Peacock Clock - Rellotge de paó

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The Peacock Clock is the only large mechanical automaton of the 18th century in the world that has been preserved unchanged and in working condition. [1] Today it can be seen in the Hermitage Museum in Saint Petersburg, where the clock is one of the most visited exhibits. [2]

Contents

Location
Glass and Golden Wood Showcase, 1851

Until 1797, the Peacock Clock stood in the Tauride Palace, the former palace of Prince Potemkin. [2] Then Paul I moved into the building[3] and ordered the peacock clock to be transported to the Hermitage. The move was carried out by mechanic Ivan Petrovich Kulibin. [5] Since then, the artwork has been in the Hermitage. In the Hermitage, the peacock clock was first placed in the south cabinet, the so-called diamond cabinet. In the middle of the 19th century, he moved to the East Gallery of the Small Hermitage. There, the clock can be seen in watercolors by the artist K. A. Ukhtomsky from the 1860s. At first, the exhibit stood on the floor. For protection, an octagonal dome was built around it. In the 20th century, in Soviet times, it was moved to the Pavilion Hall. [2] Today, the Peacock Clock stands in the Small Hermitage, Section of European Applied Arts. [1]

History
Historical influences

Mechanical devices have been found in throne rooms since early in history. In the throne room of the Grand Imperial Palace in Constantinople there was also a gilded tree with mechanical birds singing differently. The way it works could have been done either by water or mechanics. King Solomon's throne is also said to have been flanked by mechanical birds and lions. This is said to have symbolized power and the ascension to heaven. [6][7] Trees made of precious metal

with mechanical birds continued to be common, for example, in Byzantium, the Abbasid Caliphate, the Emirate of Sicily, Central Asia, and China. [2]

In the idea of the Enlightenment, which was spreading at the time of Catherine the Great, man and rational thought were to be seen at the head of nature, not God. To animate dead matter by mechanical skill was a testament to this age. The authority of the church was challenged, while the enlightened ruler became a symbol of knowledge and power. [8]

In the 18th century, chinoiserie was very popular in Europe, especially in England. However, trade with China was difficult because there was no need for European goods there. This changed with the mechanical, musical clocks, "self-ringing bells" as they were called in China. The Chinese time system differed from the European one, which is why the focus was not on the time, but on the ability to breathe life into dead material. [4]

Catherine II also set out to establish Russia as a centre for culture and science. She collected aesthetics and art. Over the course of 20 years, she has collected over 4,000 paintings and around 10,000 drawings in this way. Thus, the collection was in no way inferior to that of other European royal houses. [9]

Manufacturer

One of the main suppliers of mechanical automata to China was James Cox's company. It is to this period and to his workshop that the peacock clock is attributed. [4] Among experts, Cox is without doubt the creator of the peacock clock. [2] Trade with China was risky, it required upfront financing with uncertain sales results. After about 20 years, the Chinese market was saturated. In 1778, Cox would go bankrupt. [4]

The peacock clock is said to have been made between 1766 and 1772. [1] There are no documents proving that the peacock clock was made by James Cox. However, there are two records from 1774, in a catalogue from Dublin, which describe in detail almost identical exhibits by Cox. These pieces were intended as a perfectly mirrored duo for the tastes of Chinese customers. Here, two snakes attacked a peacock, causing it to move. [10] o'clock, rooster and owl, on the other hand, were completely absent. The pedestals were oval instead of round as in the current version. The peacocks, however, were already equally mobile. It can be assumed that one of the peacocks from the catalogue came to St. Petersburg somewhat modified. The second peacock was auctioned off in 1792 from the remains of Cox's warehouse in London. Here, too, it was rebuilt in advance, because nothing was written about snakes. It is believed that Cox took over the overall management and financing of the peacock clock project, but not the design and manufacture. Because in the catalogue a Frederic Yuri was named as the manufacturer. He had already been recommended to Catherine II by Potemkin and she had purchased English watches from him. Yuri was a manufacturer of watch machines and was therefore very familiar with mechanics. Most likely, he brought the peacock clock to St. Petersburg disassembled into parts. [4]

Cause

Grigory Potyomkin around 1790

There is no doubt that the initiator of the peacock clock was Prince Potemkin. [2] It is believed that Potemkin bought the watch for Empress Catherine, admitted with her money. [4] There is speculation as to why Potemkin ordered this artwork for Catherine II. One reason could be that there had been no throne room in the Winter Palace for many years, because it had never been completed. After a back and forth with architects, the hall was finally to be completed by the end of 1781 or 1782. The date coincided with the arrival of the peacock clock in the company of Yuri. Thus, the automaton in the new throne room could have underlined Russia's legitimacy as the heir to Byzantium and its claims to territorial and political changes in the Balkans. [2]

Road to Russia

It has not been definitively clarified how the peacock clock came to Russia. [2]

According to one theory, Elizabeth Chadley, Countess of Bristol, Duchess of Kingston (1720–1788) may have brought them to Russia as a gift. The Countess came to Moscow several times over several years. There she distributed valuable gifts in order to gain the favor of society. Potemkin bought various objects from her. [11] There was a similar mechanical object with an elephant that came from the Duchess. This leads to speculation that the peacock could also have come from her. However, no evidence could be presented for this theory. [12]

Another theory is that Potemkin bought or ordered the peacock in London in 1780. [13] The inventory list of the Tauride Palace, drawn up in 1792, is used as support. She attributes a value of 11,000 rubles to the peacock clock. [14] These same 11,000 roubles had been paid to the English watchmaker Yuri in 1781 for the watches brought from England. [2] Documents from 1781 report that the watch was purchased after a letter from Potemkin and intended as a surprise gift to the empress. At the same time, the payment of money to Master Yuri was made "in two batches, on September 30

and December 14." [15] From this, it can be concluded that Yuri spent at least two months in St. Petersburg. [2]

Disassembly and assembly
Ivan Petrovich Kulibin around 1818
Now another aspect that is not fully clarified plays a role: It seems clear that the watch was transported disassembled. However, it is disputed when it was completely reassembled afterwards. There are those who say that it was temporarily stored disassembled for many years after delivery. Until the early 1790s, there are no descriptions of the striking piece. This may indicate that the watch was transported disassembled and temporarily stored until later assembly. [16] However, if one assumes that the watch was delivered disassembled and temporarily stored for many years, it is surprising that Yuri is said to have been paid to deliver non-functional watch parts. [17] It seems more plausible that Yuri was paid once to accompany the boxes and then again to assemble the disassembled clock. [2]

Documents of the Russian mechanic Ivan Kulibin, who in 1791 – 10 years after the delivery of the clock – were commissioned by Potemkin to assemble the mechanism, which had been dismantled for many years, and to make it work. [2] After Potemkin's death, the order continued to repair the clock at state expense. [18] It took Kulibin two years to get the peacock clock working again. To understand how it worked, he had to completely disassemble the mechanism and clean up any errors. In the event of a fire in the workshop, some parts were lost during the hasty securing of the watch. Kulibin reproduced them. In 1794 the clock was in working order. [3] Kulibin is often referred to as "the second creator of the peacock" because of his successful work. [2]

After 1791
After Potemkin's death (1791), according to the inventory list, there was an automaton in his palace Taurisches Palais, which suggests the peacock clock. [4] However, the mechanical clock did not work until 1794[3] after the death of Potemkin (again?). [2] In the last years of her life, Catherine the Great liked to visit the Tauride Palace, where Kulibin activated the peacock clock for her. [2]

Appearance
It was common to assemble individually manufactured automata into multi-figure mechanisms. The arrangement of the peacock clock recreates a scene from nature. In the center is a peacock sitting on an oak trunk. The scenery is surrounded by other plants and animals, which are faithfully reproduced in life-size. [4]

The materials used are bronze, gold (gilding), wood, enamel, silver (base) and glass (base). [1]

Birds
The Peacock on the Oak
The peacock is made of copper and gilded in various colors. All feathers have been made individually and have a meticulous engraving. From the head to the tail, the feathers increase. The filigree tail feathers stay in shape even when set up and do not tilt. There is no screw visible on the surface. The peacock's lifelike, dainty legs are made of steel and gold and support and connect the mechanism. [4]

The peacock stands on a detailed oak tree made of gilded copper. The oak tree has three branches. Seen from the front on the right, a tall branch with a canopy stretches upwards. Some of the branches look like they have been cut off or broken off. Seen from the front on the left, a bare branch has grown, behind it a green one. The branches and shoots are further divided into fifty small branches, with foliage and golden acorns. [4] Snakes twine around the trunk of the oak tree – possibly. Because there are different information about the number of snakes at the peacock clock. What is certain is that the previous version, for the Chinese market, had two snakes. On the current exhibit there are none,[4] one[19] or two snakes. [20]

On the left side of the branches, the owl sits in a spherical cage. In terms of colour, it is not golden, like the overall impression of the peacock clock, but appears silvery, anthracite-coloured. In addition, she has eyes made of black stones. Twelve bells are attached to the grille of her cage. [21] To the right, slightly forward, the golden rooster stands on a vertical branch.

Forest Scene
climbing pumpkin plant
The uneven forest floor on which the oak tree stands is interspersed with roots. Mushrooms and plants as well as small snails sit on it. [4] A pumpkin plant meanders across the ground. In front of the oak trunk is the largest mushroom. This mushroom serves the clockwork. It is rather inconspicuous, which emphasizes that the function is subordinate to the time in this work of art. [2] On the roof of the "clock mushroom", a golden dragonfly with delicately pierced wings dances in circles every second. Three squirrels were added as other animals. The largest one sits under the owl's cage.

It holds a gold-plated acorn on which, to the astonishment of museum visitors, it does not nibble mechanically. [4]

Presentation
The pedestal of the movement is slightly arched. The rim is lavishly decorated and studded with white and red rhinestones. From England, there was a white gold pavilion that surrounded the peacock clock. However, it apparently did not arrive in St. Petersburg. Instead, in 1851, the local company, Nicholas & Plinke, created a glass displaycase made of gilded wood, which is now on display in the museum. Another pedestal, with red velvet, and an octagonal stand were added in Soviet times. Around the year 2000, internal lighting and a small microphone in front of the tap were added. [4]

Mechanics
A look into the mechanics
The mechanics of watches had been perfected over centuries. The mechanics in animated automatons, on the other hand, had to be rethought and surprised with unexpected malfunctions. Without proper maintenance, complex machines of this type quickly became defective. In the course of time, they were dismantled and reassembled several times by different people, which was rarely conducive to functionality. Even in the 20th century, the peacock clock had to be repaired several times. In 1994, the Hermitage Museum set up a separate laboratory for clockworks and musical mechanisms. It was only after this targeted support that the functioning of the peacock clock stabilized. [4] When the Hermitage team took on the peacock clock, there was no documentation, so the restoration, as has been the case since the beginning of construction, was based solely on observation. [10]

The mechanism inside the peacock clock can be achieved by removing a cover on the base, at the feet of the large clock mushroom. [21] The elaborate complex includes four independent mechanisms. Three set the birds in motion and the fourth is the actual clock. [22] In the case of the peacock clock, it can be seen that the owl, rooster and clockwork were most likely independently operating components that were subsequently added to the peacock. [4] This can be traced through various embossing techniques and materials on the individual exhibits. [21] The connection between the components is through a system of long pull levers. [4] This ensures that the birds are set in motion in the correct order. [22]

The clock mechanism allows the bird movements to start. [4] In order for the animals to take action, the mechanism must be wound up. [8] This is done by means of an attachable hand crank and a watch wrench. Once wound up, the cycle starts every hour,[4] for about 8 to 10 hours. [2] The sounds of the animals are partly reminiscent of their natural voices. [14]

The clockwork is running continuously. To preserve the old mechanism, the animals now move only once a week, under supervision. Next to the exhibit, the mechanism in operation can be seen on a screen at all times. [4]

Succession
Owl in cage surrounded by bells
Owl: The watch starts the owl's movements every hour. The mechanism allows the cage to rotate twelve times around the animal. At the same time, a melody is played on the bells in the cage grid. [2] The owl turns its head to either side,[22] blinks to the beat and taps its right claw. [21] Meanwhile, the call of the owl is heard. [8] After the twelve revolutions of the cage, this cycle is completed. [22]
Peacock: About 90 seconds after the owl starts, the peacock's movements begin. He spreads his feathers and does a cartwheel. The feathers of the peacock are attached to mechanical elements connected by a common drive in the bird's body. [4] At the same time, it stretches its neck and head upwards, forwards, backwards, and sideways, opening its beak slightly. He then turns his rear view towards the viewer, pauses for a moment, and returns to the front. After moving his head again, he returns it to its original position and folds its plumage back in. [22]
The peacock's mechanical motors are housed in the base. A rod in the peacock's leg sets the head, wings and tail in motion. The lever that has to erect the heavy, metal tail feathers is unexpectedly small. To make it work, additional springs have already been installed in the belly of the peacock in Cox's workshop to keep the tail feathers in balance. Mikhail Guriev, head of clock restoration at the Hermitage, calls this an ingenious solution. [10]
Rooster: The end of the peacock mechanism starts the rooster. He shakes his head several times[22][2] and crows four times, which is reminiscent of a cuckoo clock. [8] His calls conclude the cycle.

Clock
Mushroom with clockwork. On the right side of the branch fork is the white microphone for the rooster.
While the machines only go into action periodically, the clockwork has to run around the clock. [4] The clockwork is located under a mushroom, just in front of the oak trunk. The eight-day movement strikes quarter and full hours. [2] The movement corresponds to the traditional English table clock mechanism with glockenspiel. [4] The movement has

three kinematic chains, a stroke with a spindle escapement, a carillon for the quarter hours with eight bells, and another carillon for the clock. [22] The clock mechanism plays the so-called Whittington melody every quarter of an hour on the inner carillon. [4] It has two rotating dials: one for minutes, in Arabic numerals, and the second for hours, with Roman numerals. [23] This spelling was commonly found in 18th-century clocks. [2] In this watch, the dials rotate, whereas a stationary clock hand indicates the value. On top of the mushroom sits a dragonfly that acts as a second hand by gradually turning in circles with each tick. [23]

Symbolism

The choice of animals and the sequence of mechanical birds in such an exquisite piece were certainly not arbitrarily determined by the watchmaker, but by agreement of the customer, Potemkin. [2] There are several possible interpretations of their underlying symbolism.

In the case of the peacock clock, it can be seen that the owl, rooster and clockwork were most likely independently operating components. Presumably, they were added to the peacock at Potemkin's request. In any case, it seems clear that the modification of the peacock was desired by a European and not by a Chinese. In European symbolism, the rooster stands for Jesus Christ and the owl of Minerva for prudence and wisdom. In China, on the other hand, the owl is a bad sign, a symbol of death. [4]

Universe

For a time, there was a theory that the peacock clock was a model of the universe. [24] In this symbolism, the peacock represents the sun and moon, the owl represents the end of life, and the rooster represents the birth of light. However, this interpretation is illogical in detail. So the rooster would have had to crow first, in the morning, so to speak, while the owl would have had to close the circle. This is also known from other antique clocks. [24] However, it is the other way around. Furthermore, this theory is contradicted by the fact that the animals in the peacock clock do not run constantly at all. Their appearances are "on demand", for example for diplomatic receptions or balls. That would be an inappropriate analogy for the universe. [2]

Symbola et Emblemata

In Russia at that time, the symbolic interpretations from the book "Symbola et Emblemata"[25] were widespread. The interpretations, although not unambiguous, were used, for example, in decorations, costume balls, jewelry or gift design. Therefore, it is also necessary to pay attention to it when interpreting the symbolism of the peacock clock. [2]

Picture panel in the "Symbola et emblemata", peacock with young no. 158 top right

According to the interpretation, the peacock knows its value,[26] is kind-hearted and proud. [27] The peacock is also the symbol of the sun and the phoenix. [2] The owl and the serpent are symbols of wisdom. The rooster is associated with the god of war, Mars. It could also be understood as a lament of the love between Katharine and Potemkin, which always had to be kept secret, because the symbol book writes about the rooster: "When this rooster crows, love goes away." [28] Snails represent modesty. The lizard signifies enlightenment. A frog signifies harmony between lovers, eroticism, fertility. Catherine the Great's enthusiasm for Chinese culture had also taken hold. This was evident, for example, in architecture and porcelain. According to the Chinese interpretation, the rooster crows in the peacock clock sounds that could be interpreted as "merit and glory". The peacock was a specific symbol of the empress in China. At the same time, it was interpreted as a sign of the dignity of high-ranking officials. [2]

The oak stands for unshakable faith and the well-being of the state, as well as a symbol of male strength. In the Russian translation of the Bible, the pumpkin plant stands for the transience of time. Or it symbolizes prosperity, but it can also stand for the personification of the feminine principle. [2]

Viewed in combination, this interpretation can result: a golden peacock on an oak tree with pumpkins at its foot is a symbol of the prosperous Russian state under the rule of the empress. Prosperity comes from the personal wisdom – owl and snake – of Catherine II and the military victories of her chosen dignitaries. The symbols also emphasize personal qualities of the regent: the snail shows modesty, the gnawing squirrel diligence, as does the rooster, the lizard strives for truth, the peacock emphasizes goodness of heart and the frog harmony in love. [2]

Great Empire

On the one hand, the two clock discs with the different numerals, Roman and Arabic, could be seen as a combination of the wisdom of the West and the East. On the other hand, it also shows the greatness of the Russian Empire. The fact that the discs are stuck in a mushroom clearly showed the transience of time and thus of life. [2]

The peacock clock shows parallels to the description of the tree in the throne room of the Byzantine emperors. It is considered possible that Potemkin was familiar with details of Byzantine history and that the similarity of the automata

was intentional. Perhaps it was meant to remind us that Russia was heir to ancient Byzantium and underline its legitimacy to assume the role of the Great Empire. [2]

Romanticism
Catherine II
The peacock was also the nickname with which Catherine II addressed her lover Potemkin in letters: "mon faisan d'or" (German my golden pheasant) or "mon beau faisan" (German my beautiful pheasant)[29]

« ... mon faisan d'or. Je Vous aime de tout mon Coeur. »

"... my golden pheasant. I love you with all my heart."

– Catherine the Great to Prince Grigory Potemkin: Personal Correspondence, 1769–1791[30]

Trivia

Supposedly, Alexander Sergeyevich Pushkin was inspired by the peacock clock to become the squirrel in his story "Tsar Saltan". [4]
The Kultura channel of Russian television used the sequence of the peacock clock as a waiting screen. [2]
At documenta 14, the sound collage "Such Sweet Thunder" by Samson Young was presented. For this work, the artist traveled around the world to record historic bells. The carillon of the peacock clock was part of this collage. [31]

Gallery

Side view with all birds

Close-up view of the rooster with the owl in the foreground

Detailed view of the peacock

Squirrel with acorn

The Peacock Clock in Motion

Links

Commons: Hermitage Peacock clock – collection of images, videos and audio files

The State Hermitage Museum: ???? "??????" (German 'Peacock Clock') on YouTube, 18 August 2017, accessed 24 April 2021.

References

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