

Hydropower and pioneering spirit

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This tour starts at the edge of the small park opposite the city library. There is a small bronze bust here in honour of Heinrich Moser: it was put up in 1866, although the plinth is modern. There is a good reason why our walk through the pioneering days of Schaffhausen's industry should start at this spot. Heinrich Moser, a citizen of Schaffhausen who made his fortune in the wholesale trade in clocks and watches with Russia, is usually described as the city's industrial pioneer. He certainly deserves credit for the decisive contribution he made to boosting industry in his hometown through his unwavering commitment to improving the use made of the power obtained from the waters of the Rhine.

In the history of Schaffhausen, the first half of the 19th century, and in particular the period following the political upheavals of 1831, was a time of economic decline, with the collapse of craft skills, general gloom and material impoverishment. In comparison with other parts of Switzerland, where industry had been established earlier and – more importantly – on a firmer footing, the economic situation of Schaffhausen was extremely backward at that time. But a major turnaround occurred in about 1850: people stopped believing that a return to the old guild-based system could rescue them from their plight and a confident new belief in progress started to emerge instead. One trigger for this change of mindset was the first Swiss federal constitution of 1848, which greatly improved the economic framework. In particular, it facilitated dom-

estic trade and communications by unifying the currency, introducing a single system of weights and measures, centralising the postal service and abolishing the countless internal tolls.

But it was also largely thanks to Heinrich Moser that a new spirit of innovation took root in the city of Schaffhausen. Moser was the first to set about actually implementing a project that had long been mooted by a few progressive citizens, namely to make better use of the motive force produced by the flow of the Rhine. In 1850 he had a dam constructed, about 80 metres long, and running almost parallel to the bank, designed to channel its water into a set of water wheels. But his crowning achievement was certainly the construction, from 1863 to 1866, of a more than 200 metre long hydropower station across the Rhine, which he pushed through resolutely despite many problems and in the teeth of fierce opposition, and on which he spent large sums of his own money. The curved overflow weir, named the "Moser dam" after its originator and tireless promoter, lay right across the Rhine, in order to achieve the greatest possible effect. It consisted of a partly natural and partly artificial stone substructure and on top of it, a weir sill made of huge wooden beams. The turbine house, where three turbines produced a total of 760 horsepower, stood on the left bank. The power from two turbines was transferred to the right bank by cable and from there conveyed upstream to the various enterprises via a transmission cable about 500 metres long. From 1873, the

Tip

You can see a model of the "Moser dam", at the time the biggest hydro-power station in Switzerland, in the nearby Museum zu Allerheiligen.

Opening times:

Tuesday to Sunday,
11 a.m. – 5 p.m.

third turbine delivered power directly to the twine factory located on the left bank of the Rhine via an oblique 150 metre long transmission shaft.

Heinrich Moser (1805–1874)



Heinrich Moser, born on 12 December 1805, came from an old Schaffhausen family of artisans. The bright young man learned the watchmaking craft in his father's workshop at 13 Vordergasse, and then

"went on the road", as the custom was in those days. He spent his first years as a journeyman, from 1824 to 1827, in Le Locle (canton Neuchatel), the centre of the Swiss watchmaking industry, where he perfected his skills.

In 1827 Heinrich Moser moved to Russia, and within an astonishingly short time rose from being a simple journeyman-craftsman to a successful industrialist. As early as 1828 he started his own sales company in St Petersburg, and only a year later he established a factory in Le Locle as a subsidiary of the main business in Russia. Further sales outlets followed in Moscow, Kiev and Nizhny Novgorod. He ended up dominating the entire Russian market as far as the border with China with his watches made in Switzerland. In 1848 Moser returned home with his family as an extremely wealthy man. He put managers into his firms in Russia, which

continued to bear the name of their founder until all businesses were nationalised in 1918. From that time on, Heinrich Moser's declared aim in life was to apply innovative methods to lift Schaffhausen's economy out of the doldrums, and to increase the prosperity of his hometown. He embarked on the task enthusiastically, creating the conditions for the establishment of industrial enterprises by exploiting the hydraulic potential of the Rhine. The weir known as the "Moser dam", no easy matter to construct given the river's very uneven bed, was Heinrich Moser's major contribution to Schaffhausen's industry, both financially and in terms of his own personal commitment. But that was not all: Moser was also involved in the cereal and wine trade, he attempted to introduce the wide-scale manufacture of wooden clocks (Black Forest clocks) and he was one of the first to champion the integration of Schaffhausen into the rail network in 1857.

Tip

Since 2009 the "Moser family museum" set up by the Heinrich and Henri Moser Foundation has been housed in the upper storey of "Charlottenfels". Visits by appointment only (www.charlottenfels-museum.ch). Can be reached by trolley bus number 1 from the station or from Mühlenort, getting off at the Scheidegg bus stop.

The small park with the music pavilion built in 1938, where our tour starts, was laid out at the end of the 19th century on the site of the former city cemetery (1541 to 1864). It was bought in 1864 by the hydraulic company which planned to build industrial enterprises on the site. In 1892 the city bought back the part of the site that had not yet been built on, and turned it into a park, which was given the name "Mosergarten". It was officially opened on 9 April 1896, exactly 30 years after the inauguration of Moser's hydraulic power

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station. The street bounding the park to the north, which was built at Moser's behest, was named "Moserstrasse".

A few steps further on we turn from here into the *Baumgartenstrasse*, which means Orchard street. Its name comes from the great orchard of the old Allerheiligen monastery, which in the 1860s still stretched down to the banks of the Rhine. The construction of the hydraulic power station slightly further downstream made this land a highly desirable industrial location. The complex built in 1876 at 5 Baumgartenstrasse, at the southern end of the park, housed the Frey & Peyer Mechanische Baumwollzwirnerei (Mechanical cotton-spinning mill), which later became Hermann Frey AG. The company, founded in 1872, went on producing yarn and thread until 1963. Since 1980 the converted factory building has been used as teaching premises by the Schaffhausen Commercial Association (KVS). On the side facing the Rhine, the factory chimney which has been left standing is a reminder of how the premises were used previously.



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15 Baumgartenstrasse was the headquarters of the well known watch manufacturer, the International Watch Company (IWC). Of all the industrial enterprises once located along the Rhine, this is the only one still in operation in its original spot. In 1869 the watchmaker Florentine Ariosto Jones of Boston started producing watches in factory conditions in Moser's industrial building (see Klosterstrasse), founding what was later to become the IWC. In spring 1875 he moved into the new factory on the Baumgarten-



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strasse, designed by Gottfried Meyer, a pupil of the prominent German architect Gottfried Semper. The imposing appearance of the original building can still be clearly made out despite later alterations and extensions. The firm, which was originally aimed exclusively at the American market, twice went bankrupt, and in 1874 became a limited company. In 1880 the machinery manufacturer Johannes Rauschenbach (see below) took over the faltering business, laying the foundation for the successful development that then started. Under different names, the business remained in the hands of the family for four generations until 1978, when the majority shareholding passed to VDO Adolf Schindling AG, which itself was bought by Mannesmann in 1991. Since 2000 the IWC, along with other luxury watchmaking companies, has been part of the Richemont group.

The first and also the biggest factory to be built close to the Rhine in Schaffhausen was Rudolph Schoeller's (1827–1902) worsted mill first built in 1867 at 19–23 *Baumgartenstrasse*, which soon expanded. Schoeller, a native of Düren in the German Rhineland, had once managed a worsted mill in Breslau (Wroclaw), but had emigrated to Switzerland for political reasons and settled in Zurich. The choice of Schaffhausen as the location for his new factory – at the time the first worsted mill in Switzerland - certainly had to do with the fact that energy and building land were both plentiful. Just a year after it had been established, the enterprise was split into the worsted mill (renamed in 1907 as

Tip

A museum on the ground floor of the main building of the IWC, opened in 2007, gives an interesting overview of the firm's evolution and output.

Opening times:

Tuesday to Friday
3 p.m. – 5 p.m.,
Saturday,
10 a.m. – 3 p.m.

Tip

The "Kammgarn-Beiz" restaurant is housed in the former factory building. The old industrial structures have been largely preserved.

the United Worsted Mills of Schaffhausen and Derendingen) and the knitting yarn mill, which moved to the new Ebnet industrial quarter in 1911, where it produced the famous "Schaffhausen wool" until 1991. The worsted mill on the Baumgartenstrasse was forced to cease operations in 1979, a victim of the general crisis of the textile industry in Switzerland.

**Tip**

The "Hallen für Neue Kunst" features major European and American works of art showing breakthrough developments in the period after 1965.

Opening times:

Saturday
3 p.m. – 5 p.m.,
Sunday
11 a.m. – 5 p.m.,
Tuesday to Friday
by appointment.

The original factory of 1867 no longer exists. The wing on the Baumgartenstrasse was built in 1886, while the extension in the Klosterstrasse, built on to it at right angles, dates from 1912. Today, these two sections are used mainly for cultural purposes. Since 1984 they have housed, among other things, the well-known "Hallen für Neue Kunst" (contemporary art museum) as well as the "Kulturzentrum Kammgarn" (Worsted Culture Centre), with its events room, gallery, music space and restaurant.

Following the long façade of the "Kammgarn", we come to the *Klosterstrasse*. On the left hand side there once stood an industrial building, the brain-child of Heinrich Moser who commissioned it. It was built between 1866 and 1872, and the idea was to rent out suitable workshops powered by the new hydraulic station to innovative entrepreneurs and those with not much capital, so as to facilitate their start in business. The first ones to take up the chance included not only Jones' watch factory, but also Schoeller's knitting yarn mill (Schaffhausen wool), the Frey & Peyer cotton-spinning mill (see 5 Baumgartenstrasse) and the Schaffhausen knitting machine factory (which later moved to the Moserstrasse). The machinery manufacturer Johannes Rauschenbach (1815–1881) built an iron foundry on the



opposite side of the street in 1872. The three-storey factory at 9 Klosterstrasse with the high rounded windows was later altered and extended in various ways, and is now used by the Schaff-

hausen police. Rauschenbach was one of the earliest supporters of the hydraulic power project and for many years was a member of the board of the hydraulic company. As early as January 1858 he had described in detail in the Schaffhausener "Tage-Blatt" newspaper his idea for a sluice dam to be built across the Rhine, which would make considerably better use of the water power than the existing

system with two dams running practically parallel with the current. This suggestion was basically what was implemented a few years later with the "Moser dam". Rauschenbach had his main factory on the Mühlenstrasse (today the location of the city electricity works), where at the end of 1849 he had transferred the mechanical workshops and the millwright's shop he had first set up in August 1842. There he embarked, with great success, on the production of agricultural machinery, but using the water power produced by his own installation, independently of the new hydraulic station sited only slightly upstream. Thanks to some groundbreaking inventions and continual improvements, the firm soon became Switzerland's leading company in this area. Rauschenbach, a great champion of the local economy who had started off as a simple craftsman and risen to be a major manufacturer, also took over the International Watch Company in 1879 and saved it from going under.

Now we turn right into the *Rheinstrasse*. Until 1864 it was called "In der Grub" – "in the pit" – because of the clay and gravel pits that were once to be found on the hill sloping south from the Herrenacker. Close by, along the Rhine, there were originally a number of brick works. These later gave way to modest craft businesses. When the hydraulic station came into operation in April 1866 this gave them the chance to switch from manual to mechanised production by getting connected to the transmission facilities. So numerous small-scale factories (including the first production site

of what is now the medical supplies company Internationale Verbandstofffabrik (IVF) sprang up on the Rheinstrasse and the neighbouring Frauengasse. But when the city power station started to distribute electricity in 1897, this led to another change: the factories were no longer tied to their locations close to the river. Some firms therefore used the chance to escape the cramped conditions on the Rheinstrasse and move to the Ebnat industrial quarter which was established in the north-east of the city in 1911. Today the factories have disappeared completely from the Rheinstrasse. The buildings have now been converted largely into housing, but some of the exteriors still bear witness to their original use. This applies in particular to the house at 17 Rheinstrasse, which was built in 1890 with three or four long production halls with parallel roofs for the firm of J. Amsler & son.



Jakob Amsler-Laffon (1823–1912), originally from canton Aargau, came to Schaffhausen in 1851 as a high school teacher of mathematics and physics. In 1854 he invented the polar planimeter, a mechanical measuring instrument that can determine the area of any two-dimensional shape. He installed his first small workshop to produce this ground-breaking device in his flat in the house known as "Zum Stokarhof" (10 Vorstadt). In 1858 he moved to live in the Rheinstrasse, first in the house "Zum Rosengarten" (37 Rheinstrasse, see below), then to 7 Rheinstrasse, which had been built in 1866 as a factory for watch cases, and in 1890, after he had started manufacturing hy-

draulic material testing machines as well, he moved to 17 Rheinstrasse, as mentioned above. When these premises finally also became too cramped, the firm moved its fast-growing business to the Ebnat industrial quarter, where it remained until it was sold in 1970.

Our route now takes us past the so-called Rhine school house (*25 Rheinstrasse*), a building in early classical style erected between 1782 and 1788 as an orphanage. But the imposing edifice was never used for its original purpose; instead, from 1795 to 1902 it housed the Schaffhausen secondary school. The pioneer industrialist Heinrich Moser was a pupil in the vocational section from 1818 to 1820.

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The next house, "Zum Störchlein" (*29 Rheinstrasse*), at one point a stove fitting business, was taken over in 1890 by Heinrich Sender, a wagon maker who had immigrated from Hanover, and had started off in 1864 by establishing a firm on the Bachstrasse producing perambulators and handcarts. In 1913 Sender & Co merged with Widmer, Sandmeier & Co, its rival from Lenzburg, to form the well-known Wisa-Gloria works, whereupon it abandoned its factory in Schaffhausen. But the word "Senderwagen" for small handcarts is still in use today.

At the end of the street is the house "Zum Rosengarten" (*37 Rheinstrasse*), dating back to 1682 and with a wooden bay on the gable wall. The machinery manufacturer Johannes Rauschenbach lived here from 1858 (see 9 Klosterstrasse) and



Jakob Amsler-Laffon (see 17 Rheinstrasse) also had his flat and his workshops here from 1858 to 1862.

We now come to the small car park adjoining this house. From here, it is worth making a short diversion through the underpass to the river bank. It is true that the last traces of the old "Moser dam" disappeared with the construction of the new power station in the years 1960 to 1967. But the monument by local sculptor Walter Knecht, inaugurated in 1969, is a reminder of this pioneering act and of the man behind it. The statue of the strong youth, on his knees, his outstretched left arm pointing towards the river flowing by, and his right arm raised in supplication, is an allegory of Moser's determination to tame the Rhine. On the other side of the power station dam and the 1995 cable-stayed bridge of the N4 motorway, you can see the castle-like neo-Renaissance villa, "Charlottenfels", which Heinrich Moser had built to his own design between 1850 and 1854. The villa was named in honour of Moser's first wife, Charlotte Mayu, who, however, died as the result of a coach accident only a few months after construction started. Since 1919 the entire site has belonged to canton Schaffhausen, which established an agricultural school here. The "castle" recently underwent comprehensive restoration and was refurbished for ceremonial purposes.

