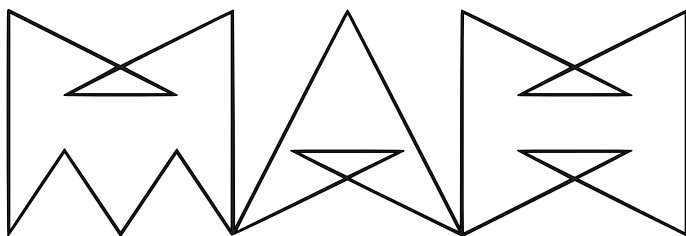


Automatons & Music



Automatons & Music

The City of Geneva's Museum of Art and History is one of Switzerland's largest museums. Deeply rooted in the city, it is a reflection both of local history and of the ties its citizens have formed with others all over the world. Watchmaking has a very special place at the museum: practised since the sixteenth century, it went hand in hand with the expansion of far-reaching trade networks, bringing together converging technological innovations and developing exceptional expertise.

The wide range of items in the care of the MAH highlight watch mechanisms and related inventions in the field of mechanical art such as watch movements, musical boxes, and automata. The latter are something of a case apart blending technical prowess, history, philosophy and even magic.

The display being prepared for the GemGenève exhibition highlights the fascination exerted by the sounds and imitation gestures produced by automaton and musical box technology and machinery: tunes of the day, folk songs, more exotic melodies and animated genre scenes were all incorporated into an *objet d'art*.

25 small to medium-sized works of art created at the turn of the nineteenth century will be exhibited by the MAH in an exclusive, temporary display open to GemGenève visitors. The show will also feature works on loan from the International Museum of Horology at La Chaux-de-Fonds.

By the turn of the nineteenth century, Geneva watchmakers had perfected timepieces' accuracy and chimes, and so moved on to developing more sophisticated curiosities. The trend for repeater watches and automata (jacquemart watches) drew on knowhow from the large clocks with automata made from the fourteenth century onwards.

In the words of F. Berthoud in the 1765 Encyclopaedia, horology was defined as "the science of movement"; as such, it was embodied not only by timepieces' inner workings but also by their faces, featuring animated displays housed in sumptuous decorations visible on the hour, at each chime, or on demand.

These watches, most of which included a musical aspect, reached the apogee of their popularity around 1840. There was similar enthusiasm for mantelpiece clocks being turned into showpieces with the help of musical boxes and songbirds, resulting in creations inspired by daily life, pastoral scenes, or the circus.

It was Geneva watchmaker Antoine Favre who invented the musical box in 1796. He hit on the idea of replacing the complex mechanism of belltowers' hammers and bells (which had originally been adapted for use in watches and snuff boxes) by steel strips that would vibrate when struck by pins arranged around a cylinder.

Taking the opposite direction to the miniaturisation evident in the shift from clocks to watches, musical box dimensions increased due to the technical requirements in terms of sound quality. As a result, the musical box industry took a separate path from watchmaking per se from around 1815 onwards.

- 1 **Dance of Love, gold and enamel pocket watch with scrolling scene, Chevallier & Cochet, Geneva, c.1800**
 Ville de Genève, Musée d'art et d'histoire
 Yellow gold, champlevé enamel, gouache on ivory
Directoire style polished gold case, with glass back
 The back plate of the cage movement is entirely covered with enamel (light blue *champlevé* enamel, translucent dark blue and white on gold, engraved gold) and features a trapezoidal window through which the scene of Love scrolls (repoussé gold, chiseled), on a gouache-painted ivory landscape background.
 Shape: round, flat pendant with flattened oval bail, typical *Directoire* style, at 12 o'clock, hinged bezel at 9 o'clock, ivory, bone, enamel
 Height: 76.8 mm
 Diameter: 57.5 mm
 Thickness: 24.5 mm
 © Ville de Genève, Musée d'art et d'histoire
 Photo: Maurice Aeschimann

- 2 **Blacksmith Love, quarter repeating and automata pocket watch, Robert & Courvoisier, Geneva, c. 1800**
 Ville de Genève, Musée d'art et d'histoire
 Chiseled silver, enamel painted on copper Silver [case], painted enamel [dial], on copper, engraved and gilded brass [plate]
 Enamel painting
 Height: 74.5 mm
 Diameter: 55.5 mm
 Thickness: 22 mm
 © Musée d'art et d'histoire, Ville de Genève
 Photo: Nathalie Sabato

- 3 **Time, quarter repeating and automata pocket watch with a scrolling scene in a window, Berthoud, Paris, c.1820**
 Ville de Genève, Musée d'art et d'histoire
 Gold case, blued steel, steel, enamel cartouches and railroad, brass
 Offset dial, enamel cartouches, with Arabic numerals, outer railroad
 Height: 76 mm
 Diameter: 56 mm
 Thickness: 17 mm
 © Musée d'art et d'histoire, Ville de Genève
 Photo: Bettina Jacot-Descombes

- 4 **Theater binoculars with watch, scrolling scene and music, attributed to Piguet & Capt, Geneva, c.1805**
 Ville de Genève, Musée d'art et d'histoire
 Engraved yellow gold, *champlevé* enamel, half-pearls, enamel painted on copper, under fondant
 Engraved, chiseled gold, *champlevé* enamel on gold, 52 + 49 half-pearls, lenses, stamped and gilded silver foil (*trompe l'œil guilloché*)
 Inner body in silver, in blackened gold
 Inner scene: enamel painted, under fondant (landscape background), painted brass [riders and mounts]
 Shape: cylindrical, topped with a smaller and slightly curved cylinder, sliding
 The large lower lens unscrews, the belly of the cylinder reveals, through sliding panels, a watch [circular dial], a scrolling scene [riders on a landscape background]
 Enamel
 Height: 90 mm
 Diameter: 48 mm
 © Musée d'art et d'histoire, Ville de Genève
 Photo: Maurice Aeschimann

- 5 **Pocket watch, also known as "arms in the air", Veigneur Brothers, Geneva, c.1790**
 Ville de Genève, Musée d'art et d'histoire
 Polished gold, colored golds, and engraved chiseled silver
 Pink gold (very little copper in the alloy), colored golds (character) and silver (character's belly) chiseled and engraved, painted enamel
 Shape: hinged bezel at 9 o'clock, pendant at 12 o'clock, *Empire* Louis XV bail, without middle part, lens-shaped case
 Enamel painting
 The bottom is pierced with a hole leading to the winding square, a hole equipped with a sliding cover from the inside.
 Height: 80 mm
 Diameter: 54 mm
 Thickness: 21.4 mm
 © Musée d'art et d'histoire, Ville de Genève
 Photo: Flora Bevilacqua

- 6 **Dog barking against a swan, quarter repeating and automata pocket watch, Piguet & Meylan, Geneva, c.1815**
Guilloché yellow gold, *champlevé* enamel, engraved and chiseled coloured golds

1



2



3



4



5



6



7



4



8



- Polished and barleycorn *guilloché* gold case, automata in *guilloché* coloured golds and silver, engraved and chiseled, *champlevé* enamel
Height: 73.9 mm
Diameter: 54.9 mm
Thickness: 19.7 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Maurice Aeschimann
- 7 **Pocket watch, also known as Jacquemart watch, Geneva, c.1800**
Ville de Genève, Musée d'art et d'histoire
Gilded brass, chiseled, gilded, silvered copper, *flinqué* enamel
Gilded brass [case], stamped, chiseled and gilded copper in rose gold and yellow gold, applied [jacquemarts and decorations on the dial side], painted enamel [dial], on copper
Shape: round, pendant with round bail at 12 o'clock, hinged bezel at 8 o'clock, hinged back at 4 o'clock, hinged cuvette at 4 o'clock
Height: 77 mm
Diameter: 55.5 mm
Thickness: 24 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Bettina Jacot-Descombes
- 8 **Compartment box with automaton and watch, Geneva, c.1800**
Ville de Genève, Musée d'art et d'histoire
Pink gold, *champlevé* enamel, enamel painted under fondant, colored golds
Pink gold box, coloured golds, *champlevé* enamel, and miniatures in painted enamel, under fondant
The box is divided into three compartments, the lids of which are decorated with fully painted medallions (flower bouquet and lakeside scene). The left one contains a coloured gold and enamel automaton grinder depicting Cupid sharpening his arrow on a pedal-operated grindstone. The right compartment contains a watch.
The bottom of the box is adorned with a basket of engraved enamel flowers.
Length: 77 mm
Width: 31.8 mm
Thickness: 10 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Nathalie Sabato
- 9 **Harpe-shaped watch, with watch and music mechanism, Geneva or Switzerland, c. 1810**
Ville de Genève, Musée d'art et d'histoire
Engraved and chiselled gold, *champlevé* and painted enamel, pearls
Engraved and chiselled gold, *champlevé* enamel, painted enamel, half pearls, enamel dial watch
Height: 84 mm
Width: 54 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Bettina Jacot-Descombes
- 10 **Pocket watch with music and repetition, quarter-hours, Louis Duchêne & Sons, Geneva, 1815-1819**
Ville de Genève, Musée d'art et d'histoire
Guilloché and polished rose gold
Rose gold case
White enamel dial painted in black
Gilded brass movement, polished steel, blued steel [screws]
Blued steel hands
Shape: circular, pendant and bail at 12 o'clock, back and cuvette on hinge at 4:30, bezel on hinge at 7 o'clock
Height: 76 mm
Diameter: 56.8 mm
Thickness: 20 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Bettina Jacot-Descombes
- 11 **Pocket watch with repetition and music, attributed to Piguet & Meylan, Geneva, c.1820-1830**
Ville de Genève, Musée d'art et d'histoire
Guilloché gold, engraved and gilded brass *Guilloché* gold [case], engraved and gilded brass [cuvette]
Shape: round, pendant with round bail at 12 o'clock, bezel on hinge at 8 o'clock, back on hinge at 4 o'clock, *cuvette* on hinge at 4 o'clock
Height: 74.5 mm
Diameter: 53.5 mm
Thickness: 20 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: André Longchamp
- 12 **Pocket watch with repetition, music and automaton, Capt & Janin, Geneva, c.1810**
Ville de Genève, Musée d'art et d'histoire
Polished yellow gold, engraved in soft size
Polished yellow gold [case], yellow

9



10



11



12



13



14



14



15







gold engraved in soft size [centre dial], painted enamel [dial], on copper
Shape: round, pendant with oval bail at 12 o'clock, bezel on hinge at 7 o'clock, back on hinge at 5 o'clock, cuvette on hinge at 5 o'clock

The automaton's right arm plays the lyre throughout the melody (straight blade mechanism).

Height: 76.5 mm

Diameter: 57.5 mm

Thickness: 20 mm

© Musée d'art et d'histoire, Ville de Genève

Photo: Maurice Aeschimann

13 ***The Garden of Eden*, automaton pocket watch, attributed to Louis-Gabriel Colladon, Geneva, c.1800**

Ville de Genève, Musée d'art et d'histoire

Former collection of Casimir Sivan

Acquired for the museum of Geneva's

watchmaking school, 1909

Chiselled silver, painted enamel on copper

Silver [case], painted enamel [dial], on

copper, engraved and gilded brass [plate]

Enamel painting

Height: 74.5 mm

Diameter: 55.5 mm

Thickness: 22 mm

© Musée d'art et d'histoire, Ville de Genève

Photo: Flora Bevilacqua

14 ***Automaton and music watch*, attributed to Piguet & Meylan, Geneva, c.1820**

Musée International d'Horlogerie

Gold, enamel, pearls, brass

Hallmark "FO" in a diamond shape and

"N°8280" in the bottom of the case

The back of the case, surrounded by half-

pearls, is decorated with a mythological

episode painted on enamel after a work

by Angelika Kauffmann, engraved by

Thomas Burke, dated 1782: *Jupiter,*

in the guise of Diana, seducing the

nymph Callisto. Beneath the back

appears an animated risqué scene,

accompanied by a mechanical music

tune during operation. The caseband

is adorned with *champlevé* enamelled

foliage. The pendant and its ring

are covered with blue enamel

enhanced by half-pearls.

The white enamel dial is painted with black

Roman numerals for the hours. Breguet-

style hour and minute hands in blued steel.

Placed in the centre, a large second hand completes one rotation per minute.

The movement is equipped with a repetition chime for hours and quarters, as well as a cylinder escapement. A disk music mechanism, with 23 blades, can be triggered at will by a lock on the caseband.

Geneva, at the beginning of the

19th century, specialised in the

production of small luxury enamelled

objects adorned with automations and

equipped with music mechanisms, such

as perfume bottles, snuffboxes, pendants

and watches. Although most are

anonymous, these masterpieces can be

attributed to a few workshops, such as

that of Philippe Meylan (1772-1845) and

Isaac Piguet (1775-1841), to which this

piece is attributed. Let us note, through

the example of this piece, the success of

the works of Angelika Kauffmann (1747-

1801) with the enamellers of that time.

Diameter: 54.2 mm

Thickness: 21.5 mm

15 ***Singing bird box*, Jacques Bruguier, Geneva, c.1868**

Ville de Genève, Musée d'art et d'histoire

16 ***View of Lake Lucerne and the Gitschen*, singing bird box, Jacques Bruguier, c.1868**

Ville de Genève, Musée d'art et d'histoire

Chiselled and engraved high relief silver gilt,

champlevé enamel, painted enamel on

copper, hummingbird feathers, and ivory

High relief silver gilt box, engraved,

chiselled and *champlevé* enamel; lid

adorned with a painted enamel

medallion. Singing bird with

multicoloured feathers, ivory beak, glass

eyes, brass and steel [movement]

Ivory, bone

The richly decorated rectangular box

features neoclassical scenes in painted

enamel, the top decorated with a garden

scene with lambs and three ladies. The

domed medallion at the centre opens

(by a sliding button on one side of the

box) to reveal a singing and rotating

bird set with multicoloured feathers

on a chiselled gold background with

openwork foliage decoration.

The other four sides are also adorned

16



15



with an oval or circular medallion illustrating German landscapes painted in enamel, two of which feature a building with baroque “onion” domes typical of the Black Forest or Bavaria region, framed by blue *guilloché* enamel and chiselled gold frames. The mounting is made of gilded metal, marked Germany, with a master’s hallmark “EB” for Emil Brenk, manual winding movement probably by Karl Griesbaum, c.1907.

The box is accompanied by a white metal winding key in the shape of a stylised bird. Emil Brenk was a German goldsmith who founded his company in 1907 in Pforzheim. The company still exists today and is run by the fourth generation of the family. Pforzheim has been an important jewellery and watchmaking manufacturing centre since 1767 when Margrave Charles Frederick of Baden established “The Jewellery and Watchmaking Factory.” It grew from a small town into a jewellery metropolis. The city is even nicknamed “Goldstadt” (“City of Gold”).

Karl Griesbaum was born in 1872 in the Black Forest region (known for its mechanical cuckoo clocks) in a family of watchmakers. At the age of 33, Karl was making micro mechanisms for cuckoo clocks. The owner of a jewelry and watch trading company in Frankfurt, M. Rosenau, brought him a Swiss snuffbox. This encounter was a turning point in his career. Amazed and seduced by the beauty of the object, he decided to start manufacturing snuffboxes and music boxes with birds and founded his own company. At first, Griesbaum purchased enameled boxes in Pforzheim, then he made simpler boxes himself while continuing to buy more elaborate boxes from Pforzheim.

Height: 34 mm

Length: 92.2 mm

Width: 63 mm

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Photo: Flora Bevilacqua

- 17 **Pendules à l'Éléphant, paire de pendule à automate et musique, d'une paire, Canton (Chine) et Londres [mouvement], c.1800**
Ville de Genève, Musée d'art et d'histoire
Ormolu, pearly enamel, carved and painted ivory, gouache on silk and glass, glassware

Ormolu, *flinqué* and *paillonné* enamel, silver, two times eleven carved and painted ivory automata, landscapes and genre subjects in gouache on silk and glass, polychrome glassware, painted metal
Shape : 2 superimposed parallelepipeds, surmounted by a black elephant, itself surmounted by a vase containing a tree
The three gear trains are driven by springs regulated by two fusees. A pusher allows the automaton and its chimes to be operated on demand. The bases of the clocks contain the music mechanisms.

Height: 900 mm

Width: 380 mm

Depth: 330 mm

Weight: 43 kg

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Photo: Flora Bevilacqua

- 18 **Mantelpiece clock with singing birds, Japy Frères & Cie, Paris, Beaucourt, c.1865**
Collection of the museum of Geneva's watchmaking school
Acquisition, 1910
Black varnished wood [base]
Brass, steel and wood [movement]
White enamel [dial]
Movement signed: “Japy frères & Cie Exposition 1855 Grande Médaille d'honneur”
Anchor escapement, hour and half-hour rake strike, Brocot suspension. Key winding driving the bird mechanism and a system of blowers and flutes imitating their song. The blower supplies air to a flute of variable length operated by a set of cams. Each bird moves its beak, wings and tail and sings one or more tunes, set against a backdrop of a waterfall (a moving twisted glass cylinder), rocks and a flowering tree. The mechanisms of the singing birds work with a blower that supplies air to a flute of variable length activated by a set of cams. Each bird moves its beak, wings and tail and sings one or more tail and sings one or more tunes, in a cascade. Each bird moves its beak, wings and tail and sings one or more tunes, in a decor of waterfall (mobile twisted glass cylinder), rock and flowering tree.
Height: 600 mm
Width: 490 mm
Depth: 230 mm

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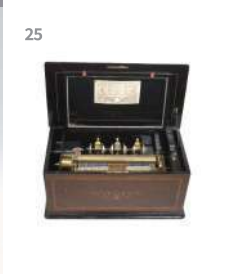
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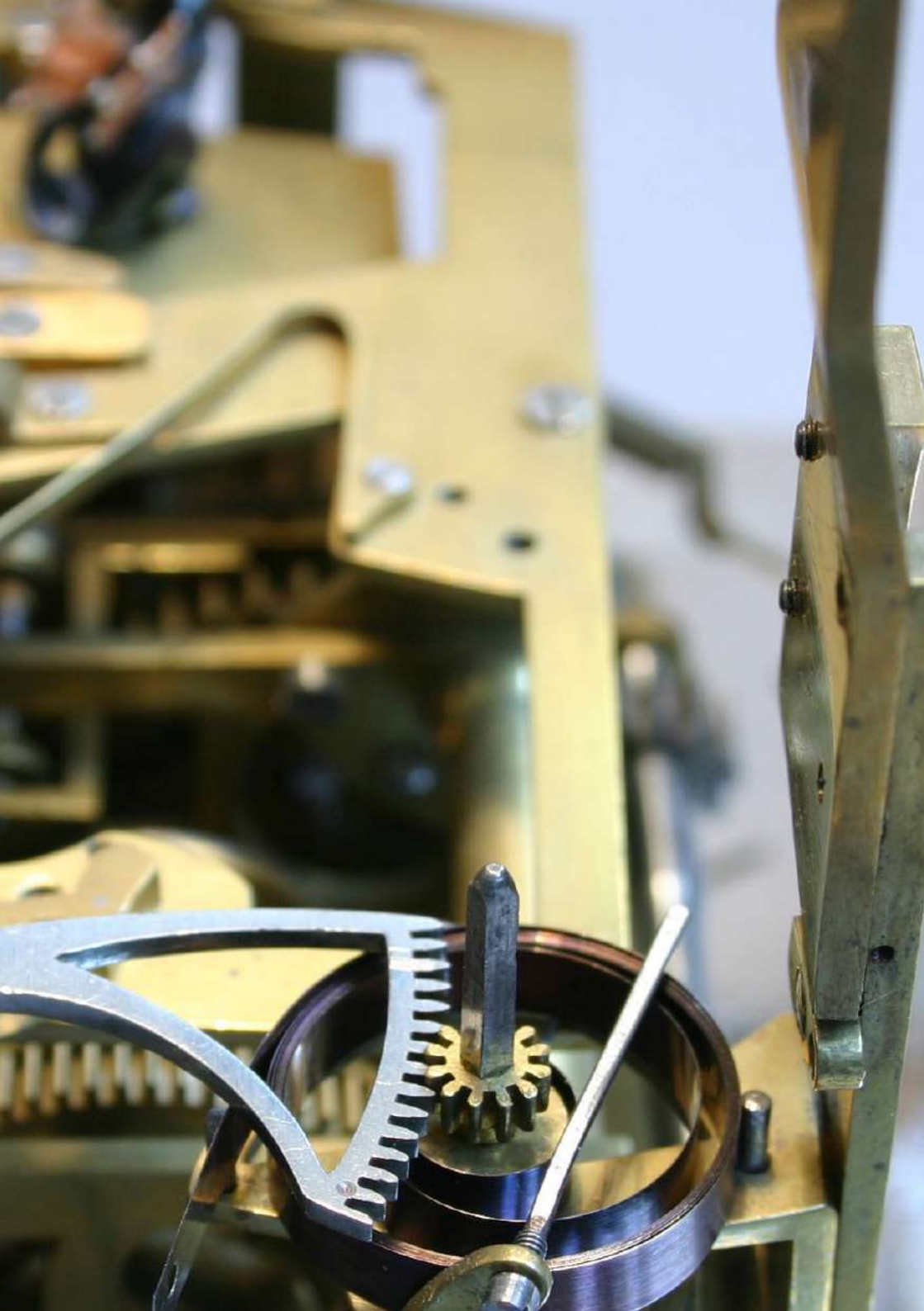
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- 19 **Mantelpiece clock with acrobatic automatons, tightrope walkers and musicians, Benoît and Japy Brothers, Geneva and Paris, c.1852**
H. Chauvet Donation, Geneva, 1924
Gilded bronze, painted wood, textiles, painted wood base painted wood and glass globe
Gilded bronze canopy, floral rocaille decoration, painted wood and polychrome fabric automata, white enamel dial
Black base in painted wood and glass globe
Anchor escapement, chimes with a chaperone for the hours and half hours.
A studded wooden cylinder drives the movements of the figures by means of levers and cables. The music mechanism can play two tunes and is wound by pulling a cord.
Signature on the base: "Benoît 1852"
Movement stamped: "Médaille d'or Japy frères"
Height with globe: 830 mm
Height without globe: 780 mm
Width: 490 mm
Depth: 280 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Bettina Jacot-Descombes
- 20 **Clock with automaton in the shape of a mandarin, Germany and Austria, c.1820 [wood], c.1860 [movement]**
Ville de Genève, Musée d'art et d'histoire
Carved, painted wood, polychrome, black painted sheet metal (traces)
The movable eyes and mouth are directly connected with the regulating organ and beat the second from left to right.
This type of clock is made in the Black Forest, and also in the adjoining Swiss region.
The abundance of wood in these regions allowed the development of several industries in the 18th century, including clocks made mainly of wood: automaton clocks, clocks with organs, clocks with calendars, clocks with one or more cuckoo clocks, clocks with articulated figures. It is a real small clock movement which, every fifteen or so vibrations of the pendulum, and by means of two pegs fixed to the escapement wheel, causes the character's jaw to open imperceptibly, which then closes abruptly, while the eyes come and go constantly.

Height: 440 mm

Width: 130 mm

Depth: 115 mm

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Photo: Maurice Aeschmann

- 21 **Music box, singing bird and acrobats, Frédéric L'Épée and Benoît, Beaucourt and Geneva, c.1880**
Ville de Genève, Musée d'art et d'histoire
L. A. Grosclaude Donation, 1917
Wood, Boulle-type marquetry [box], brass, steel
Shape: rectangular
Height: 325 mm
Width: 640 mm
Depth: 365 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Bettina Jacot-Descombes
- 22 **Table clock with automaton, Germany, c.1600**
International Museum of Horology
Gilded bronze, painted wood, brass, steel
With a lance, a black man indicates the hour on a rotating globe whose silvered metal equator is engraved with Arabic numerals 1 to 12 and stars representing the half-hours.
Supported by a stylised tree trunk, the sphere is framed by a circle adorned with similarly stylised foliage. Partly painted, the man, wearing boots, is dressed in a tunic and a cuirass. Near him stands a hunting dog.
When the hourly chime is triggered, at each stroke, he turns his head while his companion jumps.
The movement, in steel and brass, is housed in the drum. It mainly consists of a verge escapement, a chain fusee and a steel hairspring balance wheel, fitted with an adjusting rosette. One also notices on the plate the S-shaped cock, a pawl, and the hour counting wheel. The striking barrel is engraved with strawberry flowers. Imbued with exoticism, the model of this clock seems to have enjoyed great success, judging by the relatively large number of examples preserved. Signed or anonymous, they were all executed in Southern Germany.
Height: 455 mm
Diameter of the base: 200 mm
- 23 **Automaton known as "little magician",**



Jean-David and Julien-Auguste Maillardet, Fontaines (canton of Neuchâtel), early 19th century

International Museum of Horology
Bearded and wearing a pointed hat, equipped with his wand, the magician stands on a stage whose background is adorned with two musical cupids, located on either side of a burning altar. A putto figure decorates the top. The platform is supported by a row of columns through which the “machinery” appears.

Ten questions inscribed on plaques can be posed to this highly moralising magician. Note, for example, this one: “Which of all the treasures is the most precious and the most poorly guarded?”. The question is inserted into the drawer by a spectator. When the drawer is closed, the soothsayer turns towards the window where the answer appears: “Health”. If the drawer is closed without having put in a question, a devil pops out of a trap. The taste for automata, combined with that of magic and divination, led to the creation of magician-automata. The International Museum of Horology houses two executed by Jean-David Maillardet (1748-1834) established in Fontaines, in the canton of Neuchâtel and one of his thirteen children, Julien-Auguste (1779-1852). The latter was presented in 1826 to the King of England, George IV, at Newgothic Hall.

Length: 280 mm
Height: 450 mm
Depth: 220 mm

- 24 **Dog-shaped automaton clock, Italy, c.1700**
Ville de Genève, Musée d'art et d'histoire
Wood, stucco, polychrome, metal cams
Length: 245 mm
Height: 158 mm
Depth: 96 mm
© Musée d'art et d'histoire, Ville de Genève
Photo: Maurice Aeschimann
- 25 **Chinese carillon, wall clock with bells struck by Chinese automata, Langdorf, Geneva, c.1890**
Ville de Genève, Musée d'art et d'histoire
Wood [box], marquetry, steel, brass
Shape: rectangular
Music box called “celestial voices”,

featuring 2 keyboards with vibrating blades of 32 and 26 blades, and a keyboard of 6 blades activating “Chinese” automata striking 6 bells. Plays 12 tunes (the tune card is nailed under the lid). The central part of the cylinder has 18 so-called “air reeds” notes.

Length: 800 mm
Height: 370 mm
Depth: 420 mm

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Photo: Bettina Jacot-Descombes

- 26 **Empire commemorative covered cup, with music box, Dominique Giel-Latour [goldsmith] and Abraham François Chapuis Zoller [mechanism], Geneva, 1815**
Ville de Genève, Musée d'art et d'histoire
Acquisition, 1976
First-rate molten silver, chiselled and applied, blue enamel
Original key
Genève 1997 states: “this cup would have been offered to Edmond Naville by his company of hunters on 12 November 1815”; but it is rather Jean-Édouard Naville (1787-1827), a Geneva magistrate, whose initials match the owner's monogram
Height: 300 mm
Width: 220 mm
Weight: 1,700 g
- 27 **Mechanical garter bracelet, Geneva, c.1850**
Faerber Collection
Original key
Custom-made case
This bracelet style was inspired by the Royal Order of the Garter and the way Queen Victoria wore one of its insignia. The Order of the Garter is the oldest British order of chivalry and was founded by Edward III in 1348. It consists of the King (or Queen) and twenty-five knights. The Order honours those who have held public office, who have made a particular contribution to national life or who have personally served the Sovereign. One of its insignia for its members is a blue garter worn on the leg. In 1837, Queen Victoria inaugurated the longest reign of the British monarchy until Elizabeth II. For 64 years, she would be Empress of India, Queen of Great Britain and Ireland. Initially a young



woman upon her accession, she would rule into her old age. "Haughty, passionate about beautiful things, extremely cultured about all period styles", she would have a significant influence on her time, dictated by her taste, the different stages of her life, and her infinite love for jewellery. Thus, Queen Victoria, too modest to wear the mandatory blue garter on her knees, wore hers on her arm, launching the fashion of the garter bracelet.

28 **Writing Pierrot, François Junod, Sainte-Croix, 1986**

Red mahogany table, marquetry oak base, polished brass oil lamp, silk satin outfit, silk organza ruff, cotton hat, oil-painted staff head, glass eyes, lamb's leather eyelids, cardboard body
Spring mechanism, barrel, classic speed regulator with fins, 6 cams for movements: head turns, salutation (head: front and back), right wrist, right arm, left arm, oil lamp (wick up and down), eyelids (closed in sleeping position)
Music movement with 28 blades:
brass, steel, nickel silver

29 **Pierrot, François Junod, Sainte-Croix, 1986**

Medium-density fibreboard table, veneer base, polished brass oil lamp, silk satin outfit, silk organza ruff, cotton hat, oil-painted staff head, glass eyes, lamb's leather eyelids, resin body
Spring mechanism, barrel, flywheel regulator, 6 cams for movements: head turns, salutation (head: front and back), right wrist, right arm, left arm, oil lamp (wick up and down), eyelids (closed in sleeping position)
Music movement with 28 blades:
brass, steel, nickel silver

30 **Rousseau, François Junod, Sainte-Croix**

Electric motor with detector, aluminium and brass cam, resin head, lamb's leather eyelids, glass eyes, oil painting, flax tow hair

31 **Leonardo da Vinci, writing android, François Junod, Sainte-Croix, work in progress**

Resin with fibreglass, staff head, glass eyes, lamb's leather eyelids, yellow shellac background painting
Mechanism with 2 spring motors,

one with adjustable flywheel regulator [top motor], the other with centrifugal regulator [bottom motor]
Capable of drawing for 6 minutes thanks to 36 cams on the vertical axis, 3-axis system for drawing and writing
Model designed without computer assistance (CAD) using only hand drawings, academic and technical drawings; system of lifting the left hand to slide a sheet of paper then held by the automaton; head movement back and forth; eyes follow the right hand as it draws; eyelids close every 7 seconds.

32 **Music box, Jean Gustave Maurice Allard, Geneva, c.1895**

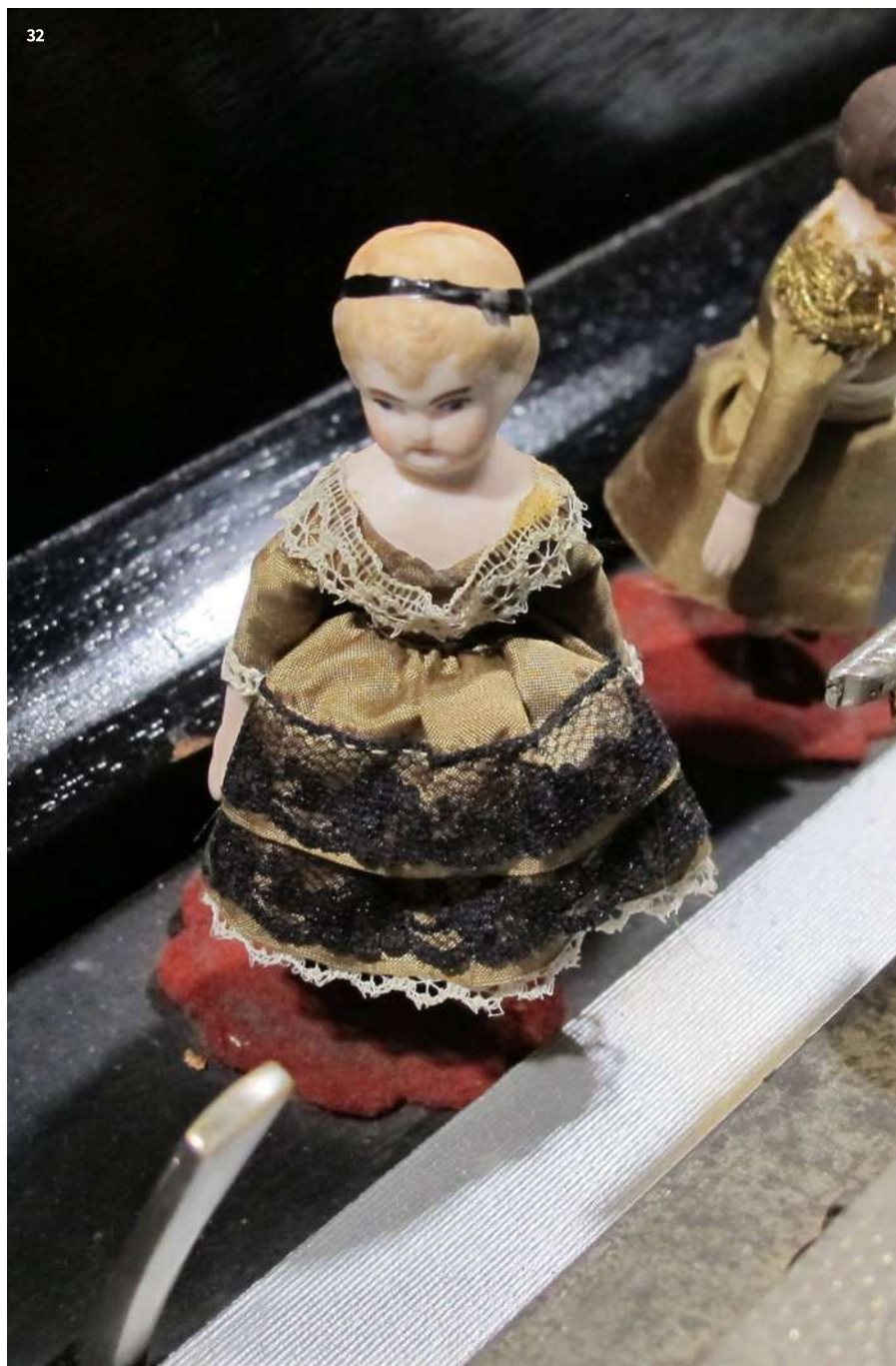
Ville de Genève, Musée d'art et d'histoire
Legacy of Jacques Antoine Emmanuel, aka Étienne Hornigarcher, aka Blyelle, 2014
System and sketch by Adolf Karrer Teufenthal, 1886
Movement with two mobiles, including a 300-tooth wheel. 8 Ottoman tunes of 75 seconds each, with a rich bass play. 58 blades and 19 battery hammers;
2 dancing dolls.
Height: 360 mm
Width: 860 mm
Depth: 500 mm
© Musée d'art et d'histoire, Ville de Genève

33 **Ballerina, automaton, gyroscope dancer and key, Anonymous, Padua, c. 1915**

Ville de Genève, Musée d'art et d'histoire
On loan from Geneva's Fonds cantonal d'art contemporain, 2005
Chiseled silver, painted enamel on copper
This dancer spins on herself thanks to an ingenious "rack and pinion" system that is triggered by a sudden movement. Her body is composed of two pieces assembled with staples.
Height: 150 mm

34 **Magician's equipment, France, c.1850**

Ville de Genève, Musée d'art et d'histoire
On loan from Geneva's Fonds cantonal d'art contemporain, 2005
Painted sheet metal
Height: 450 mm



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