BEYOND THE BORDER:

NORTHERN BEAT

Justin Koullapis

THE HELIXES OF HOROLOGICAL DNA SPIRAL EVER FURTHER AWAY FROM THEIR HELVETIC CORE AS WE EXAMINE THE WORK OF ENTERPRISING WATCHMAKERS OUTSIDE SWITZERLAND. IT SEEMS THAT THE FURTHER FROM SWITZERLAND ONE EXPLORES, THE MORE NOTIONALLY DISPARATE THE PHILOSOPHIES AND TECHNIQUES OF THE CRAFTSMEN IN QUESTION BECOME. IT IS AS THOUGH SWISS DISCIPLINE BEGINS TO LOSE ITS COMMAND WITH DISTANCE, DISSIPATING EVENTUALLY INTO THAT GREAT POOL OF CONTINENTAL EUROPEAN RESOURCEFULNESS AND IMAGINATION.

NORMAN CONQUERORS

One of the twin strands of this mutated DNA lands in Brionne, a beautiful town in Upper Normandy. This idea of starting watch production in the northern reaches of France was envisioned by the then-partnership of Karsten Fraessdorf and Urs Gottscheu. Since 1995 the pair were engaged in the development of a couple of watch calibres for a German investor by the name of Marc Brogsitter. Fraessdorf is a German, and Gottscheu is Swiss and both have long years of experience in production and restoration work within the industry.

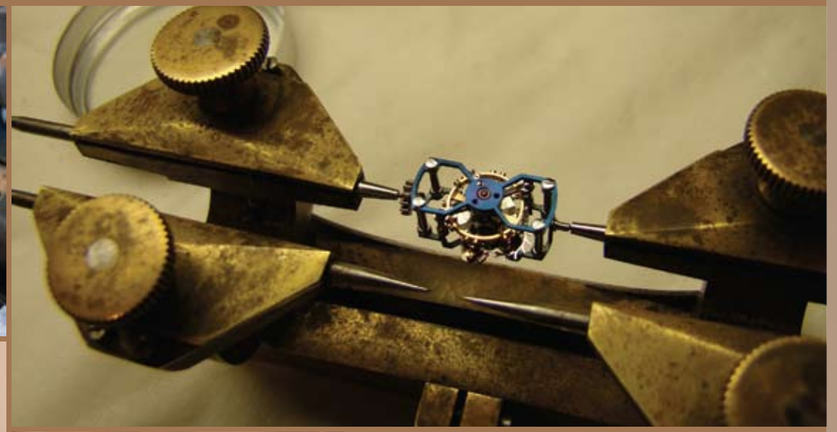
It was over a bottle of good French vintage that the bare bones of the project materialised. There were to be two watches, both rectangular, both with shaped movements; that is to say, the movements would also be rectangular. They were to be entirely hand-made, without recourse to any digital machinery. All the machining was to be done using the traditional techniques of the toolmaker: jig-boring, pointing, milling - the watches were to be manually fitted and turned. And so the new Fabrication de Montres Normandes got off to a great start with little more investment than the enthusiasm and energy of the partners.

As they were going to the trouble of creating hand-made watches, the movements might as well be on parade - and what better element to catch the eye and capture the imagination of the collector than a large, stately balance? Mass-produced watches have small, light, and insignificant-looking balances, designed to be a doddle to manufacture and require minimum human intervention while yet attaining high precision.

These goals are not required for the hand-maker of watches, who can attain very high precision by other methods. Fraessdorf and Gottscheu would bring their exacting hand-skills to bear when it came to to coaxing chronometric performance out of their creations, just like the prize-winning chronometer springers did with their slow-beating marine instruments for the first half of the 20th century.

It was decided to run the new watches at 18,000 vibrations per hour. This old-school 'beat' for watches has been somewhat derided since the 1960s until recently. In theory, higher frequencies are better when it comes to extreme precision for mechanical timekeepers. The problem is that they are completely unrelenting in their demands for driving power, which means that their wheels, pinions and pivots are constantly under exceedingly high levels of strain, wearing away much faster than their more leisurely-paced cousins. Neither do the relaxed cousins constantly try to fling away their vital oil supply oil in a self-destructive frenzy. All said, slower-beating watches are just as good, and can easily outlive the more frenetic variety.

There were to be two watches, both rectangular, both with shaped movements; that is to say, the movements would also be rectangular. They were to be entirely hand-made, without recourse to any digital machinery.



CLOCKWISE FROM TOP LEFT: All the work at the Fabrication de Montres Normandes is done with manually-controlled machines; Carriages 1 and 2 out of three wait their turn to be installed; Karsten Fraessdorf riveting a wheel; Prototype of a new version of the FDMN Constant Force Device; Reaming a hole to the precise size required for jewelling.

Fraessdorf and Gottscheu would have had very limited numbers in mind when it came to producing those first two batches of watches; a few dozen pieces at most. They would not need to worry about high frequencies. The very large size of their balance was chosen rather more by quirky decision than by happenstance: as their design luncheon was on 17 August, the balance diameter was set at 17.08mm.

Once the form of the balance is decided, the rest of the movement can be designed with this primary element as a kingpin. Each of the two designs had a unique feature; the first being a rather traditional tourbillon. With the rotating carriage supported by a skeletonised steel bridge, for all its delicacy it would have been decidedly robust, and yet airy. The interior of the movement is unabashedly on show, with nothing to hide.

The second device is something that is seen only rarely in historical watches, and to my knowledge, is not to be found on any other wristwatch, namely a torque buffer. It is similar in some respects to a remontoir, but differs in some important aspects.

In every normal watch, the power available diminishes from a rather enthusiastic high point when the watch is just wound, to a pitiable nadir a day or so later, in the meantime, the watch is expected to keep accurate time in spite of this power variation. The remontoir, to the English-speaker, is a device that takes this variable energy supply and doles it out in perfectly even parcels at short, regular intervals, every few seconds in some cases. The problem with this is that the device itself is very wasteful of energy, and requires the watch to be over-powered in the first place - which can create excessive wear and strain on the watch.

The device used by Fraessdorf and Gottscheu for the Brogsitter watch employs a kind of half-way house to this principle. Instead of a device that constantly locks and unlocks against the motive power, sapping energy as it goes, it uses a more-or-less freely-moving flywheel. Every few seconds the wheel is impelled forward: as it moves it stores some energy from the mainspring, which is then fed back into the escapement via another, lighter spring. This gentle buffering action is very engaging to watch, while giving the watch its peculiar mechanical advantage at the same time.

The partnership was dissolved in 2008, with Gottscheu returning to Switzerland, and Fraessdorf continuing and expanding the original concept. The Brogsitter commission was successfully delivered with its namesake continuing to exhibit at the Basel fair. So with such a satisfactory first few years, where to next for the Fabrication de Montres Normandes, or FDMN?

Without being at liberty to divulge too much at this stage, we can reveal that a large brand commissioned FDMN to produce an exclusive calibre for them, employing, while they were about it, another fairly unusual and quite distinctive display on the dial. It turns out that Fraessdorf was already at an advanced stage of development with such a calibre, having earmarked it for production under the FDMN banner, when he was approached with the commission for a similar watch. It was eventually decided that he would produce the movements for the as-yet unnamed company, and also retain the rights to produce the same design afterward for himself, which seems to be a very gentlemanly way of going about things. Needless to say, the design of the calibre is so distinctive that he has asked that no pictures be published until the final contractual details are completed.

In keeping with the company's founding principles, all the new calibres are fitted with large-diameter balances, capable of being sprung and adjusted by skilled chronometer makers to a very high degree of precision. Each of Fraessdorf's 12 assistants has been given one of the FDMN watches to wear,

RIGHT: The talented young Hungarian watchmaker, Aaron Becsei.

BELOW: The Constant Force watch and the Tourbillon, commissioned from FDMN by Marc Brogsitter.

The primary objective for the conscientious restorer is that the artefact should remain in a condition that is as close to the original as possible, while sticking to the normal concept that the watch should still run well and keep good time.

and to develop and modify the movements as they please. They are being encouraged to fine-tune the performance of the watches with a view to submitting them to the new Chronometer trials that are to be conducted at the Museum of Horology du Locle, and also the 'New Kew' proposed in the United Kingdom. Magnanimously, Fraessdorf has declared that all watches submitted to the trials will be entered under the name of the watchmaker who actually adjusted it, rather than in the name of the company, thereby giving the individual craftsman a great level of personal recognition. Furthermore, he has publicly stated that he does not expect to win the competition in the first year, nor even in the first few years, but would be more than satisfied with the endorsement that an entry into the contest would confer.

It's a good foundation upon which to build a legend - steady, measured progress, partnerships with respected contemporaries, great candour, and of course, the ability to concoct beautiful watches.

HUNGARY FOR NEW DIRECTION

At the diametrically opposite end of Europe, in another of the Continent's most beautiful regions, is the workshop of the young independent Hungarian watchmaker Aaron Becsei.

Becsei is the scion of a Budapest watchmaking lineage that is now in its third generation. At only 30 years old, he has conceived and produced some startlingly complex creations. After leaving school, he attended the watchmaking class at the Budapest School of Professional Services and Crafts and, eager to augment his studies with greater practical skills, he conducted high-grade watch restoration work at his father's side. He eventually also acquired recognition for his thesis on a Tourbillon with Duplex Escapement.

The restoration of a rare vintage wristwatch or a valuable pocket-watch requires a particularly refined combination of watchmaking and aesthetic skills. The primary objective for the conscientious restorer is that the artefact should remain in a condition that is as close to the original as possible, while sticking to the normal concept that the watch should still run well and keep good time.

Of course, the balance between preservation of the original materials and the instrument's ability to work as a useable timepiece is always a shifting ideal - a conservator working, for example, on a very rare timepiece, say Captain Cook's chronometer, would be far less concerned with the instrument's present ability to navigate to Australia than with the preservation of the materials and finish applied by the original maker. A restorer like Aaron Becsei, on the other hand, has an entirely different set of imperatives. He, too, must consider the importance of preserving the character of the watch, but he also has customers who want their cherished items returned to working condition and keeping time. And there is the ever-present focus on keeping the wolf from the door if one wants to remain in business.

So it's for reasons like these that young Becsei's aptitude has to be more exacting than the average watch repairer's. When he created a new sliding pinion for a vintage Patek Philippe wristwatch, the teeth he cut, using a cutter he made, had to be very carefully formed indeed if they were not to damage the original wheel with which they engaged. When he made a tiny new balance staff for an early Cartier, it would have to have had its diameter gauged to exceedingly narrow tolerances so as not to split apart the original tubular roller that is pressed on to it at the end of the job, for not only would re-making the roller be immeasurably more difficult than making a new balance staff, but it would be a quite shameful thing to be the watchmaker who split it.

FACING PAGE: Tourbillon No.1 is fitted with a duplex escapement

THIS PAGE: Becsei's adapted spelling suits his new logo perfectly - Primus, An astonishing three-axis tourbillon in wristwatch.

LEFT TO RIGHT FROM ABOVE: The bi-metallic thermometer strip is a purely mechanical way of sensing the temperature; Tourbillon No.2, with a spring Detent Escapement, perpetual calendar, world time, thermometer, and moon phases; The tiny Zappler is about the size of a Euro coin; The white and rose gold editions of one of the FDMN watches.

Elderly restorers often comment that over the course of many years, they would have physically re-made parts for so many watches that they might as well have built one from scratch! Not so Aaron Becsei. Not one to be kept hanging around for years, he set about making his own watches right from the early days, long in advance of the appearance of his first grey hair.

The first timepiece he made was a miniature Zappler, a curious little instrument that is generally more capable of beguiling the onlooker than keeping precision time. An ordinary Zappler, if that is not too broad a contradiction, is normally only about 50mm high. It is a miniature version of a kind of early German iron wall-clock, where the pendulum swings in front of the dial. These miniatures were presumably meant to amuse, while displaying the skill of the maker. Becsei has taken the concept to its ultimate logical conclusion: miniaturising the miniature. His Zappler is only about half normal size, at 20mm, roughly the same as certain watch movements.

Just as striking as the frisky little pendulums beating away in front of the dial (*zappler* is German for fidget!) are the compelling engraved blued-steel plates that make up the clock's frame. Shaped like a shield held aloft by a pair of gilt-brass dolphins, the whole thing is covered in the most beautiful swirling, deep, foliate engraving. Indeed, this highly ornate 17th century style of ornamentation is a distinctive feature on all of Aaron Brecsei's work. His output so far differs from its antique inspiration in one very important way: all the watches he has made (with the exception of the Zappler) do not require the engraver's art to make them look complicated - they actually are highly mechanically intricate.

Maybe it's a bit of a stretch to call his subsequent two timepieces watches. At just under 10cm across, a little less than John Harrison's famously successful marine chronometers that were similarly housed in oversized watch cases, complete with pendant and bow by which to wear them in stretched pockets, they really beg to be left in one place. Becsei has thoughtfully provided each of the machines with a matching stand and winding key, allowing the owner to admire the masterpieces without needing to pick them up.

Tourbillon No.1 was exhibited at Basel in 2007, and has a full calendar display, including lunar phases, state-of-winding indicator, a world time display, thermometer, and of course, headed up by a tourbillon incorporating a Duplex escapement. The Duplex was generally abandoned about a 100 years ago, for it was too delicate for most watchmakers, and was disinclined to behave well when moved about, but in a static watch like this, it performs admirably.

The similarly eponymous Tourbillon No.2 has an even greater number of functions to counter the mass of foliage that seems to have taken root deep in the heart of the machine. This time there is a perpetual calendar, including the days of the week, the months, dates, leap-year cycle, and phases of the moon. The bi-metallic strip that governs the thermometer can be seen at the back, near the world's timezones. The tourbillon, this time, has a Spring Detent escapement.

Quite apart from the jaw-dropping scale and intensity of ornamentation that these two instruments possess, Becsei's clever choice of escapement will not be lost on the cognoscenti - each of the types chosen has the peculiar side effect of a jumping seconds hand. Jumping seconds are very difficult to produce well, and collectors know that jumping seconds on any mechanical (not quartz) timepiece alludes to something really special inside.

As though these were not enough of an achievement, the energy of Becsei and his wife, Eszter has prevailed again, so that at this year's Basel Fair, he presented a true watch, in wrist form, no less. Dubbing it the Primus, Becsei has sought a new direction. Gone is the ultra-complicated look. Instead, crisp, clinical lines of an angular white gold case, punctuated on one side by a sharply-defined deep engraving that incorporates his new logo and by a sapphire window into the case on the other. He has simplified the spelling of his family name in the logo to 'Bexei', which is more or less how it's pronounced - the long strings of consonants found in the vernacular Magyar are enough to paralyse the tongue of the bravest English speaker! Besides, it's more symmetrical this way.

I guarantee that these design niceties will not even be noticed until much later, only after the observer recovers from the irresistible visual gravity given to the watch by its primary mechanism: a TRIPLE-axis tourbillon. Few makers have ever attempted this convoluted device. Its inventor, the Englishman Richard Good, built the first of its kind into a carriage clock about 30 years ago and, decades later, both Thomas Prescher and Franck Müller followed suit with wristwatch versions of this highly complicated device. A further variation was on the cards at the now-defunct Progress Watch Company. That Becsei built such a daring mechanism in such a short time, at such a young age, and entirely alone, is nothing short of astonishing. Far beyond the reach of potentially collaborative groups of helpful peers that nestle between the Swiss Alps, this watchmaker has been going it alone, and what remarkable results he has attained.

The Primus will be produced in a very limited series of nine pieces, after which Becsei is planning to produce a simpler, more universally appealing watch.

The trip around continental Europe has proved that watchmaking is very much alive and kicking beyond the Swiss borders. There is, of course, an imperative final destination and for the final part of the journey we shall head north across that foggy shipping lane, La Manche. The counterpoint to Continental watchmaking has forever been rooted deep in the British Isles, and that is where the final leg of our horological journey will take us. ■

Quite apart from the jaw-dropping scale and intensity of ornamentation that these two instruments possess, Becsei's clever choice of escapement will not be lost on the cognoscenti - each of the types chosen has the peculiar side-effect of a jumping seconds-hand.