CHAPTER 12

Sublime Puppets versus Uncanny Automata
Artificial Beings in Nineteenth-Century Literature

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In today's colloquial language, when a person is described as a "puppet" or an "automaton/robot," it often signifies a mindless follower, a conformist, or an instrument of manipulation. The terms denote the lack of autonomy in thought or action, due either to an internal flaw (e.g., inability to think critically) or external oppression. Since a fully actualized human being is thought to be one who is capable of independent thought, self-determination, and self-direction, a person without those qualities is figuratively demoted to the status of an artificial simulacrum of a human, one that is made to follow the dictates of another through direct control (puppet) or internal design (automaton/robot). This was a part of a long-standing argument within Western intellectual discourse, one that is still very much alive today, on whether humanity can be explicated in terms of machinery (i.e., is a human being a machine? – If so, in what way, if not, why not?). In the Victorian period, for instance, Thomas Huxley's depiction of people as "conscious automata" acting through the determinism of their biological impulses, in his 1874 essay "On the Hypothesis That Animals Are Automata," proved to be highly controversial, provoking vociferous rebuttals by many, including the American psychologist and philosopher William James.[1]

In a previous work, I have traced the origin of the particularly negative meanings attached to the concept of the automaton to the late Enlightenment, when the self-moving machine came to be associated with a person incapable of reason, a victim of tyranny, or an oppressive social or political order.[2] In that context, the automaton and the puppet were used interchangeably for metaphorical purposes. In this chapter, however, I will complicate the symbolic significances of the two objects by demonstrating that in the literary writings of the late eighteenth and nineteenth centuries, particularly in works associated with the Romantic movement, the puppet and the automaton not only held disparate meanings but they were sometimes contrasted with each other as representing diametrically opposed

https://doi.org/10.1017/9781009110129.018 Published online by Cambridge University Press

ideas. In general, the puppet was regarded in a positive light as a representation of a being that was in touch and acted in harmony with the supernatural forces of the universe.[3] The automaton, on the other hand, was deployed negatively in the depiction either of people without autonomy or of devices that seemed to be controlled by dark and uncanny powers that were also associated with death. This contrast in the objects' symbolic meanings in the nineteenth century has been overlooked in recent works dealing with the puppet that include the automaton in their discussion.[4] This is due to the fact that from the late nineteenth century onward, the puppet and the automaton/robot came to denote, once again, the same negative concept of humanity without autonomy, the Romantic veneration of the puppet proving to be a short-lived phenomenon.

In this chapter, I will begin by providing a general explanation of this puppet/automaton divide in the era, based on the legacy of late Enlightenment thought and the worldview of nineteenth-century Romantic philosophy. That context will provide the background for the subsequent analyses of the most significant examples of the objects' usage in the texts of the late eighteenth and nineteenth centuries.

In Goethe's classic *bildungsroman Wilhelm Meister's Apprenticeship* (1795–6), the title character, a young playwright and actor, explains that a crucial childhood experience led him to reject the bourgeois career laid out for him by his father in favor of the artistic life. This experience was a performance of puppets, first witnessed as part of a Christmas celebration. As he explains the effect of the repeated viewings of a play:

> The first time I had the joy of surprise and astonishment; at the second performance I was intensely curious and observant. This time I wanted to find out exactly how everything was done. I had decided on that first evening that it couldn't be the puppets themselves that were speaking, I had even suspected that they could not move by themselves. But why it was all so agreeable, and why the puppets themselves seemed to speak and move, and where the lights were, and the people who operated all this – these mysteries disturbed me so much that I wanted to be both among the enchanted and the enchanters, somehow secretly to have a hand in it, and that at the same time, as a spectator, be able to enjoy the pleasure of the illusion.[5]

Wilhelm's subsequent examination of the workings of the puppets and the study of the play they performed led eventually to his embarking on the theatrical life.

In contrast to this laudatory description of the wondrous puppet performance that had such an inspirational impact on the character, Goethe's contemporary, writer Jean Paul (Johann Paul Friedrich Richter), describes

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another performance of artificial simulacra of living beings in much darker terms in his story "Particulars of the Servant and Machine-Man" (1798).[6] The narrator, a traveler to fantastic lands, describes a dystopian state on an island called Barataria where everything has been mechanized to the extent that its ruler, the Machine-King, is served by a letter-writing machine, a calculating machine, and even a chewing machine that softens his food for him.[7] At a music concert put on by the monarch, a piece composed by a machine is played by automaton musicians. The performance gives the horrified visitor visions of further mechanization in which people's body parts are replaced by artificial ones and animals by more automata. The story is a satire of an absolutist state in which controlled regulation by technological means has sapped the society and its people of their natural spontaneity, inspiration, and freedom.

Today's interchangeability of the puppet and the automaton/robot as symbolic representations of a person lacking autonomy may be intuitive given the close resemblance of the two objects. As they are both artificial devices that imitate the appearance and actions of a living being, it may seem natural to regard them in terms of false or flawed humanity. Yet there is a crucial difference in the functioning of the two that Romantic writers of the nineteenth century pointed to as they endowed them with disparate and contradictory significances.

The puppet is an object that is directly manipulated by strings or hand, even when the means of that control is not clearly visible, so that even the child Wilhelm Meister was aware that the object was not really speaking and moving on its own. The automaton, on the other hand, is by definition a "self-mover," from the Greek roots of the word, one that is capable of independent action through its internal mechanical makeup. A significant figurative use of this essential difference was made in the seventeenth century by Robert Boyle in his *A Free Inquiry into the Vulgarly Received Notion of Nature* (1686), which was written to popularize the worldview of the new mechanistic natural philosophy of which he was a central figure. In the work, he contrasted the old Aristotelian view of the world as a puppet that requires "the peculiar interposing of the artificer or any intelligent agent employed by him," with the new model in which the world is a self-moving machine, an automaton, that does not require direct control.[8]

Given the fact, then, that the puppet is an object of apparent manipulation while the automaton is defined by its capacity to move itself, it may seem strange now that the two are used interchangeably to connote the lack of autonomy. Mark Seltzer has pointed to the oddity of the word automaton signifying both an object that is capable of moving independently as

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well as a person who is incapable of acting independently.[9] That negative description of a human being as an automaton has its origin in the late Enlightenment rejection of mechanistic thought in philosophy, science, and medicine.

In the second half of the seventeenth century, there was a "mechanistic turn" in the intellectual world through which natural philosophers, like Boyle, described the world as a machine built by a mechanic God to run on its own, physiologists considered the human body to be an entity consisting of mechanically operating parts, and political thinkers asserted the view of the state as a machine to be run by an engineer ruler.[10] By the middle of the eighteenth century, however, there was a backlash against mechanism, as natural philosophers and physiologists increasingly emphasized the role of a nonmechanical vital force, the presence of which distinguishes living entities from dead matter. In political thought as well, mechanistic views of government, society, and law came to be associated with tyrannical states and rulers. As a result, one can find countless examples in the writings of the period in which human beings are negatively described as automata, denoting mindless conformists, the ignorant, and the oppressed as well as the oppressors.[11] To give some examples, Jean-Jacques Rousseau, in *Emile* (1762), contrasts the free "savage" who lives in harmony with nature with the peasant who toils in a society that has reduced him to a machine:

> nothing is duller than the peasant and nothing sharper than a savage. What is the source of this difference? It is that the former, doing what he has himself done since his youth, works only by routine; and his life, almost an automaton's, constantly busy with the same labors, habit, and obedience takes the place of reason for him.[12]

But it was not just the people who were rendered mechanical through oppression or lack of education who were described as automata. The privileged leading vacuous lives could receive the same treatment. As Denis Diderot describes the unnamed nobleman in his novel *Jacques the Fatalist* (1785):

> He has very few ideas in his head at all. If he happens to say something sensible, it is from memory or inspiration. He has got eyes like you and me but most of the time you cannot be sure he is actually seeing anything. He does not sleep, but he is never really awake either. He just carried on existing simply because it is what he usually does. Our automaton carried straight on ahead.[13]

And Thomas Paine once characterized the king of a hereditary monarchy as "a sort of breathing automaton,"[14] which was echoed in Maximilien

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Robespierre's reference to the beheaded king of France as "that crowned automaton called Louis XVI."[15]

Despite the conceptual difference between the puppet that is moved by another and the automaton that is self-moving, the fact that the latter is constructed to perform the same task over and over again, with no possibility of spontaneous action, was emphasized to make its symbolic significance the same as that of the puppet. During the controversy in the 1780s over the ideas of Franz Anton Mesmer, based on the notion of "animal magnetism" and the practice of hypnosis, one critic decried the worldview of mesmerism as one in which human beings are subject to control by supernatural forces, turning them into "real puppets, ignorant and utterly blind slaves."[16] In this quote, the writer could have conveyed the same exact idea by substituting the word "puppets" with "automata."

Romantic writers of the nineteenth century inherited the late Enlightenment use of the automaton as a negative representation of flawed humanity without autonomy, but they transformed the significance of the puppet into a positive entity that is controlled by supernatural forces and has the capacity to ascend to the level of the sublime. The eighteenth-century theorists of the vital force either declined to speculate on its exact nature or considered it to be a materialist but nonmechanical force that is inherent in matter.[17] Romantic natural philosophers, on the other hand, extended the notion to the metaphysical realm by defining it as a supernatural force that interposes itself on matter to enliven and transform it in a dialectical manner.[18] In that worldview, the ideal state of being is not that of discrete autonomy but of harmony with such a force to achieve growth, transformation, and transcendence to a higher realm. The Romantic conception of genius consists of one who gains supreme powers of understanding and creativity through a particularly powerful connection to the supernatural.[19]

For the Romantics then, the puppet, with its apparent means of control (i.e., strings, or the hand inside it), did not represent an entity that is oppressed or utilized by another. It was seen, on the contrary, as an object acting in concert with transcendent forces. The actions of a puppet could even be a visual representation of a genius at work. As noted, the child Wilhelm Meister was aware that the puppets could not speak and move on their own, but this did not fill him with feelings of pity and contempt toward the hapless objects, as the notion of the automaton did for late Enlightenment writers. Rather, it produced a sense of wonder and curiosity about its actual workings in the child, making him want to become both "the enchanted and the enchanter." In a sense, this is a representation

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of the Romantic thinker seeking to uncover and understand the supernatural forces at work in the natural world.

In the early Romantic novel *Nightwatches* (1805), published anonymously under the pseudonym of Bonaventura, a night watchman named Kreuzgang recalls a perilous moment when he once worked as a puppeteer. To calm down an audience that became overexcited by the beheading scene in the story of Judith and Holofernes, he had to explain the workings of the puppet: "Behold this wooden bloody king's head that I here hold up high. It used, when it still sat on its stump, to be governed by this wire, my hand in turn governed the wire, and so forth into the realm of mystery where the governing power no longer can be determined."[20] In the earlier Enlightenment view, this notion of a puppet being controlled by a human who in turn is controlled by larger forces, could have been used to illustrate strict determinism in a mechanistic system with no room for free will. Romantic writers, on the other hand, utilized the image as a metaphor of a being in harmony with the forces of the "realm of mystery."

The clearest expression of this puppet symbolism can be found in Heinrich von Kleist's 1810 story "On the Marionette Theater." Its narrator encounters a celebrated ballet dancer who has a penchant for watching performances of puppets. To the former's surprise, he not only expresses great admiration for the movements of the objects, he goes so far as to assert that a puppet dancer can reach a level of perfection that a human one can never hope to achieve. He explains that the puppet has the advantage of not being subject to physical limitations (i.e., gravity) as well as mental impediments. The most beautiful and flawless movements are achieved not through conscious intention and effort but through letting oneself be moved by natural forces in a spontaneous manner. Human beings are capable of this only in rare moments of unselfconscious action as they are invariably hampered by their thoughts. Puppets, on the other hand, are literally mindless, and so are able to follow the dictates of their controller and the natural workings of its various parts' capacity for movement without the intrusion of conscious will. As the dancer ultimately explicates in metaphysical terms:

> We see that in the organic world, to the extent that reflection grows dimmer and weaker, the grace therein becomes more brilliant and powerful. Yet, just as the intersection of two lines on one side of a point suddenly appears again on the other side after passing through the infinite; or the image in a concave mirror, after receding into the infinite, suddenly resurfaces close before us – grace likewise reappears when knowledge has passed through the infinite, so that it appears simultaneously in the human body that has either none at all or else infinite consciousness – that is, in the puppet or in the god.[21]

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In terms of Romantic natural philosophy, what the puppet has in common with a divine being is its capacity to embody forces beyond the material realm, free of impediments in the forms of both physical constraints and conscious thoughts.

In this story, the symbolic significance of the puppet is devoid of any negative connotation of oppression, ignorance, and manipulation, despite the object's apparent means of control and lack of consciousness. In fact, those are the very characteristics that are emphasized in explaining its capacity for sublime movements. Its connection to larger forces is what frees it from the constraints of the material world, allowing it to transcend to a higher realm in a way that human beings can only hope to do in rare and brief moments of unconscious action. So the puppet, far from being a pitiful and contemptible representation of a human being devoid of autonomy, becomes an almost divine model to be admired and emulated in the search for perfection.

In direct and vivid contrast to this laudatory description of the puppet, the automaton appears in Romantic literature in a dark and uncanny manner. As previously mentioned, the Romantics inherited the late Enlightenment view of the object as a metaphor for humanity without autonomy, but they also added to it a sense of unsettling mystery about the exact nature of its workings. In the case of the puppet, the means of its control are apparent, and we admire the skill of the puppeteer in manipulating them. The automaton, on the other hand, hides the mechanisms of its actions from the viewer, making the means of its movements obscure and mysterious. As a thing, made of inert parts, which imitates the action of living beings, it ends up evoking death itself – or rather, a dead thing that comes alive to terrify and haunt.

As the master of uncanny fiction in German Romantic literature, E. T. A. Hoffmann wrote a number of stories featuring the automaton. The most famous is his 1816 work "The Sandman," but two years earlier he published another entitled "The Automaton" that articulates the ideas discussed in this chapter. Two friends, Ludwig and Ferdinand, attend the performance of an automaton called "The Talking Turk." The device is based on the real-life "Turk Chess Player" of Wolfgang von Kempelen that was first displayed in 1770 and had a long celebrated life in Europe and the United States before its destruction in a fire in 1854.[22] While it had the appearance of an automaton in Turkish costume that played chess against human opponents on a board atop a box, it was actually a trick device with a player hidden inside it that manipulated the mechanical figure. In other words, the figure was a puppet with the means of its control hidden so that

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it appeared to be an automaton. In recent descriptions of the device, it has unfairly been described as a hoax and its inventor as a fraud, when there is little contemporary evidence to suggest that it was presented as an actual chess-playing machine or that its audience took it as such. Most people, with the possible exception of the most gullible, took it as a kind of a puzzle, or a dare to figure out how the illusion was being perpetrated.

Hoffmann takes the device of already uncertain nature and transforms it into an uncanny object in his story as the fictional version of it does not play chess at all but utters prophetic answers to viewers' questions. At the outset, Ludwig expresses his aversion toward such a performance as it gives him "a horrible, eerie, shuddery feeling … the oppressive sense of being in the presence of something unnatural and gruesome; and what I detest most of all is the mechanical imitation of human emotions."[23] After Ferdinand has an unsettling exchange with the Talking Turk, the two friends almost frantically discuss whether the object operated through purely mechanical trickery or whether it employed some unnatural means. To satisfy their curiosity, they visit the home of Professor X____, the inventor of the automaton, who does not provide them with a satisfactory explanation of the device but instead gives them a demonstration of other automata that play musical instruments. After the two friends quickly take leave of the professor at the conclusion of the performance, Ludwig rails against what they had just been subjected to:

> All that machine music … makes every bone in my body ache. I am sure I do not know when I shall get over it! The fact of any human being's doing anything in association with those lifeless figures which counterfeit the appearance and movements of humanity has always, to me, something fearful, unnatural, I may say terrible about it. I suppose it would be possible, by means of certain mechanical arrangements inside it, to construct automata which would dance, and then to set them to dance with human beings, and twist and turn about in all sorts of figures; so that we should have a living man putting his arms about a lifeless partner of wood, and whirling round and round with her, or rather it. Could you look at such a sight, for an instance, without horror? At all events, all mechanical music seems monstrous and abominable to me …[24]

This leads to an extended discussion on the nature of music, specifically on why mechanical or artificial music is inferior to natural music. In line with Romantic natural philosophy and in agreement with Kleist's discussion of dance, it is affirmed that the purest and the most transcendent music is produced not by means of deliberate thought and rational calculation but through harmony with natural forces. A musician, in order to achieve that

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state, should avoid performing in a mechanical manner, like the automata that Ludwig and Ferdinand had witnessed, but rather try to let go of one's self-consciousness as much as possible, to be taken over by the spirit of the music itself. It is significant that toward the end of their discussion, they consider another artificial device that could achieve perfect harmony with the music of nature. While Ferdinand points to the Æolian harp, a stringed instrument designed to be played by the wind, Ludwig considers a grander version of it called the storm harp:

> Every attempt … to tempt nature to give forth her tone is glorious, and highly worthy of attention. Only, it seems to me that as yet we have only offered her trifling toys, which she has often shattered to pieces in her indignation. A much grander ideas … was the "storm harp" which I have read of. It was made of thick cords of wire, which were stretched out at considerable distances apart, in the open country, and gave forth great, powerful chords when the wind smote them.[25]

What is important to note here is that while the Talking Turk automaton is abhorred as an uncanny device that elicits horror and the musical automata for producing the basest music through its mechanical function, the storm harp is praised in the same exact terms as Kleist's puppet. The storm harp and the puppet are just as artificial as the automaton, but they are both designed to produce music and to move through the direct and unmediated control of natural forces. In other words, they are able to achieve sublime effects because they are free of the intrusion of human consciousness. So the automaton, embodying the qualities of the mechanical, is decried, while the storm harp is lauded, in similar terms as the puppet, as a device capable of channeling the essential vitality of the world.

Ludwig's unsettling scenario of a human being dancing with an automaton is realized in Hoffmann's story "The Sandman." The uncanny encounter its protagonist Nathaniel has with a life-imitating machine is presaged by a strange memory from his childhood, of being caught while snooping on his father and a terrifying visitor named Coppelius:

> Coppelius laughed shrilly and cried: "The boy can have his eyes then, and the use of them. But now let us observe the mechanism of the hands and feet."
>
> And with that he seized me so violently that my joints cracked, unscrewed my hands and feet, and fixed them on again now in this way, now in that.
>
> "They don't look right anywhere! Better where they are! The Old One knew what he was doing!" Coppelius lisped and hissed. But everything went dark around me, a sudden spasm shot through my frame – I felt nothing more.[26]

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Whatever actual trauma Nathaniel experienced as a child, his mind and imagination expressed the terror and the helplessness he felt at the time in terms of being reduced to an automaton with removable parts that could be manipulated at will. So here, the automaton-man appears again as an image of a hapless human lacking power.

The central plot of the story involves Nathaniel falling in love with Olympia, the supposed daughter of a mysterious Italian scientist named Spalanzani. Despite the fact that she never speaks and is ice-cold to the touch, Nathaniel is captivated by her immaculate beauty, perfect dance movements, and flawless performance in singing and playing the piano. When a friend learns of his feelings toward her, he expresses surprise.

> Do not take it ill, brother, but she has appeared to us in a strange way rigid and soulless. Her figure is well proportioned; so is her face – that is true! She might be called beautiful if her eyes were not so completely lifeless. I could even say sightless. She walks with a curiously measured gait; every movement seems as if controlled by clockwork. When she plays and sings it is with the unpleasant soulless regularity of machines, and she dances in the same way. We have come to find this Olympia quite uncanny … it seems to us that she is only acting like a living creature, and yet there is some reason for that which we cannot fathom.[27]

It is ultimately revealed that she is not a real woman at all but an automaton created by Spalanzani and another named Coppola, who might be the Coppelius who haunts Nathaniel's childhood memory. The revelation causes Nathaniel to lose his mind, eventually committing suicide by jumping off a tower. The story ends with a brilliant and hilarious description of the consequence of the affair:

> To be quite convinced that they were not in love with a wooden doll, many enamoured young men demanded that their ladies sing and dance in a less than perfect manner, that while being read to they should knit, sew, play with their puppy and so on, but above all that they should not merely listen but sometimes speak too, and in such a way that what they said gave evidence of some real thinking and feeling behind it. Many love-bonds grew more firmly tied under the regime; others on the contrary gently dissolved.[28]

Both Kleist's puppet and Hoffmann's automaton are capable of "perfection" in actions that human beings cannot achieve, but they are of diametrically opposed kinds. The flawless movements of the puppet are that of an entity in harmony with the forces of nature and supernatural vitality, an almost divine transcendence of the physical and mental impediments of the material world. The faultless performances of Olympia, on the other

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hand, are mechanical, regulated, and repetitive actions devoid of spirit, spontaneity, and life itself. The automaton is, in a sense, the dark and uncanny double of the puppet with its otherworldly perfection, pointing to the most debased and terrifying aspect of worldly existence – to, in fact, death itself. In that sense, one can go so far to claim that in the Romantic imagination, the difference in the symbolic significances of the puppet versus the automaton was between nothing less than life and death.

Yet another discussion of artificial simulacra of human beings can be found in George Sand's 1859 novel *The Snow Man* in which the esthetic qualities of the puppet is explicitly contrasted to those of the automaton. The central character of Christiano Waldo is a famed performer of the puppet theater from Italy, who is in Sweden to put on a show for a local nobleman. In his picaresque description of his early life that led him to become a master puppeteer, he relates how he was in the employ of a cardinal in Naples as a household tutor until he ran afoul of the clergyman's evil nephew, whom he ended up killing in a duel. He managed to avoid getting arrested by fleeing into the territory of the Papal States where he hid himself in a small village. Another trouble with the legal authority there compelled him to hide behind a puppet theater and participate in the performance. He became so fascinated with the puppets and the art of puppetry that he eventually became a master of the art who was sought after all over Europe. As he further elaborates on the details of his chosen profession, he explains the superiority of the type of puppets he employs, the *burattino*, a simple hand puppet with a head, over the more elaborate ones.

> They are the classical, primitive marionettes; the best. The *burattino* is not the stiff, wooden *fantoccio* which, hung to the ceiling by strings, moves about without touching the ground, or else with a noise that is ridiculous and unnatural. The jointed marionette is much more scientific and complete, contains some really ingenious mechanism, that enables it to make very natural gestures and to assume graceful attitudes. With further improvements it could undoubtedly be constructed to imitate nature perfectly; but, on investigating the subject, I have asked myself what advantage art would derive from a theater of automata? The larger they were made, the more like human beings, the more disagreeable, and even frightful, the spectacles of such artificial actors would become.[29]

This is in agreement with Hoffmann's descriptions of his uncanny automata, and the idea that even if an artificial object could be made to imitate the actions of a human being perfectly, it would elicit nothing but disgust and horror if it was achieved mechanically. The simple *burattino* could not

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possibly be mistaken for an actual living being, but that, ironically, is what makes it a more suitable instrument in conveying the sense of life:

> I must positively prove to you the superiority of the *burattino*. I want to convince you that the instrument of the comic artist, in this elementary representation, is neither a machine, nor a puppet nor a doll; it is a living being … I insist upon it … and all the more because it has no body. The *burattino* has neither wheels, nor strings, no pulleys. It is a head, and nothing more; a head with expression and intelligence …[30]

Christiano's ultimate explanation of how such a simple object could better represent the vitality of life and the full range of human emotions is in line with Kleist's notion of the puppet dancer that obeys the forces of nature without the impediments of physical and mental limitations of humans. It is the very mechanisms of more elaborate puppets that make them unnatural and uncanny. A mere hand puppet, on the other hand, relays the will and the artistry of the puppeteer directly, through its unmediated obedience to its dictates:

> If I were to show you the best German marionettes, all varnished and shining, covered with spangles, and moving by wheel-work, you could not help remembering that it is only a doll – a mere piece of machinery; while my *burattino* here, lithe and obedient to every motion of my fingers, comes and goes, salutes, turns its head, folds its arms, raises them towards heaven, expresses all manners of emotions, strikes a blow, beats upon the wall with joy or despair.… The fact is that the *burattino* is not an automaton, but a thing obedient to my caprice, my inspiration, my impulses; because all its motions are the results of ideas which spring up in my mind, or words which I furnish; in short, because it is myself; therefore, a living being and not a doll![31]

This passage features the major themes that appeared in the previous depictions of the life-imitation devices – the overt opposition between the puppet and the automaton, the adulation of the former for its capacity to embody natural movements and sentiments, and the denigration of the latter for its unnatural mechanical workings, and the striking association of the puppet with life and the automaton, by implication, with death. And so the puppet emerges once again as the representation of an entity capable of transcendence through its capacity for harmonious connection to the higher forces that can endow dead matter with vital life.

In the middle of the nineteenth century, the worldview of Romantic philosophy began to be eclipsed by the new materialist science. Essential discoveries of the period, including the formulation of the laws of thermodynamics and the explication of electromagnetism, with the Victorian

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scientists William Thomson (Lord Kelvin) and James Clerk Maxwell as key figures, did away with the earlier notions of vital force and its interaction with matter in providing life and formation.[32] With the decline of the ideas at the basis of the Romantic adoration of the puppet, the symbolic significance of the object as the representation of an entity in touch with supernatural forces became moribund. The 1874 novella "Paul the Puppeteer," by the post-Romantic realist writer Theodor Storm, features a scene of childhood enchantment with a puppet show that echoes the scene from Goethe's *Wilhelm Meister*.[33] It does not, however, lead to the use of the object for metaphysical speculation, but rather to wistful nostalgia for a form of popular entertainment that has fallen into cultural insignificance.

It was in the following decade, however, that the single most famous puppet in fiction was introduced to European culture. One can regard Carlo Collodi's 1883 novel *Pinocchio* as a late example of the nineteenth-century literary love affair with the puppet, one that was unfurled in the most extended narrative yet. While this work can indeed be placed in connection with the earlier works, its unique and unorthodox narrative complicates many of the Romantic notions and sentiments attached to the puppet, in some cases subverting them.

The first and possibly the most essential thing that needs to be pointed out is that while Pinocchio starts out as a piece of wood that is shaped to become a puppet, he actually becomes an automaton, not in the sense of a mechanical device but in the original Greek meaning of a self-mover. In fact, the story is not simply about an entity that goes through two stages of being, from a puppet to a human boy at the end, but rather three stages from a puppet to an automaton to a boy. Unlike the puppets praised by Goethe, Kleist, and Sand, Pinocchio defies his original purpose to be an object that is directly manipulated by a puppeteer. He does so by displaying autonomy and self-will. It is claimed throughout the narrative that his defiance is the source of all of his troubles as he refuses to obey Geppetto, his creator, skips school, and gets involved in misadventures in the company of such unsavory characters as the lame fox and the blind cat. So his story begins with his initial disobedience in refusing to act like a puppet, after which he is told repeatedly that if he wants to become a real boy he needs to become obedient and follow the rules of society. When he ultimately resolves to do so, he does become human and the narrative comes to an end. This follows the traditional storyline of the moralistic tale in which the protagonist falls from grace due to a failing and then goes through a series of tribulations until salvation is gained. Yet what prevents the novel from being read in such a simplistic manner is that Pinocchio is

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interesting precisely because he is a disobedient creature whose actions are unpredictable. That seems to originate from his nature as a liminal being, a self-moving and self-willed entity that has discarded its original design as a puppet but has not yet gained the status of a human boy. This differentiates Pinocchio from the previous puppets, which were praised for their mindless and unselfconscious obedience to the forces controlling them.

There is a passage in the novel that highlights this contrast in a particularly striking way, one that signals the end of the view of the puppet as an objecting signifying sublime transcendence. In one of the episodes in which Pinocchio skips school to have fun, he sells off his schoolbook to pay for entry into a puppet show. When the puppets there see Pinocchio, they engage in what Collodi calls a "small revolution" by interrupting their performance to greet their comrade, infuriating their human master.[34] That night, when the master realizes that he does not have sufficient firewood to cook his dinner, he decides to use Pinocchio for the purpose. Pinocchio manages to save himself by pleading for his life and arousing his pity. When the master then decides to throw other puppets into the fire, Pinocchio intervenes and pleads again on their behalf, until the master resigns himself to eating his meat half-cooked.

While the performing puppets had one brief moment of defiance when they greeted Pinocchio, they otherwise appear to be obedient and utterly helpless before their master. They are portrayed as having consciousness as well as emotions, but they are incapable of resisting when the master means to use them as firewood. As they shake with fright in fear for their lives, it is the puppet-automaton hybrid that is Pinocchio who alone is capable of using his heartfelt speech to dissuade the master from his course.[35] This is significant in that, in contrast to the positive depiction of puppets by earlier Romantics, they appear here as helpless and pitiful beings that are powerless under the oppression and violence of their master. Pinocchio's actions are effective because he is not a true puppet, but a self-willed self-mover who is capable of self-assertion and the articulation of his feelings.

The story of Pinocchio and the complexity of his nature as a hybrid and liminal puppet-automaton provide a fitting coda to the earlier idealization of the puppet and denigration of the automaton in the Romantic imagination. From the late nineteenth century onward, the human as a puppet and the human as an automaton/robot came to have the same symbolic significance as a representation of a person lacking autonomy through an internal flaw or external oppression. With the decline of the Romantic worldview of supernatural forces acting upon the material world, the adoration of the puppet as an iconic symbol faded as well. The object then

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became relegated to that of controlled humanity, mindlessly following orders or fearfully obeying oppressors without the capacity to resist or free itself. Victorian writers, for instance, were particularly concerned with the idea of workers being reduced to machines in the industrial setting, toiling away at mindless repetitive labor in the factory, becoming both automata in their function and puppets in their submission to the system.[36]

And so the puppet took a glorious and beauteous flight into the realm of the supernatural for a time, only to descend back among mindless machines of conformism and subjugation.

Notes

1 Minsoo Kang, *Sublime Dreams of Living Machines: The Automaton in the European Imagination* (Cambridge, MA: Harvard University Press, 2011), 168–70.
2 Ibid., 146–84.
3 On this point, I take issue with Ulrike Küchler's assertion that Romantic puppet imagery "was mainly employed as a psychological or political metaphor for determinism to reflect, challenge, and ironize a literary protagonists' individual or social circumstances …": Ulrike Küchler, "Marvellous Mechanical Marionettes: Theodor Storm's Pole Poppenspäler and the Anatomies of Art," in *The Threat and Allure of the Magical*, ed. Ashwin Manthripragaga, Emina Mušanović, and Dagma Thelson (Cambridge Scholars Publishing, 2013), 79–106, 80–1.
4 Harold B. Segel, *Pinocchio's Progeny* (Baltimore: Johns Hopkins University Press, 1995); John Bell, ed., *Puppets, Masks, and Performing Objects* (Cambridge, MA: MIT Press, 2001); Victoria Nelson, *The Secret Life of Puppets* (Cambridge, MA: Harvard University Press, 2001).
5 Johann Wolfgang von Goethe, *Wilhelm Meister's Apprenticeship*, trans. Eric A. Blackall (Princeton University Press, 1989), 7.
6 Jean Paul wrote an earlier version of this story under the title of "The Machine-Man and his Characteristics" ("Machinenmann nebst seinen Eigenschafen"), which was published in 1789. In the new version, he made the significant change of "the Machine Man" to the "Machine King," turning the tale into an overt criticism of absolutist monarchy.
7 Jean Paul, "Personalien vom Bedienten- und Maschinenmann," in *Werke*, vol. 4 (Munich: Carl Hanser Verlag, 1963), 901–7.
8 Robert Boyle, *A Free Enquiry into the Vulgarly Received Notion of Nature* (Cambridge University Press, 1996), 13.
9 Mark Seltzer, *Bodies and Machines* (New York: Routledge, 1992), 109.
10 Kang, *Sublime Dreams*, 103–45.
11 Ibid., 146–84.
12 Jean-Jacques Rousseau, *Emile or On Education*, trans. Allan Bloom (New York: Basic Books, 1979), 118.

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13 Denis Diderot, *Jacques the Fatalist*, trans. Leonard Tancock (Harmondsworth: Penguin, 1972), 74.
14 Thomas Paine, "Rights of Man," in *Common Sense, Rights of Man, and Other Essential Writings of Thomas Paine* (New York: Signet Classics, 2003), 129–350, 281.
15 Quoted in Moncure Daniel Conway, *The Life of Thomas Paine* (New York: G. P. Putnam's Sons, 1892), 111.
16 Quoted in Simon Schaffer, "Self Evidence," *Critical Inquiry* 18 (Winter 1992), 327–62, p. 351.
17 Anne C. Vila, *Enlightenment and Pathology: Sensibility in the Literature and Medicine of Eighteenth-Century France* (Baltimore, MD: Johns Hopkins University Press, 1998); Elizabeth Williams, *A Cultural History of Medical Vitalism in Enlightenment Montpellier* (Burlington, VT: Ashgate, 2003); Peter Hanns Reill, *Vitalizing Nature in the Enlightenment* (Berkeley: University of California Press, 2005).
18 Andrew Cunningham and Nicholas Jardine, eds., *Romanticism and the Sciences* (University of Chicago Press, 1990); Robert J. Richards, *The Romantic Conception of Life: Science and Philosophy in the Age of Goethe* (Chicago University Press, 2002).
19 Darrin M. McMahon, *Divine Fury: A History of Genius* (New York: Basic Books, 2013), 113–49.
20 Bonaventura, *The Nightwatches of Bonaventura*, trans. Gerald Gillespie (University of Chicago Press, 2014), 112.
21 Heinrich von Kleist, "On the Marionette Theater," trans. Roman Paska, in *Fragments for a History of the Human Body, Part One*, ed. Michel Feher, Ramona Naddaff, and Nadia Tazi (New York: Zone, 1989), 20.
22 Tom Standage, *The Turk: The Life and Times of the Famous Eighteenth-Century Chess-Playing Machine* (New York: Walker, 2002).
23 E. T. A. Hoffmann, "Automata," in *The Best Tales of Hoffmann* (New York: Dover, 1967), 81. For some reason, the 1967 translation of the Hoffmann story entitled it in the plural as "Automata" when the original was in the singular "Die Automate." In this discussion, I have also restored the German names of the characters to their original.
24 Ibid., 95.
25 Ibid., 99.
26 E. T. A. Hoffmann, "The Sandman," trans. R. J. Hollingdale, in *Tales of Hoffmann* (New York: Penguin, 1982), 91–2.
27 Ibid., 116.
28 Ibid., 121.
29 George Sand, *The Snow Man* (Boston: Roberts Brothers, 1892), 161–2.
30 Ibid., 162.
31 Ibid., 163.
32 Frederick Gregory, *Scientific Materialism in Nineteenth-Century Germany* (Dordrecht: Reidel, 1977); Thomas Kuhn, "Energy Conservation as an Example of Simultaneous Discovery," in *Essential Tension: Selected Studies in*

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Scientific Tradition and Change (University of Chicago Press, 1977), 66–104; Anson Rabinbach, *The Human Motor: Energy, Fatigue and the Origins of Modernity* (Berkeley: University of California Press, 1992).

33 Theodor Storm, *Paul the Puppeteer with "The Village on the Moore" and "Renate,"* trans. Denis Jackson (London: Angel Books, 2004), 73–125.

34 Carlo Collodi, *Pinocchio*, trans. Geoffrey Brock (New York: New York Review Books, 2009), 30.

35 Ibid., 30–5.

36 Kang, *Sublime Dreams*, 229–35.

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