

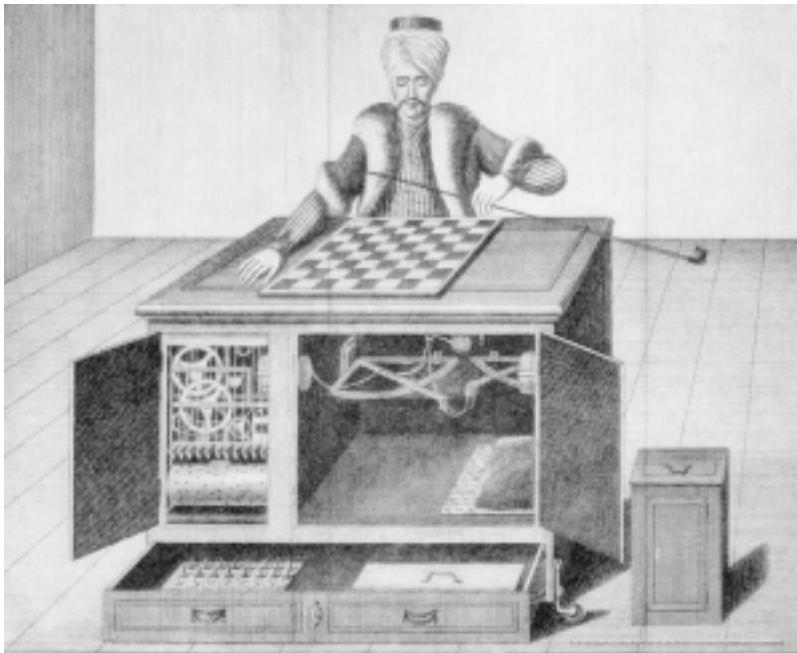
Performing the Intelligent Machine

Deception and Enchantment in the Life of the Automaton Chess Player

Mark Sussman

*We feel it is epical when man with one wild arrow strikes a distant bird.
Is it not also epical when man with one wild engine strikes a distant sta-
tion? Chaos is dull; because in chaos the train might indeed go any-
where, to Baker Street, or to Baghdad. But man is a magician, and his
whole magic is in this, that he does say Victoria, and lo! it is Victoria.
No, take your books of mere poetry and prose, let me read a time-table
with tears of pride.*

—G.K. Chesterton, *The Man Who Was Thursday:
A Nightmare* ([1908] 1986:12–13)



1. The first stage of the
“reveal.” (Copper-plate
illustration in de Windisch
1784)

The Drama Review 43, 3 (T163), Fall 1999. Copyright © 1999
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Chesterton's hero, Gabriel Syme, is a disguised policeman, member of a squad of metaphysical cops in a secret war against the all-too-real forces of anarchy. Syme begins this nightmare novel sworn to protect a world ordered by trains, automobiles, communication lines, common sense, law and order (Chesterton [1908] 1986). He ends the adventure, in which a crew of anarchists are unmasked as fellow cops, by recognizing a profoundly irrational prime moving force behind his reasonable sense of the real. Chesterton, finally, leaves his uncertain hero staring at faith as the boundary between chaos and order. The sense of chaos, that *anything* might happen when the train arrives or the telephone rings, is held in check by faith in, among other things, the modern magic of machines, their extension and repeatable mimicry of human capacities and actions.

Electricity and magnetism were prominently figured as a technical form of magic in the scientific imagination of the 18th-century, modernity's dream life prior to its technological awakening in the electrical inventions of the 19th century. Christoph Asendorf describes a key shift between the 18th and 19th centuries: in the 18th, man is understood as an *homme-machine*; in the 19th, the machine itself is assigned human characteristics, frequently figured as female or exotic other:

In comparison with the eighteenth century, a shift in perspective has taken place. The body as a mechanical object has been replaced by the machine as a bodily object. If in the *homme-machine* the image of the machine was identical with that of the human body, then the consequences of this objectification become manifest in the image of the living machine: the separation of the body from the subject. [...] The rationality of the machine world is transformed into a mythology. (Asendorf 1993:4–5)

Following Marx's insight into the fetishism of commodity relations and mapping Hegel's notion of master-slave relations onto the relation between worker and machine, Asendorf discerns the operations through which subjectivity itself is reified—separated from human beings and displaced onto modern machines. How did electricity participate as mythology in this displacement? Electrical and magnetic sources of power first appeared to conjure up the invisible and to embody the tension between animate and inanimate realms, giving life to this newly reified machine with a human soul. This invisibility demonstrated for the spectator of 18th-century scientific entertainments impossible feats of distant control and the mimetic subjectivity of the inanimate world. Certain *pre-technological* performances, then, can give us some insight into the tense metaphoric operations and interconnections of faith and skepticism, or belief and disbelief, in the staging of new technologies in the image of *l'homme machine*, to use Julien Offray de La Mettrie's famous phrase for the marriage of intelligence and clockwork operations of the human body ([1748] 1912).

The display of invisible forces associated with electrical and magnetic experiments called upon the 19th-century observer to believe in a force that could not be seen beyond its effects. The history of seeing the effects of electrical and magnetic forces crosses with the Enlightenment tradition of rational and mathematical entertainment in the 18th-century dramaturgy of popular scientific lecture-demonstrations in which Leyden jars and automata were the featured performers. Here lies what Barbara Maria Stafford, in her study of Enlightenment forms of "rational recreation," has called "the tension between quackery and pedagogy lurking in instrumentalized or empirical performance" (1993:22–30; see also Stafford 1994 and Altick 1978:64–69, 350–57). The legends surrounding Wolfgang de Kempelen's Automaton Chess Player—a mechanical puppet built in 1769 and costumed as a Turkish sorcerer seated at a chess board, awaiting the challenges of living oppo-

nents—illustrate the belief-inducing theatrical conventions of this genre, “empirical performance.” The life-sized figure was dressed in a fur-trimmed cloak and turban and held a long pipe in its right hand, its left arm resting on a pillow. The figure was seated at a large mahogany chest about a meter wide, 80 cm high and 60 cm deep, with two swinging doors and one long drawer in its front. With the assistance of its exhibitor, it would publicly compete with volunteer players, using its mechanical arm to lift each chess piece and drop it into its new position (Hooper and Whyld 1984:363). With its downcast eyes and mustache, the figure suggested the Orientalist fantasy of a sorcerer or fortune-teller.

How and when did the early 19th-century spectator come to believe in technology? How did the operations of theatre participate in the reification of the inventions of science at a moment when technologies were new, even magical in their appearance? My interest is in the faith-inducing dramaturgy of technology thrown into relief by the trick performance. The Chess Player, a landmark in the history of automata, showed mechanism without itself being mechanical, and provoked evaluation of the secret workings of the machine, beyond the spectacle of its effect. Disguised as “technology” it presented the impossible, asking the viewer to suspend a certain disbelief. The double negative of this formulation—the suspension of disbelief—points to something more tense, and intentional, than simple belief. This double operation—first, of disbelieving; and, second, of setting aside that initial response in favor of a willing entry into the image, the spectacle, or the conjuring trick—was first named by Coleridge with respect to the faith exercised by the reader of the poetic image (Coleridge [1817] 1907, II:5–6).¹ In this light, the 18th- and 19th-century texts associated with the Automaton Chess Player may be read as descriptive of an early modern form of *technological* faith, depending on a post-Enlightenment skepticism in the face of a new kind of magic.

De Kempelen’s Automaton Chess Player was a technological *mysterium*, a secret to be uncovered, and a riddle to be solved, whether it won its game or lost to its volunteer opponent. To Chesterton’s list of cultural miracles—the arrow striking its mark and the locomotive striking its distant station—we could add an ancestor from the prior century: the mechanical puppet, costumed as a Turkish sorcerer, moving a chess piece from one square to another, conscious (or so it appeared) of the rules of the game. One contemporary writer, Karl Gottlieb de Windisch, writing from Pressburg, then capital of Hungary, in 1783, titled his series of letters concerning the machine *Inanimate Reason*. “’Tis a *deception!* granted,” he writes, in a series of letters enthralled by the machine and its inventor, “but such a one as does honor to human nature; a deception more beautiful, more surprising, more astonishing, than any to be met with, in the different accounts of mathematical recreations” (1784:13).²

The preface to these letters refers to de Windisch as “the respectable author of the history and geography of the kingdom of Hungary, and the intimate friend and countryman of [the inventor] M. de Kempelen” and calls the Chess Player “beyond contradiction, the most astonishing Automaton that ever existed.” The machine unites:

the *vis motrix*, to the *vis-directrix*, or, to speak clearer, [demonstrates] the power of moving itself in different directions, as circumstances unforeseen, and depending on the will of any person present, might require.
(de Windisch 1784:vi)

The power of motion was combined with the willpower to direct that motion in unforeseen directions, cloaked in the figure of a chess-playing Turk; further, this power would be shown as “real” in a series of public perfor-

mances spanning nearly a century in which both the automaton's working action and its inner mechanism were revealed.

The Reveal

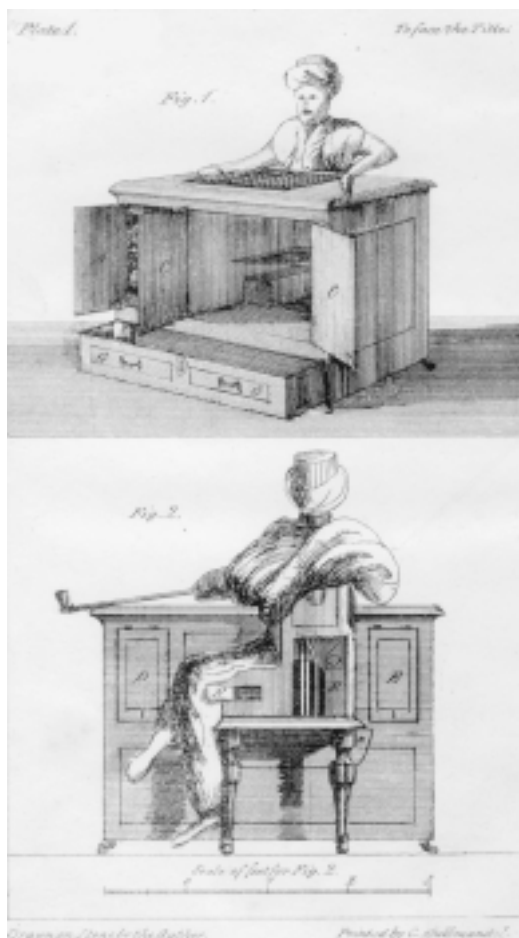
Exhibition of the Automaton began with the revelation of its inner mechanism, a set of moves intended to convince the spectator that intelligent machinery was on display (see plate 1). Robert Willis, a Cambridge undergraduate who later became the university's Jacksonian Professor of Applied Mechanics and an archaeologist of England's medieval cathedrals, soberly defines, in an 1821 pamphlet, three categories of automata: the simple, the compound, and the spurious—or, those depending on mechanism alone, those moved by machinery but also in communication with a human agent, and those controlled *solely* by a human agent “under the semblance only of mechanism” (1821: 9–10).³ Willis sets out to prove that de Kempelen's Automaton belongs to the second category: a hybrid machine aided by a human operator. The problem, for critics of the machine from de Windisch in 1783 to Edgar Allen Poe 50 years later, was to discover the exact location of human agency in the performance. Willis writes:

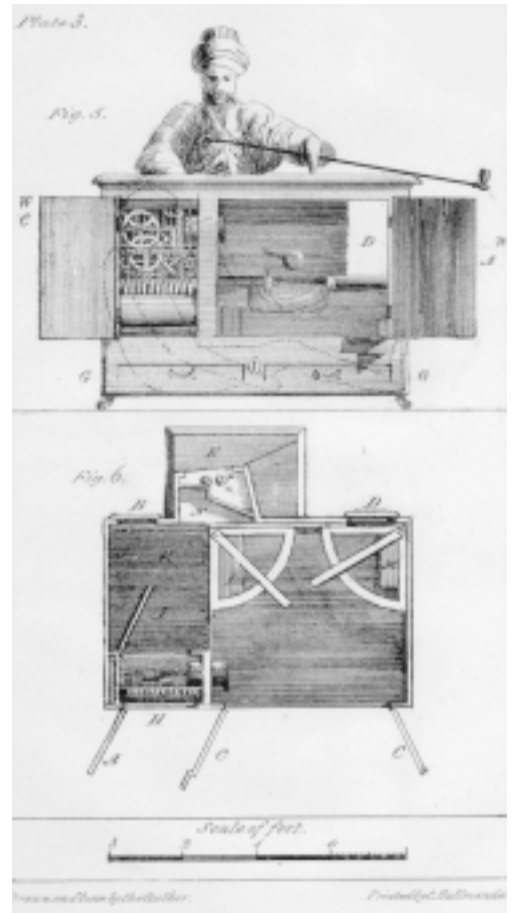
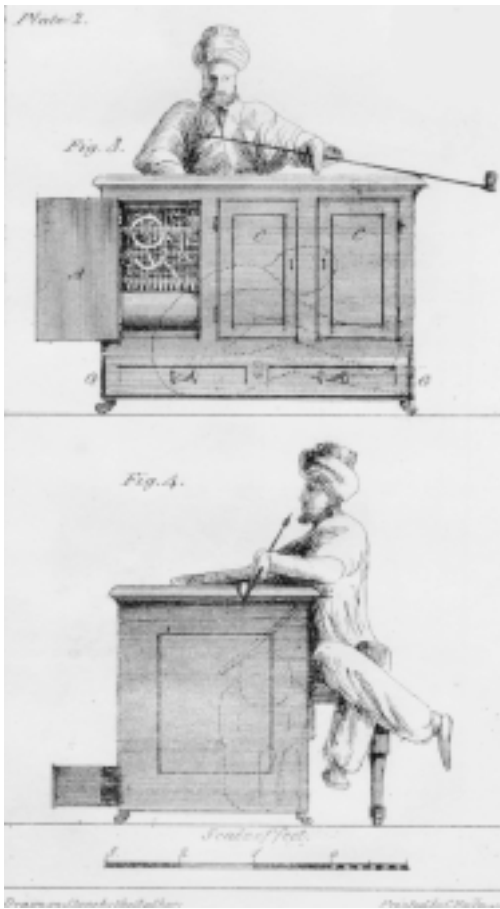
2. Front and rear views of de Kempelen's Automaton Chess Player. (Willis 1821)

[I]t will be evident to any person, even slightly acquainted with mechanics, that the execution of these movements, so extensive, so complicated, and so variable, would be attended with difficulties almost insurmountable; but we will suppose for a moment that these obstacles are overcome; [...] What then? The main object will still be unattained! Where is the intelligence and the “promethean heat” that can animate the Automaton and direct its operations? Not only must an intellectual agent be provided, but between such an agent and his deputy, the Automaton, a direct communication must be formed and preserved, liable to no interruption, and yet so secret that the penetrating eye of the most inquisitive observer may not be able to detect it. (1821:12–13)

The exhibitor addressed the observer's “penetrating eye” in an elaborate mise-en-scène of disclosure framing each performance. He would roll the chest into place on casters to show the lack of any connection with the floor. As a magician reveals “nothing up my sleeve” and “nothing in the box,” so de Kempelen (and his successor Johann Maelzel) would open the cabinet, show its back side, part the curtains, open the locked doors, and show the internal wires, rods, gears, and flywheels. Lighted candles would illuminate every internal crevice where a human operator might be concealed. The routine of the “reveal” was elaborate.⁴ According to Willis:

The exhibitor, in order to shew the mechanism, as he informs the spectators, unlocks the door (A, fig. 1) of the chest, which exposes to view a small cupboard, lined with black or dark coloured cloth, and containing different pieces of machinery, which





seem to occupy the whole space. He next opens the door (B, fig. 2) at the back of the same cupboard, and, holding a lighted candle at the opening, still further exposes the machinery within. (1821:6–7; see plate 2)

Every door is opened in succession. Even the Turk's garments are lifted to show the absence of a human performer. "In all these operations," comments David Brewster, the 19th-century historian of mathematical, scientific, and magical curiosities, "the spectator flatters himself that he has seen in succession every part of the chest, while in reality some parts have been wholly concealed from his view, and others but imperfectly shown [...]" (1832:278). Edgar Allen Poe, describing Maelzel's American exhibition of the Chess Player in Richmond in summer 1834, wrote of this moment of disclosure:

The interior of the figure, as seen through these apertures, appears to be crowded with machinery. In general, every spectator is now thoroughly satisfied of having beheld and completely scrutinized, at one and the same time, every individual portion of the Automaton, and the idea of any person being concealed in the interior, during so complete an exhibition of that interior, if ever entertained, is immediately dismissed as preposterous in the extreme. (1938:426)

3 & 4. Robert Willis's drawings show the interior organization of the Chess Player's mechanical parts and, in faint pencil outline, the hidden operator of the Chess Player. (1821)

Willis wonders why the machinery is revealed prior to the operation of the Automaton and concealed when it is in motion. Why is the moment of disclosure isolated from the performance itself? And how might this isolation “flatter” the observer? There’s the trick:

The glaring contradiction between eager display on the one hand, and studied concealment on the other, can only be reconciled by considering the exhibition of the mechanism as a mere stratagem, calculated to distract the attention, and mislead the judgment, of the spectators. (1821:18-19; see plates 3 and 4)

Willis concludes that “more is intended by the disclosure than is permitted to meet the eye,” an extraordinary statement, considered along Poe’s perception of the automaton’s interior, “crowded with machinery,” that says something about the performance genre considered here: the spectacle of early technology as an illusion of cause and effect. Both Brewster and Willis acknowledge that de Kempelen never denied that the image of the intelligent machine was an illusion. Brewster’s account quotes de Kempelen himself:

The chess-playing machine, as thus described, was exhibited after its completion in Pressburg, Vienna, and Paris, to thousands, and in 1783 and 1784 it was exhibited in London and different parts of England, without the secret of its movements having been discovered. Its ingenious inventor, who was a gentleman and a man of education, never pretended that the automaton itself really played the game. On the contrary, he distinctly stated, “that the machine was a *bagatelle*, which was not without merit in point of mechanism, but that the effect of it appeared so marvelous only from the boldness of the conception, and the fortunate choice of the methods adopted for promoting the illusion.” (1832:272)

De Kempelen never pretended to show magic on the stage. The popularity of the performance of an inanimate object giving the *effect* of the rational and scientific application of mechanical principles to a particular mimetic challenge, the imitation of human reasoning and thought, raises a question: Which conventions of stage magic actually made it appear technological? The Automaton Chess Player enacted a fantasy of mechanical power: that clock-work gears, levers, invisible wires, or magnets could somehow perform enough discrete operations to add up to the faculty of thought, symbolized by chess, a game combining the calculations of reason with the mechanisms of the chess pieces moving on the board.

The author of an 1819 pamphlet, *Observations on the Automaton Chess Player*, identifies himself only as “An Oxford Graduate.” In the introduction to his careful explication of the phenomenon of the Chess Player, the Oxford Graduate reminds the reader of the historical moment in which a thinking machine is possible:

[I]t was reserved to modern times, to witness the invention of those exquisite and grand combinations of mechanism, which are displayed in the numerous kinds of watch and clock work, and in the higher order of wind instruments, in their several varieties. [...] Notwithstanding, however, the superior ingenuity of modern artists, in mechanics, which these scientific inventions discover, it seems to be a thing absolutely impossible, that any piece of mechanism should be invented, which, possessing

perfect mechanical motion, should appear to exert the intelligence of a reasoning agent. This seeming impossibility is surmounted in the construction of the Automaton Chess Player. (1819:7)

The image is further complicated by its surface. The puppet of the Turk as the figure of a magician representing a pretechnological order, one of many representations of the Orient as a site of thaumaturgy.⁵ This is the dialectical tension illustrated in Walter Benjamin's wish-image in the "Theses on the Philosophy of History" ([1950] 1969)—the dream of a future technology, a performing machine, costumed in the garb of a mythic time and place, in this case a past in which magic could provide the "Promethean heat," to recall Willis's phrase, to drive the inanimate mechanism as though it were alive. In the case of the Chess Player, the liveness of the machine was theorized as the power of linear, sequential decision-making, the performance of the art of chess, in which *thought* itself is performed: a scientific form of enchantment and the most rational of entertainments.

A Good Deception

It began in 1769 with a challenge, or perhaps a boast, made by the Hungarian engineer and mechanic Farkas de Kempelen, born in 1734, in response to the arrival of a French inventor named Pelletier at the court of the Empress Maria Theresa of Austria. Pelletier's exhibition of "certain experiments of magnetism" prompted de Kempelen to suggest that he could produce "a piece of mechanism, which should produce effects far more surprising and unaccountable than those which she then witnessed" (Oxford Graduate 1819:12).⁶ Six months later he appeared before the Empress with the Automaton Chess Player, also known simply as the Turk.

Little is known of de Kempelen. The anonymous Oxford Graduate, in a scholarly assessment of the Chess Player published in London in 1819, identifies him most fully as Wolfgang de Kempelen, a Hungarian gentleman, Aulic Counselor to the Royal Chamber of the domains of the Emperor in Hungary (1819:11). Charles Michael Carroll suggests that his invention of the moving arm of the Chess Player contributed to the development of the mechanisms of artificial limbs. De Kempelen invented a method of printing embossed books for the blind, a hydraulic system for the fountains at the Schönbrunn Palace, a machine for producing mechanical speech, and a canal system to link Budapest with the Adriatic. It is virtually certain that de Kempelen never expected the Chess Player to have a performing life of 85 years, 50 years beyond the year of his death in 1804 (Carroll 1975:1–3).

From de Kempelen's death until his own in 1838, Johann Nepomuk Maelzel was the machine's second exhibitor, arriving in the United States in 1826. Like de Kempelen, he was a Hungarian engineer employed at the court of Vienna, where he acquired the automaton from de Kempelen's estate. Much more a showman than his predecessor, Maelzel surrounded the Chess Player with a touring assortment of mechanical curiosities that included an Automaton Trumpeter, Automaton Slack-Rope Dancers, and a moving panorama of the Conflagration of Moscow, all exhibits of his own creation (Odell 1970:427, 595).⁷ Maelzel performed for extended runs in New York, Boston, and Philadelphia, where the Chess Player was finally destroyed in the 1854 fire that consumed Peale's Museum.

Both Maelzel and de Kempelen were interested in the mechanical reproduction of sound and the problem of mechanical speech. On its first tour to London in 1783, the Chess Player was exhibited alongside a Speaking Figure, a doll

that faintly, though audibly, answered questions posed to it.⁸ In the winter of 1817/18, Maelzel rebuilt the Chess Player to give it the ability to “roll its eyes, move its hands, turn its head, and say in French, *échec et mat*” (Arrington 1960:61). The Chess Player, then, can be seen as part of a large collection of machines imitating the various isolated functions of *l’homme machine*.

Automata of the late 18th and early 19th centuries could play music, imitate human and animal movements, answer a limited set of questions, and otherwise dazzle audiences with clockwork *tableaux vivants* depicting pastoral scenes populated by articulated animals, angels, cupids, and views inside miniature proscenium theatres. Automata trace their history to the mechanical statues of antiquity—the articulated figures of ancient Egypt and the animated oracles of Greece and Rome. Hero of Alexandria describes machines that demonstrated physical principles, such as mechanical theatres, showing a variety of scenes and driven by water and systems of counterweights. Automaton historians Alfred Chapuis and Edmond Droz date the earliest applications of clockworks to automata to the beginning of the 14th century. The clock tower at Soleure, for instance, dates from 1452 and depicts a warrior beating his chest on the quarter-hours, while a skeleton clutching an arrow turns his head to the soldier on the first stroke of each hour. A 16th-century automaton from Brittany depicts a mechanical crucifixion scene. Automated scenes were similarly depicted in miniature in table- and pocket-clocks from the 16th century on. These clocks often had musical components, including the singing cuckoo, invented about 1730 (Chapuis and Droz 1958:120–21).

In the 18th century, German and Swiss clock makers began to connect clockwork movement with the detailed articulation of figures: rustic porcelain peasants ate potatoes, cobblers stitched tiny shoes, and military bands played their instruments. Chapuis and Droz reproduced an engraving of a large table-top clock, called simply “the Microcosm,” built in 1718 by Henry Bridges at Waltham Abbey in England. Exhibited in 1756 in Philadelphia, the “world in miniature” was described by the *New York Mercury* with the following scenes:

1. All the celestial phenomena are shown. 2. The nine Muses, giving a concert. 3. Orpheus in the forest. 4. A carpenter’s shop. 5. A delightful grove. 6. A beautiful landscape with a distant view of the sea. 7. Lastly, all the machinery of the piece, including 1,200 wheels and pinions in motion. (in Chapuis and Droz 1958:129)

The final scene, a peek into the backstage workings of the machine, sets the stage upon which the Chess Player must have seemed both a plausible imitation of thought and an extraordinary leap into an impossible mimetic realm.

Engineers, nobility, chess enthusiasts, artists, and mechanics came to Vienna from all over Europe as the word spread that a “modern Prometheus,” de Kempelen, had built a machine that could beat a human opponent at the game of chess. It seems that the instant popularity of the automaton caught its engineer quite unprepared for the role of showman. In 1773, roughly three years after the initial exhibition, de Kempelen retired the Chess Player, packing it away in crates in the hope of returning to his more serious work.

The visit to Vienna in 1781 of Grand Duke Paul, future czar of Russia, provided Maria Theresa’s successor, her son the Emperor Joseph II, with an incentive to create an entertainment worthy of a distinguished guest, and one that would compete with entertainments planned for the Duke’s tour of the capitals of Europe. The Chess Player’s revival was ordered. De Kempelen’s triumphant performance was rewarded with the Emperor’s offer of a leave from his duties for two years for a tour of Europe (Carroll 1975:15).

The touring life of de Kempelen and the Automaton Chess Player began with a visit to Paris, chess capital of Europe, in the spring of 1783. De Kempelen challenged Philidor, chess champion of Paris, to a game played before the Académie des Sciences. The Automaton lost, but not without exhausting the master (Carroll 1975:18). De Kempelen remained in Paris from April through July 1783. By October, he had set up in rooms in London and remained there through 1784, the date of Philip Thicknesse's article, one of the earliest in a long series of analytical writings on, exposés of, and diatribes against the Automaton and its handler:

When I see a Foreigner come among us, and call a Toy-Shop Doll, a *Speaking Figure*, and demand HALF A CROWN apiece admittance to hear it, and find within an hundred yards another Foreigner, who imposes double that sum to see what he calls an Automaton *Chess-player*:—When I see such men, I say, collecting an immense sum of money in this Kingdom, to carry into some other, by mere tricks, my indignation rises at the folly of my own countrymen, and the arrogance of the imposing strangers. (1784:2–3)

“Mere” tricks. Thicknesse doesn't specify where the trick is located, or even whether he objects to the false spectacle of a machine or the spectacle of an honest chess match with a mechanical Turk. Here is the problem, the source of fascination, and the subject of every published study of the machine: Was it a mechanism? Was it a trick? Or somehow both? The Automaton raised the question: Where does human agency end and mechanical agency begin? De Kempelen never denied that the machine was an “illusion.” And yet, the spectacle of a human antagonist setting his powers of logic against a mechanical doll dressed in Turkish costume spoke to the imagination of its spectators, raising the idea that an automaton could not only move and perform *like clockwork*, but that it could mimic human logic and complex thought.

Clockwork automata and mechanical spectacles had been exhibited for decades prior to the Chess Player's arrival in London. The French inventor Jacques de Vaucanson, born in Grenoble in 1709, exhibited a flute player, a tabor and pipe player, and the infamous mechanical duck in the Opera House at Haymarket, London, four times daily in 1742 (Altick 1978:64–65). The duck was renowned for its ability to eat, digest, and excrete its food. Jean Eugène Robert-Houdin, a conjurer of mythic stature, an award-winning inventor, and builder of clockwork automata, saw the duck, which was later to be exhibited after its inventor's death at the Palais Royal in 1844, alongside Robert-Houdin's own automaton. In his memoir, he reveals the duck's secret:

Of course I was one of the first to visit it, and was much struck by its skillful and learned formation. Some time after, one of its wings having been injured, the duck was sent to me to repair, and I was initiated into the famous mystery of digestion. [...] The trick was as simple as it was interesting. A vase, containing seed steeped in water, was placed before the bird. The motion of the bill in dabbling crushed the food, and facilitated its introduction into a pipe placed beneath the lower bill. The water and seed thus swallowed fell into a box placed under the bird's stomach, which was emptied every three or four days. The other part of the operation was thus effected: Bread-crumbs, colored green, was expelled by a forcing pump, and carefully caught on a silver salver as the result of artificial digestion. This was handed round to be admired, while the ingenious trickster laughed in his sleeve at the credulity of the public. ([1859] 1944:146–47)

Both the mechanical duck and the Chess Player inhabit a hybrid realm, with respect to their status as performing objects. Machines *and* spectacles of mechanism, both were ingeniously assisted by an invisible hand.

Robert-Houdin tells a largely fictitious story of the Chess Player in his memoir, with the dramatic flair of a showman. It enters into the folklore of the automaton as the most fanciful and factually suspect account of the machine's secret, beginning as it does, not with a narrative of mechanical invention, but with the life of the first man to operate the Player from within, a certain Worousky, a Polish officer in a half-Russian, half-Polish regiment stationed at Riga in 1796. The leader of a group of rebel soldiers, Worousky is wounded in battle with the reinforcements from St. Petersburg. A benevolent doctor conceals him and, after the onset of gangrene, his life is saved only by the amputation of the lower half of his body ([1859] 1944:148–49).

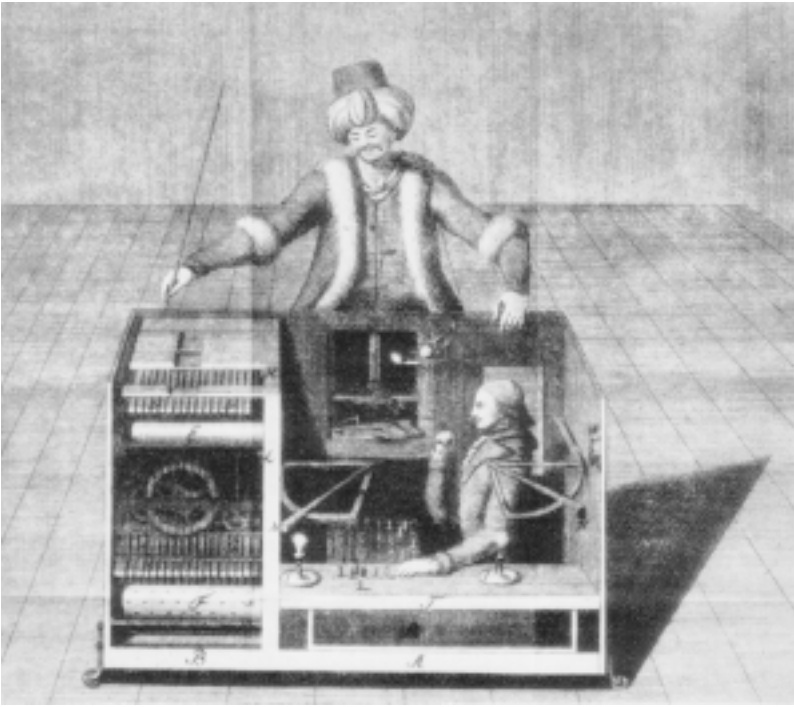
"M. de Kempelen, a celebrated Viennese mechanician" encounters Worousky on his travels dedicated to the study of foreign languages and their mechanisms. The Automaton Chess Player enters as a prop in a rescue scheme: a hiding place in which to smuggle the body of Worousky out of the doctor's care and across the Russian border. Worousky, in his convalescence, had become, it seems, a formidable chess player.

In Robert-Houdin's breathless telling of the tale, Worousky and de Kempelen escape Russia only by duping chess players at exhibitions in Toula, Kalouga, Smolensk, Vitebsk, and finally before the Empress Catherine herself, who offers to buy the curiosity. Robert-Houdin narrates the genealogy of the Chess Player in the hyperbolic style of a conjurer, as a short melodrama. Robert-Houdin was an innovator in the staging of trickery, in determining how to trick the eye with a variety of electrical, magnetic, mechanical, and purely visual means. Robert-Houdin's tale of how he came to see the "precious relic" is included as an entry in a memoir of stage deceptions that belonged to a form of nonmagical magic, the 19th century's answer to the alchemist's blending of artistry, mysticism, and science. His story, however, is a historical bit of conjuring; while he catches the spirit of the mythic force of the machine's reception, his facts are largely fanciful, as was the replica Chess Player that he built for the Paris stage in 1868, a theatrical copy of a scientific fake in a historical scene that never took place.

A Man within a Man

Philip Thicknesse begins with the premise that the machine is "UTTERLY IMPOSSIBLE" (1784:5). The demystifying and debunking literature surrounding the Turk in its travels from London to Philadelphia (even the revelation in print of its secret by one of the operator's confederates in Paris in 1834) did not diminish the Automaton's steady popularity as an attraction and curiosity. Thicknesse concludes his 1784 pamphlet with a linguistic exposure: "[T]he Automaton Chess-Player is *a man within a man*; for whatever his outward form be composed of, he bears a living soul within" (1784:16; see plate 5).

Whether we consider it a conjuring show, a scientific demonstration, or a traveling curiosity, the case of the Chess Player was an anomaly. It appeared mechanical, demonstrating mechanism. If it seemed credible as a machine capable of the acrobatics of logic required to play an opponent at chess, then it could only be so by virtue of its staging, its framing narrative and commentary. The popular narratives of the Chess Player consisted of a series of stories, some more plausible than others, of its matches with famous figures of history (Catherine the Great in St. Petersburg; Napoleon in Vienna; Benjamin Franklin in Paris) and elaborate variations on the theory of the machine's secret: the method of

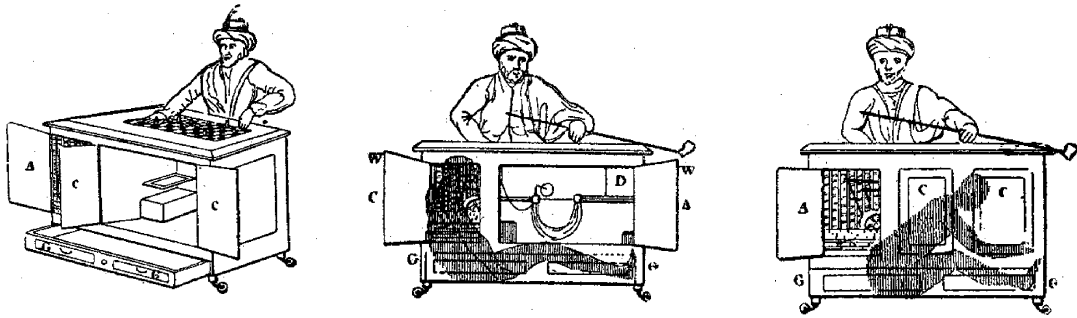


5. De Windisch's illustration reveals a man within a man. (Copper-plate illustration in de Windisch 1784)

concealment of an unseen, living player. Yet even Thicknesse, the most irate of the lot, seems to have no quarrel with the Automaton after his own righteous revelation of its workings. His demystification is respectful, admiring of the ingenuity of the performance, up to a point. "And I was one of the many who have paid fifteen shillings to show my family the figure of a Turk," he writes:

which has a moveable arm, a thumb, two clumsy fingers, which, by pulling a string within the arm can embrace or leave a Chessman, just where *a living hand directs it*. Let the Exhibitor, therefore, call it a GOOD DECEPTION, and I will subscribe to the truth of it; but while he draws a large sum of money from us, under the *assurances of its being an Automaton* that moves by mechanic powers, he endeavours to deceive, and it is fair game to expose it, that the price at least may be reduced. For I confess it is a curiosity, and I believe as much money would be received at one shilling each, as is gained by demanding five. (1784:15)

A deception, but a good deception? Worth one shilling per view, but not five? What sort of exposure is this? Certainly not one hostile to the performance of the machine, only to its assumed claim to transparency, to technological truth. The image of the machine as it clicks, whirrs, creaks, and thumps, lifting the piece from the board, dropping it in its new position, eyes rolling and head turning, is separated from the intelligence that operates it by an invisible linear method of control. The variety of accounts of the machine and its secret belies the spectator's moment of uncertainty, in which disbelief that a machine can think is momentarily suspended. The normative relationship of authority between people and objects is briefly questioned, then set back into its rational, everyday hierarchy.

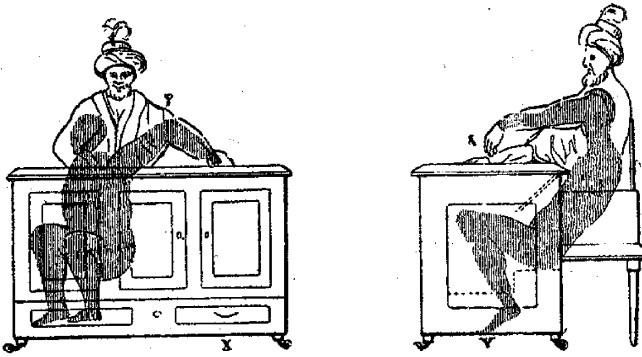


Belief and Unmasking

The Chess Player highlights the crucial role of the observer's simultaneous belief and skepticism in evaluating the object on display, presenting a limit-case in the development of a theatre of machines: part puppet show, part scientific demonstration, part conjuring trick. The Chess Player, which appeared driven by magnetic or possibly electrical forces, gave life for nearly a century to the ideal of an intelligent machine, an image that Walter Benjamin adapts from the "ur-history" of the 19th century.

Organizing his *Passagen-Werk* notes on historical progress into the "Theses on the Philosophy of History," Benjamin begins, employing the introductory language of the fairy tale, with an image of the Automaton Chess Player. "The story is told of an automaton," he begins, inside which, hidden by mirrors, sits a "little hunchback, who was an expert chess player," who guides the arm and hand of the false machine (see plate 6). Benjamin uses this model as an allegory for an ever-victorious, progress-driven "historical materialism" concealing within its armature a hidden figure whom Benjamin equates with "theology, which today, as we know, is wizened and has to keep out of sight" ([1950] 1969:253). Writing in 1940, Benjamin embeds the 18th-century Chess Player in high, modernist, philosophical allegory, figuring the dialectical relation between the outward appearance of linear, historical, secular time and the hidden influence and weak magnetic pull of messianic time, part revolutionary, part sacred. Benjamin's parable is a ghostly afterimage of early modernity, a final staging of the Automaton Chess Player as "wish-image."

In the Arcades Project files, Benjamin quotes Jules Michelet: "Every epoch dreams its successor." In his fragments for a critique of the notion of historical progress, Benjamin formulates the idea of the "wish-image," the mythic point at which past and future historical trajectories cross in the form of an image rescued by the Marxist historian from a temporal distance. Fanciful, early modern forms of architecture and technology could be perceived as such wish-images, provided they were considered through the shock of historical discontinuity. New technologies of the 19th century were clothed in the forms of ur-history, of the mythic past. "Just what forms, now lying concealed within machines," Benjamin writes, paraphrasing Marx, "will be determining for our epoch we are only beginning to surmise" (in Buck-Morss 1989:115; see also Benjamin 1983–84:1–40). Theology is revealed as the puppeteer. Benjamin's use of the term "theology" here is compelling, leading one to look beneath the surface appearance of technological phenomena for an element of object performance that is similarly kept out of sight. A "machine" is performed in the Chess Player's story; and yet, there is no machine and the



6. *A study of the postures required by the operator concealed within the Automaton Chess Player. (Illustration in Brewster 1832)*

reveal of the mechanics is a further concealment, a classic turn in the dramaturgy of the conjurer, who operates through the careful encouragement of distraction in the observer who willingly suspends disbelief in the machine.

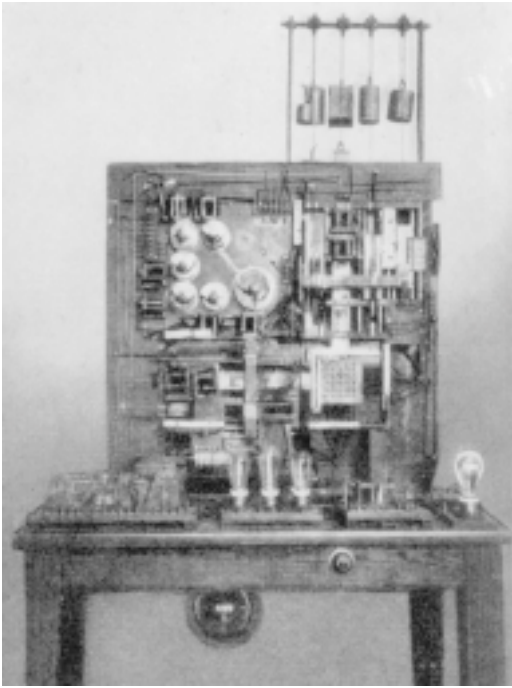
The Chess Player was a dramaturgical hybrid of theatre, magic, and science, presented by an exhibitor—at once stage illusionist, conjurer and prestidigitator, sideshow talker, and mechanical engineer—and employing a choreography of momentary concealment and subsequent revelation, generating in the attentive observer alternate responses of skepticism at the impossible and belief that the secret of the trick, like the pea in the shell game, would be revealed. Like a traditional puppeteer, the exhibitor possessed a mix of verbal and manual dexterity, the reverence for objects and their capacity for enchantment.

In an essay on the magical practices of folk healers, the operations of skepticism and belief in everyday uses of magic, and the literature of enlightened explanation of the shaman's magic within Western cultural anthropology, Michael Taussig writes “another theory of magic” that proceeds from this proposition: “The real skill of the practitioner lies not in skilled concealment but in the skilled revelation of skilled concealment” (1998:222). In other words, partial acknowledgment of the trick *supports* the success of the performance. Though the essay refers to quite a different epistemological terrain, the linking element is the performing object, which stands in for, among other things, the disease to be extracted from the body of the patient. Again, the “trick” of the trick is that the spectator knows, and suspends disbelief in, the operation at work. Taussig offers a theory of how magic “works” given this paradox.

Magic is efficacious not despite the trick but on account of its exposure. The mystery is heightened, not dissipated, by unmasking and in various ways, direct and oblique, ritual serves as a stage for so many unmaskings. Hence power flows not from masking but from unmasking which masks more than masking. (1998:222)

Unmasking as a form of further masking? This begins to account for the success of the pseudo-technological puppet show, the “enlightened Turk,” along with its polite literature of respectful unmasking. Its dramaturgy took the form of an elaborate sequence of “reveals,” the reveal being the basic gesture of the curiosity exhibition, a hybrid genre that always suggests fraud, sleight-of-hand, and artifice. The reveal that distracts and thereby conceals is the essence of the nothing-up-my-sleeve gesture of the conjurer.

The display of the machine raised the potential of fraud, the request for assessment, for exposure or the spectator's acceptance. Keeping in mind Taussig's “other” theory of magic, I would wonder whether the gesture of



7. An early 20th-century chess-playing machine, built by Torres y Quevedo, used electro-magnets and a gramophone record to utter "checkmate." (Photo courtesy of Mark Sussman)

demystification wasn't bound up with the successful enchantment and wonder the Automaton must have provoked. For the Chess Player was both a popular success and a fraud. And, though it was not in itself an electrical or magnetic apparatus, it could only perform plausibly within the new conventions of scientific display of electrical and magnetic phenomena. The automatic thinking machine that concealed, in reality, a human person, can be seen as a model for how a spectator might reify, and deify, the hidden power at work in a new form of intelligent machinery, from the primitive forms of the Leyden jar or the electrical dynamo to IBM's RS/6000 SP supercomputer, nicknamed Deep Blue, which defeated world chess champion Garry Kasparov in a six-game match lasting ten days in May 1997 (Weber 1997:A1; see plate 7). In the Automaton Chess Player, electric power was enacted as the inner life of the machine, pulling its strings with invisible wires, smartly winning the game. The visual proof was, first, the demonstration of control at a distance; and, second, the transmission of human intelligence into the inanimate body of the object: the performing object that animates both demystification and reenchantment.

Notes

1. S.T. Coleridge, in his literary biography, discusses the relation of verisimilitude and the poetic imagination, "[T]he two cardinal points of poetry, the power of exciting the sympathy of the reader by a faithful adherence to the truth of nature, and the power of giving the interest of novelty by the modifying colors of the imagination." A balance of these elements produces "a human interest and a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith" (1907 [1817]:5-6).
2. French editions of the de Windisch letters were published in Paris and Basel, and a German edition appeared in Pressburg, all in 1783, the year the letters are dated. It appeared in Dutch in Amsterdam in 1785. Charles Carroll speculates that de Windisch acted in collaboration with de Kempelen as an advance man, publishing these letters in the vernacular of cities where the Automaton was exhibited "to titillate the prospective viewer" (Carroll 1975:18; see also Chapuis and Droz 1958:364).
3. Like de Kempelen, Willis was also the builder of a mechanical speaking machine (see Chapuis and Droz 1958:322; Altick 1978:352).
4. The term "reveal" bears a particular meaning in contemporary theatre practice, specifically in the field of industrial theatre—corporate events staged to reveal new products, from the next model of automobile to the latest antidepressant drug—to an audience of industry insiders (see Bell 1987:36-57).
5. Thomas Frost, for instance, describes the 1805 exhibition in London of an automaton "in Turkish costume, that performed conjuring tricks with cards," by an Italian entertainer named Bologna (1876:167).
6. Brewster refers to "some magnetic performances, which one Pelletier, a Frenchman, was to exhibit before the late Empress" (1832:40). Asendorf shows an illustration from Hamburg (c. 1800) of a machine that subjected the willing victim, seeking a modern form of amusement, to an electric shock (1993:54).
7. Maelzel's program was exhibited at Tammany Hall in New York, May 1829. In later years, he would add a "Melodium" and a "Mechanical Theatre" to the bill.
8. Maelzel's Paris company built and distributed the earliest metronomes, a simpler adaptation of the mechanics of clockwork to music; his claim to the invention of the device was disputed by a rival Belgian inventor.

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