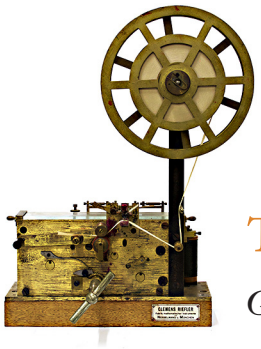


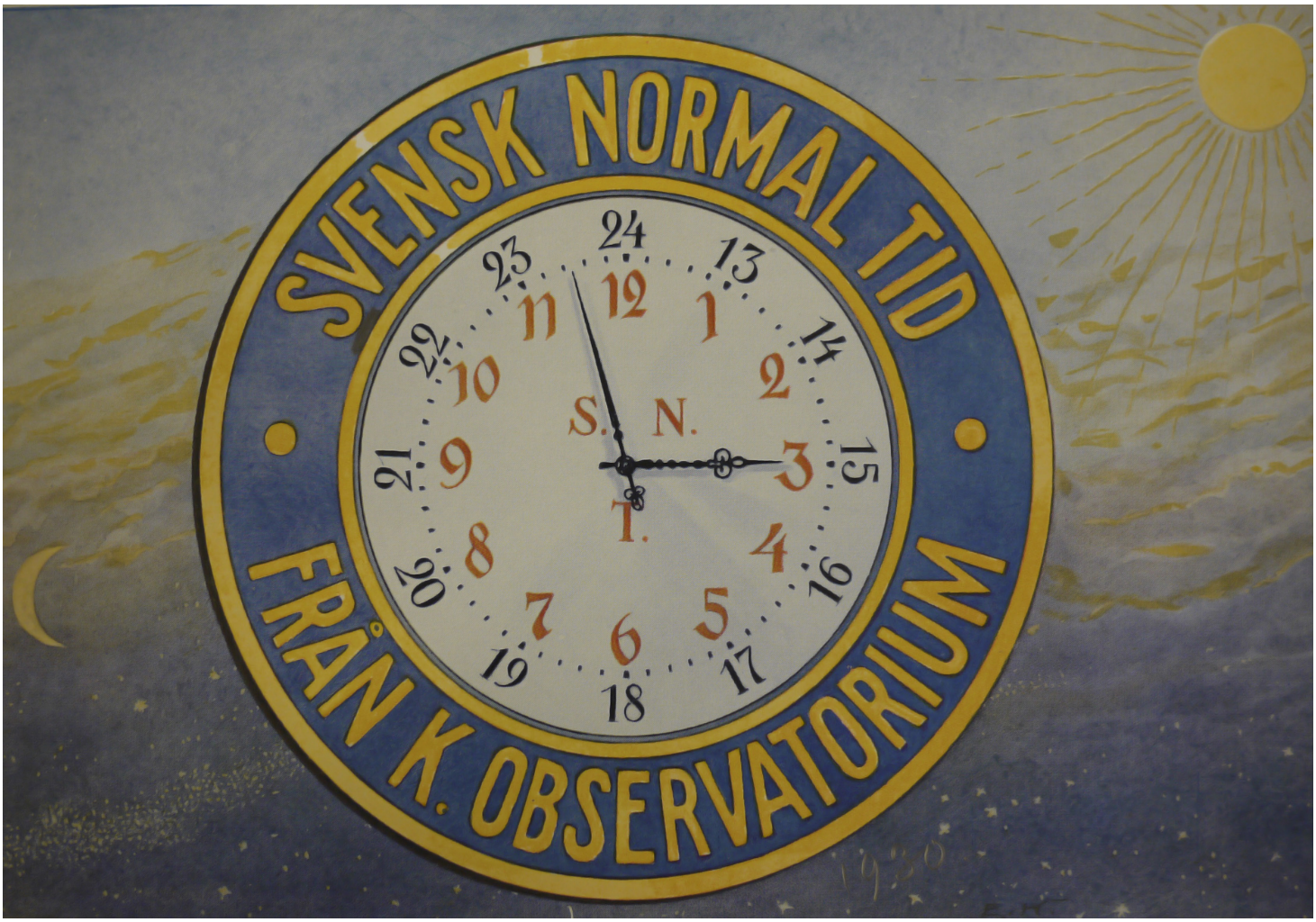
MACHINE used to determine time during work with the meridian circle.

Trustworthy time

Gustav Holmberg

The new Central Post Office Building in Stockholm was inaugurated in October 1903. It is certainly a magnificent building that embodies part of the civil service, but writings about its inauguration also highlighted its union with utility; the building "is dedicated to industrious, intensive work [...] a post office building, that in its external and interior architecture is worthy of Sweden's beautiful capital and simultaneously in all respects suitable for the practical purposes for which it is designed". Press reports and books therefore highlighted the electricity, water closets, electrical lighting (the building had a total of 1,690 light bulbs) and lifts – modern technical solutions intended to facilitate a smooth flow of postal consignments, people and money. Perhaps there was also a desire to show that the Swedish Post Office was a public authority of the times. The director-general of the Post Office who made press statements about the inauguration of the new Central Post Office Building, Edvard von Krusenstjerna, was not only head of the Post Office, but also a member of the Riksdag (for the right) and minister for the interior. In a reform in 1900, the *Post- och telegrafväsendet* [Post and Telegraph Service] had been transferred to the Ministry of the Interior, and this investment in a modern Central Post Office Building demonstrated with clarity that Sweden during the reign of Oscar II had a rational and functional government machine, one in step with the times.

Technologies for determining time can be added to the list of modern facilities in the Central Post Office Building. Citizens who visited the building to perform their postal errands, and the officials who dealt with them, could all count on having thorough and reliable time measurement available: there were 75 clocks installed in the building. They were synchronised, moving absolutely in time with each other and, even more importantly, also with the official time in Sweden. The clocks in the Central Post Office Building



ADVERTISING IMAGE used for marketing AB Svensk Normaltid.

were regulated "through electrical connection with the Stockholm Observatory", as stated in the commemorative publication issued in association with the inauguration.

The Central Post Office Building's network of synchronised clocks, distributing precise time that originated in the Stockholm Observatory, was a technological innovation in Stockholm's public milieu. If anything, it demonstrated that even a state post office was part of modernity. This network of clocks was managed by a company, Aktiebolaget Svensk Normaltid [Swedish Standard Time Ltd], and the Post Office was one of its first major customers. Time signals were distributed from the company's central station at 58 Klarabergsgatan via the telegraph network to subscribers who

hired clocks from the company. Such clocks began to appear everywhere in Stockholm's public milieu, and soon in other cities too.

AB Svensk Normaltid had been founded in 1901. The company's driving force was John Andersson, an engineer who had worked in the telephone and telegraph industry and who is otherwise most associated with his activities in the field of lightning conductors. He is said to have designed around 2,000 lightning conductors during his career as a lightning conductor constructor, and his development work in the area was rewarded at the Stockholm Exhibition in 1897 and at the Exposition Universelle in Paris in 1900.

The company offered customers the chance to rent clocks that were regulated via a chain of time technology, starting from a standard clock at the Academy of Sciences' observatory and forwarded via telegraph lines, which were run by the Royal Telegraph Administration, to the subscribers' clocks. Publicity material makes the point that the clocks "*always* show Swedish standard time and, after mounting, are *automatically* charged and set". The cost was upward of 20 kronor, annually. It was also said that "electrical clocks, regulated in full concordance with a standard clock at the Stockholm Observatory, must play a major and practical role in public life". The company's business idea was to supply clocks that were located in public places and perceived as accurate. These clocks were automatically synchronised daily, via the telegraph network, with the main clock at the company's central station. Every clock drags, "clock drift" in horological language, but this was adjusted down to the second using daily correction signals.

So, the central station's time designation came from the Stockholm Observatory, an important source of Swedish time in the years around 1900. There, at the Academy of Sciences' observatory on Observatoriekullen, close to Drottninggatan, the company had installed a "standard clock" that was compared with and corrected in relation to the ultimate timekeeper: the starry sky. Assistant astronomers manned the observatory's passage instruments, telescopes that made it possible to determine, with a high level of precision, when standard stars passed directly to the south. With these observations, the observatory's clocks could be checked and adjusted. Naturally, ensuring the correct time by keeping the observatory's own clocks accurate was an important area of the observatory's normal activities, but this was also linked to the adjustment of AB Svensk Normaltid's standard clock. Accordingly, this sent precise time to the company's central station which, in turn, distributed time to the subscribers' clocks. Reliable time was thus spread throughout Stockholm, and soon other towns and cities too. A chronometric chain had thus been established, linking the Earth's incorruptible rotation, reflected in the standard stars' movement through the passage instruments, with publicly mounted clocks, via the telegraph network's infrastructure and the two standard bearers of the Academy of Sciences'

BROCHURE from AB Svensk Normaltid.

observatory and AB Svensk Normaltid. Citizens moving through the Oscarian cityscape could therefore check their pocket watches, the flow of passengers and trains at railway stations was not disrupted by temporal uncertainty, schools and churches showed exact times, and there could be no doubt about the time when promissory notes and bills of exchange were cashed at banks and post offices. A national unifier for time, with a second's precision, had been established in cooperation between the Academy's observatory and a private business.

The company stated throughout that what was displayed was Swedish standard time supplied by the Academy of Sciences' observatory. Astronomy was associated with the management of numbers and precision, and the observatory had, through the almanac monopoly, been a national unifier on calendar issues, and also dealt with various standards ever since it was founded. Of course, precision had practical purposes. No one wanted something as banal as confusion about the time to create disorder on the railways. But it is difficult to disregard how values such as diligence, meticulousness and order also exist as overtones in the "utilistic" chord of national economic benefit associated with the introduction of well-distributed and reliable synchronised times.

There were also other ways to spread synchronised time in society. Via the telegraph network, the Stockholm Observatory distributed time signals to dozens of telegraph stations around Sweden and to the navy in Karlskrona. At the larger state navigation schools affiliated with the ports in Stockholm, Gothenburg and Malmö, the city's inhabitants, and particularly the ships' captains in the ports, could calibrate their clocks when the time balls mounted on the roof fell once a day. These time-signalling devices comprised a large ball that was raised up a pole on the school's roof, visible for several kilometres. The sphere dropped at a set time, which was observed by people who wished to calibrate their clocks. But AB Svensk Normaltid entailed something else: a more continual and widely spread distribution of time in the Oscarian cityscape. With its origins in the observatory of the Academy of Sciences, it was a trustworthy signal, a signal that could be used to order the world.

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There are numerous published case studies discussing the standardisation of time and the production and distribution of exact time in different countries and urban environments. See for example Hannah Gay, "Clock synchrony, time distribution and electrical timekeeping in Britain 1880–1925", *Past & Present*, vol. 181, 2003. More extensive and detailed studies include Ian R. Bartky, *Selling the True Time: Nineteenth-century Timekeeping in America* (Stanford, 2000) and Vanessa Ogle, *The Global Transformation of Time 1870–1950* (Cambridge, MA, 2015). Material left by Aktiebolaget Svensk Normaltid is in the National Library of Sweden's collection of ephemera. A short biography of John Andersson is found in *Teknisk Tidskrift* 1939, instalment no. 6.