

Opus 3

Theodore Diehl reveals the method behind Harry Winston's extraordinary Opus 3

The unveiling of Harry Winston's Opus 3 at Basel 2003 created nothing short of a shockwave. Following a tip-off, I was warned that Harry Winston had something truly different to show. My tipster was right – it literally took minutes before my brain could even register what I was looking at. Was it really a wristwatch? What was I looking at? A model of Battersea power station? Sitting down later it was easy to flood the mind with fanciful metaphors. A gourmet with a taste for the Japanese kitchen might see in it a golden representation of a block of squid nigiri-sushi. From other angles it could be a small, short-sighted insect or a Jules Verne bathyscaphe, or the calcified tunnels of sea anemones on a piece of rock. Even a piece of Lego. And therein lies the absolute genius of this design: in mixing both the simple and the complex, it evokes imagery of the mineral and animal, the mechanical, structural and playful all at once within the confines of one compact image.





And that's just the outside...

The inside is full of horological complexity, innovation, challenge, engineering and workmanship of the highest level. So whose idea was this anyway? Well, the answer is a slightly unstable, Chopin-playing Frenchman with a likeness to Paganini: Vianney Halter. Even he would have left this idea on the shelf were it not for the encouragement of horological adventure seekers Harry Winston Rare Timepieces, whose increasingly daring Opus series is proving to be one of the more interesting phenomena of the moment.

Where on Earth...?

All this droll imagery aside, you have to admit that, whether you love or hate this watch, it does make you sit up and take notice. Preferably of the time. Which is also true of other Vianney Halter watch creations such as his own Antiqua and the watch he produced for Goldpfeil – each one possesses an unmistakable character, easily visible from afar. Halter is the only watchmaker I know of who takes his design inspiration directly from sources outside the world of watchmaking. This is evidenced every time I visit his shop as there is always some

new industrial voltmeter, measuring gauge, gear-box, transformer or nameless thingamajig he has found, bought or bartered laying about the room, on the floor or in the corners. The basement vault is positively bursting its seams with these finds.

Even before I finished inquiring as to the really specific inspirational sources for the Opus 3 concept, he plopped onto the table a black plastic canister with white letters on the side spelling out "CURTA". "Open it," he said, grinning like a Cheshire cat. Inside was what can only be described as a little grey and black peppermill with numbered sliders along the side and a ring of numbers within round windows along the top. It was a calculator of all things; the first and most popular mechanical pocket calculator of all time, patented by the young technical genius Curt Herzstark in 1938, produced under his trade name CURTA from 1948 until 1970 when the very first wave of electronic handheld calculators finally sealed the fate of his invention. (The parallel with the demise of mechanical watchmaking and the rise of quartz during the same period is obvious). Virtually every building, bridge or other structure you come across built during this period of time was engineered with calculations made with a CURTA. They were also highly valued by the car rally crowd for keeping track of mileage between rally checkpoints. You entered the numbers via the sliders and performed calculations by turning the handle at the top, which was easy even with gloves on in a bouncing vehicle. "I started to take it apart out of pure curiosity, but it was even more complicated than a watch, so I left it alone and screwed the bottom back on." No wonder, since Herzstark was assisted in the construction details by the master watchmaker from Glashütte named Johannes Hayard. Indeed, when I turned the handle, a sound exactly like that from winding a fine camera or pocketwatch exuded from the cylinder's interior.

This "calculator trail" continued as we walked into the workshop and stopped in front of a 19th century calculator called an "Arithmometer", which he was restoring for a friend. (The Arithmometer was originally patented by Charles Xavier de Colmar in France in 1820, but

this version was made by Burkhardt, who set up a factory in Glashütte, Germany in 1878. Calculators seem to have been made in Glashütte, just as watches were, right up to the first half of the 20th century.) One can just pick up a spark of the design inspiration for the Opus 3 when you see the round collared number windows of brass on this machine.

Since Vianney always has this view towards the wristwatch that starts from outside the mainstream, he took a basic standpoint for the Opus 3 at an early stage: no round shapes at all were to be used for the exterior. "You know, once you draw down a circle on a piece of paper, all these terrible constraints come up – you immediately get forced into a central position with the minute and hour hands, then the seconds can only come here or here... Not to mention all the historical pressure from the past of watchmaking history, mostly within the confines of a circle as well. Once that decision freed us, the design could flow out unimpeded." Seeing several sketches of the watch before the design was finalized was fascinating. Many different colours for the numbers were tried out, as were ideas for the treatment of the case surfacing and exact shape; there was even a version with only four little windows and one big one in the middle for the seconds. "We quickly dropped the idea for a central seconds window. Although it would have been easier for the construction of the movement, it immediately made the watch look stilted and traditional, so we left it out. Of course, we were more than pleased with the fact that Max Busser, who initiated and led this project for Harry Winston Rare Timepieces, was in full agreement with these ideas and kept supporting our concept and approach." We will return to the role of Max Busser and crew in more detail shortly.

Looks aren't everything

What is remarkable in this instance is that once the design was reasonably formalised, an entire new movement was designed and built to fit accordingly. This is no mean feat. It is in fact utterly amazing, and happily for Vianney, Harry Winston have their own case-making department, from engineer/designers right down to the factory itself.



Images of the CURTA Calculator courtesy of Helmut G Ayen. For more information please visit The Calculator Reference website: www.vcalc.net



Photography by Terry McCormick

The inspired strangeness of the display aside, the base of the Opus 3 calibre will almost certainly be seen again. Aside from the normal going-train that provides the time, the calibre includes a second spring barrel that forms an independent power source for any complication that might be developed in the future.

This was of great benefit to all concerned. Vianney called up regularly to confer with the draughtsman to vary the sizes and proportions of the case as the movement developed. The enthusiasm and flexibility of the young team were absolutely crucial to the success of the project.

Before going into more detail about the movement itself, we should cover just what the watch presents to the user. The Opus 3 has two rows of three portals each. The outermost portals of the upper row show the hours in a 24-hr system. The outermost portals of the lower row show the minutes. The two vertical portals in the middle show the date in red. But here is the catch, and the typically Vianney Halter touch, the desire to add something unexpected and unique: the last 4 seconds of every minute appear in the middle row in place of the date – an astounding finishing touch to this wild watch. Agreed, it takes a few minutes to understand the watch's visual layout,

but once you take the plunge, it comes across as very logical.

The crown – in a very unusual arrangement with the winding/setting direction lying in the same plane as the watch face (as opposed to the standard 90°-placed crown set in the case side) – is also ingenious. You can wind and set the watch with just the tip of the index finger. The crown clicks into the positions for winding, hour and minute setting, and date setting in the vertical plane between the front and back of the case, and then you just turn with the tip of your finger. No more fiddling with your nails to get the recalcitrant crown out of the case side, no need to take off your watch just to set and wind it. Simply brilliant. And all this without having any adverse effect on waterproofing issues.

The movement

Back view

When you examine the back of the watch you might feel that you are having a bout of double vision. Do not worry – what appears to be two winding barrels with corresponding gears really is just that, and this also helps to explain the inordinate amount of jewels in the movement; there are a total of 53. This concept allows the movement to be isolated from disruptions in the flow of energy whilst the watch is changing indications such as minutes, hours, the date and countdown seconds. Normally all such changes would require additional energy from the basic movement during the engagement of such components, and this is highly detrimental to achieving isochronism in a watch. (This is, to a greater or lesser degree, a problem for all watches that operate with any kind of complication).

The other benefit of this system is that this way there is plenty of energy available for whatever horological concept one would like to add over and above the normal timekeeping functions, providing freedom to “dream the impossible” during the design stage. This is Vianney's glance to the future. No one can possibly create a movement just for a small batch of 55 special watches, and this movement design will be the base calibre for future designs.

A level deeper

You have probably already felt this coming: a watch that looks simple on the outside can be very complicated on the inside. In horological jargon, a complication – whether grand or small – is a watch feature that provides more information than just the hours, minutes and seconds. But Harry Winston's Opus 3 is perhaps the first watch in the world that should have that particular predicate applied to it simply for these basic functions, as the mechanical build of the movement is equal in complexity to that of a perpetual calendar. This is not the place for a step-by-step discussion of the Opus 3 movement, but let's try to examine some of the inherent challenges that have been overcome in the basic design.

Face view

If you are showing the hours in a 24-hr system, then you need only three digits on the upper left wheel to display the tens – 0, 1 and 2. Not too bad, that. But for the units you will need 10 numbers from 0 to 9. Simply put, you would need a very large disc in order to show all 10 digits, but there is not enough space available. In addition, such a large disc would have ruined the visual design, as the portals would have to be far removed from each other. The solution is to have two rotating discs, placed one above the other, in which the topmost disc also contains a single see-through window. Both discs occupy the same axis, but are controlled by separate pinions so that they can be turned independently. The digits 6, 7, 8, 9 and 0 are on top, and 1, 2, 3, 4 and 5 are on the disc below, only visible through the window on the top disc.

The same basic system is also used for the minutes and date: a single wheel shows digits based on tens and the double-disc system is used for the single-unit digits. An arc-shaped piece in the middle carries four of the five countdown seconds from 56; the “fifth second” being, of course, when the minute changes.

If you've followed this so far, then some of the difficulties that must be overcome can be imagined. There are two discs, working on two levels, that must be engaged or disengaged at the

correct moment. In addition, there are specific programming features – even with just hours and minutes – that are not linear. Take for instance the changing of the hour indication of the two outermost discs from 23:59 to 00:00. The single-number hour disc cannot just continue on its way until 24:00, as this would be incorrect. Indeed, the tens disc just continues on to 0, but the lower single-unit hour disc must not continue to 4 – the upper disc must turn to 0. Double wheels, each with their own pinion, working on two levels, having to turn different amounts at specific times, guided by “snails”....

These are movement design principles taken from the construction of perpetual-calendar and minute-repeater wristwatches, and this watch is filled with them. There is just not enough space here to go into all the details, but it would suffice to say that the Opus 3 is a truly complicated and unusual watch – inside as well as outside – filled with ingenious horological wizardry of a new design. Concentrating only on the exterior, one could easily forget this.

Harry Winston Rare Timepieces

The role of Harry Winston Rare Timepieces in all of this creative activity is unparalleled. This vision of what diamonds, jewellery and watches can express is perhaps best seen as an extension of the personal philosophy and interests of the founder Harry Winston and his son Ronald. This personal view has a basis that reaches back many years before the Opus series began. Harry Winston was always pushing the limits: his advertisements promoting diamond jewellery became legendary in the trade, as did his method of bringing diamonds into the awareness of the public through such means as the travelling exhibition *The Court of Jewels*. He also initiated new approaches to jewellery design, giving prominence to flexible settings that were comfortable to wear and that maximised the light captured in the stones. These settings were to become legendary and often copied. Of a practical nature, he also promoted the use of industrial diamonds in production processes such as polishing and cutting, and also dared to re-cut famous existing diamonds in



In a schematic view as above, the Opus 3 seems somehow less aggressively different. The time indication shows 03.17 on the 29th of the month, the latter indication changing to seconds for the last 5 seconds of each minute. The crystals in each of the portholes magnify the numerals – a necessary touch given the size of the discs and the space available to accommodate them.



order to do them better justice – often against the judgment of his peers.

Ronald Winston is perhaps even more innovative. It is little known that he is a chemical engineer working on the development of rocket fuel for the aerospace industry, and is a metallurgist who has clearly inherited his father's passion and knowledge of diamonds, having a special interest for diamonds of exceptional and rare colours. It was his idea to extend the Winston heritage into wristwatches, a natural and logical area of growth within the jewellery industry. His metallurgical interest can be gleaned in such feats as the development of the world's first wristwatch made of rhodium – the Galatea – for the Harry Winston collection. The entire Opus concept fits perfectly and logically into this setting. Harry Winston Rare Timepieces in Geneva is headed by Max Busser, who previously had many years' experience at Jaeger LeCoultre. He is a watch man *par excellence*. "The Opus concept was developed in an attempt to dovetail the amazing creativity of people we consider horological artists with our own knowledge of the watch industry and manufacturing processes. Each Opus creation can really be seen as a symbiotic event between equal partners. Here at Harry Winston Rare Timepieces we have our own case-making, bracelet-making and dial-making facilities, highly skilled watchmakers, engineers and designers second to none – which together can provide inspirational as well as technical support for the artisans we choose to work with. The Opus series has the dual effect of invigorating those within our company while at the same time providing a springboard and support for the creative ideas of those gifted artisans we choose to work with."

Still, I had difficulty understanding why only 55 pieces of this Opus 3 watch were being produced, and that they were being sold at a price considered by many to be far below their actual market value. "I know it sounds strange, but we are

not doing this for the profit margin. Each Opus is a kind of landmark – it shows what we are capable of creating together with talented people, in addition to bringing Harry Winston watches to watch connoisseurs and the public. And I really do value the insights and input, the learning curve it gives us to test our wings even further, to see how far we can go. This is invaluable for any company – there is always a new challenge on the horizon." Watchmakers and designers are no different from any other artists and must have their limits. "I'll never forget what Gunter Blümlein said to me once: 'Max, creation is not a democratic process'. He was correct. Someone has to finally say 'yes' or 'no', to take a stand. And that's a very delicate issue. What is right or wrong when it comes to artistry? The past is full of those who took the wrong decisions, the wrong turn in the road. But in the end, you must rely on your gut reaction – your instincts – in combination with a deep respect for the creative power of those you choose to work with. Sometimes that's difficult. But in any case, with Vianney there were no difficult discussions. This watch is really a statement, but I can assure you it is one that we all stand behind. But I will admit to you that we all had to take a very deep breath on the afternoon that the decision was taken to proceed in this direction. This was one very exciting journey for all concerned."

The verdict

As a journalist, I have to admit that when I first saw this watch I was convinced that Harry Winston had gone spiralling off into insanity – and I thought this watch was the ugliest creation in history. But the pictures are deceptive; once on the wrist, it is totally captivating and magnificent. With only 55 pieces being produced – 25 in rosé gold, 25 in platinum and five in platinum with diamonds – the chances of seeing one in the flesh will be slim. But let us all give a cheer to the collusion of an extraordinary company and an extraordinary watchmaker. The Opus 3 is worthy of its name. Bravo! ◉

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