The Clock of Brno

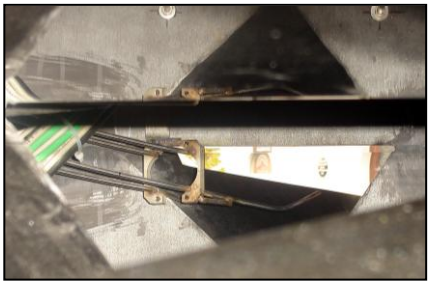
Content:

Is the ***Horologium Brunensis*** extra reason why to put Brno on your itinerary? For certain, the Moravian metropolis has joined the exclusive club of amusing and exceptional clocks in the Czech Republic. Yet in fact, the new monumental clock is immensely different from them all, because it is the first interactive clock in the country, dial-go-round, unattached to any building, and nonesuch in the world.

To begin with, the so called ***Orloj*** clearly and loudly reminds brave residents of Brno. See, the authors pursued on binding the modern coloring of the city plaza to a traditional legend about a ruse to ring the noon at **11 o´clock**. Accordingly, the noon ringing was a deadline laid down by a deceived Swedish general **Lennart Torstenson**. But in fact, diminished Swedish army aborted a painful siege of Brno (Brünn) lasting for over three months. While the resisting town endured onsets like Prague during the last stage of the Thirty Years' War (sparked by the Prague's defenestration of three Catholic officials by the leaders of the Protestants Estates in 1618), earlier razed Olomouc (Olmütz, Olmuts) did not. The Swedes eventually devastated the occupied town. As a result, the dual status as the seat of the Moravian authorities swayed in favor of Brno. In accord with the legend, the novel obelisk clock has characterized ringing the endearing noon after the fashion of nearby the Bishop's Cathedral at Petrov (Sts Peter and Paul Cathedral).

Next to the ringing the early noon as if located on the meridian of Kiev, the obelisk releases **a glass ball** on top of the fortunate hour. The peculiar ball rolls down on track into one of four chutes regularly once a day. There, in

the vane, seizing it is the purpose. Bewaring folk of all ages keen-set for the ball beset the vanes often an hour before. Only one hand per slot has the chance to reach the narrow end of the chute with the wire drop. And, only one of them can succeed. If lucky, the triumphant person is applauded and beseeched for showing the keepsake to the avid public. It seems that some locals prefer a steady vane over a random guess.



The transparent souvenir balls in the diameter of about 4 cm (1-1/2 inch) with red and white embedded four streaks in typical colors of the city blazon remind another and practically unknown legend. Accordingly, to kill the woundless general Torstenson necessitated a spellbound and midnight cast, glass shot ball. Himself though, the perplexing militant is commemorated by **a dark glass ball** released on holidays and special occasions only. Supposedly, pertinent din *peals* accompany this one.

A familiar name of the balls is „Brněnka“, or “Brenball” if you will. They are made by **glassworks of Jaroslav Svoboda** in Karlov. Furthermore, a limited edition of less than 360 sand-etched balls loaded into the clock had been set to be released from noon till midnight beginning the first Advent till the Christmas 2010. At the glance modestly clear glass balls surprise by a loupe effect zooming in a fine snowy motif of a comet like streaks or another out of about dozen Christmas variations. Hence, we can expect a whole range of collectible balls in the future.

The noon ball catch was the key attribute of a winning submission in a public tender in 2007. The scaled down clock in a metal silver color presented an academic sculptor **Oldřich Rujbr** with a young co-author, student of architecture **Petr Kameník**. They made 1:1 gypsum model cylinders, experimented tirelessly and mounted the contrivance in a barn in Pozďatín for three years. They needed a certain portion of the art and craft and technology assistance, for instance in the optics, stainless steel parts, etc. Archaia organization excavated the construction site. Archaeologists documented a corner of a town watch-house and part of aqueduct. The realization postponed for several reasons was financed from the city budget by the expense in equivalent close to 480,000 Euros.

Finally on the Saturday *Noon* of September 18, 2010, the ingenious clock with the historical message has officially enriched the *Genius Loci* of **the Liberation Square**. It has been situated to contrast with a contemporary Omega Building and next to a paved outline of the 13th century Church of Saint Nicolas demolished in 1869.

The project was dedicated on the ceremony by city cultural representatives and the Chief magistrate **Roman Onderka**. They arrived there by the city transportation in a modern tramway made by *Škoda*. The ceremony began by escort of soldiers in the period uniforms led by a commander of the defense **Jean-Louis Raduit de Souches**. None of the officials grasped the first ball being destined for the museum, so that a spare ball was released.

The new urban object made from an estimated 30 tons heavy block of a black Zimbabwean marble has been precisely shaped to the pattern in Verona, Italy.
It consists of a stack of seven polished cylindrical portions. The gleaming marble obelisk is 5.8 meters (19 ft.) tall and about 1.7 meters (5.6 ft.) in diameter. The cavity has diameter of 0.84 meters (2.75 ft.). The monument has utility pit about 2 meters below the square level. A short ladder enables access to the basement and longer one to the top. A serviceman on the inside can be seen through the slots.

The motion-work on the top is unlike an independent mechanical escapement with pendulum, which is favored by conformist clockmakers. This modern horologe, in the original sense of the clock movement, has an electric motor drive controlled by radio time synchronization (DCF). The benefit besides the accuracy is that the clock should readjust itself after maintenance or unexpected halt.

The cavity of the marble obelisk contains elaborate ball track with adjacent assembly of xylophone plates referred to as tubular bells.
A composer **Luboš Malinovský** contributed with the tune up of the chiming. Individual aliquot tones of the plates sound contained yet pleasant. The “bell”-play sounds rather shortly provided by the number of hits. Purposefully, it sounds different every time. It depends on the track which steers the ball upon releasing and eventually causes the random vane drop. In a matter of fact, it is unavoidable that a rolling down glass ball will hit the plates and obstacles with some degree of unpredictability like a pinball game would do. It even happened that the ball fell out of the obelisk through the top opening.

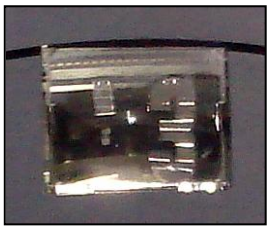
The obstacles are four metal prongs extending outward as plates with inscriptions. They can be seen in the angled marble slots dividing the obelisk. They represent the key participants of the historical conflict, from top to bottom: **Lennart Torstenson,** a Commander of the fortress and Scottish Colonel **Georg Jacob Ogilvy,** the French General **Raduit de Souches** and **the residents of Brno**. If the ball happens to escape, a rumble sound ends the show. Citing the Mayor R. Onderka, the ball ended in the trap-door of history. Actually, the elusive ball runs though piping down to a water reservoir under the entry ladder.

Next to the regular, the ball release function can be prompted via SMS.
A six hour long seizure on November 28th (the first Advent) shows that a technical glitch at this stage is inevitable. It examined readiness of the service called in by a doubting expectant instead of the clock - designed to do that automatically.
The ball and bell-play go hand in hand, but there can be more sounds. On Saturday, 27th November, a cuckoo cry could be heard from inside of the obelisk. It caused a device activated by a cell phone and arranged by artists from a Forum for architecture and media. Does it invite for more experiments?

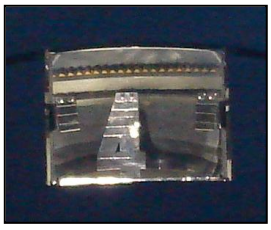
Thanks to its design, the Orloj belongs into the rare group of clocks which make people to think on how to read the standard time. The clock makes people to contemplate, while anticipating moment of release, uncertain trophy, and acoustic reverberation.
An observer is advised to stand away to see the upper part of the obelisk where the ball emerges in the marble slots tapping the chime on the noon releasing.

People gathered around the clock can see the measured time each and every minute, because the hour segment rotates around its axis. The hour segment goes round all day long together with a little bit faster minute cap. The segment also carries a prism glass substituting the seconds hand. It is protruding the marble a bit and square on a lens. To the north, we can see the fixed counterpart prism functioning as the transit line.

Exactly at the “Brno’s noon”, a cutout of the minute marble cap featuring a swiveling saucer catches up with a cutout of the hour segment. It is filled by the clear optical lens. Mechanicians will notice that the mutual motion-work consists of a pinion of the cap in a gear ring of the hour segment. This is a good opportunity to evoke the underlying clockmakers’ motto on clock dials: HORA RUIT, TEMPUS FLUIT. The both cutouts line up forming the single frame at 11 o’clock (CET or CEST). At the next hour (and the hour before), the cutouts lap each other posed as shears. Then, they pull apart, peak in opposition, and draw near to culminate again. Actually, their progression allows for 30 degrees per hour so that the conjunction repeats twice the day.



The magnifying lens highlights focused on ring dial formed by Arabic numerals. The dial maker opted for the 12 digits time. Notably, the double XII-hour time or the Halved horologe tipped down the Old Bohemian time in line with the advanced concept of time, science and clock-making Renaissance coming to Prague under the rule of the Roman Emperor Rudolph II.

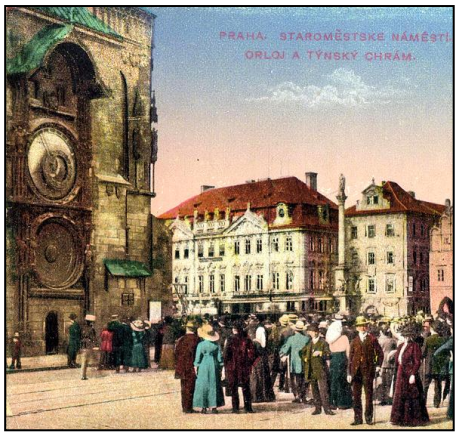


The 12 hour segments are divided by the upper notches functioning as the minute hand and as the scale for the pivoted milky glass

plate indicating quarter hours. Otherwise awry, the saucer is flat horizontal only at the full hours. The unusual indicator presents a rector of a Jesuit College **Martin Středa**. The priest was a vital spiritual leader during the siege in 1645.

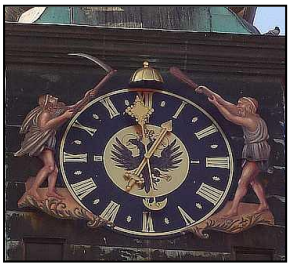
A welcomed entertainment can be a rag by young players. They suddenly appear among the waiting public. Plaintive women of Brno behind a prop of a picture frame lament for the horologe chimed the noon but the besieging general has no intention to leave. The Swede wonders about the clock-face-less obelisk.
In this sense, the meaning of the word horologe, in Czech **Orloj**, had shifted to a show run by a clock. Considering, Orloj is the name for the precious and also not so easy understandable astrolabe of Prague. Consequently, the name Orloj applies to turret, tower, public or church clocks being either astronomical or graced with automata or bell play.

Naturally, there is more to the clock-making, time, bells and statuary interests in regards to the Orloj of Brno. For instance, inner light comes out through the glass parts at dark. Or that the clockwork is not mechanical but runs on electricity. Essentially, first discussions over the peculiar contour opted as the projectile, and noble parables such as illustrations of rocket in Jules Verne's novel, provide evidence that the clock has ignited instant, ubiquitous and rather plenty of ideas. However, the initially circulated thinking of deficiencies and even modifications are unsubstantiated.



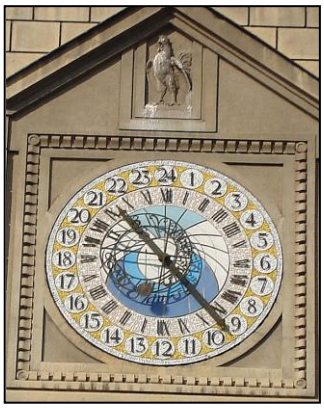
It can be admitted though that building a complex clock was never routine job. Nor it helps if unanimity is missing, such as during the grand renovation of **the Old Town Hall clock of Prague** in 1865. Shortly after the ceremonial startup, the Orloj was stopped by the magistrate. Articles in influential *zeitungs* criticized the external diameter of the eccentric zodiacal dial being a way too small.

A newly appointed commission supervised also a constructional change in the lunar gearing of the olden movement. The brand new calendar disk by one of the founders of the Czech Art Noveau, a painter Josef Mánes was absent until 1866.
By the coincidence, The Orloj of Prague just celebrated **600 years** of its existence by a splendid visual show. Today, it is the worldwide known icon appearing in many movies, to name one, the *Fortune of the good soldier Švejk* (The Film Studios Barrandov, 1956). Naturally, it has figured as the subject of pieces of art.

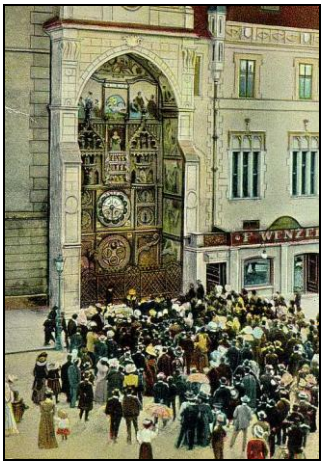


Said, the elaborate clock has joined the unofficial club of the large and exceptional clockworks. Very briefly, a complex turret or tower clock should either sport an astrolabe dial like in Prague, or a

sunken ball duplicating the phasing of the Moon, or some other astronomical feature. Also, it might move a jack or automata, or to actuate a chime (Prague's Loreto in Hradčany), or to impel dual tower dials or a relic 24-hour dial, or to bear another oddity. A priced clock movement can be also constructed of unusual material like wood or cast iron or made by a noted clockmaker or to have a foliot verge escapement. Virtually, it must be of significant historical meaning. Striking clocks of several castles, towns' gates, manors, and chapels are just that. The automaton can be a ringing skeleton or titans, crowing cockerel, or butting goats, or some other mechanical element in supplement to the usual form of announcement of time by means of the orthodox dial and a bell. All of that exists in Bohemia, Moravia and Silesia.



Already during the few weeks of its existence, the Orloj of Brno allured thousands of curious people. Residents and people like artists, bell-ringers, mechanics, clock-makers, ball collectors, glass-workers, opticians, modern design and urban aficionados, and others alike, come to experience the novel clock. In comparison, the clock of Brno does not have the calendar - astronomical function as do the famous horologes of Prague and Olomouc. But the witnesses can draw few parallels not only with established astronomical clocks but also with two recently started horologes. They are the village Orloj of Kryštofovo Údolí (Christofsgrund, 2008) with patronized woodcut apostles and movable farm statuettes, and a novice - the astronomical clock of Žatec (Saaz, 2010) stylized in the regional commodity of hops and the tang of beer.



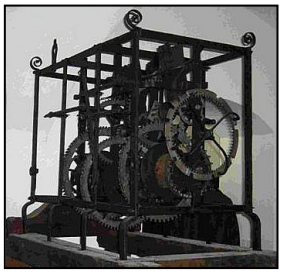
Still, the inspiration in manually wound, mechanical **horologe of Olomouc** with a detailed planisphere and dials, a glockenspiel and automata would probably result into warmer appreciation by the conservative Brnoers. Though, there were four faces, respectively three grand renovations carrying out accurate and magnificent dialling each

time. It seems that Olomoucians themselves prefer the third execution remembered from before and during the first Czechoslovak Republic.

In spite of the initial lack of understanding, it can be foreknown that true Brnoers will be duly proud of this acoustic, exact, and multifunctional Orloj. In every case, not only for clockmakers and individuals involved in the trade, the new Orloj adds to the group of practically unknown clocks, dials, bells and sundials in Brno.

To be more specific, the attraction can be a modern automatic hour chime ringing a patriotic song *'Moravia, Moravia' (by Ludvík Dietrich, 1843)* at the courtyard of the Špilberk fortress – the Habsburgs' prison of the nations; a quarter hour striking clock of the Old Town Hall Tower; a tower clock of the St. Jacob's; a ¼ hour striking turret clock of the Old Brno Abbey – Mendel's Museum;

a ¼ hour striking clock with an anchor escapement in company of a suite of five embellished but motorized bells in the neo-gothic steeples of the St. Peter's with the oldest and the largest bell (40 hundredweight) cast by Jan Knauff from Opava in 1649 (re-cast in 1669 and 1852) in the southern belfry; a ¼ hour striking, iron frame clock movement on display at the Carthusian monastery; a permanent exposition of large clocks (and musical mechanisms) in the Technical Museum such as a ¼ hour striking tower clock with Graham anchor escapement and two second pendulum made by Daniel Wolf in Brno in 1729, *(or short-term expositions like a collection of remarkable kinetic models and clocks made by a mechanician and clockmaker Karel Šebela on display in the year 2005)*; a XII-hour dial of the Elementary School at the Slovanské Square in Královo Pole; and at last but not the least sundials like at the Planetarium and other draws related to the time and clocks in and near Brno.



After reading this article, would you like to see some of the regional horological sights, or wish to learn more about history of clock-making in Bohemia? Please, be advised to contact the writer at abeso@seznam.cz for options on learned presentation or schedule a personal guide for your visit with the attention tailored to your clock-making interest.

Your comments are welcomed at a forum: http://brunendam.blueforum.cz/?_fid=8314. You are invited to answer five quiz questions there: Point the arrow above 5 pictures on the page 4 - 6.

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