata," 142 n. 10.

92 Crevier, *AI*, 2. Crevier mentions this alongside actual automata that were made in the early modern period, including those by Leonardo da Vinci, Salomon de Caus, Jacques de Vaucanson, and Pierre and Louis Jaquet-Droz.

93 Gaukroger, *Descartes*, 1.

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As previously mentioned, Gaukgroger interprets this tale as a slanderous one that was told by eighteenth-century critics of materialism. And what makes it an effective tool with which to ridicule the philosopher is its "sexual innuendo." What the story implies, according to Gaukroger, is that Descartes was engaged in a physical relationship with his artificial creation, a multiply transgressive act that not only involves sex with an inanimate object but also incest-by-proxy, in the automaton being given the name and made in the image of his deceased daughter, and necrophilia as well.[94] It is apparent that Gaukroger's interpretation is drawn from Rosenfield's quotation from the Anatole France's novel in which an intimate relationship between the philosopher and the salamander is implied.[95] The notion of Francine as a sexual object also points to the aforementioned influence of themes from the science fiction genre, specifically the well-established cliché of the fembot (i.e. female robot) made for the pleasure of its creator.[96] Gaukroger, drawing from France, invented the notion of Francine as a sex automaton. This allowed him to interpret the story as a slanderous one, rather than one that was told to protect Descartes from what was claimed as a slander. But I found no evidence to substantiate Gaukroger's assertion that the story was utilized as antimaterialist propaganda in the eighteenth century.

As for Wood, she tells the story in an even more elaborate and detailed manner, mixing the legend with biographical facts.

> It was to be his last trip. The philosopher René Descartes had been summoned by Queen Christina of Sweden who wanted to know his views on love, hatred, and the passions of the soul; but although he was happy to correspond with the Queen, Descartes was loath to become part of her court. He felt, he said, that "thoughts as well as waters" would freeze over in Sweden and, since that winter was particularly harsh, he believed he would not survive the season. He even feared, he wrote to his friend, "a shipwreck which will cost me my life". But Christina's whim was his command. Filled with foreboding, he packed his bags, taking all of his manuscripts with him.

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94 Other scholars, some of them referring to Gaukroger, have also described the automaton as Descartes's "companion," "traveling companion," and "female companion." See Sawday, *Engines of the Imagination*, 201; Vermeir, "RoboCop Dissected," 1036; Maisano, "Infinite Gesture," 63; Burnett, *Descartes and the Hyperbolic Quest*, 39; Reilly, *Automata and Mimesis*, 68; Jess-Cooke, *Inroads*, 60; and Brodo, "Introduction," 2.

95 Gaukroger's sources are an unnamed book on robotics (probably John Cohen) and Rosenfield, and he also refers to Anatole France in Rosenfield. See Gaukroger, *Descartes*, 418 n. 1.

96 On science fiction stories involving female robots see Julie Wosk, *My Fair Ladies: Female Robots, Androids, and Other Artificial Eves* (New Brunswick, 2015); and Minsoo Kang, "Building the Sex Machine: The Subversive Potential of the Female Robot," *Intertexts*, 9/1 (2005), 5–22.

He was traveling, he told his companions, with his young daughter Francine, but the sailors had never seen her, and, thinking this strange, they decided to seek her out one day, in the midst of a terrible storm. Everything was out of place; they could find neither the philosopher nor the girl. Overcome with curiosity, they crept into Descartes' quarters. There was no one there, but on leaving the room, they stopped in front of a mysterious box. As soon as they opened it, they jumped back in horror: inside the box was a doll—a living doll, they thought, which moved and behaved exactly like a human being. Descartes, it transpired, had constructed the android himself, out of pieces of metal and clockwork. It was indeed his progeny but not the kind the sailors had imagined: Francine was a machine. When the ship's captain was shown the moving marvel, he was convinced, in his shock, that it was some instrument of dark magic, responsible for the weather that had hampered their journey. On the captain's orders, Descartes' "daughter" was thrown overboard.[97]

I have already pointed to the problematic nature of mixing the legend with factual information about Descartes's activities. By providing the context of Descartes's trip to Sweden (which took place in 1649 rather than Gaukroger's early 1640s, closer to Francine Descartes's death) and quoting from Descartes's letters, the story is given the air of a real event. It is rather risible, then, that in the paragraph following its dramatic recounting, Wood questions the veracity of the tale based on the pseudo-historical details that she added herself:

> It is hard to know if this story is true. Descartes did go to Sweden, and did, as he had feared, die there, six months later. He had, in fact, attempted to build some automata earlier in his life (one of his correspondents reported that Descartes had plans for "a dancing man, a flying pigeon, and a spaniel that chased a pheasant"), and he continued to be interested in mechanical toys. But the events on the ship read like a too-perfect fable—about science falling prey to the God-fearing crowd, about the threatening, uncanny power of machines, about the philosopher who has an almost superstitious relation to the product of his own mind: he names it, he calls it his daughter—and whether or not the story is made up or of literal facts, it must, in a sense, be true to some metaphorical purpose . . .
>
> Descartes did have a daughter, and her name was Francine, but by the time this story is said to have taken place, Francine had been dead for many years . . .[98]

Wood uncritically reports the story of Descartes as an actual automaton maker, her reference to "one of his correspondents" (i.e. Poisson) pointing to Derek J. De Solla Price as her source, as well as the notion that he named the automaton Francine. Wood also elaborates on the idea of Descartes as a grief-stricken father who builds the automaton to deal with the death of his daughter.[99]

To reiterate, every single one of those elements is a twentieth-century addition to the legend. Wood makes no mention of the original story's central purpose

97 Wood, *Living Dolls*, 3–4.

98 Ibid., 4–5.

99 Also found in Brodo, "Introduction," 4–5.

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of denying the existence of Francine Descartes, which would make the entirety of her interpretation problematic. Unfortunately, due to the popular success of Wood's book, some of her invented elements have been repeated in a number of nonfiction books. For instance, the notion that the event took place in 1649 has been mentioned by many writers, giving it the appearance of an integral part of the legend.[100]

Other works have introduced more details that have also been repeated a number of times. The idea that the automaton could also speak, which was first asserted by Louis d'Elmont in his 1935 article, probably through confusion with the medieval legend of Albertus Magnus, is reiterated by Dave Robinson and Chris Garratt in their illustrated book *Introducing Descartes*, which features a picture of sailors throwing the female automaton overboard (Fig. 2).[101] To this Robinson and Garratt add that the captain opened Descartes's box because he suspected that the philosopher might be a kidnapper.

Jason Wallin repeats both notions, recounting how the captain feared that Descartes was a kidnapper and that the automaton could "move and make basic sounds of its own."[102] Nicholas Humphrey invents further details of a similarly dramatic nature, describing the sound the automaton makes and a physical struggle between it and the captain: "The Francine-machine rose up with a howl and grabbed the captain, who had to struggle with the doll before finally throwing it into the sea."[103] Martin Cohen also describes how the astonishment of the sailors "turned to terror when the doll sat upright and turned its eyes to look at them!"[104] These gratuitous and invented additions are, once again, reminiscent of science fiction films like *The Terminator* and horror movies like *Chucky*.

[100] See note 8 above. Kara Reilly, in her 2011 book on automata in theatre history, points to the earliest manifestations of the story in Vigneul-Marville and Isaac D'Israeli in the endnotes, but in her recounting of the story in the text she provides a synopsis of the Gaby Wood story, including his journey to Sweden. Reilly, *Automata and Mimesis*, 68, 190 n. 47. Reilly includes Wood's description of the storm at sea that leads to the discovery of the automaton. This description is also mentioned in other versions. See Wilson, *The Melancholy Android*, 95; Vermeir, "RoboCop Dissected," 1036; and Cohen, *How to Love*, 24.

[101] Robinson and Garratt, *Introducing Descartes*, 102.

[102] Wallin, "Constructions of Childhood," 172.

[103] Humphrey, "Introduction," xiii. It is interesting that Humphrey also describes the box carrying the automaton as "lined with satin," which is a detail from Anatole France's story of the salamander which was not featured in Rosenfield's translated passage. See France, *La rôtisserie de la reine Pédauque*, 137.

[104] Cohen, *How to Love*, 24.

Fig. 2. Illustration from Dave Robinson and Chris Garratt, *Introducing Descartes* (Cambridge, 1998), 102.

V

Given the entertaining nature of the story, its emergence in our time as an iconic narrative is understandable. It has occurred in the context of the recent reassessment of Descartes's achievements and legacy, the current interest in issues raised by cybernetics, robotics, and posthuman theory, and the popularity of themes from the science fiction genre in the larger culture. Creative retellings of

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the story have appeared in the realm of imaginative writings as well.[105] It is highly problematic, however, when scholars use modern versions in purporting to shed light on Descartes's life and philosophy, or on early modern thought in general. When the story has been used to highlight ideas from the new scholarly fields, writers have tended to overinterpret it or impose anachronistic meanings on it, often adding new details or revising its narrative to better fit their arguments. In its first appearance in *Mélanges d'histoire et de littérature* it was a mere two-sentence tale with a clear and simple significance, an attempt by a possibly fictional Cartesian to erase the existence of Francine Descartes by replacing her with a machine. All subsequent attempts to read more than that into it have engaged in creating new versions that were made possible only by the obscurity of the original story. Yet recent incarnations of the fable, including those by Gaukroger and Wood, are of interest in themselves as they point to a new image of Descartes that has emerged from the 1990s. It not only depicts the thinker primarily as a significant contributor to the Scientific Revolution but also anachronistically as a proto-cybernetic theorist who can be imagined as a maker of a beautiful and uncanny automaton. As it is likely that the legend will spread further in both academic works and popular culture through the reading of the numerous texts examined here, it is essential to approach it with a proper historical understanding of its significance and transformation.

[105] For instance, Carolyn Jess-Cooke has written a moving poem about Descartes, the grieving father and his mechanical creation. See Jess-Cooke, "Descartes' Daughters," in Jess-Cooke, *Inroads*, 42–3. The tale is also mentioned in the Japanese science fiction anime film *Ghost in the Shell II: Innocence* as futuristic detectives investigate female robots that have gone rogue. One of the characters says that Descartes "lost his beloved five-year-old daughter and then named a doll after her, Francine. He doted on her. At least that's what they say." The film, including the mention of the Descartes story, is discussed in Levitt, "Animation and the Medium of Life," 134–43, and Muri, *The Enlightenment Cyborg*, 28. N. A. Sulway, in her novel *Rupetta* (Leyburn, 2013), does not relate the Descartes story directly but utilizes a number of elements from it about a sentient female automaton that is built in the seventeenth century.