

DEFECATING DUCKS, BARKING DOGS, AND HUNTERS ON THE PROWL

May 2012

Jacques Vaucanson, Public Domain



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Over two thousand years ago, Archytas, a Greek philosopher and mathematician living at the time of Plato, supposedly crafted a wooden model of a dove that could fly.

Archytas' feat was impressive but few things can beat the defecating duck constructed by Jacques Vaucanson in 1738.

Born in Grenoble, France in 1709 Vaucanson demonstrated his mechanical aptitude from an early age by creating a mechanical boat when he was just fourteen. At nineteen, he demonstrated an automaton, a machine that seemed to operate on its own,

before a local religious order in Lyon. When a scandal followed, causing the superior of the order to demand the destruction of the machine, Vaucanson left his religious lessons and turned to designing machines full time.

In 1738, Vaucanson became an instant celebrity in Paris when he displayed a life-sized automaton of a faun playing the flute. For the price of three *livres* (a week's wages for a worker), anyone could go to the Hôtel de Longueville to see and hear the faun play one of fourteen different tunes. Although the fee was too high for ordinary

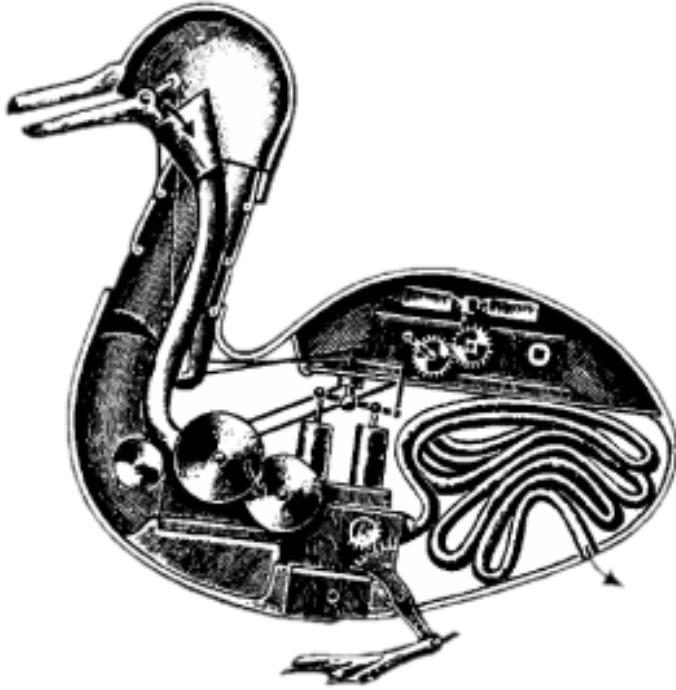
workers, thousands paid to see Vaucanson's faun.

Vaucanson followed his flute-playing faun with a shepherd playing a fife and drum. With a repertoire of twenty songs, this new automaton could outperform his faun.

Defecating Ducks

It was hard to beat the shepherd---but Vaucanson's next automaton, a life-size duck, managed it. It swam, drank water, ate grain, and, amazingly enough, defecated.

Vaucanson's duck appeared less



Defecating Duck, Public Domain

than ten years before Julian Offray de La Mettrie's somewhat scandalous book, *Man, A Machine* which took Cartesian mechanical philosophy to the limits and argued that humans were just a machine or, more simply, a type of living automaton. What La Mettrie suggested for humans, Vaucanson's automata seemed to prove for animals.

Although Vaucanson never made any other automata, his fame as the creator of the faun, the shepherd, and the duck outlasted him. His three automata continued to draw the attention of people long after Vaucanson's death in 1782.

Better still, his work inspired imitators.

In 1746, people could pay a small fee to attend a "concert of birds" at the Tuilleries Palace in Paris between the hours of 11:00 a.m. and 1:00pm and again between 3:00 p.m. and 6:00 p.m. They sang "many songs with a marvelous delicacy." An "ingenious bird" appeared in 1764, which could "assemble letters to form words, discern the hours and minutes, understood the first four rules of arithmetic, and distinguish colors." And at the Saint Germain fair in 1772, Parisians could watch a mechanical bird which poured different wines from its beak at the request of the audience, a useful skill in a nation known for its wine.

Making Men into Machines

The creators of these automata did not limit themselves to creating animals.

In 1750, people visiting the Saint Germain fair could view an eight-year old "boy" automata which played several songs on a trumpet.

A dancer, invented by a German mechanic, appeared in Paris in 1776; it "executed all the perilous feats of the most skillful dancers." An "amusing and recreational cabinet" on the rue de Richelieu in Paris advertised a variety of physics instruments and mechanical devices. Among them appeared two automata, one of which represented a hunter who could read peoples' thoughts and a second in the form of an African who could point to anyone in the room upon demand. An organ manufacturer crafted two figures, a shepherd and a shepherdess, who played flutes.

The best automata creators were showmen at heart.

Perrin, whose real spaniel was advertised as being able to read French and English and do various physics tricks, also showcased an automaton of a hunter. Audience members picked numbers posted on the wall and the hunter automaton would shoot an arrow into whichever number they selected.

But good showmanship had its perils.

When presenting two of his automata at the Spanish court, Pierre Jaquet-Droz, a watchmaker from Geneva, ran into trouble. The first automaton, a shepherd playing a flute, was a success.

But things quickly went sour with the second automaton, a dog guarding a basket of apples. When the king attempted to take one of the apples, the dog barked so realistically that a real dog in the room barked back, sparking a frenzy. As they scrambled out of the way of the unfolding chaos, courtiers whispered of witchcraft.

Fearing that he would be called before the Inquisition, Jaquet-Droz hastily explained how his machine worked and just as quickly left the country.

Later Automata

The Jaquet-Droz family created other, more politic, automata which they exhibited around Europe. These included one of a boy who made four different sketches including profiles of Louis XVI and Marie Antoinette. Similarly, a Hungarian inventor named Kempelen created a chess-playing automaton while the abbé Mical crafted a pair of talking heads which he displayed in a room on the rue du Temple in Paris. These heads offered praise

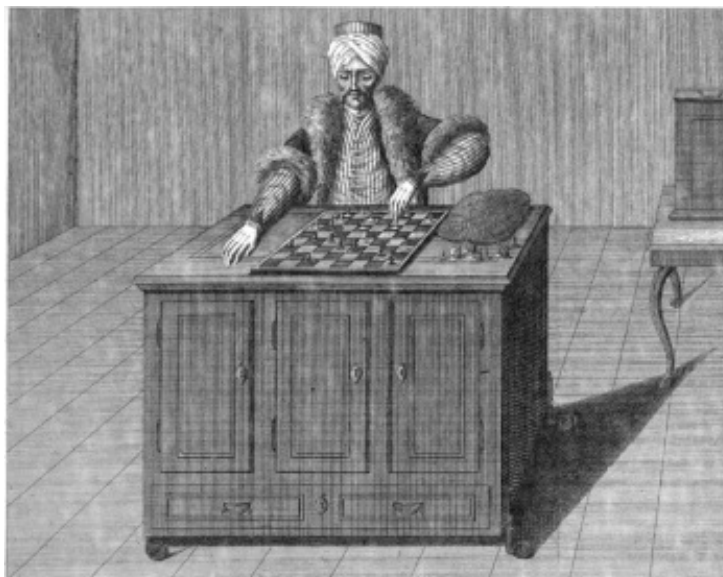
to Louis XVI saying things like “The King gives peace to Europe.”

While automata were especially popular in the eighteenth century, later generations had their fair share of machines too. In 1811, for example, a mechanical elephant was shown across France. Given twenty-four hours notice, the operator of this automaton could arrange for it defecate with as much instructional and entertainment value as Vaucanson’s duck.

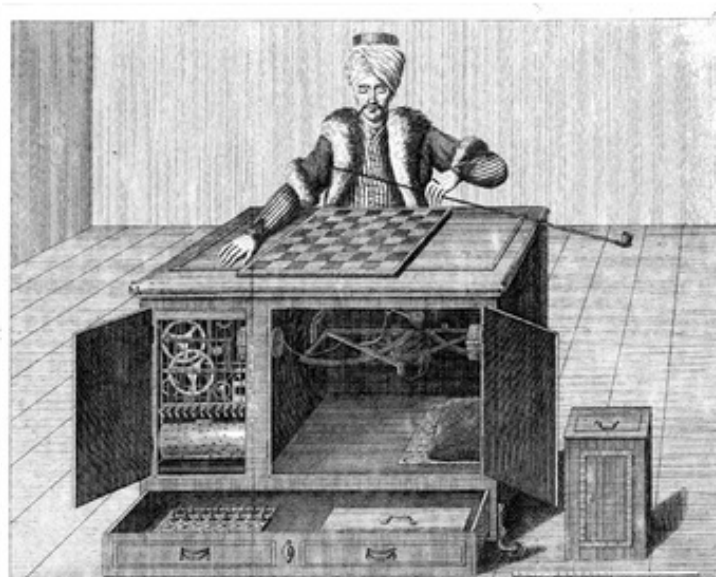
Entertaining as these shows were, they illustrate an important shift in how Europeans viewed themselves and their world. After centuries of seeing themselves as unique and special creations of God, eighteenth-century Europeans viewing automata now began to think about humans very differently, seeing parallels between humans and machines and opening the door for broader discussions of how machines could imitate humans.

All of this leaves us with one question: is the iPhone 4's Siri the great-great-great-grandchild of these eighteenth-century automata?

Michael R. Lynn is a Professor of History at Purdue University, North Central. You can buy his book, [The Sublime Invention: Ballooning in Europe, 1783–1820](#) at Amazon.



W. de Kempelen del. Ch. a. Mical sculp. Basilea P. G. Remy. f. Der Schachspieler im Spiele begriffen. Le joueur d'échecs tel qu'on le voit pendant le jeu.



W. de Kempelen del. Ch. a. Mical sculp. Basilea P. G. Remy. f. Der Schachspieler in der eroffneten Spielkammer. Le joueur d'échecs tel qu'on le voit avec le jeu pardevant.

18th Century Automaton, Hidden and Exposed, Public Domain