

# A New Spin

Thomas Prescher ups the tourbillon ante with a mind-bending third axis

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 All of us were convinced that the tourbillon craze of 2001, coinciding with the 200<sup>th</sup> anniversary of Abraham-Louis Breguet's patented escapement, would slowly peter out. Little did we realise that this was to mark the beginning of a period of some extraordinary developments that not even Breguet himself would have dreamed of, especially coming from an unknown young German watchmaker hailing from Twann in Switzerland. And so it was that Thomas Prescher presented a double-axis tourbillon pocket watch at BASELWORLD 2003, designed, prototyped and created by hand in his own workshop – unlike Franck Muller's piece, whose design was outsourced to a high-tech team in Le Locle. For 2004 however, Prescher has something more in mind...



THOMAS PRESCHER



Sequence of diagrams charting the minute-long revolution of the tourbillon cage about the second axis.



Sequence of diagrams charting the hour-long revolution of the tourbillon cage about the third axis.

### The Tourbillon Trilogy

This year at BASELWORLD, Prescher unveiled – to hushed awe – a triple-axis tourbillon wristwatch, put together by himself within the space of a year. For the second time, Franck Muller is hot on his heels with its own triple-axis piece; and not forgetting Jaeger-LeCoultre, who this year gained entry to the ‘double-axis club’ with its fascinating Gyrotourbillon 1; or even Greubel Forsey, with its Double Tourbillon 30°. But Prescher’s offering goes way beyond all of these.

Since all good things seem to come in threes, Prescher decided to create a limited-edition set of three platinum tourbillon wristwatches called the Tourbillon Trilogy, bearing the subscript ‘6 Directions in 4 Dimensions’ and consisting of single-, double- and triple-axis tourbillon wristwatches, each with a differently shaped case. Weighing in with a six-figure price tag (SFr.750,000), it was an unbelievable personal gamble for a young upstart of a watchmaker, whose own workshop was founded barely two years ago. Nevertheless, it took blood, sweat and

tears, not to mention the investment of his life savings to achieve. And, luckily, it was not in vain: this extraordinary gamble has paid off handsomely. A small but important group of collectors, as well as a famous Russian company that had been keeping an eye on Prescher’s progress, jumped at the chance to own a Tourbillon Trilogy and within only a few days of the opening of BASELWORLD 2004, eight sets were sold. There was even money in the bank before BASELWORLD closed, leaving Prescher feeling on top of the world.

“After the first orders came in, I was floating around like a ghost,” he recalls. “It was like a dream come true. It’s so hard for people outside the industry to imagine all the facets, risks and hard work involved in making complicated watches like these. The first ideas were already sketched out for this project during my apprenticeship period several years ago after I had read some articles by Goode and Randall in the Horological Journal concerning double- and triple-axis carriage clocks. This research



A proud Thomas Prescher with his Tourbillon Trilogy.

took up a lot of time, but once you have a basic movement, it serves as a departure point for the three different types of tourbillon wristwatch. But on top of all this comes design!

“The kind of clients who like my work want the exterior to look great too, and that is a whole separate ball game from designing and making the movement.” In January 2004, the design question was examined separately with different designers, who made dozens of sketches regarding the case, dials, finishing details and the rest. “Can you imagine how scary this is for a technical guy like a watchmaker who is investing everything in such a project? OK, I can make sure a watch works exactly as planned, but as for the design – who can tell if people will like it? Unlike watchmaking, it’s a detail entirely out of your direct control, and that is rather frightening, especially with watches costing this amount of money.”

The first sketches were devoted to the search for a differentiation of basic forms that would still retain formal harmony within the Tourbillon

Trilogy set. From these sketches the perfection of the circle for the triple axis and the essential carrée shape for the single axis became defined as the two basic ‘outer’ shapes of the set. The carrée cambrée shape for the double axis was used to represent the metamorphosis of the square to the circle. When these ideas were shown to a select group of collectors in private, their reaction was very favourable, and so the decision was made to proceed.

Prescher’s unbelievable mental agility and spatial awareness, combined with a total lack of fear, makes him unique in the world of independent watchmakers. I have seen other watchmakers shake their heads whilst dolefully perusing sketches of unattempted mechanical complications, but Prescher’s approach to a complicated horological problem is something akin to a skateboarder hurtling towards a ramp: it is going to happen, and preferably with a somersault en route. Not content with managing to fabricate the near impossible, all three watches in the set are built with a flying tourbillon



Prescher's double-axis tourbillon wristwatch. Note the 'tree-of-life' arrangement of the three subdials, holding the tourbillon within a geometry that complements the triangular guilloché pattern of the main dial.



Prescher's triple-axis tourbillon wristwatch: '6 Directions in 4 Dimensions'.

construction, as well as being the first ever tourbillons to be equipped with a constant-force mechanism within the tourbillon carriage itself.

### Taking flight

Without getting too technical, a typical tourbillon carriage has both ends of its axis fixed – one to the baseplate and the other to the bridge. By contrast, flying tourbillons rely on a single axis point with, as you can well imagine, the tiniest imbalance causing instability. Thus, the essential problem with flying tourbillon construction is balancing all of the parts during the various periods of rotation. Now take these difficulties, multiply by three, miniaturise the dimensions of all of the parts and you can guess why no one has done it before.

So why go to all this trouble? Well, because doing things this way provides a most elegant, sleek and open appearance, allowing a full and uninterrupted view of the tourbillon's gentle movements, unimpeded by bridges or other details of construction. This aspect is most remarkable in the triple-axis version. "You know, a tourbillon like this, however many axes it may have, is not built with a view for achieving ultimate accuracy. Tourbillons are just miniature works of mechanical art, and my personal feeling is that my triple axis should really be seen as a sort of kinetic sculpture that just happens to be a time-keeping machine. And the flying construction is most intriguing to view as it turns."

He is not wrong: one can look right through the round opening of the tourbillon in the watch face and on through the glass back of each watch, and it appears as though the tourbillon is suspended in mid-air.

### Visual design

Mathematics are at the heart of the design, and the proportions of the dial and subdials are derived from the geometric properties of the square, exhibiting a ratio of 1:√2. The smallest unit is the seconds subdial, with the hour and minutes subdial proportionally 1:√2 larger. This same proportion is also used for determining the size of the open heart of the movement itself: the tourbillon window.



This image of the tourbillon carriage demonstrates well the extreme scale at which Prescher was working.

For the dial design, modern as it is, guilloché was chosen. It was considered imperative to allow an undistracted view of the tourbillon's highly complex motion, and that the dial should support this idea and not distract from it. Guilloché was mooted as it provides visual warmth, but it was decided that existing guilloché patterns were just too 'antique' in feeling. Inspired by stone cartouches found on buildings by Frank Lloyd Wright and other architects from the 1940s, an idea developed utilising the equilateral triangle shape in the dial guilloché as cellular units transformed into a hand-engraved guilloché triangular pattern. This metamorphosed into a 'tree-of-life' motif; an art deco-style element resulting from the actual shape of the movement that seems to hold the tourbillon captive between its branches.

### The fifth dimension?

The newfound success shows no signs of having slowed Prescher down in the least and sketches and studies for BASELWORLD 2005 already cover his table. When I asked him what the biggest lesson of the whole experience was, he replied: "Gambling and taking risks. When you win, it certainly has its enjoyable moments... but I found out that I simply just prefer to make watches". ◉

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