



## THE GENESIS OF PRECISION

### THE ORIGIN OF WATCHMAKING IN THE VALLÉE DE JOUX AND THE PURSUIT OF PRECISION AS A CORE VALUE

**Key dates:**

- 1558: Pierre LeCoultre's arrival in Switzerland
- 1612: Birth of Le Sentier village
- 1684: Blacksmiths pre-eminence
- 1749: Recognition of watchmaking

Since the dawn of history, when the notion of time was established through observation of the movement of the sun and moon across the sky, and the changing of the seasons, mankind has been on a quest to define and measure time more accurately. Over the millennia, a succession of devices has been invented – the sundials and water clocks of ancient Egypt, Babylon and Greece; Chinese incense clocks and medieval hourglasses and Islamic water clocks – each representing the pinnacle of accurate timekeeping in its era.

After the first mechanical clocks were invented in the mid-14<sup>th</sup> century, the drive for precision gained pace. These new machines were capable of measuring time much more accurately and soon, the increasing sophistication of clockmaking technology opened the door to the development of portable timepieces – the smaller scale of which demanded ever greater precision in the shaping of components and the architecture and assembly of the movements.

At Jaeger-LeCoultre, the pursuit of precision has been a central tenet of the Maison since it was founded in 1833 by Antoine LeCoultre, an inventor and watchmaker for whom it was something of an obsession. His watchmaking atelier quickly built a reputation for outstanding quality and, as LeCoultre & Cie grew into a fully-fledged Manufacture, it set the standard for the entire industry. From the mid-1800s onwards, as its calibres were sought after by many of Switzerland's greatest watchmaking houses for use in their own timepieces, the Maison became known as the Watchmaker of Watchmakers.

However, the roots of Jaeger-LeCoultre's pursuit of precision lie in distant history; the story began more than 250 years before the Maison was founded and is intrinsically bound to the history of the Vallée de Joux itself.



### **Into Exile – 1558**

From 1517 onwards, the Protestant Reformation spread from Germany and Switzerland into France and, as the movement grew, persecution of the Huguenot (French Protestant) minority became increasingly harsh. In 1558, fleeing that persecution, Pierre LeCoultre was among the refugees who made their way to Geneva, where the theologian John Calvin had established Protestantism as the city's official religion. There, LeCoultre obtained the coveted status of 'inhabitant' of the City of Geneva.

At that time, merchants and financiers from Geneva had begun to exploit the Vallée de Joux's natural resources of iron and timber – building forges, establishing logging businesses and beginning the metallurgy industry for which the valley was to become famous. No doubt Pierre LeCoultre heard stories about the Vallée, brought back from to the city by those early businessmen.

### **The birth of Le Sentier, Vallée de Joux – 1612**

In 1559, driven by an entrepreneurial spirit and a taste for adventure and challenge, Pierre LeCoultre left Geneva for the Vallée de Joux.

Perched at an altitude of 1,000 metres with the only access being through passes often closed for months by heavy winter snow, the Vallée de Joux was a wild place of rocks and forests, governed by a harsh climate. To survive in the valley, patience, perseverance and probity were essential character traits that, over the generations, came to define the mentality of the Combiens (as inhabitants of the Vallée de Joux are known). Many generations later, this temperament was to make them ideally suited to the intricate craft of watchmaking.

Pierre LeCoultre obtained the rights to a plot of land, where he cleared the forest, built a home and made a farm. Despite the inhospitable environment, the long and cold winters and the extreme challenges of daily life, he managed to settle permanently and, thanks to his ability to read and write, became one of the notables of the Vallée. After he died, he was succeeded by his son, also named Pierre.

In 1612 – with the blessing of the Protestant city of Bern, which then had authority over the Vallée de Joux – the junior Pierre built a chapel in Le Sentier, which marked the birth of the village that became Jaeger-LeCoultre's home.

### **From Disaster to Blacksmithing Pre-eminence – 1684**

With the Vallée's fortunes dependent on the forges – and the felling of timber to power them – a devastating forest fire in 1613 wiped out much of the traditional economy. While the forges could continue operating with coal imported from outside the Vallée, those who had relied on logging and selling wood were forced to develop other sources of income. Small, artisanal enterprises began



producing furniture, clothing and metal tools – testament to the Combiens' resilience and spirit of self-reliance. In addition, some began to produce wooden clocks inspired by models that had been introduced to the Vallée from Geneva.

Increasingly, farmers installed their own domestic forges and blacksmithing provided a reliable second source of income. With a taste for precision and meticulous attention to detail, the blacksmiths began to specialise in small items such as blades, buckles, locks and handles; confined to their houses during the long and freezing winter months, they had ample time to hone their skills. For the metallurgy trades of the Vallée de Joux, 1684 was a milestone, marking the official end of a long period during which Genevan businessmen had held legal rights over these activities. By the end of the 17<sup>th</sup> century, the blacksmiths and other artisans of the Vallée de Joux enjoyed a reputation for quality that spread far beyond their own region.

### **Official Recognition of Vallée de Joux Watchmaking – 1749**

Encouraged by the official recognition of watchmaking as a profession in 1723, and burgeoning public interest in horology (although only the very wealthy could aspire to owning a timepiece) a growing number of the Vallée's craftsmen leveraged their remarkable metal-working skills to learn the watchmaking trade.

In 1749, Bern officially granted commercial and industrial autonomy to the artisans of the Vallée de Joux and, as the number of apprentice watchmakers from the Vallée multiplied, the reputation of the master craftsmen grew, especially in Geneva where their products were increasingly sold. In the latter part of the century, in parallel with growing interest in watchmaking throughout Europe, music boxes surged in popularity, encouraging many of the blacksmith-craftsmen to specialise in music box components. Among them was Antione LeCoultre's father, Jacques-David.

Ten generations after Pierre LeCoultre had arrived in the Vallée de Joux, 16-year-old Antoine LeCoultre joined his father in the small family forge and began learning the mysteries of metallurgy. In 1823, the LeCoultres began producing razors of an exceptionally well hardened (quenched) steel and subsequently designed a watchmaking chisel benefiting from the same quenching method. They developed new alloys, laid the foundations of the razor industry, and perfected the pins and vibrating blades of music boxes.

### **Founding of the LeCoultre Watchmaking Atelier – 1833**

Switzerland's liberal revolution of December 1830 – which, among other benefits, guaranteed the freedom of commerce – encouraged entrepreneurs in the Vallée de Joux to embark on artisanal and industrial adventures.



Obsessed with precision, in 1830, Antoine LeCoultre, a self-taught watchmaker, had already invented a machine for cutting pinions from steel and went on to develop precisely calibrated cutting and stamping machines that could measure and cut components more accurately and on a smaller scale than ever before.

Obsessed with precision, in 1830, Antoine LeCoultre, a self-taught watchmaker, had already invented a machine for cutting pinions from steel and went on to develop precisely calibrated cutting and stamping machines that could measure and cut components more accurately and on a smaller scale than ever before.

Building on the foundation of this new invention, Antoine LeCoultre transformed the first floor of the family forge in Le Sentier into a watchmaking atelier in 1833. By grouping together a handful of watchmakers, he began creating timepieces of great accuracy, marking the debut of a long series of production that continues to this day.

Once the pinion-cutting machine was invented and the production set in motion, Antoine LeCoultre was determined to ensure that his artisanal methods were of the highest quality. To guarantee the excellence of his produced components, he invented the Millionometre in 1844, which made it possible not only to measure components with an unprecedented level of precision, but also to miniaturise them even further.

By enabling the measurement and reproduction of parts with absolute precision, Antoine LeCoultre freed watchmaking from the constraint of producing timepieces one-by-one, thus laying the foundations of the modern watchmaking industry.

### **The Unrelenting Pursuit of Precision – from 1844 onwards**

In 1851, Antoine LeCoultre displayed his inventions at the Great Exhibition in London – the first World's Fair – and was rewarded with a gold medal, particularly for his pioneering role in the field of component interchangeability. The first international recognition of his work, this contributed to the Swiss watchmaking industry's eventual preeminence over its English counterpart.

By enabling the miniaturisation of parts without sacrificing timekeeping accuracy, LeCoultre's inventions made it possible to develop watches of ever smaller size and greater complexity – chronographs, calendars and chiming watches. As these calibres were highly sought after by the leading watchmaking houses for use in their own timepieces, the Maison became known as the Watchmaker of Watchmakers – and the Vallée de Joux became known as the cradle of complications.

In 1866, Antoine LeCoultre and his son Elie established the first fully-fledged Manufacture in the Vallée de Joux, uniting all the watchmaking crafts under one roof. At a time when watchmaking was based on



the principle of *établissage* – an ecosystem of small workshops each owned by a specialist in one of the crafts – it was a prescient move that, by encouraging the closer exchange of ideas and enabling series production, came to define the modern watchmaking industry.

The pursuit of precision continues to this day. Among the milestones: The first chronometer Grande Complication pocket watch in 1890. The ultra-thin pocket watches created in collaboration with Edmond Jaeger from 1903 onwards. The extreme miniaturisation of Calibre 101 in the 1920s. The award of first prize in the 1946 Chronometry competition for the Manufacture's first tourbillon calibre. The Chronomètre Geophysic in 1958. The 1,000 Hours Control protocol in 1992. The Gyrotourbillon in 2004. The Duometre system in 2007. The Grand Prix de Chronométrie in 2009. The Master Hybris Mechanica Calibre 362 with its fully flying Tourbillon and patented S-shape hairspring in 2014. The 5<sup>th</sup> generation of Gyrotourbillon in 2019. And the story continues....

---

#### **About Jaeger-LeCoultre – The Watchmaker of Watchmakers™**

Since 1833, driven by an unquenchable thirst for innovation and creativity, and inspired by the peaceful natural surroundings of its home in the Vallée de Joux, Jaeger-LeCoultre has been distinguished by its mastery of complications and the precision of its mechanisms. Known as the Watchmaker of Watchmakers™, the Manufacture has expressed its relentlessly inventive spirit through the creation of more than 1,400 different calibres and the award of more than 430 patents. Harnessing 190 years of accumulated expertise, La Grande Maison's watchmakers design, produce, finish and ornament the most advanced and precise mechanisms, blending passion with centuries-old savoir-faire, linking the past to the future, timeless but always up with the times. With 180 skills brought together under one roof, the Manufacture creates fine timepieces that combine technical ingenuity with aesthetic beauty and a distinctively understated sophistication.

---

#### **The Precision Maker**

A core value since the company was founded in 1833, the quest for precision has particular significance at Jaeger-LeCoultre. The very foundations of the Maison rest on two of Antoine LeCoultre's crucial inventions: a tool that cut pinion teeth with unprecedented accuracy (1830) and the *Millionometre* (1844), the world's first instrument able to measure a micron. Both devices were to have a profound influence on the entire watchmaking industry. Within the Manufacture, research into precision has resulted in a series of breakthroughs, including the development of the first multi-axis tourbillon, known as Gyrotourbillon, and different forms of hairspring. For complication calibres, the invention of the Duometre system ensures that isochronism (the regularity of the mechanism's 'heartbeat') is not compromised by operation of the complication. For Jaeger-LeCoultre the pursuit of precision is a central tenet of the Maison since it was established and will continue long into the future.