Museum profile

Horology in Tokyo

Text and photos by Bob Frishman

In May, 2023, my wife and I visited Japan for a second time and we enjoyed several days in Tokyo. During our previous journey in 2015 we toured the Omi Jingu Clock Museum, and its adjacent school of clock and watch repair, at the temple shrine dedicated to Emperor Tenji (626–672) located on the outskirts of Kyoto. Tenji was Japan's thirty-eighth supreme monarch who built the first water clock in Japan. He remains the emperor-deity associated with timekeeping. I reported on this visit in the January/February, 2016, issue of the NAWCC *Watch & Clock Bulletin*.

Tokyo has three sites where Japanese horology can be studied intensively. With the help of our superb local guide, Ryo Tamaki, we arrived quickly at the first venue which we might otherwise still be seeking in an out-of-the-way Tokyo neighborhood.

The **Daimyo Japanese Clock Museum** was founded in 1972 by the son of the collector Sakujiro Kamguchi (1892–1970), whose collection is displayed in an old home's large room of glass-front display cases. We met his daughter-in-law and grandson who now oversee it. 'Guro', as the collector was called, worried that researchers of old Japanese clocks would need to travel overseas to study them in foreign collections.

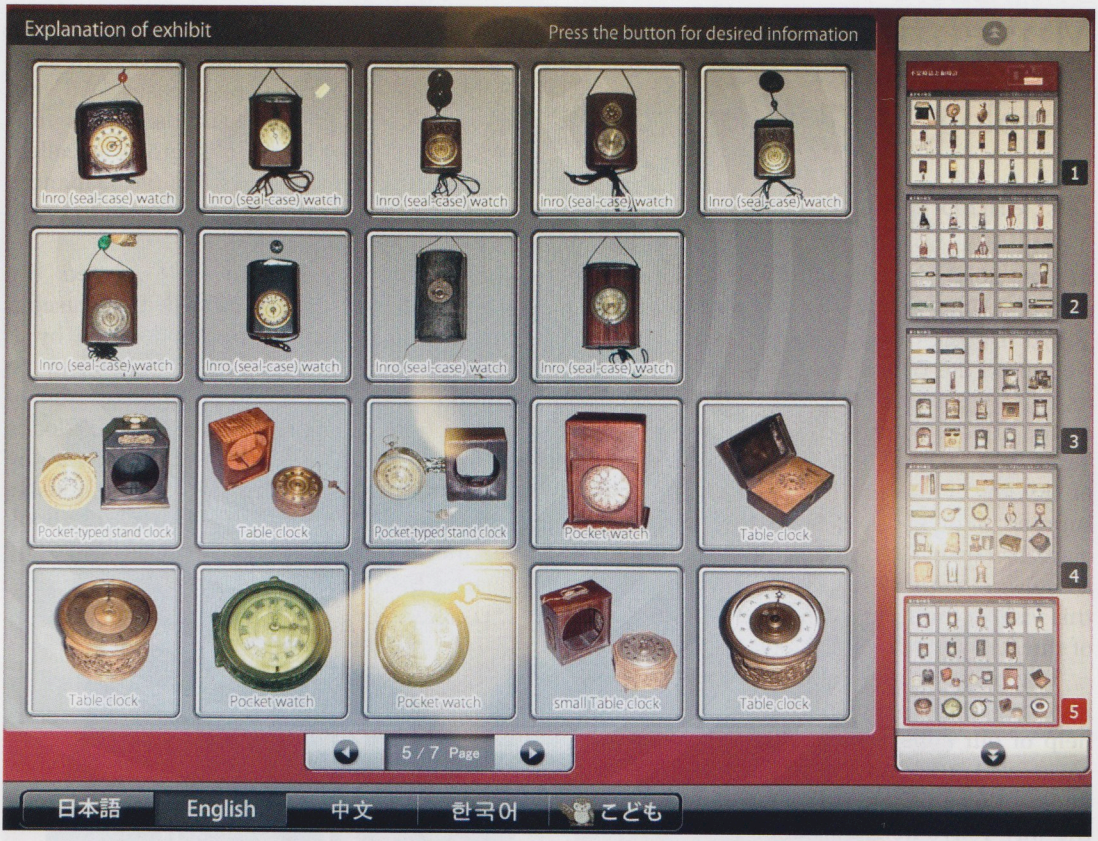
By coincidence, I recently visited the horological study rooms at the British Museum where many Japanese clocks donated by J. Drummond Robertson (1857–1934) can be examined. His 1931 book *The Evolution of Clocks With a Special Section on The Clocks of Japan* is still a classic reference on the subject. Another of the few comprehensive texts in English is H. H. N. Mody's 1932 book *Japanese Clocks*, republished in 1976 by Charles E. Tuttle Co.



Daimyo Japanese Clock Museum traditional lantern clock and photo of the collector, Sakujiro Kamguchi.



Entrance to the Daimyo Japanese Clock Museum in a Tokyo residential area. Daimyos were powerful feudal Japanese lords who ruled the country from the tenth to the nineteenth centuries.



Touchpad at Tokyo's National Museum of Nature and Science, one of several available for foreign visitors to learn about the displayed objects. The top two rows show watches fit into inro boxes, made for holding small objects and suspended from waist sashes.

All signage in the Daimyo museum is in Japanese, so a basic understanding of the subject is helpful. Visitors can view the ways that traditional clocks represented the system of unequal hours used until 1873 when Japan adopted European calendars and timekeeping. Previously, their day commenced at dusk and was divided into six nighttime and six daytime hours, varying in length depending upon the season. Some clocks have sliding hour indicators needing frequent shifting, others have double foliots running at different rates that were automatically engaged alternately for day and night timekeeping. Unequal hours were common in Western timekeeping as well until equal-hour mechanical timekeeping gradually supplanted them.

The centuries-long enforced isolation of Japan prevented the introduction of the pendulum or balance spring, so nearly all of these clocks employ archaic verge-and-foliot components introduced by Jesuit missionaries in the 1540s. Japanese pendulum clocks seem to have appeared only after Western technology was reintroduced in the late nineteenth century.

The hours, named after animals, descended from nine to four each day (numbers one, two, and three were not used.). Sundials, useful in setting those clocks, also are exhibited and required no equation-of-time conversions since both kinds of instruments display seasonal hours.

The second major horological venue was much easier to find. At the **National Museum of Nature and Science**, a dedicated gallery was packed with Japanese timekeepers. To assist Western visitors unable to read the labels, several touchpads show small images of each object that link to full descriptions in the preferred language.



Edo-period pillar and lantern clocks displayed at the National Museum of Nature and Science. A double-foliot is visible on the clock at bottom right. Pillar clocks were designed to hang in traditional Japanese homes on posts supporting interior paper partitions.

This broad array offers copious examples of the distinctive traditional clocks (wadokei) made in Japan during the Edo period (1603–1867). These include wall-mounted pillar clocks, lantern clocks on cabriole or straight legs or on trapezoidal wooden pedestals, and table or bracket styles. There are lineups of inro (small wearable cases) with built-in watches.

Later wood-cased clocks are displayed that are identical to styles mass-produced by America's Connecticut manufacturers. The Japanese factories were built during the Meiji modernization and industrialization period beginning in 1868 after the feudal shoganate was overthrown. Thousands of these octagon-top clocks, and other familiar styles, were exported in bulk to America during the decades after World War II and were sold as American antiques in popular magazines and second-hand shops. Many have come to me for repair, and their owners usually were unhappy to learn that their old clocks were made in Japan.

In the museum shop, I purchased a 2021 book, entirely in Japanese, describing many of the museum's timekeepers. I was directed to it by an elderly gentleman volunteer who I learned had been the museum's director.



Portable sundial, used by travellers, in carved wooden hand at the National Museum of Nature and Science.

The most modern, impressive, and comprehensive Tokyo venue is the **Seiko Museum** which reopened in 2020 in the upscale Ginza district. It houses more than ten thousand objects. We were escorted by Seiko's Noboru Miyadera. The five-story building features a chronological progression of the story of timekeeping, summarized in



One floor's gallery in the Seiko Museum. Note pull-out drawers containing many additional small objects available to examine.



Seiko Museum fusion of customer watches burned and melted during the 1923 great earthquake. Dug from the ruins of the Seikosha shop.

the 254-page English-language catalogue we were gifted. *The Seiko Museum Ginza* was published by Seiko in November, 2021.

Understandably, the focus is on Seiko's history and products up to the present day. The firm's founder, Kintaro Hattori (1860–1934), established a clock and watch repair and retail shop in 1881, as noted by the present chairman, Shinji Hattori, in his 2021 commemoration of the company's 140th anniversary. In its early days, Seikosha also produced those Connecticut-style wall, mantel, and alarm clocks and pocket watches. The senior Hattori traveled overseas to purchase machinery and to learn the most-modern production methods. Wristwatches followed with the 1913 introduction of Japan's first, the 'Laurel', and the decades-long worldwide prominence of the Seiko watch brands, including the luxury Grand Seiko. Marine chronometers were developed and then mass-produced for the first time in Japan between 1943 and 1945. Another feature is the Quartz Astron 3550, the world's first quartz wristwatch introduced in 1969 at a price of 450,000 yen, costing more than an average automobile.

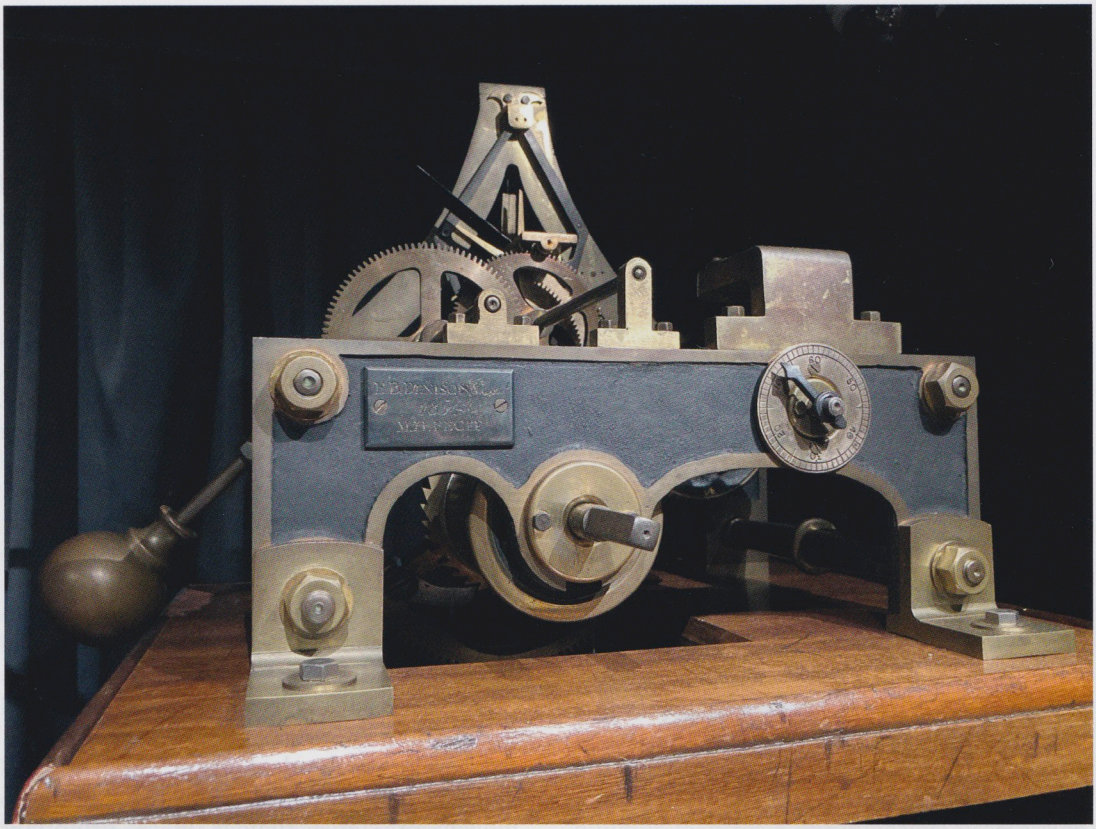
The September 1, 1923, earthquake was the worst natural disaster in Japan's history. Most of Tokyo was destroyed, and the resulting conflagration consumed Kintaro's factory, home, and shop although more than half of the machine tools were repairable. 1,500 timepieces awaiting service were burned and melted, but Kintaro advertised afterwards that he would replace every one with equivalent new products at no cost to his customers.

In the Seiko museum, signage is in both Japanese and English. Well-lit galleries and cases, some with video displays, also exhibit early European and American examples to tell horology's complete story.

The label for a small English turret clock movement states that it is 'A prototype for the Houses of British Parliament tower clock, London's Big Ben.' We regret that the late Chris McKay cannot advise us on this, but he did discuss prototypes (not this one) beginning on page 140 of his 2010 book, *Big Ben: The Great Clock and the Bells at the Palace of Westminster*. This intriguing clock is illustrated on the following page.

Three early automated production machines, in running order, are displayed in the museum's entrance foyer. A 1937 belt-driven machine drills and threads holes for balance screws, rotating the tiny wheels for each plunge of the bit, then shuts down when the operation is complete.

A horological study tour of Japan could be considered by the AHS. There is no substitute for seeing these unique historic timekeepers in person. It is certain that our Japanese hosts would welcome us with the generosity and courtesy for which the country's people are greatly admired.



Seiko Museum prototype turret clock movement for Westminster's tower, the engraved plate reads 'E.B. DENISON (indistinct), 1854, M. H. FECIT.' Double three-legged gravity escapement.

The Museum purchased this example in November, 1984, from the Tokyo antique shop 'Ki i -dou', and no further details on its provenance are available. If it truly was crafted in 1854, it would be highly significant. Further details are on the Museum's website: https://museum.seiko.co.jp/en/knowledge/MechanicalTimepieces10/.

A November, 2023, email from Keith Scobie-Youngs stated '...if the movement is original and the plate is not a later addition, then it will be the earliest example of a double-three legged escapement that I know of.... This clock looks the workmanship of William Potts of Leeds, but the initials M. H. don't mean anything to me at present.' Clearly further research is warranted.

Editor's note: The Watch & Clock Museum page of the website of the Japan Watch & Clock Association lists the museums described in this article, plus a few other places, see *www.jcwa.or.jp/en/info/resourcecenter.html*

It also contains a link to the Seiko Museum site *https://museum.seiko.co.jp/en/* which is full of info and images,



New sushi clock for sale on the famous Tokyo street, Kappabashi-dōri, where shops sell realistic artificial food items for restaurant displays. The price was about £88; I resisted.