

F.P. JOURNAL

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The Resonance by F.P. Journe Modern Scientific Horology



DOUBLE PENDULUM OR RESONANCE HISTORICAL FACTS

The modern history of Resonance began in the 1980s when François-Paul Journe, then acting as a restorer for the CNAM in Paris, had the unique opportunity of working on a regulator with double pendulum signed Breguet et Fils in the museum's collections. Curious by nature, he scrupulously studied the unique mechanism and became aware of the interesting physical phenomenon of acoustic synchronisation (by sound waves) in horology.

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TRAVELING THROUGH TIME WITH F.P. JOURNE'S CHRONOMÈTRE À RÉSONANCE

Alongside the Tourbillon Souverain, the Chronomètre à Résonance is one of the most cherished and emblematic F.P. Journe timepieces within the world of F.P. Journe collectors. First introduced at Baselworld in 2000, it has gone through several changes over the years and remains one of the most unique creations from the mind of François-Paul Journe.

In essence, the Resonance uses two completely separate gear trains with the balance wheels placed very, very close to each other, around 0.4 mm apart. The close proximity allows them to share vibrations and eventually sync to the same exact beat. Essentially, the goal is to use the resonance phenomenon...

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Editorial François-Paul Journe



Mistakes and miracles

For every new watch developed, I sometimes make small "mistakes" without noticing; I'm not speaking of mechanics, but of aesthetics. They are corrected soon afterwards, often when the 2nd series is made. I don't pay attention to them, but collectors do, who consider they give added value, probably because they are rare. It was an unexpected miracle when the shallow engraving on the case of the 1999 Tourbillon Souverain, about 30 units, greatly increased the resale price. Also for the seconds with big dots and hand finished gold dials.

For the Chronomètre à Résonance, the shallow engraving on the case from N°021/99-R to 050/00-R multiplied the price. The 044/00-R that was auctioned at Christie's broke a record. In addition to these, I have found a complete watch in one of my drawers.

It's the 1st of the 1st series; the 021/99-R and is now assembled with the Régence prototype dial that I had made in white gold. I didn't like the dial and it ended up with this watch in spare parts. The watch served at exhibitions and to be shown to clients (the series from 000 to 020 being made later); it was never sold because it was slightly scratched. It is the only unworn watch with a pristine engraving, forgotten for 20 years, very moving! It will join the historic collection of the manufacture.

I have the pleasure to present the new Chronomètre à Résonance Réf: RQ, it generates a lot of curiosity and questions about changes. With its 2 "Remontoirs d'Égalités", the precision is considerably improved and its crown placed at 2 o'clock facilitates the winding of the watch.

The year 2019 was exceptional, we were able to produce what we had forecast, all the RTs were delivered on time. The quota for the 100 CB was respected; this does not improve the length of waiting time at our points of sale, but we will not make more in 2020.

The last Grande Sonnerie was delivered. Following the great success of Only Watch, we began the assembly of The Astronomic; there are many orders and I hope we will be able to deliver the watches within a reasonable timeframe.

And here I will end with the conventional statement: as you know and because you appreciate us as we are, the limited production of F.P. Journe watches will remain unchanged; it is a sine qua non for the excellence of our production.

François-Paul Journe

SCIENTIFIC HOROLOGY BY ANTHONY G. RANDALL

While I was consulting the books in the J.C. Sabrier library, one term drew my attention. A glass balance spring. Intrigued by this, I questioned François-Paul Journe. A glass balance

spring? This really exists. Anthony G. Randall is the latest watchmaker to have mastered the technique, and so I naturally wanted to meet Mr. Randall. I was able to do so a few short months later, when I visited the workshop of this English watchmaker who has lived in Switzerland since 2009. He had been interested

in horology since he was a young child. His favourite pastime was taking watches apart and repairing them. Despite a degree in physics from the University of Manchester, which he obtained in 1960, and a first job with the Cambridge Scientific Instrument Company, it was his love of horology that finally won out.

He decided to take a correspondence course with the British Horological Institute, earning the title of Fellow of that institution in 1963. Then, he went to Switzerland...

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FROM SCIENTIFIC TO MODERN HOROLOGY

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THE "MÉTIER" AT F.P. JOURNE

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FONDATION CULTURELLE MUSÉE BARBIER-MUELLER

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Double Pendulum or Resonance

THE NAME “RESONANCE” WAS CHOSEN BY FRANÇOIS-PAUL JOURNE TO DESCRIBE THE PHENOMENON HE WAS STUDYING. IN HOROLOGICAL LITERATURE, THIS PHENOMENON WAS INITIALLY DESCRIBED BY THE TERM OF “DOUBLE PENDULUM” OR “DOUBLE BALANCE”

The modern history of Resonance began in the 1980s when François-Paul Journe, then acting as a restorer for the CNAM in Paris, had the unique opportunity of working on a regulator with double pendulum signed Breguet et Fils in the museum’s collections. Curious by nature, he scrupulously studied the unique mechanism and became aware of the interesting physical phenomenon of acoustic synchronisation (by sound waves) in horology.

FIRST OBSERVATIONS OF THE SYNCHRONISATION OF PENDULUMS

By 1665, the Dutch physicist, mathematician and astronomer Christiaan Huygens had observed the phenomenon of the synchronisation of the motions of clock pendulums when they were hung on the same wall.

Later, Auguste-Lucien Vérité (1806 – 1887) made the following remarks on the subject of the phenomenon of synchronisation and its influence on the rates of clocks:



Christiaan Huygens

“I had two large clocks, placed in the same room, at quite a large distance from each other; each one had a seconds beating pendulum and they were placed separately on wooden easels. One had been regulated, but we didn’t have it working; the other, however, was working because we were regulating it. When it was finally regulated, I was surprised to see the first start working spontaneously... The only way they could communicate was by the wooden floor of the room; how could one have influenced the other?”¹

Contemporary documents demonstrate the interest in this phenomenon as concerns its possible application to horology. The library of J.C. Sabrier, which is housed in its entirety in the Salon F.P.Journe, contains logs of observations entitled “Two clocks working together”. Following a precise experimental protocol, the rate of each of the clocks was



Literary work of the
Jean-Claude Sabrier's Library

first observed separately. Then the two clocks were made to work at the same time and the results and influences were observed. The external parameters (temperature, spacing, etc.) as were the internal ones (regulation of the clocks, etc.) were modified during the course of the experiment in order to check the results.

FIRST APPLICATION BY ANTIDE JANVIER AND INFLUENCE ON ABRAHAM-LOUIS BREGUET

Beyond experimentation and the theoretical statement of the phenomenon, Antide Janvier (1752 – 1835) was the first to apply this phenomenon in a regulator. Today preciously preserved in the Manufacture F.P.Journe, that



Antide Janvier

double regulator is probably the most important of the three clocks that Antide Janvier made based on this principle (2). The third is in the Patek Philippe Museum in Geneva (3) and the 1st in the Musée Paul-Dupuy in Toulouse (1).

It is interesting to note that the last example of a double pendulum made by Antide Janvier was finished in 1810, the year his business went bankrupt. Due to the difficult situation in the luxury goods sector in France and probably also to bad financial management on his part, Antide Janvier was not able to regain financial stability before his death. It was in this context in which Abraham-Louis Breguet (1747 – 1823) acted, creating his three additional examples of double pendulums, the first of which dates from 1817 and the last of which was sold in 1825 (two years after his death).

We know that Abraham-Louis Breguet purchased supplies and other elements that came from the workshop of Antide Janvier in 1821. What we don’t know is the reason for this purchase.



1
1st Double pendulum regulator
Antide Janvier
Collection Paul-Dupuy Museum, Toulouse



2
2nd Double pendulum regulateur
Antide Janvier, circa 1780
Collection Montres Journe SA, Geneva

After that, Abraham-Louis Breguet made two double pendulum clocks bearing his signature, one for Louis XVIII under the N° 3177 and kept at the CNAM Museum in Paris (4) and another for George IV, under N° 3671 and kept at Buckingham Palace (5). One can imagine that Abraham-Louis Breguet was inspired by Antide Janvier's genius to produce these double pendulum mechanisms and signed them.

Abraham-Louis Breguet also constructed three pocket watches with double balance, two of which are kept at the Mayer Museum in Jerusalem, one made for Charles X and the second for George IV, (Breguet Watches & Clock in the David Salomons Collection). The last one, made approximately in 1812 and signed "Breguet et Fils" (6), bearing the N° 2667, was originally sold to Mr. Garcias, London in 1814. Having disappeared for nearly 200 years, it reappeared in a Christie's sale in 2012. It was purchased by the Breguet Museum for over 4.5 million dollars where it is exhibited today.

Nonetheless, in his book published in 1812², Antide Janvier deplors the procedures of his



5
Double pendulum
Abraham-Louis Breguet, N° 3671 for George IV
Buckingham Palace, London

brought with it certain requirements concerning time. Time had to be the same from one city to another, and clocks needed to be synchronised at a distance!



6
Pocket watch Breguet et Fils
N° 2667, 1812

Some say that Abraham-Louis Breguet wanted to help his fellow horologist. It is said that he even welcomed him into his workshop so that he could pursue his work despite his financial difficulties.



3
3rd Double pendulum regulator
Antide Janvier
Collection Patek Philippe Museum, Geneva



4
Double pendulum
Abraham-Louis Breguet, N° 3177 for Louis XVIII
CNAM Museum, Paris

fellow horologist who inscribed his signature "Breguet et Fils" on a moving planetarium after having erased that of Janvier. French writer Prosper Mérimée, a close friend of Breguet, wrote that Breguet wanted to sell Janvier's planetarium abroad, and could sell it only by applying his own signature.

SYNCHRONISATION AND UNIFICATION OF TIME MEASUREMENT

We have mentioned the research of Auguste-Lucien Vérité, but we have not yet stated the reason for that research. It happens that Vérité carried out research along with Foucault that resulted in the perfecting of the process of synchronisation of pendulums that Foucault spoke about as early as 1847.

This time, the synchronisation is no longer acoustic but electro-magnetic and it concerns a major question: the unification of time measurement. The Industrial Revolution

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What Resonance is not

In a work of the Académie des Sciences³ (see illustration), an article entitled "l'horloge à double pendule pour la Marine" caused some confusion for me. An invention by M. Dutertre, dated 1728, appears with the caption "double pendulum" or "double watch". This is the name that is commonly found in old horological books, when the phenomenon of Resonance is referred to. Here, after a quick examination of the illustration, one realises that the two oscillators are driven by a single wheel-train. The two pendulums do not, therefore, display opposing forces that harmonise the mechanism's functioning. This clock feature 2 balances in order to have a lower frequency with 2 balances of short size. This is therefore not a case of Resonance.

Here we are speaking of acoustic resonance, which should not be confused with magnetic resonance or electro-magnetic resonance. The two latter phenomena depend on periodic impulses. In order for two balance springs to benefit from the effects of acoustic resonance, the balance springs must receive their force separately and must not be linked in any way.

Like Janvier and Breguet, with his Resonance François-Paul Journe has showed the way for other horologists who, like him, wish to explore the properties of acoustic resonance and its application to horology. Today, one thing is crystal clear: François-Paul Journe is the only contemporary horologist to have been able to employ this force, displaying great prowess and reproducibility.



Audrey HUMBERT
Expert in horology and specialist in collectible watches

From Scientific to Modern Horology

THE BIRTH OF CHRONOMETRY

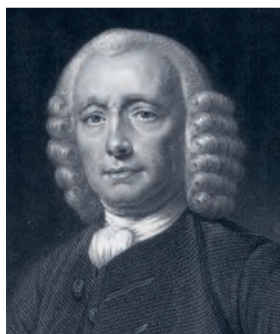
A pivotal era, the 18th century witnessed the advancement from what is referred to as primitive watchmaking to the birth of modern watchmaking.

Primitive or contemporary, watchmaking occupied an important place alongside sciences. In Paris, 20% of the inventions approved by the Royal Academy of Sciences between 1750 and 1772 were of horological nature. Those developments were accelerated by rewards, promised successively from 1603 and culminating in 1714, when the English Parliament established a prize of 20,000 pounds sterling for the person who, after six weeks of navigation, could determine the longitude within one half of a degree.

Marine chronometers were subjected to extreme conditions of utilisation, and their usefulness depended upon their high degree of precision. Consequently, the progress achieved to resolve the question of longitudes had a positive impact on the whole of the science of time, that gained in precision and benefitted from the most elaborated techniques.

EXPERIMENTAL MARINE CLOCKS

Following his father's footsteps, John Harrison (1693 – 1776), who had a keen interest in mechanics, was trained as a woodworker. His first horological creation was noteworthy due to the fact that, with the exception of the escapement wheel, all the wheels were crafted in the noble wood of oak. Self-taught, he produced several timepieces before becoming interested in the question of longitudes. After 6 years of construction, his chronometer, or sea clock, referenced H1 won the very first



John Harrison

prize offered by the English Parliament. The timepiece was remarkably conceived. A mechanism prevented the winding of the movement from interfering with the functioning of the movement. Indeed, while being used at sea, chronometers could be neither set, nor regulated. They therefore needed to be able to function continuously. The H1 chronometer was also endowed with a gridiron compensation system and a construction designed

to avoid frictions. This is one of the aspects that characterised his work: John Harrison avoided frictions as much as possible. This pursuit led him to invent the grasshopper escapement; a modified version of it equipped the H1. Here again, he did not hesitate to use oak to make his pallets and wheels alongside those in brass. Despite a delicate escapement, the sea clock registered very good results during its test journey at sea between Portsmouth and Lisbon.

On the other side of the Channel, Ferdinand Berthoud (1727 – 1807) was also gradually moving away from civilian watchmaking to devote himself to the more demanding question of longitudes. His first marine chronometers were equipped with a cylinder (deadbeat) escapement. This escapement is particularly sensitive to the force it receives that must be constant.

However, the springs used by Berthoud did not deliver sufficiently constant friction to the escapement. He opted therefore for weights in the construction of his following machines in order to compensate this problem. His research culminated with the construction of the Horloge Marine N°8 that attained a high degree of precision and was tested on the sea with success.

THE FATHER OF CHRONOMETRY

Three essential principles can describe the work of Pierre Le Roy:



Pierre Le Roy

1. He was the first to make a free balance escapement. This one, a detent escapement, had the advantage of functioning without oil, and as the escapement is detached, the oscillations of the balance wheel are undisturbed by the escapement apart from the brief impulse given by the detent.

2. He introduced the temperature-compensated balance to rectify variations linked to temperature changes. Composed of two glass tubes filled with mercury of which the dilation compensated that of the two spirals, this system has the particularity not to act on the length of the spiral, contrary to the system adopted by Ferdinand Berthoud and John Harrison.

3. To make the amplitudes isochronous, so that the frequency of the balance would always be relative to the scope of the amplitude, he used two flat mainsprings that worked in opposition. He defined the rule of isochronism as follows: "There is in every spiral a certain length for which strong vibrations are made at the same time as the smaller ones. If you shorten the spring, the big vibrations are faster than the smaller ones; if you lengthen it, the contrary will take place."

To these three principles, we should add a word about the regulating organ. Pierre Le Roy set himself apart by refusing to use the fusée, preferring to use a spring motor long enough to be able to use just the most stable part.

Stabilised force brought to the escapement plays an important role in isochronism: it must be the most constant possible to guarantee a better precision.

His written work was consistent with his construction principles. In his memoirs on the best way to measure time at sea¹ he details in 5 points the principles outlined above. He also devoted a written work to the question of the nature of the spring and its properties, completed with considerations concerning frictions. This "Essai de Physique et de Dynamique sur le ressort" (Spring Physics and Dynamics Test) remains unpublished until today. A manuscript is conserved in the Jean-Claude Sabrier Library at the F.P.Journe Manufacture in Geneva.

MOVING TOWARDS MODERN WATCHMAKING

The experimental sea clocks cited earlier allowed to bring to light the fundamental principles of chronometry. But they were large, fragile, difficult to manoeuvre and transport, and sensitive to the movement of the ship. And especially, could in no way be reproduced in a systematic way². There remained many aspects to deal with, such as miniaturisation, reliability, reproducibility, etc.

Louis Berthoud, on the tracks of Pierre Le Roy, began to bring improvements to marine chronometers while he was still working for his uncle Ferdinand Berthoud who signed the creations. He opted for detent escapement and compensated balances and found solutions to reduce the size of the chronometers. He adopted reliable and robust constructions. His chronometers could be used on land and at sea, and it was possible to make them in small series.

Together, the fundamentals of chronometry established by Pierre Le Roy and Louis Berthoud determined the entire history of marine chronometers up to the 20th century.



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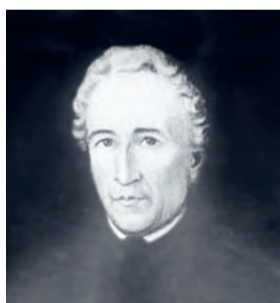


1
Calibre Lépine

On these bases, other watchmakers and scientists, all animated by the same quest for precision, continued to transform horology with diligence and perseverance. The three inventors mentioned below particularly contributed to defining modern watchmaking.

JEAN-ANTOINE LÉPINE

Today, what is referred to as the calibre Lépine (1) is well-known by everyone. It is the invention of French watchmaker Jean-Antoine Lépine (1720 – 1814) who revisited the construction of the watch caliber used in montres à coq (2). Lesser known is the fact that his work is not limited to this caliber (see his répétition à roulettes mechanism). However, it is this invention that marked watchmaking, as it rapidly prevailed in the totality of watch production.



Jean-Antoine Lépine

In this new construction, one of the two plates positioned above and below the mechanism was replaced by bridges, suppressing at the same time the need for pillars. The balance is integrated into the movement rather than above the plate, allowing for a considerable reduction in the thickness of the movement. This bridge calibre or calibre à ponts

thus offers numerous advantages in terms of adjustment and therefore of precision. The first known watches built under this new principle³ appeared circa 1780.

ABRAHAM-LOUIS BREGUET

Born some 27 years after Jean-Antoine Lépine, Abraham-Louis Breguet (1747 – 1823) used *calibres à pont* produced by Lépine. Beyond this utilization, his contribution to modern watchmaking was considerable. Particularly sensitive to the reliability of these watches,



Abraham-Louis Breguet

Abraham-Louis Breguet invented, notably, the tourbillon mechanism to counter the effects of the solidifying of oils and the non-lubrication of pivots (the advantages of the tourbillon over gravity were noted later), and the anti-shock system to protect balance wheel axes and avoid perturbations from shocks when walking while wearing the watch.

Breguet also developed the perpetual watch (commonly called automatic watch) that offered comfort to the user in addition to limiting the number of manual interventions to wind and set the time of a mechanical timepiece.

Other Breguet contributions to watchmaking are numerous and abundant literature attests to his work. If there is one book we can recommend, it is that of George Daniels⁴, who became particularly familiar with the famous watchmaker's timepieces through their restoration.

CHARLES-ÉDOUARD GUILLAUME

Of Swiss origin, Charles-Edouard Guillaume (1861 – 1938) was born into a family of watchmakers. While his work initially concentrated on metrology, the repercussions of his inventions on watchmaking are considerable.

In 1919, he developed elinvar, an alloy of steel and nickel that contains chrome and tungsten. This alloy is used to make watch springs.

In 1920, he received the Nobel Prize for Physics for his invention of invar, an alloy of steel and nickel used for its near-zero coefficient of thermal expansion to make precision pendulums. Guillaume also invented anibal,

used to produce the Guillaume balance, a bimetal (anibal-brass) balance wheel for which secondary error is practically eliminated.



Charles-Édouard Guillaume

The precision of contemporary watchmaking still depends largely upon his inventions, and even if substitute technologies have emerged they are not yet unanimously applauded compared to Guillaume's contributions to precision watchmaking. Here, we can cite as a reference the work of Charles-Edouard Guillaume entitled "L'invar et l'élinvar - Conférence Nobel⁵".

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2
Montre à coq

Traveling through time with F.P.Journe's Chronomètre à Résonance

BY OSAMA SENDI



Alongside the Tourbillon Souverain, the Chronomètre à Résonance is one of the most cherished and emblematic F.P.Journe timepieces within the world of F.P.Journe collectors. First introduced at Baselworld in 2000, it has gone through several changes over the years and remains one of the most unique creations from the mind of François-Paul Journe.

In essence, the Resonance uses two completely separate gear trains with the balance wheels placed very, very close to each other, around 0.4 mm apart. The close proximity allows them to share vibrations and eventually sync to the same exact beat. Essentially, the goal is to use the resonance phenomenon in order to counter wrist movements that would affect the watch's performance. You see, if one balance wheel falls out of step, the other will slowly bring it back to sync. If the user swings his/her arm in one direction, one balance will oscillate faster in one direction while the other in the opposite, thus both counteracting the effects of the other.

FRANÇOIS-PAUL JOURNE MEETS RESONANCE

François-Paul's first job was working as an apprentice under the guidance of his uncle, Michel Journe. His uncle owned one of a small handful of antique restoration workshops in Europe back in the late 70's/early 80's. Fortunately for a young François-Paul, who was only in his early 20's, that meant access to some

of the most important clocks and watches ever made. In fact, it was through this experience that François-Paul inherited much of what he knows today and continues to pass down one of the strongest words of advice he ever received;

"If you want to be a great watchmaker, you need to visit museums. If you don't understand what you see, you need to visit the library and read. If you don't understand what you read, you need to go back to the museum and see. It is only through history that you can become great in the future..."

During his apprenticeship, François-Paul was contracted to restore some clocks for the Musée des Arts et Métiers. It was there where he first interacted with the phenomenon of resonance. He came across one of the two resonance regulators that were manufactured by Breguet, N° 3177, which was delivered to Louis XVIII circa 1780. This clock would become the most mysterious and poetic clock he would ever handle during his restoration career.

He recalls having to study a lot about how the clock worked, since the idea of resonance had been dormant for 200 years – it was something of a legendary tale to him. It didn't take him long to figure out how fantastic the system was and when the time came to produce his first client watch, after completing his own pocket watch in 1983, it came as no

surprise that François-Paul offered to fabricate a resonance pocket watch.

He worked on the watch for two years before finally delivering the watch to its own-

er in 1984. However, keep in mind that this was Journe's second watch ever and first watch made for a client. Consequently, his lack of experience meant the client returned the watch as it did not work as expected. It is worth mentioning that the client's faith in the young watchmaker was not shaken and he acquired Journe's 3rd watch shortly after, a tourbillon pocket watch with a remontoir d'égalité. François-Paul Journe later dismantled the resonance pocket watch and all that remains today is an uncased movement, property of Montres Journe SA.



*Double pendulum regulator
Antide Janvier, circa 1780
Collection Montres Journe SA, Geneva
acquired in 2001*



Ébauche of the first Résonance watch entirely made by hand. Circa 1983

It wasn't until 1994, when François-Paul Journe saw fellow watchmaker Mr. Philippe Dufour release his Duality, that he decided to reattempt making a resonance watch. Note,

Upon assembling his first prototype, he had some concerns. Worryingly, he found that the energy flow in a wristwatch was much, much less than that in a clock or a pocket

justment it finally worked properly and François-Paul Journe succeeded in making, for the first time in the history of horology, a wristwatch that uses the natural phenomenon of resonance. Mr. Journe gave the movement a proper case with a dial and hands and had a planned launch in 1998, but it got delayed because he was still finishing the Souscription Tourbillons.

“After my attempt in making my first commissioned pocket watch, it wasn't my best experience so I forgot about the resonance principle and continued making other watches for customers. However, I don't like to lose so I told myself one day, one day I will win this...”

FRANÇOIS-PAUL JOURNE

though the Duality features two balance wheels for better precision, but it does not use the resonance phenomenon.

Thus he began drawing and designing his resonance, this time applying the principle to a wristwatch, a more modern approach and something never done before, and one could argue, never done (in a natural way) by anyone else to this day.

The design of Journe's Résonance came slower than he had hoped because by 1994 he was already developing other projects, including his Souscription Tourbillon and the starting collection of F.P.Journe.

When he made his first attempt, François-Paul Journe was still subcontracting watch compo-

watch, saying, “I had no idea if I would be successful or not.” At one point, a friend offered words of consolation that even though it might not work, it was so beautiful that Mr. Journe would find a use for it someday.

Unrelenting, François-Paul kept pushing himself to create a working resonance wristwatch. Mr. Journe would frequently walk the streets with the resonance prototype in a plastic case in his vest pocket. He would sporadically stop and listen to the movement to check if the balances were resonating. If you ever have the opportunity, it is quite fascinating listening to two balance wheels beat as one. Mr. Journe still uses this method to test his movements.

Initially the resonance effect was almost imperceptible, but after some months of fine ad-



4
*Double pendulum
Abraham-Louis Breguet, N° 3177 for Louis XVIII
CNAM Museum, Paris*

THE EVOLUTION OF
F.P.JOURNE'S
CHRONOMETRE À RÉSONANCE
—
THE PROTOTYPE N°1

The first wristwatch to use the natural phenomenon of resonance, ever. The prototype took years to design, starting in 1994, and months of regulation whilst being carried around in a plastic case in the watchmaker's pocket. It finally worked in 1998 before being cased up with a dial and "secretly" worn by Mr. Journe at Baselworld in 1998.

Being a prototype, the watch was actually completely different than the Resonance that most collectors have come to know within the F.P.Journe world, with a new case and dial, and even a movement that looked significantly different than what would make the production model.

The prototype case was a greyish gold, since platinum was too expensive to use for a prototype. The movement has since been uncased and the case was melted down. All that remains of the first prototype is the dial. Mr. Journe was kind enough to look through his archives and share this:



First F.P.Journe Résonance prototype dial.

The dial was completely hand-engraved by Mr. Journe and has seen a lot of age and has patinated heavily over time. Although similar to what we know of early resonance dials, there are a few significant differences to point out:

First, the power reserve indicator. Not only is it a plate screwed into the dial (we will see later what it became), but the power reserve is flipped. One of the characteristics of all manual Journe movements is that the power reserve indicates how long since the last wind, instead of how much power remains. "0" would be a full wind and "42" would be the end of the power reserve; something inspired by early French marine chronometers. In this prototype, François-Paul made a mistake with the power reserve as it was flipped around thus indicating the remaining hours. Secondly, the engravings. The watch is labeled as follows:

N°1

Invenit et Fecit

MONTRE A RESONANCE F.P.JOURNE

The numbering on the dial is a first in this style (there is two additional lines under the N° 1 on the dial that I cannot figure why Mr. Journe did it). Underneath, the "Invenit et Fecit" is written in cursive form, again a unique format. Then the word "Montre"

meaning "watch" in French. Montre was only used on this dial and we can obviously tell that it was supposed to be the original name of the watch, which was later changed to "Chronomètre à Résonance".

Last, we have the misspelling of Resonance, having three N's instead of two. This was the first thing François-Paul Journe mentioned regarding this dial, and he fixed it later on. Baselworld 1999, Mr. Journe unveiled his very first creations as a brand; Montres Journe SA (the company was launched that year) at the AHCI Booth. His display case had 5 Tourbillon Souverains and the following Prototype Resonance on display; the first two models made under his own brand.

THE PRE-SERIES

In 1999, the auction house Antiquorum held a theme auction under the title "The Longitude at the Eve of the Third Millennium" for which François-Paul submitted a Resonance prototype, often referred to as the 'Pre-Series' Resonance.

One of a very small handful of prototype watches to ever leave the Manufacture, the example was sold for CHF 97'000 to a private collector, a commanding price for an independent brand of the size, especially considering the watch retailed for \$28'000 at the time.

There are some differences to the Pre-Series. To begin, the power reserve plate has been replaced by a scale printed onto the dial itself in the correct direction. Next, the model name on the dial was changed to:

CHRONOMETRE A RESONANCE

with the brand name and motto centered above in block letters that would be the standard for all future F.P.Journe timepieces.

Looking at the caseback, we get the first look at one of the most attractive movements in modern watchmaking, calibre 1499, which was made in brass until 2004. However, something seen here, and only here, is the presence of blued screws (1) which François-Paul Journe has never used in any of his production pieces. To add, the finishing is nearly non-existent and finally, the presence of 4 slotted screws for the caseback compared to the 6 unique screws that François-Paul Journe used for his Resonance later on.

I am unsure of why the screws were blued and why the movement was not finished at all but from the Pre-Series label of this particular Resonance, one can only assume it was simply a test model, nothing more. Interestingly, the caseback does not have any model engravings or precious metal hallmarks, although it was cased in a 38 mm Platinum case.

One of the last and most interesting things to note is that the movement itself was very much different than what would later appear in the production models. Most of the dramatic changes revolve around the escapements, which had Gyromax balance wheels. Being a prototype, the watch was not flawless in its function.

Only one such watch was made and at the time of writing, its whereabouts remain unknown.



N° 000

One could call this the first official Chronomètre à Résonance. The watch that was launched in 2000 as the second Montres Journe SA model.

We can now see the first publicly recognized look of François-Paul Journe's Résonance from the dial which will represent the standard for the First Series. There is not much change in the dial, but it is important to note that this launch piece had a very shiny yellow dial and was cased in platinum.

The caseback seen below finally gets engraved and numbered. This watch takes N°000 but keep that format in mind as we will see some changes later on.



N° 000

In 2000, Mr. Journe introduced his own caseback screws which appear as a sort of three-point star. The goal was to keep any unauthorized watchmaker away from entering a world he/she was most likely untrained to enter. "If the guy is able to make the tool, then he can go ahead and open it..." he says with a laugh.

The only production watches that were made with regular slot screws were the Souscription Tourbillons, however upon servicing, the screws were replaced with the special F.P. Journe screws.

This particular watch has a much more modern matte dial finish, instead of shiny (2) and hand-finished as they were done in the early 2000s. The reasoning behind this is that N°000's case was ordered in 2000 but the watch itself was never assembled and cased.



2

It was much later when François-Paul would have the watch cased for the company's collection, and by then the shiny dials were no longer in stock or being produced. It is not surprising to have the Manufacture case their N°000 movements after the fact instead of as the first prototypes.



THE SOUSCRIPTION
RESONANCE

When it comes to Souscription watches and F.P.Journe, most of the recognition goes to the Souscription Tourbillons as they have recently come into the open and were covered fairly well when they first appeared at public auctions.

Surprisingly, the Resonance also had a Souscription series which might not have been so obvious because there was really nothing on the dial nor caseback that could distinguish them from other Resonance generations.

On the topic of the Souscription Series, the general idea was that they were the first 20 numbers offered to the first 20 clients, who made 50% deposits in order to fund the brand and paid the other 50% upon the delivery of the watches. The original 20 clients were offered a slightly discounted price. Being the first 20 clients gave them the opportunity to purchase the same serial number of future models, with the goal of creating a collection of watches, all with the same serial numbers.

For example, a client who purchased N°05/20 of the first Tourbillon Souverain would have the right of first refusal for the Resonance with the case N°005 R.

In contrast to the Souscription Tourbillons, the dials of the Souscription Resonances were not numbered and the casebacks had the same regular format of serial numbers that took place between 1999 and 2005.

So how many of them were made? Well, according to FP's memory, almost everyone who purchased the Souscription Tourbillon ended up purchasing a Souscription Resonance; which he recalls to be 17 or 18 clients (20 clients for Souscription T). Watches that were passed on by the original 20 clients were later sold via other points of sale.

Regarding the Souscriptions; all the cases were 38 mm and made from platinum, housing all brass movements which were ticking behind yellow gold dials. The official reference for the Resonance became Ref. R and would remain that way until around 2005, except for 5 bicolor pieces with rose gold dial.

Now, whereas the Tourbillons were numbered on the dial, their casebacks were simply engraved with "N°XX" and would be that way for the first 33 or 34 watches which after would take the new format "N°XX/XXT". As a reminder, the first set of numbers were the watch serial and the second set was, contrary to popular belief, not the year the watch was necessarily made but rather the year the case was manufactured.

For the Resonance, it would skip the first generation of numbering and would directly be numbered as "N°XXX/XXR" and that would remain until 2005 when François-Paul Journe decided to stop including the year into the serial number. So after the first N°000 men-



tioned above, which did not have an engraved case year, all other Resonance models would have the year, again until 2005.

That said, what exactly distinguished the Souscription from every other Resonance? The certificate and well, the fact that you can now know it was indeed a Souscription.

The gesture of offering the clients the same serials within a collection was later applied in the Ruthénium and Vagabondage series.

THE OLD CASES OF '99

Since the Resonance was first presented in 2000, one would assume that the production of the cases started that year as well, denoting cases that were all marked by N°XXX/00R. However, some cases, specific to the Resonance were actually ordered in 1999, marked N°XXX/99R. A result of François-Paul Journe's ambitious nature, the cases were ordered prior to the watch's presentation in 2000 and were numbered in the 20's within the serial lineup.

A noticeable feature of these cases, and some of the later cases marked N°XXX/00R (2000), is that they were hand engraved, evident by the shallow markings on the caseback. This feature was specific to an early batch of cases made in 1999 and early 2000, across the Tourbillon and Resonance.

For the Souscription pieces, François-Paul Journe would reserve the first 20 numbers to order at a later time, and in this case, started production with the 21st watch.

ON DIALS

To François-Paul, the connection a dial has to its movement is of the utmost importance. The eyes must recognize exactly what lies behind the dial just by looking at the dial itself. Like the Tourbillon, the Resonance dials went through phases, from large aesthetic jumps that changed the reference, down to the shininess of the dial and silver subdial color. In this portion, I will mention that as the Tourbillon and Resonance were produced roughly around the same time, i.e. being there from the very start, they do share almost the same differences in dial finishes as the early Tourbillon. The Resonance did not have "generations" like the Tourbillon based on dial changes, since the

dial design itself remained the same during the early brass era. However, the change in how shiny the dials were and whether the subdials were white or silver did also apply to the Resonance.

Following the same production years as the Tourbillon we can figure out that the early dials made in 1999–2001 were very shiny. Of those, the earliest dials were hand-finished by François-Paul himself. Along with assembling the early production pieces, he was also responsible for finishing the dials by hand for all the early pieces. This method ended by 2001, when the dials were becoming more uniform. By 2002, the dials were still shiny but less so and in 2003, we see the matte dials with white subdials before going back to matte and silver near 2004.



White Gold and whitened guilloché Silver Dial.

These dial changes occurred because Mr. Journe did not yet have his own dialmaker, as he does now. As a result, the very early dials were ordered through his case supplier and finished by François-Paul at his manufacture (shiny). Later on, he changed his strategy and ordered them from his Cadraniers de Genève's ateliers; hence the differences resulted from the different sources and methods used.

CALIBER 1499.2
AND 1499.3

With the introduction of the gold in April 2004, all existing calibers that were carried over had a new caliber code. In the case of the Resonance Ref. RN, the caliber was referred to as 1499.2; indicating the second version of the movement.

Aesthetically, the movement is similar, except that the barrel bridge has been redesigned to integrate the ratchet wheels underneath the bridge. This, and the obvious change in material, likely drove an entirely new reference despite the same general movement, R to RN.

On the other hand, while François-Paul Journe was developing the Chronomètre Souverain (released in 2005), he developed a new ratchet/winding system that he found to be far more efficient due to less parts and thus less friction. Whilst the mechanism debuted with the Chronomètre Souverain, he later decided

to update his Resonance with this power reserve system which ultimately lead to another caliber reference; 1499.3. This change was done sometime in 2006.

In summary, Ref. RN used two movements namely caliber 1499.2, which indicated the shift to rose gold; and 1499.3 which indicated a new power reserve.



Calibre 1499.2

We can conclude that very few 1499.2 movements were made in the short period between 2005 to 2006. Reference RN restarted the serial numbers from n°1 and was discontinued near 2009.

THE RESONANCE AND
GEORGE DANIELS

Sometime in the early 2000s, George Daniels visited François-Paul's manufacture. It was during this visit that Mr. Journe showed Mr. Daniels his Resonance and not only was Mr. Daniels impressed, but he wanted to buy one. François-Paul Journe refused to sell the watch to George Daniels, but told him that he would like to propose a trade - a Resonance for a Daniels, which George agreed to.



George Daniels, François-Paul Journe and Jean-Claude Sabrier during the visit of the F.P. Journe Manufacture in 2009.

The deal never went through as George grew busy the following years and worked far less during his later years but François-Paul still recalls George's remarks very clearly. "He told me I was very brave to make a resonance wristwatch, and it was true."



1
THE FIRST SERIES
REF. R

Following the Souscription pieces and the first odd cases of '99, the more regular production of the first series began. The first series feature brass movements and a symmetrical resonance dial. The watches were made in two cases: 38 mm platinum and 38 mm 18K 6N gold. On the dial, a choice of three colors; white gold, rose gold, and yellow gold (*which was only available in a platinum case*).

Production of the first series ran up until 2004 and they remain highly coveted by F.P. Journe collectors worldwide.

To note, approximately 1'500 brass movements were produced by F.P. Journe from 1999 till their production end in 2004 in total. The gold movement era commenced in 2004 and remains the metal of preference for François-Paul Journe to distinguish his movements from others in the world of haute horology.

2
THE SECOND SERIES
REF. RN

With the introduction of the "Gold-Era" in April 2004, F.P. Journe introduced a slightly updated Resonance with a new reference, RN (*Résonance Nouvelle*), or New Resonance. To the naked eye it is almost identical to the first series but some details set it apart.

To start, the second series was produced in two case metals, as before, however it was also made in two different sizes; 38 and 40 mm. The dials and movements remained the exact same between the two sizes, and although the larger case was only 2 mm thicker. Regarding dial colors, the start of the gold-era was when the brand started to produce far more consistent dials that carried on until present day.

Since 2005 we can say that almost all F.P. Journe dials had a matte finish and from now on only available in rose gold and white gold.



The yellow dials were discontinued as Journe found they did not suit rose gold movements too well.

The dial design was mostly carried over from the first series, but to differentiate between the two series Journe updated the steel frame that surrounds the subdials. During the brass-era, the area of the frame that screws onto the dial had a sharper edge or turn, shaped somewhat like a "bell"; whereas the new frames had a more curved, integrated design.

To mark the difference between the brass and gold movements on the dial, Journe decided to slightly reshape the steel frames which although a very small change, were significant enough for collectors to notice.

3
THE THIRD SERIES
REF. RT

2010 marked the Resonance's 10th anniversary with a renewed timepiece, this time with what would be the most substantial aesthetic dial change to date.

The Ref. RT (*Résonance Trois*) had a heavily modified dial that took advantage of the Resonance's independent setting capability.

The left subdial was modified to have a new system utilizing a 24 hours disc instead of conventional hands. Since the watch was always capable of displaying two different timezones, Journe adapted to emphasize that capability so now the owner can set the left subdial to their home time and the right, traditional display to their local time.

The design of Ref. RT began 5 or 6 years prior to its release and it was only in 2010 when François-Paul Journe made the decision to finally produce it. As with the prior Ref. RN, the new reference restarted the serial numbering from n°1 and was available in both 38 mm and 40 mm in both rose gold and platinum cases with either rose gold or white gold dials. The movement remained largely the same despite the dial change.



To note, when the Resonance was originally released in 2000, the Grand Prix d'Horlogerie de Genève (GPHG) had still not started and as a result François-Paul could not enter his original Resonance into the competition. In 2010, Journe entered his Ref. RT and won the Haute Complication award.

4
THE FOURTH SERIES
REF. RT

While the Resonance was originally planned to be discontinued in 2019, François-Paul instead decided to redesign the dial and produce the timepiece for one more year, as a farewell to the original model. Paying homage to the first series, the redesign gets rid of the digital left subdial for an analogue 24-hour subdial, heavily mimicking the original design of a more symmetrical time display.

Although the dial was redesigned, the rest of the watch remained the same, including the movement, caliber 1499.3. For this reason, the watch was still labeled as reference "RT" on the case and it followed the serial production of the third series. The final series was produced only during 2019.



Osama SENDI
F.P. Journe Collector
and historian

Scientific horology according to Anthony G. Randall

ANTHONY G. RANDALL REPRESENTS THE ARCHETYPE OF THE SCIENTIFIC HOROLOGIST. HE BEGAN HIS CAREER DOING RESEARCH ON THE MEANS OF IMPROVING THE CONSTANT FORCE MECHANISM PATENTED BY THEURILLAT, AND AFTERWARD DEVOTED HIS LIFE TO THE IMPROVEMENT OF CHRONOMETRY

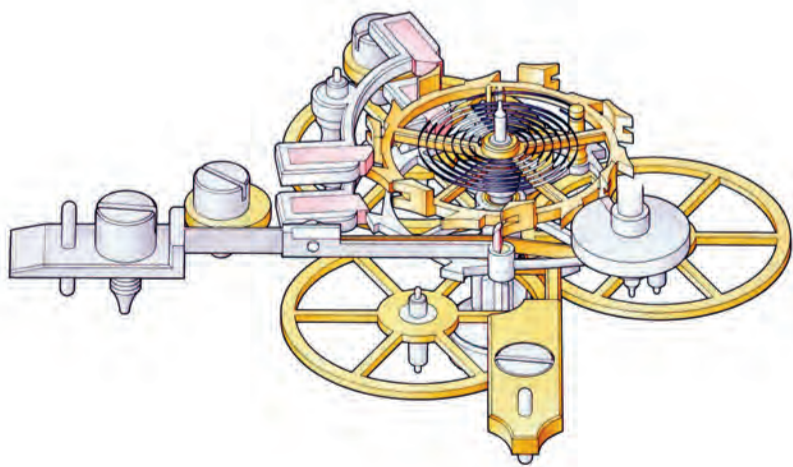


Anthony G. Randall

While I was consulting the books in the J.C. Sabrier library, one term drew my attention. A glass balance spring. Intrigued by this, I questioned François-Paul Journe. A glass balance spring? This really exists. Anthony G. Randall is the latest watchmaker to have mastered the technique, and so I naturally wanted to meet Mr. Randall. I was able to do so a few short months later, when I visited the workshop of this English watchmaker who has lived in Switzerland since 2009.

PREDISPOSITION AND HOROLOGICAL STUDIES

He had been interested in horology since he was a young child. His favourite pastime was taking watches apart and repairing them. Despite a degree in physics from the University of Manchester, which he obtained in 1960, and a first job with the Cambridge Scientific Instrument Company, it was his love of horology that finally won out. He decided to take a correspondence course with the British Horological Institute, earning the title of Fellow of that institution in 1963. Then, he went to Switzerland for further studies at the La Chaux-de-Fonds Technicum. While there, he met people who would be very important in his life.



1
Xavier Theurillat's mechanism

The first, Jean-Claude Theurillat, was a fellow student at the Technicum and the son of Xavier Theurillat, who invented the constant force mechanism with constant unlocking and impulse, which Jean-Claude presented as his study project, thus drawing the interest of Anthony. The second person was Jean-

Claude's sister, who became Anthony's wife and has been at his side throughout his horological career.

SCIENTIFIC METHODOLOGY

Anthony G. Randall represents the archetype of the scientific horologist. He began his career doing research on the means of improving the constant force mechanism patented by Theurillat, and afterward devoted his life to the improvement of chronometry. His rigorous method has led him, step by step, toward the construction of the horological Holy Grail.

He shares this rigorous and rational approach with François-Paul Journe. The method is based on the desire to produce measurement instruments that are as precise as possible. What makes François-Paul different is the direction he took in order to share his knowledge. While François-Paul has done this through his brand, Anthony has spent countless hours enriching horological literature¹. The enrichment has been mutual, as he himself notes. He was able to make an in-depth study of the horological collections of the Time Museum² and the British Museum³, resulting in the publication of the catalogues of those institutions. He regularly shares the results of his research, both technical and historic, in articles and lectures. And whenever he gets the chance, he takes on restoration work that allows him to constantly enhance and improve his knowledge.

CONSTANT FORCE MECHANISM AND GLASS BALANCE SPRING

The mechanism invented by Xavier Theurillat, patented on April 15, 1961, under the patent number 353 679, was particularly interesting. Its escapement was comprised of two wheels of the same size (*with the same number of teeth*), each one being controlled by a pallet (1).

This mechanism did, indeed, deliver constant force, but there remained a residual problem: the use of oil for the pallet-stones. In order to remedy this, Anthony and his father-in-law developed an alternative based on the same principle, but which was adapted to a detent

escapement. The initial system advanced by half step. In the system with detent escapement, the watchmaker changed the dimensions of the two wheels in order to allow the 7-toothed wheel (*the remontoire wheel*) to advance by half steps, while the 14-toothed wheel (*the escape wheel*) advanced by full steps.

Like a true scientist, Anthony conducted his research methodically. He made daily logs of all the pieces under observation in his workshop. He goes so far as to compare the degree of precision of his creations with that of an astronomical clock. It was while seeking to improve the constant force mechanism that he first considered the idea of the glass balance spring. The glass balance spring allowed him to solve the problem of the magnetisation of the metal balance spring. Not only is this a major technical improvement, the result is quite splendid in itself; it is a work of great beauty.



Glass balance spring

In order to approach horological perfection, his travel clocks have a Tensator spring, which is commonly used in everyday life (*to roll up vacuum cleaner cords, for example*). This device - according to him under-used in horology - replaces the fusee to provide a stable and constant driving force.

Another remarkable thing is that he has fitted a dust filter to the crown so that the manipulations of the crown do not result in dirt getting into the movement.



1



2



3



4

DESCRIPTION OF
ANTHONY G. RANDALL'S
FOUR TRAVEL CLOCKS

(1) Prototype of Xavier Theurillat's constant force mechanism with Hamilton balance and spring. The case was made airtight and by the addition of the dust filter at the winding hole, allowing the piece to "breathe". Note: the travel clock is accompanied by a complete log of results, from the first time the prototype began to run (around 1973), including the differences compared to the atomic clock giving daily variations in rate.

(2) Carriage clock with constant force escapement, a helical glass balance spring and an appropriate balance. The latter must be different form of thermal compensation when it is associated with a glass balance spring rather than a steel one because glass has a reaction to temperature change that is opposite to that of steel. (To find another example of glass balance spring, see the Dent chronometer in the Time Museum collection).

(3) Carriage clock with a Guillaume balance and a steel helical balance spring, to enable comparisons to be made with the performance of the clocks with glass balance springs. The results are similar, provided that the clock with its steel balance and spring parts are shielded from sources of magnetism.

(4) The fourth clock also has a glass balance spring, but its escapement is different from that of the preceding piece. This is another proposal contained in Theurillat's patent. Here, the escapement comprises a 14-tooth wheel (identical to the preceding clock) and a second toothed wheel and pinion in place of the seven tooth wheel. The purpose is to obtain gentler unlocking, thus reducing the impact on the pallets, which could transmit shocks to the remontoire spring and hence upset the stability of the timekeeper.

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RECONSTRUCTION
OF JOHN HARRISON'S
H4 TIMEKEEPER

In addition to his research on constant force, Anthony has reconstructed the mechanism of the timekeeper known as H4, made by the British horologist John Harrison (6) (1693–1776). He adapted it in the form of an eight-day clock so that the exceptional mechanism could be viewed, but also in order to facilitate the analysis of the clock's precision and qualities (5). It should be noted that he maintained the dimensions of the initial piece in this reconstruction.



6
John Harrison's celebrated timekeeper H4



5
Clock incorporating the mechanism of H4
Anthony G. Randall

THE WORK OF AN ENTIRE
LIFE TO BE DISCOVERED

In addition to the timepieces detailed in this article, we must also mention some other exceptional pieces such as the tourbillon pocket watch (7) created in 1967, followed by a watch that needs to be wound only once a year. In 1978 he took a British patent GB2027232 for the first tourbillon rotating simultaneously around two perpendicular axes: the Double Tourbillon.

In short, Anthony G. Randall is a horologist who works on a different level from most. He is someone that aficionados are very eager to



Audrey HUMBERT

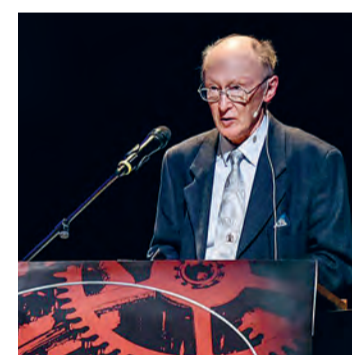
Expert in horology
and specialist in
collectible watches



7
6-minute tourbillon
Anthony G. Randall

meet. His work cannot be resumed in just a few lines. While it is wonderful to meet him, it is absolutely necessary to see his work in order to comprehend its scope, to perceive its beauty, and to sense the rigorous methodology that he follows in his research. His production is estimated at around fifteen pieces, including a few signed "La Chaux-de-Fonds", and some signed "Birmingham".

It is not surprising that François-Paul Journe admires no other living horologist more than Anthony G. Randall, who returns the compliment. But who will take up the torch in future years? Who will succeed this generation of passionate horologists who gained their knowledge while restoring remarkable horological pieces, and who were inspired by the work of their predecessors, while seeking to further progress in the field of precision horology? Will scientific horology still remain a major discipline in the coming decades?



Anthony G. Randall during the
Patrimoine Horloger Biennale, 2019

*Anthony G. Randall was describing the Chronomètre à Résonance by F.P. Journe
An extract from Horological Journal N°144 March 2002*

Advantages of F.P. Journe's Chronomètre à Résonance

F.P. Journe's Chronomètre à Résonance does appear to offer significant advantages over other more conventional wristwatch designs. It is able to combat the inevitable disturbances caused by wear on the wrist of an active person to a far greater degree. The two balances and springs working together in resonance are also able to absorb variations in either train, or at least halving their effect. All this at the cost of two complete movements needing very careful adjustment, with special provision for individual winding and hand setting via a single button. At least there is the added benefit of separate minutes and hours for each movement, for two different time zones. A second crown on the side of the case resets both seconds hands to zero and there is a power reserve indicator. Altogether, a most original watch.

Distinctions of Anthony Randall

Like François-Paul Journe in 1994, Anthony G. Randall received the Prix Gaïa in 2003. He was given the prize in recognition of "his exceptional career path as a restorer, constructor, and designer of horological movements, as an inventor and innovator and, lastly, as the author of many historical and technical studies".

- 1983 — Victor Kullberg medal, Stockholm Watchmakers' Guild.
- 1985 — Certificate of excellence, Clockmakers Company of London.
- 1991 — Barrett Medal of the British Horological Institute.
- 2007 — Tompion Gold Medal of the Clockmakers Company of London.
- 2009 — Best Watchmaker Prize, Grand Prix d'Horlogerie de Genève.
- 2012 - 2015 — President of the British Horological Institute.
- 2018, 2019 — Member of the Jury for the Prix Gaïa, MIH, La Chaux-de-Fonds.

The Chronomètre à Résonance F.P. Journe

CELEBRATES ITS 20TH
ANNIVERSARY

CLASSIQUE COLLECTION





Following the observations of Dutch scientist Christiaan Huygens and the footsteps of 18th century horologists, Antide Janvier and Abraham-Louis Breguet, François-Paul Journe is since then the only watchmaker to manufacture wristwatches performing through acoustic resonance.

He has presented his first Résonance wristwatch in 2000, which he baptized Résonance and patented the brand Résonance®, phenomenon previously known under the appellation double pendulum or double balance. The F.P. Journe Chronomètre à Résonance is the only wristwatch in the world utilizing the physical natural acoustic resonance phenomenon.

Conceived, developed and built to meet the demands of actual wear on the wrist and thereby provide chronometric performance driven to extremes, this watch represents one of the wildest challenges in the field of mechanical watches! Each of the two balances alternately serves as exciter and resonator. When the two balances are in movement, they enter into harmony thanks to the resonance phenomenon and begin to beat naturally in opposition. The two balances then support each other, giving more inertia to their movement. This result is possible only if the difference of the frequency from one to the other does not exceed 5 seconds per day cumulated on six positions. Their setting is an extremely delicate task.

Whereas an external disturbing movement affects the running of a traditional mechanical watch, the same disturbance, for the Chronomètre à Résonance, produces an effect that accelerates one of the balances as much

as it slows the other down. Little by little, the two balances come back towards each other to find their point of harmony, thus eliminating the disturbance, and beating in perfect synchronization.

This emblematic watch that distinctively signs François-Paul Journe's horological research on precision was awarded "Montre à Grande Complication" at the Grand Prix d'Horlogerie de Genève in 2010. François-Paul Journe has conceived several versions of his wristwatch throughout the last 20 years; the first 20 by Subscription (2000), the first collection series (2001), the Ruthenium series (2001-2002), with movement in 18 K rose Gold (2004), the digital 24 hours Résonance (2010), the analogic 24 hours Résonance (2019), and the new Chronomètre à Résonance (2020).

MOVING TOWARDS MORE PRECISION, ALWAYS!

The new Chronomètre à Résonance has only one single barrel spring to provide power for the two movements. A differential placed on the first wheel, visible in the centre of the dial, transmits, independently, the energy of the barrel spring towards the two secondary gear trains. Each secondary gear train is equipped with a remontoir d'égalité of a frequency of 1 second. Working in such a way, the force received by the escapements remains linear and assures isochronism during 28 hours.

The Chronomètre à Résonance features a redesigned case with a crown now placed at 2 o'clock easing the winding of the watch in position 0 and the time setting in position 2,

clockwise for the left dial and anti-clockwise for the right dial. The pulling of the crown at 4 o'clock simultaneously resets both seconds. On the movement side, 2 "Remontoirs d'Égalités" (constant-force device) provide a linear force to each of the two balance springs to remain isochronous during 28 hours.

This model is available with a case in Platinum or in 18 K 6N Gold in 40 or 42 mm diameter. The dial is proposed in 18 K white or 6N Gold with 1 hour dial in whitened Silver Guilloché clous de Paris. Leather strap or Gold or Platinum bracelet.

THE RESONANCE PHENOMENON

Resonance is a natural acoustic phenomenon. Any animate body transmits a vibration to its environment. When another body picks up this vibration at the same frequency, it absorbs its energy. In watchmaking it means two independent movements set side by side which get in synchronization.

Few examples: a soprano's voice. She delicately sings into a glass until she hears to which frequency the glass replies to and then, she emits a stentorian sound at that same frequency. The glass then vibrates in sympathy. If the energy provided is sufficient, the glass will not be able to tolerate it and will break.

Musicians who play wind and stringed instruments also know about the resonance phenomenon, as Keith Jarrett mentioned in the first catalogue of F.P. Journe. Certain strings on lutes and sitars, for example, are not made

to be touched; they vibrate by resonance when the musician plucks the strings in close proximity to them.

All radio communication systems, transmitters and receivers, use resonators to "filter" the frequencies of the signals they use. When we are looking for a program on the radio, it crackles until the chosen wavelengths meet those of the transmitter: only then do they harmonize to begin resonating together.

A bridge is subjected to vertical and transversal oscillations, or torsion. In 1850, a troop that was crossing a bridge suspended over the Maine River in Angers, and that was marching in step to the same rhythm, caused the bridge to rupture, leading to the death of 226 soldiers. Military regulations forbid them to walk in step across a bridge.

Magnetic resonance imaging, MRI, uses the resonance of a body's protons to produce images. An automobile, with its suspension system, is an oscillator! Shock absorbers prevent the vehicle from resonating sharply.

Large buildings subjected to earthquakes are protected by installing an oscillator (a large pendulum) that is suspended above the building and whose own frequency is similar to that of the building. In this manner, the pendulum absorbs the energy, preventing the building from collapsing.

Young Talent Competition 2019

Since 2015, the Young Talent Competition seeks to discover the next generation of most talented young watchmakers in the world, supports them on their route to independence by identifying their achievements and putting them in the spotlight.

F.P.Journe organizes the Young Talent Competition with the support, since 2019, of The Hour Glass, the luxury watch retailer in the Asia Pacific region. Both companies aim to perpetuate and support the art of haute horology and cultivate the appreciation of horological craftsmanship.

François-Paul Journe says: *“It is imperative for me not only to discover the horological talents of tomorrow, but also to secure the continuation of independent haute horology and pass on the savoir-faire with over 40 years of expertise. It is also a real honor for me to encourage these young talents by sharing my authentic horological knowledge, my passion and my determination on a daily basis. And also to support them as I received support at their age.”*

The 2019 winner received his award on January 16th during SIHH. He received a diploma and a CHF 10'000.- grant from The Hour Glass, which allows him to purchase watchmaking tools. The winner also had the privilege of presenting his creation at SIHH.

The jury of the Young Talent Competition is composed of key personalities from the in-

ternational horological scene: Philippe Du-four, Giulio Papi, Andreas Strehler, Marc Jenni, Michael Tay, Elizabeth Doerr and François-Paul Journe. Their selection criteria are based on technical achievement, the search for complexity in their realization, and their sense of design and aesthetics.

The winner 2019 was **Tyler John Davis** with his clock **Equilibrium**, **“An expression of the balance between two or more forces”** as he himself describes his clock.

Aged 27 and born in Birmingham, England, Tyler John Davis graduated from the School of Jewellery of Birmingham University in July 2018.

He created a clock to be more than just a timepiece, to draw people in, to be expressive and convey a message. The idea of balance was always in his thoughts, it was consistent across all aspects of the design. “The clock needed to be both functional and scientific, whilst remaining to be creative and artistic. Inspired by our ultimate reality, this piece encompasses principles such as polarity, vibration and gender. This mechanism utilises the laws of the universe, simultaneously reflecting its true nature and beauty in form.”

WITH THE SUPPORT OF:


THE HOUR GLASS

EXPLANATION OF
TYLER'S REALIZATION

“For my major final year project, I was set to design and manufacture a mechanical clock with a visible escapement; the addition of a complication was at the designer's discretion and I opted for a recoil free deadbeat escapement. I included some of my own principles in the clock: the mechanism should be open and easily viewed - the project should be specific and achievable - I aimed to make 90% of the components from raw material with use of both traditional and modern manufacturing techniques where suited, within a traditional construction.”



The Young Talent Competition
Award Ceremony 2019



Equilibrium

THE KEY CHALLENGES

Recoil free deadbeat escapement

I had lots of experience making the recoil free escapement and I wanted to challenge myself so I opted for the deadbeat. I knew the deadbeat was more critical and less forgiving, it also required some tooling to be made, which did help guarantee its success.

The case

I designed the case on CAD and used a CNC router to cut out the components, first a prototype was done in MDF and then the finished piece in American Black walnut. The components were then jointed and finished by hand.

The dial

The dial is a large chapter ring which encompasses the movement. It was proving quite difficult to find an engraver to do any work, never mind such a large piece and when I did, the cost was too high. In the end, I designed the dial on CAD and had it engraved using a gravograph. It was then roughly cut out and mounted to a faceplate on a lathe with large enough swing. The work was strapped up to ensure it didn't rip out when turning the outer and inner diameter, after this the dial feet were riveted in place and then finally the dial was waxed and silvered.

Technical Specifications

American Black walnut 585 mm × 200 mm × 200 mm / **Movement plates** Brass 300 mm × 100 mm / **Dial** Brass (waxed and silvered) 1.5 mm × 340 mm × 210 mm / **Technical Characteristics** 8-Day weight driven wall clock, recoil free deadbeat escapement, Harrison maintaining power, breakaway crutch, beat setting adjustment, Invar pendulum rod with temperature compensation tube.



F.P.Journe watches continue to thrive at auction

AFTER THE RECORD 2019 ONLY WATCH SALE, THE VALUE OF VINTAGE PIECES BY F.P.JOURNE HAVE RISEN DRAMATICALLY ALONG WITH INTEREST IN HIS CURRENT COLLECTIONS

The Astronomic Blue, the 1st prototype to be sold by F.P.Journe, brought a new world record for an F.P.Journe, CHF 1.8 million. The gavel fell at the Only Watch charity auction in Geneva on November 9, 2019 in front of a packed room full of the most important collectors from all over the world energized for this charity event.

François-Paul Journe said after the auction: "I am happy our watch has reached such an as

tounding price for a charitable cause. We have all committed to allow this unique timepiece to gather such an important amount of money for the Monegasque Association against Muscular dystrophy (AMM) to support scientific and medical research on Duchenne muscular dystrophy".

During the Phillips auction on June 27, 2020, the Souscription Tourbillon and Chronomètre à Résonance n° 14 made respectively

CHF 1.4 million and CHF 1.04 million, thus establishing a new world record price for F.P.Journe timepieces (excluding charity auctions).

With such limited production, F.P.Journe watches are increasingly difficult to find in show windows. Combined with increased desirability and interest in discontinued pieces, F.P.Journe has set up an unusual service within the luxury watch industry: the Patri-

moine Service. When the opportunity arises, F.P.Journe purchases watches from past collections that are no longer in production (brass movement, unique pieces or limited editions). François-Paul Journe personally evaluates each piece that enters The Patrimoine Watch. The watch is then completely restored and overhauled before being proposed for sale on the F.P.Journe website (inquiries and requests can be made at any F.P.Journe Boutique).



10 november 2018 – Phillips Geneva
Tourbillon Subscription, 38 mm in platinum
N°16, 1999
Sold 468'500 CHF



9 november 2019 – Phillips Geneva
Octa Calendrier, 40 mm in platinum
N°617-Q, produced for William & Son, 2009
Sold 125'000 CHF



27 november 2019 – Christie's Hong Kong
Chronomètre à Résonance, 38 mm in platinum
N°44/00R, 2000
Sold 2.000.000 HKD / 249'000 CHF



10 december 2019 – Phillips New York
Octa Réserve prototype, 38 mm in platinum
N°Proto/00A, one of the 3 prototypes produced, 2000
Sold 250.000 USD / 248'000 CHF



Astronomic Souveraine

WATCH WITH 18 FUNCTIONS AND
COMPLICATIONS, ENTIRELY DEDICATED
TO CONTEMPLATION OF STARS

CLASSIQUE COLLECTION

After the outstanding success of the prototype's sale at the Only Watch 2019 auction, F.P. Journe presented at the Tokyo first flagship Boutique of the brand, the final version entering the collection: the Astronomic Souveraine. It is a grand complication watch in a steel case, with tourbillon and minute repeater, whose vocation is to recall a long-forgotten gesture. That of losing oneself in the stars in order to better find one's way on Earth.

There was a time when that poetic idea was not a paradox, but a self-evident truth. And like the instruments that were once used for the observation of the stars, the Astronomic Souveraine is above all a tool. But rather than opening a window onto the celestial vault, it celebrates Time in all its glory.

The inspiration for the project was an adolescent's drawing, found crumpled up behind the wastepaper bin. That sketch was done fifteen years ago by François-Paul Journe's son, Charles. Having drawn the sketch almost without thinking, on second thought the young man decided it was not appropriate. After all, he wasn't the watchmaker in the family! And yet... On the dial, there was a curved aperture for the path of the sun. It was a good idea. But what could be done with it? A self-winding watch? Why not? As long as there were not too many additional complications. François-Paul Journe began his research. His quest for the ideal watch took six years. And finally, it was back to the drawing board. The watch would have a manual-wind calibre that would allow more functions. It would be necessary, however, to ensure the delivery of enough energy to power all of them.

One of F.P. Journe's earlier creations served as his inspiration: a pocket watch with planetarium made in 1987 for a collector of scientific objects. That unique tourbillon watch indicated mean time and sidereal time, as well as the equation of time, a full calendar, and the power reserve. However, there could be no question of looking backward. The future astronomic watch had to be resolutely contemporary and possess a distinctive personality. Its power would come from a double barrel. And the tourbillon with remontoir d'égalité would guarantee its perfect isochronism.

Nevertheless, the 18K rose Gold movement of the Astronomic Souveraine is totally novel. And it is, of course, very finely decorated. For example, the white Gold dial, whose subdial are embellished with clous de Paris decoration, and the moon phases, with a hyper-realistic moon that was traced from a NASA photograph. At 3 o'clock, the mean time (or civil time) dial, with a blue hand indicates a second time zone. At 9 o'clock, the sidereal time dial allows the observation of the stars. Next to it, the meantime seconds are shown on a disc. Between the two are the central minutes and the power reserve indication, which remains optimal up to 40h. Above all this is a blue aperture showing the sunrise and sunset. Here, metal shutters lengthen or shorten the days. On the reverse there is the equation of time and a full annual calendar encircled by the signs of the zodiac. It is on this side that the dance of the tourbillon may be admired.

In all, this watch, which also strikes the hours, the quarters and the minutes, possesses 18 functions and complications. It is made up of 758 components, in addition to the case. However, the case is no larger than 44 mm in diameter and 13,80 mm thick.

But watch lovers will have to be patient, as only a very few pieces will be produced each year.

UNDER THE STARS

As a tribute to nature and the magic it personifies, François-Paul Journe has chosen to create a watch in steel, endowed with an exceptional 18K rose Gold double-barrelled mechanical movement with manual winding, magnificently decorated, with a regulator that defies the laws of gravity thanks to the combination of its tourbillon and remontoir d'égalité. This is as it should be because this piece is destined to note celestial events occurring in the heavens, where gravity is of no effect.

ABSOLUTELY ASTRONOMICAL

This outstanding watch with its 18 functions and complications records the daily path of the sun. In the aperture at 12 o'clock, its movement follows the duration of the day according to the latitude at the chosen location, as is shown here with the example of Geneva for convenience. But estimating the time by the height of the sun is not enough nowadays. This dial also displays what are known as average hours on a subdial set at 3 o'clock and the minutes are indicated by a large golden pointer placed in the centre.

As the world is constantly changing, the piece also possesses a mechanism that allows a second time zone to be synchronised on the dial (a blue hand on the subdial at 3 o'clock) as well as the rare, but nevertheless useful, sidereal hours. Much appreciated by astronomers in particular, sidereal time is shown in hours and minutes in the subdial at 9 o'clock. And equally essential, the seconds are shown in a small aperture placed at 7 o'clock, to the left of the hand indicating the power reserve, which goes from 0 to 42 hours. On the right, to maintain the symmetry that becomes this item so well, are found the Moon phases. An extremely realistic version of our natural satellite rests on a sapphire disc to increase the sensation of floating.

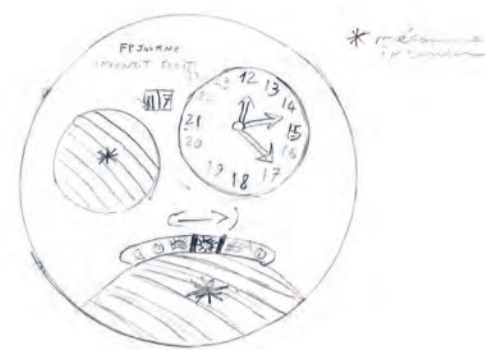
THE MOMENT OF TRUTH

This marvellous piece hides a little of its complexity from view to maintain its appropriately sober appearance. On the side of the case, it displays a sort of trigger familiar to professionals. This catch engages the minute repeater, the ultimate in horological sophistication that rings out the time so that it is known to the nearest minute without looking at the dial. A symbol of absolute authority, this rare masterwork finds its proper place here. The list of these subtleties that only the greatest experts are successful in mastering during their career is not finished because the movement consisting of 758 components (calibre and dial) offers further information that François-Paul has chosen to display on the back of the

piece to preserve the delicate lines that are a key element of his signature.

On the back, a finely engraved raised border shows the signs of the zodiac and the days of the year. To function perfectly and guarantee the absolute accuracy of the information supplied, the calendar is an annual version. This means that, throughout the year, it automatically shows the day and date according to whether there are 30 or 31 days.

As a result, this movement includes the ultimate luxury of displaying the equation of time (more or less 15 minutes ahead or behind in relation to the average time shown on the dial) located at 3 o'clock. Thanks to this information, a scientist or a keen astronomer will be able to calculate their longitude and know the exact solar time. And this will be just as accurate using their watch because with François-Paul Journe there is absolute precision. He has equipped the 1619 calibre with a tourbillon regulated by his famous remontoir d'égalité, with a leaf spring reloaded every second, which guarantees the function of a dead-beat second, fascinating with its regular jumps. This exceptional watch is mesmerizing in every way because all these amazing information, from the most simple to the most complicated, are all set by the crown.



Charles Journe's drawing
2004



Vincent Daveau
Specialized watch
journalist

The "Métiers" at F.P.Journe

SINCE 1977, FRANÇOIS-PAUL JOURNE'S SEARCH FOR EXCEPTIONAL HOROLOGICAL CREATIONS AND UNRELENTING WORK HAVE MADE ITS HAUTE HOROLOGY MANUFACTURE A REFERENCE AMONG THE MOST PRESTIGIOUS OF HOROLOGICAL FIRMS

The Dials

The dial is the face of a watch. François-Paul Journe designs them to be aesthetically balanced, elegant and timeless. They must also echo the mechanical treasures inside the watch. It might look simple but each detail counts and each detail is a succession of very carefully executed operations.

To make his watches even more precious, in parallel to his Gold movement, the dials are most of the time made from a Gold or a Silver plate. The Cadraniers de Genève use several color techniques such as the electroplating which is a process of plating thin layers of metal (precious or not) by electrolysis. For instance, for the matt silver, typical of F.P.Journe, several layers of plating are necessary to achieve the required color (yellow Gold, American Nickel, etc. and finally the matt Silver). Climatic conditions play an important role in this process since they can affect the end result. The operator will therefore have to adapt the process accordingly.

For the "chrome" dials, the varnishing technique is used. The colors of varnishes are produced in a small "chemistry" workshop in which the mixtures are created. Once the preparation is complete, several layers of varnish are applied to the dial until the desired result. Note that after each pass, the dial is dried in an oven and checked in order to be able to continue the next manufacturing steps. The greatest dexterity is required to achieve perfect color uniformity.

The dials then go to serigraphy for printing the logo, the numbers or any indication such as power reserve. For the numerals, it requires no less than 5 successive coats in order to obtain the perfect "bombé" effect typical to F.P. Journe numerals to give them the necessary depth and lustre.

DETAILS OF REALIZATION

Let's discover for instance the realization of numerals on the dial to provide this Journe bombé effect typical to the brand's numerals and discover how the artist executes them.



6

For the printing, the ink is spread onto the engraved plate (1); the extra paint is removed with a spatula (2), leaving only the exact amount necessary. The pad absorbs the ink (3) and transfers it on the dial (4). An extreme dexterity is required to deposit the precise quantity of ink and with the exact pressure (4 and 5). The gelatine pads are produced in house in order to obtain perfect quality (6). The pads are kept out under heat lamps, so as to maintain the exact temperature that will keep the gelatine at the right consistency – not too hard and not too soft.

For drying the silver dials = 2½ hours at 50° Celsius – for drying the gold dials = 1 hour at 100° Celsius.

The Interview Profession Dial Printer



Dinh Sang Ngo

Why did you choose this profession?

I have chosen this profession because I am passionate about watches and I particularly like the serigraphy process.

How did you arrive here?

Even though it was very difficult at the beginning, I persisted and gave a lot of thoughts how I could improve my skills and render a better finish. During my free time or at work, I always give my best, always trying to go one more step ahead.

What did you study?

Upon my arrival in Geneva from Vietnam, I followed a practical training at Stern, learning the skills and techniques directly from my chef. There is no specific professional school for decoration, screen printing or other decorative techniques. It is part of the craft professions whose know-how is transmitted from master to student.

Why have you chosen F.P.Journe?

I love watches and particularly F.P.Journe creations. I was lucky enough to join the Cadraniers de Genève in 2001, which means I've been working for the company for 18 years. During exhibitions, I admire our watches and they each time reflect the incomparable quality.

What is the difference with another watch company?

The work is well organized and the Cadraniers de Genève allow us to work in harmony and enthusiasm.

Outside of your job, what are your passions?

Swimming is for me the best way to switch myself off from my daily work chores.

Dial Restoration and vintage dials ateliers

Sharing the same values of authenticity and excellence as those conveyed for the making of F.P.Journe prestigious movements, the Cadraniers de Genève produces perfect dials for F.P.Journe but also high end dials in small series for other prominent watch companies.

The quantities are consistently limited, the goal being to preserve the quality and a high degree of craftsmanship, rather than aiming for quantity. Thanks to their expertise, the Cadraniers de Genève also integrated a workshop dedicated to restoring historical dials, combining the traditional artisan-style techniques with modern technologies. They also create vintage classic dials based on original designs. Several watch brands have called upon their services with the aim of replicating their vintage dials. The Cadraniers de Genève are the only dial makers able to do so today.



1



2



3



4



5



élégante
by F.P.JOURNE

A gem of innovation offering more
than 8 years of power reserve.

The Boutiques

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Paris
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+1 212 644 5918

Los Angeles
+1 310 294 8565

Miami
+1 305 993 4747

Hong Kong
+852 2522 1868

Beirut
+961 1 325 523

Kiev
+38 044 278 88 78

Dubai
+971 4 330 1034

fpjourne.com

TO PRESERVE THE MEMORY OF SECULAR TRADITIONS DESTINED TO DISAPPEAR AND FOR THE PUBLISHING OF THE BOOK

The Kouya of Ivory Coast, a forgotten forest people

A DEBAT AROUND THE DANGERS OF DEFORESTATION FROM IVORY COAST TO BRAZIL



1975



1998

The non-profit Barbier-Mueller Museum Cultural Foundation, with the support of F.P. Journe, has organized its annual event to raise public awareness of the preoccupying reality of a less known people threatened of extinction and from which culture is about to disappear. This year's event was dedicated to the Kouya from Ivory Coast, Africa, a forgotten forest people victim of deforestation. A double event took place in 2019, first in Paris on November 3rd at the Fondation Good Planet in the presence of Yann-Arthus Bertrand and in Geneva, on December 10th, at the theater Les Salons.

The Barbier-Mueller Museum Cultural Foundation in Geneva is the only Foundation in the world dedicated to bearing witness to endangered cultures. It finances fieldwork missions by anthropologists who are studying those cultures on the brink of extinction and whose beliefs, customs and lifestyles are subject to change due to social, economic or

even climatic evolution with which they must contend. Each study is the subject of a book supported by the Foundation, which works to preserve the memory of secular traditions destined to disappear.

The debate around the dangers of deforestation gathered numerous specialists among which foundation anthropologists, Dr Denis Ramseyer, Kouya specialist and writer of the book and Dr Gustaaf Verswijver, specialist of Kayapo Indians from Amazonia. Also around the table, Dr Julien Andrieu, biogeographer at the University of Nice, France, Dr Cyrille Chatelain, botanist and curator of the Botanical Garden Conservatory, in charge of African collections and M. Victor Amman, from the Lausanne University, in charge of the Langoué project (an expedition in the Gabon forest). During the debate animated by M. Darius Rochebin, journalist and TV host (RTS), was presented Dr Denis Ramseyer's book "The Kouya, a forgotten forest peo-

ple". The evening was punctuated by musical interludes with works of Alberto Ginastera, masterfully interpreted by the pianist Paloma Manfugas.

The Kouya people are suffering from an ecological disaster due to deforestation and climate change. In the space of 30 years, 90% of the Ivorian forests have disappeared (see photos above taken in Kouya's land at the same place in 1975 and in 1998, one clearly sees 23 years later that the forest has disappeared!).

While the Kouya have eaten their fill and have not experienced any economic crisis throughout their existence, the last decade of the twentieth century was particularly difficult: dried wells, lost crops due to lack of rain, whereas in tropical zone.

In 1998, the inhabitants were even on the verge of starvation. The excessive exploitation

of timber by foreign companies has caused the disappearance of game, their main source of food.

In addition, the massive, poorly controlled influx of migrants from the north who came to look for work in the plantations led to an unprecedented social and economic crisis, mainly in the center of the country. To make matters worse, Ivory Coast experienced, between 2002 and 2010, a civil war between the north and south, a crisis that has ruined the entire country. The Kouya territory being located on the line of demarcation of the troops engaged, that is to say in the heart of the conflict zone, the war hit hard this ethnic group. The Kouya are slowly recovering, but the largest part of their tradition is lost forever.



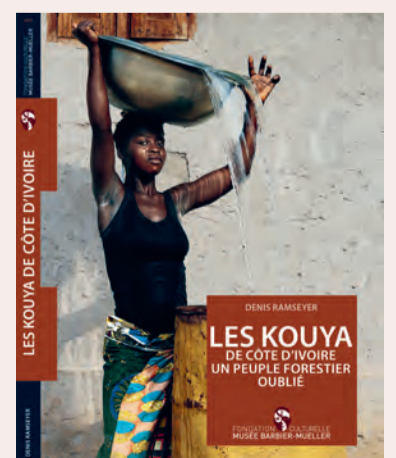
The Foundation young student scholarship

The Foundation also awards grants to young researchers to carry out anthropological observation missions. Every year, the Foundation entrusts an ethnologist or a student wishing to choose an unusual doctoral thesis subject (on the recommendation of a university professor). The researcher will make a first stay of about one month to become familiar with the people. He will then have a few months to prepare for his second stay which should last between two to three months. He will have one year to present the results of his research for the publication of a small book. A very large number of populations scattered throughout the world have never been visited by ethnologists, anthropologists or qualified historians. After the study of the Gan people of Burkina Faso, the Wan, Mona and Koyaka people of Ivory Coast, the Kalasan Batak people of Sumatra (Indonesia) and the Anir Islands in southern New Ireland (Papua New Guinea), the Foundation focused on the Songsarek Garo of Meghalaya in

northeastern India, Tabiteuea Island in the Kiribati Islands, the Na from Lijiazui on the border of Sichuan and Yunnan in China, the Jiye of South Sudan, the Altaians of the Siberian mountains and the Yaure people of Ivory Coast. In 2019 a study on the haenyo, "women of the sea" of Jeju Island in Korea was carried out. 2020 is dedicated to the Kouya of Ivory Coast.

To purchase the book

You can contact the Barbier-Mueller Museum Cultural Foundation in Geneva at +41 22 312 02 70



POST MODERN DESIGN AND INTIMATE ATMOSPHERE TO
DISCOVER THE COMPLETE COLLECTION AND OTHER LIMITED SERIES

The F.P.Journe Boutiques around the world

Dubai

OPENING OF THE FIRST F.P.JOURNE BOUTIQUE IN DUBAI

October 30, 2019 – F.P.Journe celebrated the opening of its first GCC Boutique in Dubai at the prestigious Dubai Mall. Guests were welcomed through the doors by François-Paul Journe. Accompanying him for the official ribbon cutting was Mohammed Abdulmagied Seddiqi, Chief Commercial Officer of Ahmed Seddiqi & Sons, the exclusive partner of the F.P.Journe Boutique Dubai.

This is the brand's 10th Boutique, following openings in Tokyo, Hong Kong, Geneva, Paris, New York, Miami, Los Angeles, Beirut and Kiev. Designed by François-Paul Journe according to the global concept, the beautiful Boutique showcases an elegant yet relaxed atmosphere. It includes a salon and library where collectors are invited to explore and discuss their shared passion for horology, while admiring the brand's complete collection of precision chronometers. Black

and white photos adorn the walls featuring François-Paul Journe and his watchmakers at their workbench. Guests can also discover the Limited Series and special editions, exclusively reserved for the F.P.Journe Boutiques.

Established 20 years ago, the relationship between Ahmed Seddiqi & Sons and F.P.Journe is based on a longstanding commitment and passion for fine watchmaking. As family businesses with members involved in day-to-day operations, both brands work towards preserving the history of horology through shared appreciation and ethical business practices. With François-Paul Journe holding over 40 years of experience in watchmaking and Ahmed Seddiqi & Sons being the definitive curators of time since 1950, the partners share the same company values and vision for horology in the region and beyond.

Mohammed Abdulmagied Seddiqi, said: "We are proud to mark a milestone in our relationship with F.P.Journe with the opening of the first Boutique in Dubai and a first for the GCC region. The relationship between Ahmed Seddiqi & Sons and F.P.Journe reflects our shared values and deep appreciation for horology. F.P.Journe being a



F.P.Journe Boutique Dubai
The Dubai Mall
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Email: tdm@seddiqi.com
Telephone: +971 4 330 1034

distinguished Manufacture focusing on historical Haute Horology methods and extensive craftsmanship, the F.P.Journe Boutique was very well received by our customers".



Paris

RENOVATION OF THE PARIS BOUTIQUE

11 years after the inauguration at 63 rue Faubourg St-Honoré, two steps away from the Elysée Palace, F.P.Journe has commissioned the renovation of its Paris Boutique to the renowned architectural firm Mansio. The goal was to subtly modernize the decoration in

respecting the Haussmannian spirit of the place, Hungary pattern wooden floor, stucco walls and wrought iron cohabitating side by side with Comblanchien stones. Outstanding cabinetmakers have worked solid oak to create a new library on the first floor as well as numerous moldings to provide a vibrant contemporary look. The "Résonance" bar, more intimate, with a redesigned lighting and translucent furniture skillfully showcase rare and vintage French spirits. The clients have been won over!

Geneva

REOPENING OF THE GENEVA BOUTIQUE AFTER MAJOR BUILDING RENOVATION

Opened in 2007 in the city historical centre, F.P.Journe took the opportunity of the complete restoration of the building to undergo renovations of the Geneva Boutique. The philosophy behind the space of post-modern luxurious design with comfort also provides the intimate atmosphere of a house. The new Boutique is rich in muted tones and streamlined furniture in an elegant blend of fine woods, glass and well-chosen ancient horological accoutrements.

The aerodynamic lines of the new bar, especially designed by Tiffany Beriro, encourage conversations around F.P.Journe's values of A.R.T (Authenticity, Rareness and Talent) and provide a dedicated space for collectors to meet around a glass of champagne or a cup of coffee. A new lighting, created by luxury store designer Fred Begtoft, provides an intimate atmosphere throughout the space.

Crossing the threshold of the F.P.Journe Boutiques is discovering the exclusive world of a limited production with the unique philosophy of an independent Manufacture that reflects its values of excellence and personal codes of haute horology.



2019

F.P.Journe around the world in 365 days

Annual Salon F.P.Journe Geneva / January 14 – 18

To celebrate the 20th anniversary of the Tourbillon Souverain, F.P.Journe introduced the new Tourbillon Souverain, whose cage is now vertical, to the international press and visitors from all over the world. F.P.Journe also presented the new élégante in Titalyt®. An event specially organized for the press took place on Monday evening at the Manufacture.



F.P.Journe Young Talent Competition Geneva / January 16

F.P.Journe organized the Young Talent Competition with the support of the Fondation de la Haute Horlogerie (FHH) and since 2019, of The Hour Glass, luxury watch retailer for the Asia Pacific region. The award was presented to a young watchmaking talent during the SIHH. The winner 2019 was Tyler John Davies, (England) for his clock Equilibrium. He received a diploma and a CHF 10,000.- grant from The Hour Glass, which allowed him to purchase watchmaking tools. He also had the privilege of presenting his creation at the SIHH in Geneva. The jury of the competition is made up of key personalities from the international watch scene.



RedBar Group - F.P.Journe Los Angeles / January 22

The F.P.Journe Los Angeles Boutique organized an event with the members of the "RedBar Group", watch collector community who was delighted to learn more about the history, philosophy and F.P.Journe timepieces.



The Prix Solo artgenève - F.P.Journe Geneva / January 30

F.P.Journe awarded the Prix Solo artgenève – F.P.Journe to the Laurence Bernard Gallery for the best monographic exhibition featuring the work of Marion Baruch. An artwork by the winning artist is acquired by F.P.Journe and offered to the MAMCO Geneva.



Maison F.P.Journe Miami Official opening Miami / March 15

F.P.Journe celebrated the opening of the first Maison F.P.Journe over 320 square meters in the EPIC Hotel, located right along the Miami River in the heart of Downtown Miami. The 180 privileged guests accessed the new space featuring a 2-story glass atrium with expansive views of the Miami River and the city. A terrace provides an outdoor lounge for cigar tasting. The second floor accommodates the headquarters of Montres Journe America and the domestic service center.



Presentation of the Tourbillon Souverain New York / March 23

A new Tourbillon Souverain to celebrate the 20th Anniversary of the Tourbillon was touring the F.P.Journe Boutiques around the world. Starting with the New York Boutique that organized an event during the day to celebrate the launch of this new timepiece. Both customers and new clients were captivated to learn how Mr. Journe developed a tourbillon whose cage is vertical, rather than the traditional horizontal cage.



Grande Réserve Paris / April 4

The Boutique F.P.Journe Paris organized an event gathering 5 exclusive independent brands sharing the same high craftsmanship values in the library of the exclusive Hotel La Réserve in Paris - Daniel Levy, Daniel Bernard, TT Trunks, Chapal and Hine. Each brand showing its own savoir-faire allowing the clients of the other brand to discover their brand philosophy. The evening gathered all together 100 guests.



The Hour Glass Sydney / April 4

F.P.Journe and The Hour Glass organized an event with their VIP guests to discover the latest creations of the independent F.P.Journe Manufacture.



The Prix Solo artmonte-carlo - F.P.Journe Monaco / April 26 – 28

During the cotemporary Art Salon artmonte-carlo, F.P.Journe rewarded to the gallery Federico Vavassori, Milan, for the best Solo monographic exhibition of "Cinzia Ruggeri". This prize allows the purchase of an artwork by the winning artist that is offered to the NMNM, Nouveau Musée National de Monaco.

This fourth edition took place at the Grimaldi Forum in Monaco during which F.P.Journe presented its prestigious collection of haute horology watches in the "Ephemeral Boutique".



Presentation of the Tourbillon Souverain Hong Kong / April 30

To continue with the launch of the new Tourbillon Souverain around the world, 28 journalists were invited at the Tai Pan of The Murray Hotel to look at the emblematic watch and get to know more about this timepiece. The lunch started with a welcome speech by Mr. Luk, the F.P.Journe Hong Kong general manager.



F.P.Journe Golf Cup Geneva Golf Club Cologne / May 4

F.P.Journe organized its sixth Golf Cup at the prestigious Geneva Golf Club during which F.P.Journe presented the new models of the line Sport, the Centigraphe and the Automatique Réserve with metal bracelet assorted to their respective case. 132 guests participated to this tournament at the end of which F.P.Journe rewarded the winners of the competition in the different categories.



F.P.Journe Academy 1 Geneva / May 6 – 7

The F.P.Journe Academy welcomed the F.P.Journe's ambassadors from retailers and F.P.Journe Boutiques, to follow training on the brand history with two captivating workshops and a detailed presentation of the entire watch collection.

The team was posing for an official photo with François-Paul Journe, holding their certificate in front of the Constantin-Louis Detouche's master clock in the Manufacture's showroom.



Watchmaking class Los Angeles / May 11

F.P.Journe Los Angeles and the Horological Society of New York organized a watchmaking class at the Boutique. The 13 participants disassembled and reassembled a mechanical movement of 78 components. It was a rewarding experience that allowed to better appreciating the beauty of a mechanical movement.



Launch of the Tourbillon Souverain Paris / May 16

F.P.Journe Paris, in partnership with Louis XIII, organized in its Boutique an evening dedicated to the new Tourbillon Souverain whose traditionally horizontal cage is now vertical. Christophe Mouchel, F.P.Journe European Service Center watchmaker, explained to the guests the tourbillon mechanism and presented the tiny cage housing the balance spring and the escapement.



Launch of the Tourbillon Souverain Los Angeles / May 25

F.P.Journe Los Angeles, in partnership with the famous wine Mouton Rothschild, organized in its Boutique an evening dedicated to the presentation of the new Tourbillon Souverain. Nearly 70 guests were present, including singer Jazzy K. who performed some songs of her new album, and the Canadian painter, RIO, who exhibited several of his works.



F.P.Journe late afternoon aperitifs June 4

F.P.Journe inaugurated the late afternoon aperitifs for all F.P.Journe horological enthusiasts. They are held every first Tuesday of the month from 5 pm in each Boutique around the world, to become a must casual and regular rendez-vous for watch aficionados.



Nocturne Rive Droite Paris / June 5

F.P.Journe Paris, official partner of Nocturne Rive Droite for 6 years, opened the doors of its Boutique to welcome collectors and art lovers throughout the evening. A dazzling itinerary was proposed to the walkers, whether neophyte or passionate.



Nature Valley Open Tennis Tournament Nottingham / June 17

The tennis player Donna Vekic, ranked WTA 20th and ambassador of the élégante by F.P.Journe played the final of the Nottingham Tournament against Carolina Garcia. With our congratulations.



F.P.Journe Annual Summer Party Geneva / July 12

The annual summer party brought together the collaborators of the F.P.Journe Manufacture, the Cadraniers and Boîtiers de Genève, as well as the F.P.Journe Geneva Boutique. A special casino on wine knowledge and their provenances guessing was proposed to the guests before ending with an auction during which each one bid his chips to acquire many prizes.

This animation was followed by a dinner on the Geneva Golf Club terrace, with a magnificent panorama of arrival of holes No 9 and No 18.



The F.P.Journe and Armoury Summer Cocktail Party New York / July 23

The Armoury invited their clients for a summer party at the New York F.P.Journe Boutique to discover the precision chronometers of the brand as well as the Armoury collection. The event was catered by a mixologist cocktail designer who created a Dalmore tasting station.



Watchmaking class New York / August 3

F.P.Journe New York organized a watchmaking class at the Boutique. The participants disassembled and reassembled a mechanical movement of 78 components. It was a rewarding experience to better appreciate the beauty of a mechanical movement. Our young collectors and avid learners enjoyed the class.



Italian Grand Prix Monza / September 25 – 28

Rising hope of the Trident racing team since 2019, Giuliano Alesi races on F2 circuits around the world, such as here at the Monza Italian Grand Prix in September 2019.

Club 51 Mexico City / October 10 – 20

During the SIAR (Salón Internacional Alta Relojería), F.P.Journe created a dedicated lounge to exhibit its collections in the library of the prestigious Club 51 in Mexico City.



10th Anniversary New York / October 16 – 17

F.P.Journe New York Boutique celebrated its 10th Anniversary. Loyal customers and members of the Journe Society were invited to the Boutique to share an exclusive cocktail on October 16th. The next day, clients were invited to a dinner at the Metropolitan Club in Manhattan. Collectors and friends of the brand discovered the Centigraphe Souverain Anniversaire, a limited series of 10 pieces engraved with the name of the celebrating city, specially made for this milestone 10th Anniversary event.



F.P.Journe Academy 2 Geneva / October 21 – 22

F.P.Journe organized its 2nd training and integration session for new sales associates. In the program, a presentation of the F.P.Journe history was followed by a visit of the Manufactures, and a detailed training for the whole watch collections.



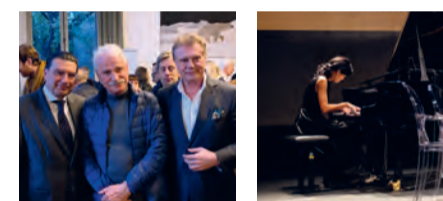
F.P.Journe opens its first Boutique in Dubai in partnership with Ahmed Seddiqi & Sons Dubai / October 30

F.P.Journe celebrated the opening of its first Gulf Boutique in Dubai at the prestigious Dubai Mall with exclusive long-time partner Ahmed Seddiqi & Sons. Guests were welcomed through the doors for the official ribbon cutting by François-Paul Journe and Mohammed Abdulmagied Seddiqi, Chief Commercial Officer of Ahmed Seddiqi & Sons.



Event "Fondation Culturelle Musée Barbier-Mueller" Paris / November 3 Geneva / December 10

The non-profit Barbier-Mueller Museum Cultural Foundation, with the support of F.P.Journe, organized its annual event to raise public awareness of the preoccupying reality of a people threatened of extinction and from which culture is about to disappear. This year's event was dedicated to the Kouya from Ivory Coast (Africa), a forgotten forest people victim of deforestation. The first event took place on November 3rd in Paris at the Fondation Good Planet, in the presence of Yann-Arthus Bertrand and in Geneva, on December 10th, at the theater Les Salons.



Only Watch Charity Auction Geneva / November 9

The Astronomic Blue, unique prototype endowed with 18 functions and complications, especially made for Only Watch, sold during the auction in Geneva for the astounding price of CHF 1'800'000, in front of a packed room in which collectors from all over the world mobilized for this unique charity event.

COMPLÉMENTS	CHF	1,800,000
FINAL BID		
LOT	EUR	1,637,460
	GBP	1,411,092
	USD	1,811,286
	HKD	14,174,262
	JPY	197,568,000
	CNY	12,655,314
	RUB	115,304,040



Première launch of the Astronomic Souveraine Tokyo / November 13

After the success of Only Watch 2019, F.P.Journe presented in Première in Tokyo, the current collection version of the prototype that was offered at auction: the Astronomic Souveraine. This exceptional watch creation is above all a tool, endowed with 18 functions and complications. But rather than opening a window onto the celestial vault, it celebrates Time in all its glory.



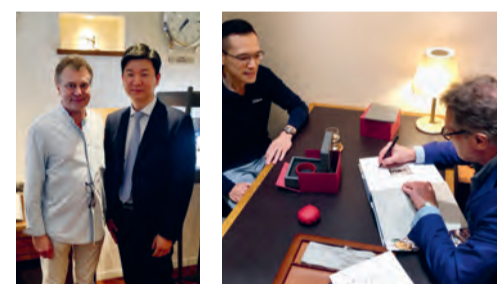
F.P.Journe and Vhernier in partnership Paris / November 14

F.P.Journe Paris organized an event in partnership with Vhernier at the Damantin Hotel to present their latest novelties in Titanium and Titalyt®.



Launch of the Astronomic Souveraine Hong Kong / November 18

The launch tour of the Astronomic Souveraine continued in Hong Kong where collectors and members of the press were thrilled to discover the new F.P.Journe scientific timepiece.



Dubai Watch Week Dubai / November 20 – 24

It was an important year for F.P.Journe in the Gulf region, a new booth at the Dubai Watch Week 2019, the opening of the first F.P.Journe in Dubai in October, and the Middle East launch of the Astronomic Souveraine.



Christmas Party Los Angeles / December 12

The Christmas Party was deliciously catered by Chef Alain Giraud with different salty and sweet bites. During the evening, watches were shown to collectors who were excited to see the Tourbillon Souverain.



Christmas Party New York / December 21


Change of scenery for the New York Boutique who organised its Christmas party throughout the whole day. Guests started to arrive for lunch. A tea party followed in the afternoon with cakes and champagne, and a cocktail dinner in the evening. Each one was able to come when it was more suitable for him/her, and every one enjoyed this F.P.Journe pre-Christmas celebration.




Among collectors, François-Paul Journe is considered as a **Watch Master** and it is with great pride and devotion that a Japanese horological fan created a series of mangas

4TH PART

Antide Janvier
1751-1835. Born in a small village in the Jura Mountains of Switzerland. His father was a farm laborer, but became a watchmaker later in life. Antide showed an interest in astronomy and mathematics from an early age. In 1773, he presented a replica of the planetarium to Louis XV. In 1789, Louis XVI purchased the giant astronomical clock Antide had presented to the Academy of Sciences. In 1809, he discovered an error in existing calculating tables for the moon's orbit. He won two gold medals at the 1823 Exhibition for the seconds pendulum he presented. Journe has referred to Janvier as "the greatest genius".




Janvier's Resonance Regulator
Janvier continually made large devices such as the Mercury which included an armillary sphere, and never made any watches such as pocket watches. On the right is a regulator chronometer clock made by this rare genius, of which three still exist. It includes a resonance mechanism and has amazing precision.




The resonance is such a fantastic mechanism...


Resonance Mechanism
A resonance device which includes two independent movements. By synchronizing each balance to the same frequency, they each compensate for the rate of the other, resulting in stable oscillation at a frequency that is the average of the two balances. This is a high complication mechanism that allows extremely high accuracy.

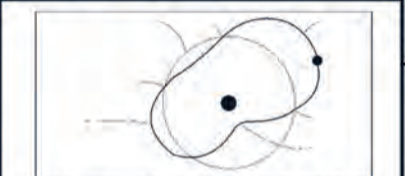


Janvier was a true genius, creating a moving globe at the age of 15.



In 1783 he moved to the Palace of Versailles, as the royal watchmaker to Louis XVI.






In 1789 he created the tide clock and in 1806 he invented the equation clock.


Tide Mechanism and Equation Mechanism
The tide mechanism displays the rise and fall of tides and was developed for port workers. The equation mechanism displays the equation of time (the discrepancy between clock time and corresponding solar time). At that time, leading watchmakers were competing to develop perpetual calendars including these mechanisms, and Janvier was no exception. Abraham-Louis Breguet and his son Antoine-Louis also developed precise equation clocks.

That is it! That is what I should try to make next.



I will make this resonance into a pocket watch!

In 1983, an order came in for a resonance watch.



However, look over a year and a half but the watch was not complete.

And tourbillon with a remontoire.



Retrograde perpetual calendar automatic chronometer pocket watch
The fusee and chain housing a five-second remontoire and a detent escapement. The rock crystal dial reveals the retrograde perpetual calendar mechanism with the equation of time.

1989, Sainte-Croix, Switzerland
hubbub

We finally have our own workshop.

Yeah.



And pocket watches with astronomical indicators and sympathetic clocks...



Sympathetic Clock
Made in 1988 for Asprey, which is was, and still is, a famous London store with a Royal Warrant. It was a modern revival of the sympathetic mechanism (a mechanism with two clocks resonating and synchronizing) invented by Breguet.



It displays for the path of the Earth, Sun and Moon. In 1985, Journe started his own atelier on rue du Vernouillet in Paris. He was requested to make this unique piece by a watch collector in 1987.


When Journe moved to Switzerland, he invited his friends opened an atelier to develop and build movements for other brands. He even invited Philippe Dufour at that time, but that did not happen.

Are you still intent on making your own watches?

I'll just have to wait patiently until the time is right.

Of course.

tap...



Robert Robin
1742-1799. In 1785, he was named the watchmaker to the King for Louis XVI of France, and joined the king at the Louvre Palace. He was also appointed watchmaker to Queen Marie Antoinette the next year. He made many complicated timepieces throughout his life, many of them clocks.



Journe worked as an external research consultant for various major brands, designing and developing different complicated watches. However, this was just a stepping stone for him, as he always wanted to make his own watches.



In 1991, Journe made his first wristwatch. It was a revolutionary watch including a remontoire, but... Very few people understood the value of the mechanism.



1994



Don't you think it's about time to start your own brand?

No, not yet.



Even though Franck Muller is getting all that attention?

Franck Muller
Born in 1958. He made his first tourbillon watch in 1986. In 1992, he established a brand under his own name, then later in 2004, he left the brand, and now has recently returned. He and Journe became friends through a mutual friend.



No, it's still not my time.

More importantly

You're so stubborn.



what do you think of this watch?

see you



This is so original...

You really are amazing.



At this time, Journe had completed the design and movement of the watch that would be announced to the public afterwards.



1999. Geneva. Montres Journe SA

The Tourbillon Souverain was a huge hit at Baselfair, right?

Yes, I'm glad I announced it.

This isn't much of a gift, but...



Thank you. Wait, is this...?

It's the sketch you made at that restaurant five years ago.

Come over here for a second.

Oh!

This is the movement I am making right now, and its design.



Is this the same as the sketch?

Yes, I plan to announce it next year.

And so the first wristwatch with a resonance mechanism was born.

Chronometer Resonance
This is a complicated dual-time watch which has two clocks with the resonance mechanism. The crown at 12 o'clock is used to adjust the time and wind the spring, while the crown at 4 o'clock is used to reset the seconds hands to zero. It has a power reserve of approximately 40 hours and is hand-wound.




F.P. JOURNE

Invenit et Fecit

"I invented and made it"



Ref. TV - Tourbillon Souverain
Vertical tourbillon with constant force remontoire and deadbeat second
Manual winding movement in 18K rose Gold
Geneva made

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