JB 1735

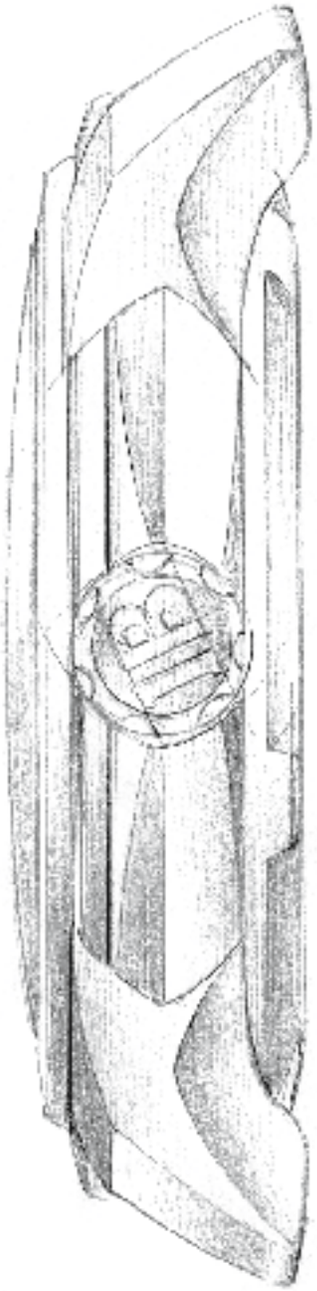
BLANCPAIN

MANUFACTURE DE HAUTE HORLOGERIE

Lettres

DU BRASSUS

ISSUE 16



Dear fellow watch connoisseurs
Welcome to Issue 16

For the past several years, we have been chronicling the progression of new in-house movements that we have been steadily debuting at Blancpain. We call it the "Parade of New Movements" and a parade it has been, with 34 new calibers introduced since 2006. Hopefully, our faithful readers of *Lettres du Brassus* through these pages have been able to get a sense of the dedication and effort that we have poured into our movement development. But in parallel we have devoted ourselves to another important aspect of watchmaking, *métiers d'art*. These are the fine handcrafts and artistic works which can be bestowed upon a fine timepiece like a Blancpain. As with our movements, Blancpain's practice of *métiers d'art* takes place within our walls in our Le Brassus workshop. In this issue, we spotlight our special shakudō dials, an ancient Japanese art that only we at Blancpain have succeeded in bringing to horology. Although the story focuses on these dramatic pieces, the message is much larger. It gives us the chance to speak about the broad range of art forms—hand carving and engraving; enameling using multiple techniques including painting, *cloisonné*, and *champlevé*; shakudō; damascening; and more—that we now carry out in our workshops.

On our cover and our lead story is the L-evolution C Tourbillon Carrousel which debuts an entirely new aesthetic for Blancpain.

In addition, we report on some of the successes of the Blancpain Ocean Commitment with stories by Laurent Ballesta and Dr. Enric Sala.

Enjoy Issue 16!

Marc A. Hayek
President and CEO Blancpain

Issue 16

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Download the free Blancpain Library App for iPad; search for Blancpain in the Apple App Store.

Cover: Design studies for the L-evolution C Tourbillon Carrousel.

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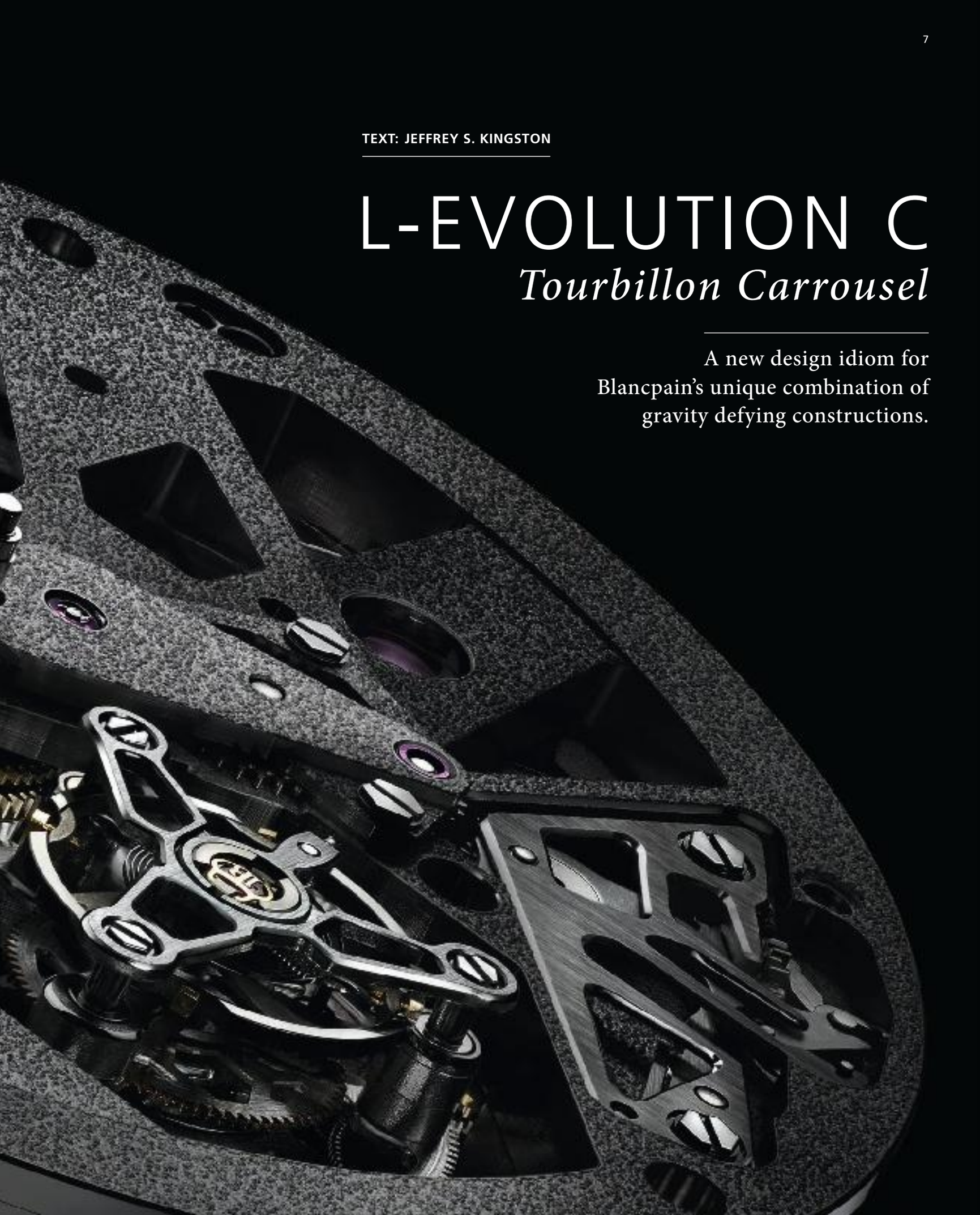
TEXT: JEFFREY S. KINGSTON

L-EVOLUTION C
Tourbillon Carrousel

A new design idiom for
Blancpain's unique combination of
gravity defying constructions.

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Is one indulging in anthropomorphism to project a generous dose of humanity upon fine watches? No matter, for watch connoisseurs *know for certain* that watches are alive with vibrant personalities and dispositions. Watches are deliberately conceived to be so. From the moment of that first glance and onward over years of ownership, a well-made timepiece will speak and assert its individuality. It will announce who it is. To witness just how strong and unique personalities can be, place side by side the Tourbillon Carrousel of 2013 next to the new L-evolution C Tourbillon Carrousel. The core ideas of the two movements are the same, combining a one minute flying tourbillon and, a Blancpain exclusive, a one minute flying carrousel in a single timepiece (but, caution, as we shall see in a moment, these are two very different movements whose main components have been entirely redesigned for the L-evolution C). Notwithstanding the commonality of general construction, they speak and express themselves in radically different ways. The original Tourbillon Carrousel is the aristocrat. Politely, it puts forward its ancestry, its understatement, its classicism. It is, after all, a Le Brassus, bred traditionally. It conjugates all of its verbs perfectly. The L-evolution C Tourbillon Carrousel is a brash commando. It struts and flexes its crisp, muscular angles. Without mentioning the past, it announces its place in the present. Its verbs are just fine left as infinitives.

The NEW DESIGN LANGUAGE *brings muscular bulges to the case and bold angles to the open-worked bridges.*

Blancpain's designers RE-IMAGINED *a multitude of details of the case, dial, hands and movement.*

Even before turning to the movement with its bold, unflinching slants and corners, the case declares its departure from all previous modern Blancpain designs. Whereas, for the past thirty-five years, Blancpain's fidelity to round cases in the Men's collections has been unswerving, the new C model breaks from the rule and introduces muscular bulges at 12, 3, 6 and 9 o'clock in the brushed platinum case. Further accentuating the new shape are the crisp angles where the lugs join the case sides. Even the strap attachment punctuates the new design idiom with its seamless integration into the case.

But for all the power of the new design language of the case, lugs, and strap attachment, it is the new aesthetic of the movement that dominates the visual presence. Blancpain's movement design engineers have architected sharply angular open-worked bridges that are displayed through the exterior dial ring. Of course, there are large apertures showcasing the tourbillon and the carrousel, but other key components of the gear train and barrels are placed in frontal view as well. Although the L-evolution C Tourbillon Carrousel echoes the same combination of a seven day tourbillon and seven day carrousel fitted into a single manual wind movement which was found in the Tourbillon Carrousel of 2013, the movement for the L-evolution C Tourbillon Carrousel called upon Blancpain to redesign essentially all of the principal elements.

New aggressive finishing details abound. The edges of the main plate and bridges, in keeping with the sharp angles and open-working, are crisply squared off and given a finely grained sandy finish known as *grenaillage*. There is an amusing connection of this boldly contemporary look with watchmaking traditions of two centuries ago. During the late 1700s and through the 1800s, *grenaillage* finishing using gold and mercury was commonly used on plates and bridges to provide robust anticorrosion protection. Today, sans gold and, certainly, sans mercury, *grenaillage* looks thoroughly modern, particularly with the dark color produced through a galvanic process. There is another fresh finishing detail brought to the movement aesthetic, the form of the screws. In place of classically round screw shapes, the screw heads are hexagonal in shape and actually resemble the form of nuts.


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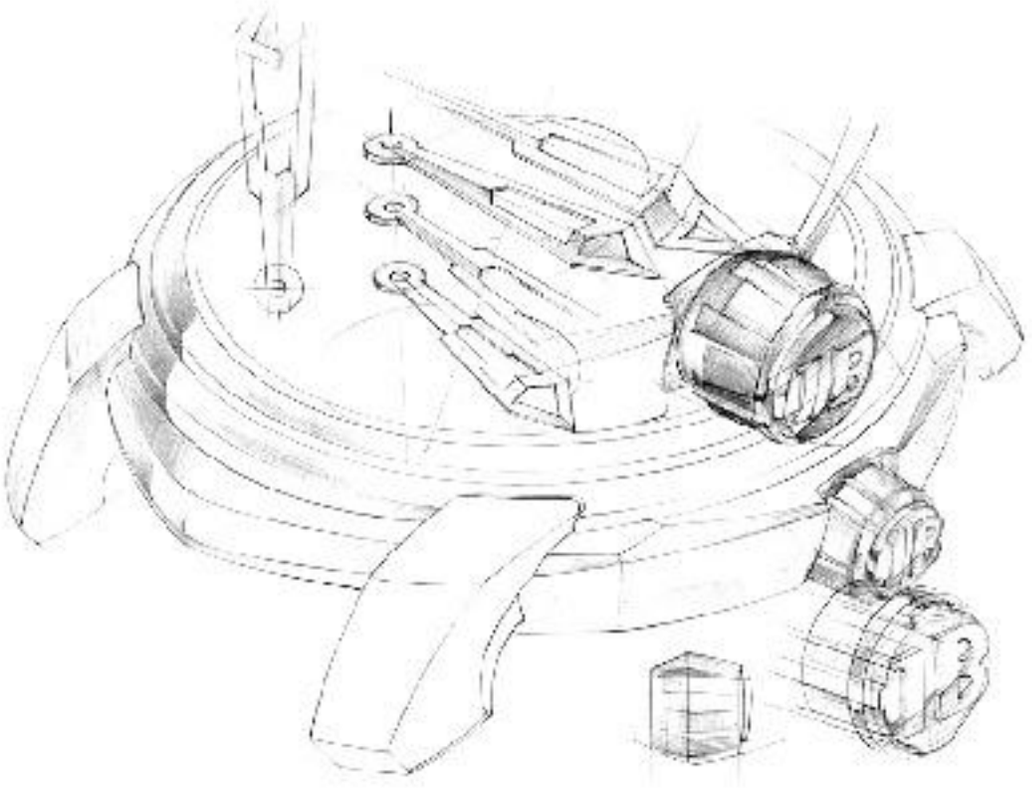


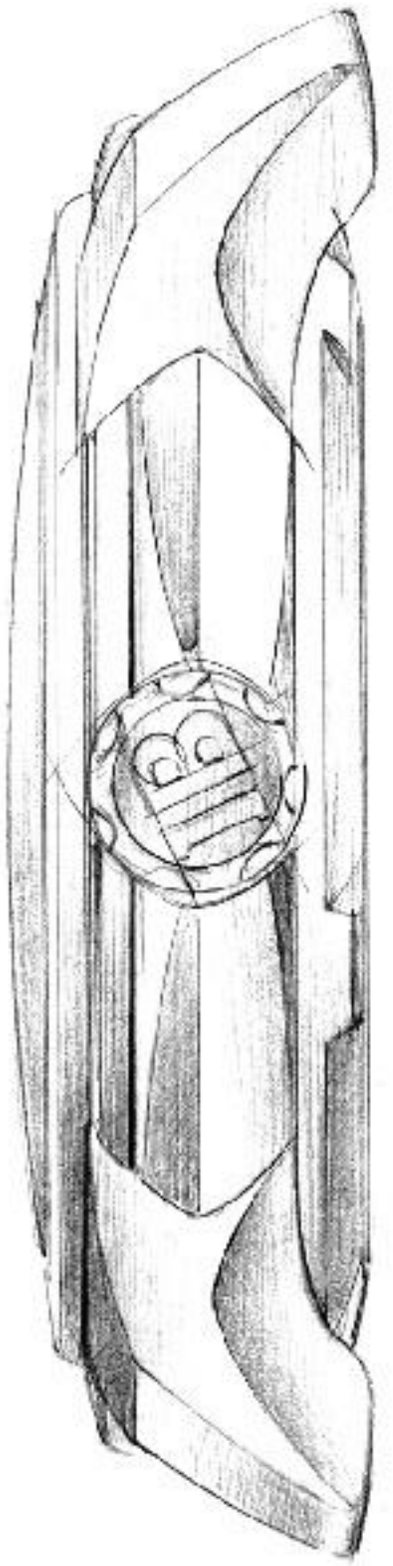
Although Blancpain first debuted a combination of tourbillon and carrousel in the Le Brassus collection, the L-EVOLUTION C IS AN ENTIRELY NEW TIMEPIECE.

Not only do the dramatically different shapes and finishes of the main plate and the bridges underscore just how different this movement is from the first Tourbillon Carrousel, the tourbillon and carrousel components themselves have been thoroughly re-imagined. Unlike any tourbillon or carrousel that Blancpain has built, the key top structural brushed steel arms of both cages have been open-worked. The angular openings resonate visually with the openings of the bridges and provide enhanced visibility of the components that lie beneath. There is one new and novel finishing detail on the carrousel. There is a finely laser-cut lyre which has been placed upon the cage of the carrousel. Bearing the Blancpain signature "JB", this is the first time that a component of such miniature dimensions and delicate detail has been produced using this process. As for the two identically sized balance wheels, they have been given a dark color treatment known as "Black Or".

Reinforcing the visual theme of this new movement, both the tourbillon and the carrousel are elevated 1.35 mm above the top surface of the movement's bridges; both seem nearly at the height of hands… which of course they could not touch! The visual effect is startling, as the two rotating cages appear to float just below the surface of the crystal and actually are at a level above that of the exterior dial ring.

Contemporary shapes are brought to the bridges, portholes for the tourbillon and carrousel, and to the rotating carriages.

Blancpain's signature *à jante* wheels dominate the view of the back of the movement.



These design changes, of course, do not take away the functionality of these two timekeeping elements or the way in which they work together. Both the tourbillon and the carrousel rotate their respective rate keeping components…their balance wheels, spirals and escapements…every 60 seconds, which serves to cancel out rate errors caused by gravity when the watch is in a vertical position. Although both the tourbillon and the carrousel are demanding to design and construct, particularly as both are fashioned with "flying" cages, meaning that there is no top bridge and all rotation is supported by ceramic ball bearings below on the side of the main plate, the core notion lying behind is simple. If there are some vertical positions in which the watch, by reason of gravitational pull, would tend to run slightly fast and others where it would tend to run slightly slow, by constantly rotating the rate keeping elements over a full 360 degrees, these errors cancel themselves out. As well, the outputs of the two are combined in a differential which averages their rates for the running of the watch. Thus, to take a hypothetical example, if the carrousel were running 2 seconds per day fast and if the tourbillon were running 2 seconds per day slow, the resulting output from the differential would be plus-minus 0, which is the mathematical average of the two.

For more detail on the construction of the tourbillon and construction of the carrousel and how these two timekeeping elements differ from each other, please see the article on the Tourbillon Carrousel in Issue No. 14.

The design changes leave untouched the functionality of the
TWO TIMEKEEPING ELEMENTS.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There is commonality with the previous Tourbillon Carrousel in the winding system. As with the predecessor, the movement employs two barrels, one to power the tourbillon and the second to power the carrousel. When winding through the crown, there is a large exterior ring, supported by four ruby bearing assemblies topped with steel disks (three strategically placed at the points of the greatest stress, the fourth adjacent to the staff of the crown), that engages both barrels so that they will wind simultaneously. The construction of the barrels themselves, however, is new as they have been opened up for view from the dial side of the watch, and fitted with a cover that resembles the *à jante* shape of Blancpain's wheels.

The dial, in the form of a narrow ring, secrets its complexity which is only revealed as the owner spends time with his watch. The ring is, in fact, subtly angled inward, as its profile is trapezoidal. The applied indexes and numerals, thus, incline toward the exposed movement components below. There is an understated bicolor treatment as well. The body of the dial ring is dark gray, while the elements bearing the numerals are black. There is another hidden surprise in the numerals and indexes themselves. They are filled with a novel formulation of Super-LumiNova. During the day, the color appears conventionally off-white. At night, however, the color is transformed and they glow blue.

The case diameter of this new timepiece is 47.4 mm and it is fitted with an alligator strap.

The L-evolution C Tourbillon Carrousel is destined to be an ultrarare piece for connoisseurs. It will be produced in a highly limited series of but 50 examples. •

The L-evolution C Tourbillon Carrousel is destined to be AN ULTRARARE PIECE FOR CONNOISSEURS.


BLANCPAIN

TEXT: JEFFREY S. KINGSTON

Métiers d'art at Blancpain

SHAKUDŌ

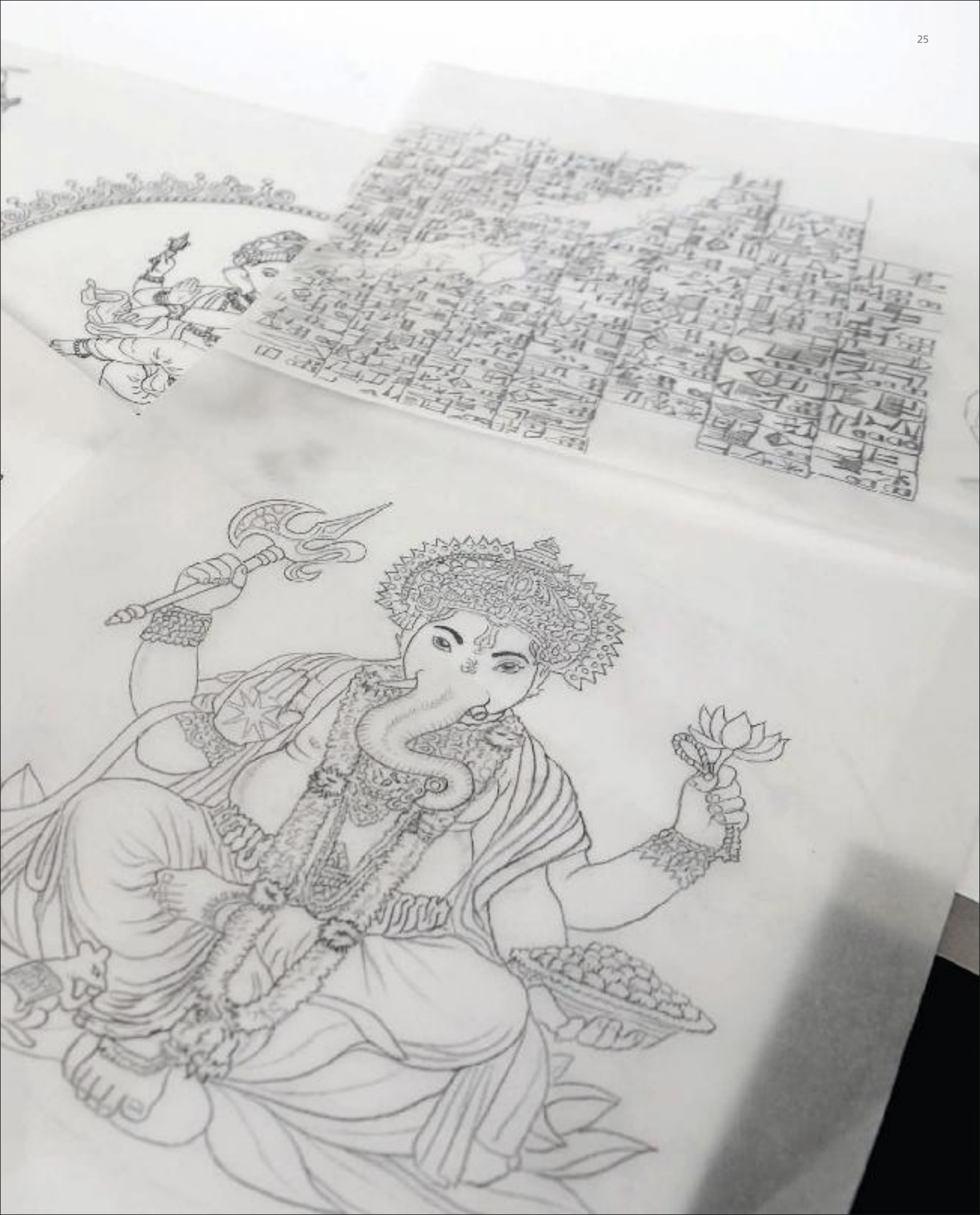
A traditional Japanese craft.

It is not an altogether obvious proposition that a centuries old Japanese art form favored by samurai to embellish small elements of their *katana* (long swords) would find its way to Switzerland's Vallée de Joux for Blancpain's artisans to create special one-of-a-kind watch dials. Then, after spending a day with Christophe Bernardot who heads Blancpain's *métiers d'art* studio, it seems only natural.

Métiers d'art occupy a privileged place in horology. Enabled by the invention of the main spring, the first portable pocket watches emerged in the 15th century. Accuracy was far from the forte of these early timepieces. Indeed, they were so imprecise that some came equipped a sun dial so that the owner could have at his disposal a ready reference for the actual time of day. With their mechanical worth so questionable, watchmakers turned to art as the means to show the value of their creations. Enameling, engraving and gilding were all lavished upon these early timepieces demonstrating not only the worth of the watch but that of the owner. Following the invention of the balance wheel which occurred in the late 1600s which finally enabled watchmakers to create precise rate keeping mechanisms and, thereafter, complications, *métiers d'art*, so previously well established, continued to flourish alongside mechanical innovations.

With its respect for the grand traditions of watchmaking handcraft, Blancpain has woven *métiers d'art* into its timepieces and collections. There is one vital respect, however, where Blancpain's embrace and practice departs from that of the vast majority of *haute horlogerie* houses. Whereas others choose to look outside their walls to find artists skilled in these crafts, Blancpain has brought them in-house into its workshop in Le Brassus.

Bringing art to the watch begins with drawings.



Directing the Blancpain *métiers d'art* studio is Christophe Bernardot. By training he is an artist who graduated from the École régionale des beaux-arts in Besançon. What followed were years working in different media. Initially, it was with Porcelaine de Sèvres in Paris where he created elaborate porcelain table decorations exclusively reserved for a single customer: the French state. Bernardot's creations, intriguingly called *biscuits de Sèvres* as they were fired two times, graced the tables in the Élysée Palace and French embassies. This sculpture work was followed by years of engraving, creating gold perfume bottle stoppers in Besançon. Spreading his wings yet further, he turned to enameling, spending ten years practicing all of the traditional enamel crafts of fine painting, *cloisonné* (where fine gold threads are placed upon a surface and enamel added to fill in the areas formed by the threads) and *champlevé* (where areas are carved out of surface and enamel used to fill in the voids). His training, thus, brings a complete repertoire of crafts to the Le Brassus studio: sculpture, engraving, and the full breadth of enameling motifs.

In the Blancpain studio, he has surrounded himself with talented artists practicing the full range of *métiers d'art* specialties: engraving of movement bridges and winding rotors, damascene, enamel work in multiple forms, carving of automat figures for minute repeaters, and, of course, the principal subject of this article, shakudō. These artists bring with them their own portfolios and impressive credentials. Indeed, one of the master engravers, Marie-Laure Tarbouriech, won first prize for engraving in the French "Un des Meilleurs Ouvriers de France" competition ("Best craftsmen of France", many times referred to as the "MOF"). Her prize winning work featured engravings on the bridges of a Blancpain caliber 15 timepiece portraying the animals of the Vallée de Joux. She received her award from Nicolas Sarkozy himself in a special ceremony held in the Élysée Palace and, as a "MOF", she is entitled to wear a tricolor collar on her working blouse. Since winning her prize, Marie-Laure has developed a wide range of engraving themes for the bridges of the base caliber 15, including a *pièce unique*, named Villeret Grande Décoration, with scenes from different areas of the world. Her Swiss scene with images of the Matterhorn, Château de Chillon, edelweiss flower and more carved onto the bridges graced the cover of Issue No. 10 of *Lettres du Brassus*.

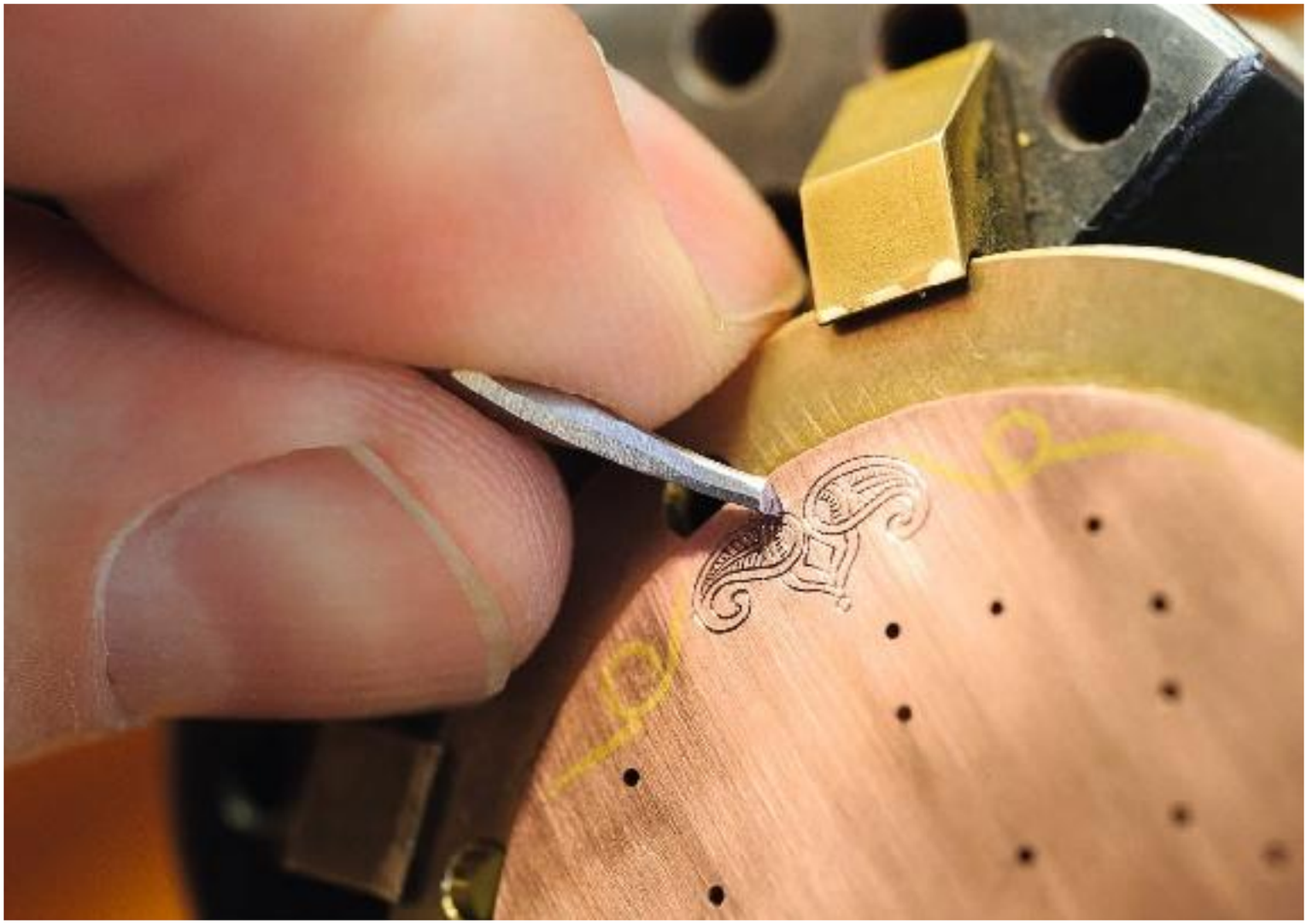
Blancpain's shakudō dials call upon the artists to master SHAKUDŌ, ENGRAVING, AND DAMASCENING.

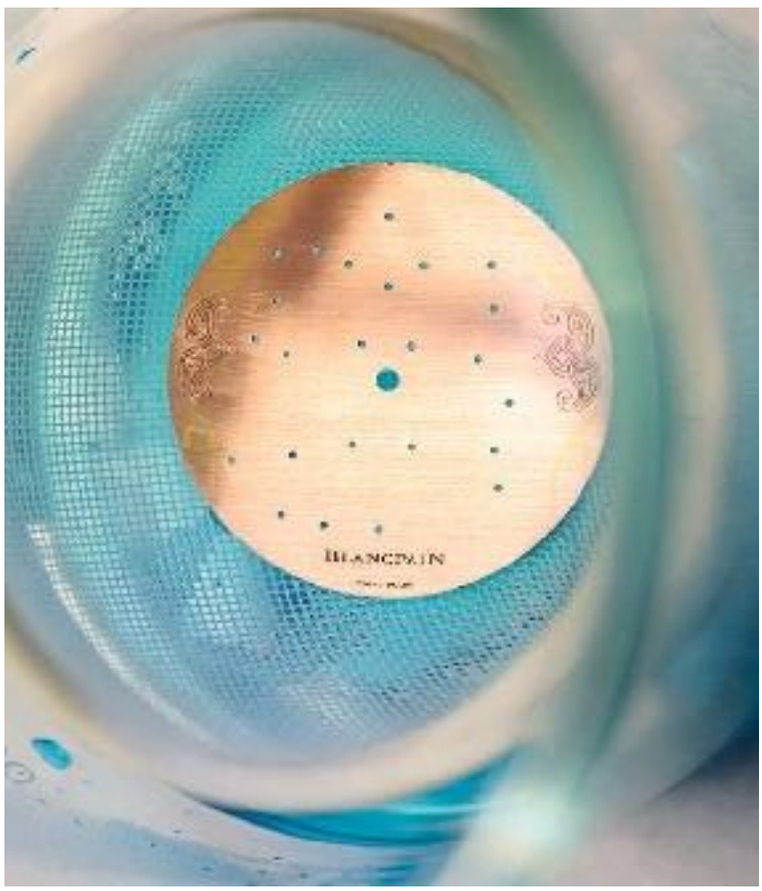
Shakudō itself is a technique that TRANSFORMS *the color of the dial to a nuanced black/gray.*

In one important respect, however, Bernardot soars beyond watchmaking tradition. Although he is possessed of all the skills which have historically marked watchmaking *métiers d'art* decoration, he does not feel compelled to repeat the past. Of course, he is intimately familiar with the historical motifs that have adorned important timepieces and, himself, has created these designs. However, he believes that art must not be trapped and imprisoned by what has been done before. Thus, he has brought to Blancpain an inquiring mind searching for new techniques and designs that can be married with a watch. His workspace in the Le Brassus atelier abounds with his experiments and trials yielding colors and textures never before seen in wristwatches. It was precisely this quest for fresh ideas that brought Bernardot to shakudō and lead him to master this ancient Japanese craft.

Shakudō itself is a technique that transforms the color of a gold/copper alloy from its natural yellow/orange/bronze hue to a subtle nuanced black/gray. Often, and at Blancpain, the surface is brushed so as to bring complexity and texture to the black/gray color. At its most basic, the alloy, which since it is used for a watch dial is a disk, is submerged in a warm chemical bath until the desired color is achieved. There is a lot of trial and error in the process even in this its most basic form. The disk is plucked repeatedly from the bath, rinsed and color examined, before re-emersion. When the artist arrives at a perfect hue, the shakudō itself is finished and the disk's color will remain stable. It is important to understand that the chemical bath is not producing a coating on the disk. Instead, it is transforming the color of the alloy itself.

Although the chemical bath process lies at the center of shakudō art, historically and today at Blancpain, shakudō is embellished with additional artistic techniques such as engraving, damascening, and carving. Not only that, but the shakudō process is often repeated at various stages of the work to bring interesting hues and depth to the designs brought onto the disk of the dial.

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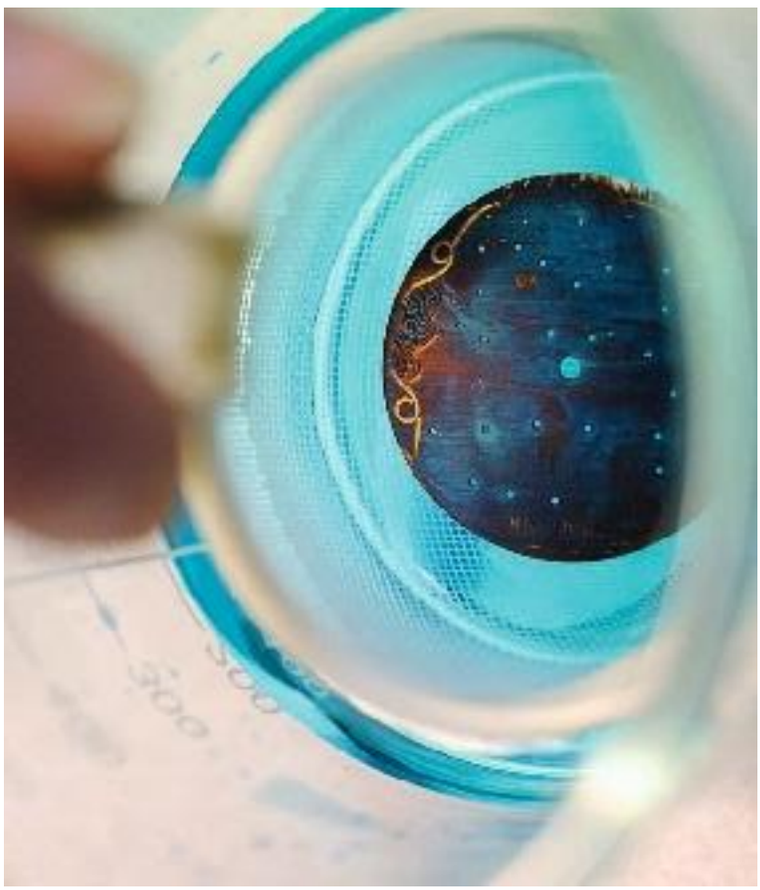


SWISS MADE

Each Blancpain shakudō dial is UNIQUE.

Each Blancpain shakudō dial is unique. This uniqueness runs deeper than artistic variation in carrying out coloring and engraving. Each particular design is a special series of one and no two designs will be the same. An interesting example is the Blancpain Ganesh shakudō dial. Ganesh, with his distinctive elephant head, is the god of beginnings widely worshipped in both the Hindu and Buddhist religions. Although Blancpain is creating several dials with the image of Ganesh in the center, each design is exclusive. Several different artists in the Blancpain studio work on creating Ganesh dials and each begins in the same way with a paper sketch of the pose and the background decorations. The image of Ganesh in all cases is what is called an *applique* (in this case a gold carving which is applied to the surface of the dial and held in place by very fine pins which are inserted into holes drilled into the dial; the back of the pins are thereafter carefully hammered to ensure that they will remain securely nestled in place; no glue is involved). Each Ganesh *applique* is realized in solid gold and very painstakingly engraved by hand by one of Blancpain's engravers working with fine tools and under a microscope. Underscoring the point of exclusivity, each one of these *appliques* shows Ganesh in a different and unique position. For example, one of the watches which debuted at Baselworld 2015 presented Ganesh facing forward, bracelets on three of his arms (Ganesh has more than two), a large necklace, objects in three of his hands, his constant companion the rat nestled beside one of his feet, and, of course, an elaborate headdress. Other portraits place Ganesh in profile with his head turned. Still further variations come from his clothing and headdress; hand, feet and trunk positions; or objects that he is holding; with the rat sniffling at his side or, like in Marie-Laure Tarbouriech's latest image, sitting on his knee. More than a *month* of detailed hand engraving is required for each Ganesh *applique*. According to the style of the individual artist, the dial with the Ganesh *applique* in place may have the shakudō process repeated in order to bring shadows and color depth to the image.

Blancpain's artists have CREATED DIVERSE SHAKUDŌ THEMES.


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Each SHAKUDŌ DIAL INVITES
A PLUNGE INTO ITS DETAILS.

The métiers d'art studio is
BRIMMING WITH NEW DESIGNS FOR BLANCPAIN DIALS.

Similar artistry is brought to the background. Historically, many shakudō objects were decorated with damascening. An ancient art form that began in China, blossomed in Syria, and thereafter migrated to Toledo, Spain, damascening consists of carving designs into a surface in the form of a trough, hammering soft gold into the trough, and, thereafter, polishing the surface smooth. The hammering process suffices to fix the gold filaments in place and, as tradition dictates, no glue is used. Blancpain is doubly unique in the world of watches in that it is the only house that offers damascene art on its dials and it has mastered the craft in-house. Some of the backgrounds are dazzlingly complex, such as the Baselworld watch, which encircled Ganesh with several intricate and fine floral rings.

As ideas take flight in the workshop, many different shakudō themes have emerged apart from Ganesh. One artist was inspired by the Blancpain Ocean Commitment support of diver Laurent Ballesta's Gombessa 1 Expedition where he became the first diver to photograph and study intensively the prehistoric coelacanth fish in its natural habitat. Working from one of Ballesta's breathtaking photos, this shakudō dial presents the coelacanth surrounded by underwater corals. Another craftsman developed a bonsai tree scene. Still another a Sumerian theme.

Each of these watches is housed in a 45 mm red gold case, formed with the classic Villeret *double pomme* bezel. The movement is Blancpain's exclusive in-house manually wound base caliber 15 with its classic pocket watch style arched central bridge. As striking as these art objects are emerging from the Le Brassus atelier, Bernardot has a workshop overflowing with stunning new ideas and designs destined for future timepieces. •

TEXT: LAURENT BALLESTA / GOMBESSA 2 EXPEDITION

THE "GROUPER MYSTERY"

A 24-hour dive dedicated to science and understanding.

It's the story of a scientific adventure and diving record in a remote Polynesian paradise. A place where thousands of camouflage groupers, followed by hundreds of sharks, congregate in secret once a year. Laurent Ballesta's team wanted to gain a better understanding of what pushes these fish to wait for the exact day of the full moon to reproduce simultaneously! With the help of researchers from the CNRS in Moorea, they made numerous dives and conducted many experiments to study and testify to this unique phenomenon. Taking advantage of this incredibly rich period, Laurent Ballesta made a record 24-hour dive.

It is 3 p.m. and the sun is shining over the turquoise water. I'm sitting on the pontoon of a semirigid boat and I am preparing to dive for 24 hours. For the first time in my life, before getting in the water, I can call out "Cheers and see you tomorrow" to my mates.

And it is when actually saying it that I evaluate the extent of my folly: I am really going to dive for 24 hours, and I will not emerge from the water until the same time tomorrow. I am completely determined. I have been dreaming of this for so long. But I am also disconcerted. I am afraid. Afraid of not succeeding, of being cold, of being hungry, of wearing myself out too quickly and wanting to get out before the end. I have been doing "committed" dives (meaning deep ones) for years, but today is different. It is no longer a vertical exercise, but a horizontal test. It is no longer just a dive, it's a marathon! I reassure myself by thinking that my doubts will only last for a while. In a few hours' time, the question will no longer be relevant, since by then it will be impossible ascend at will: the mixture that I am breathing will have saturated my blood with helium. Even at a depth of 20 m, it would take me six hours to reach the surface if I had the misfortune to give up. A final glance at the members of my team and I roll backwards. The twice-round-the-clock epic has begun.

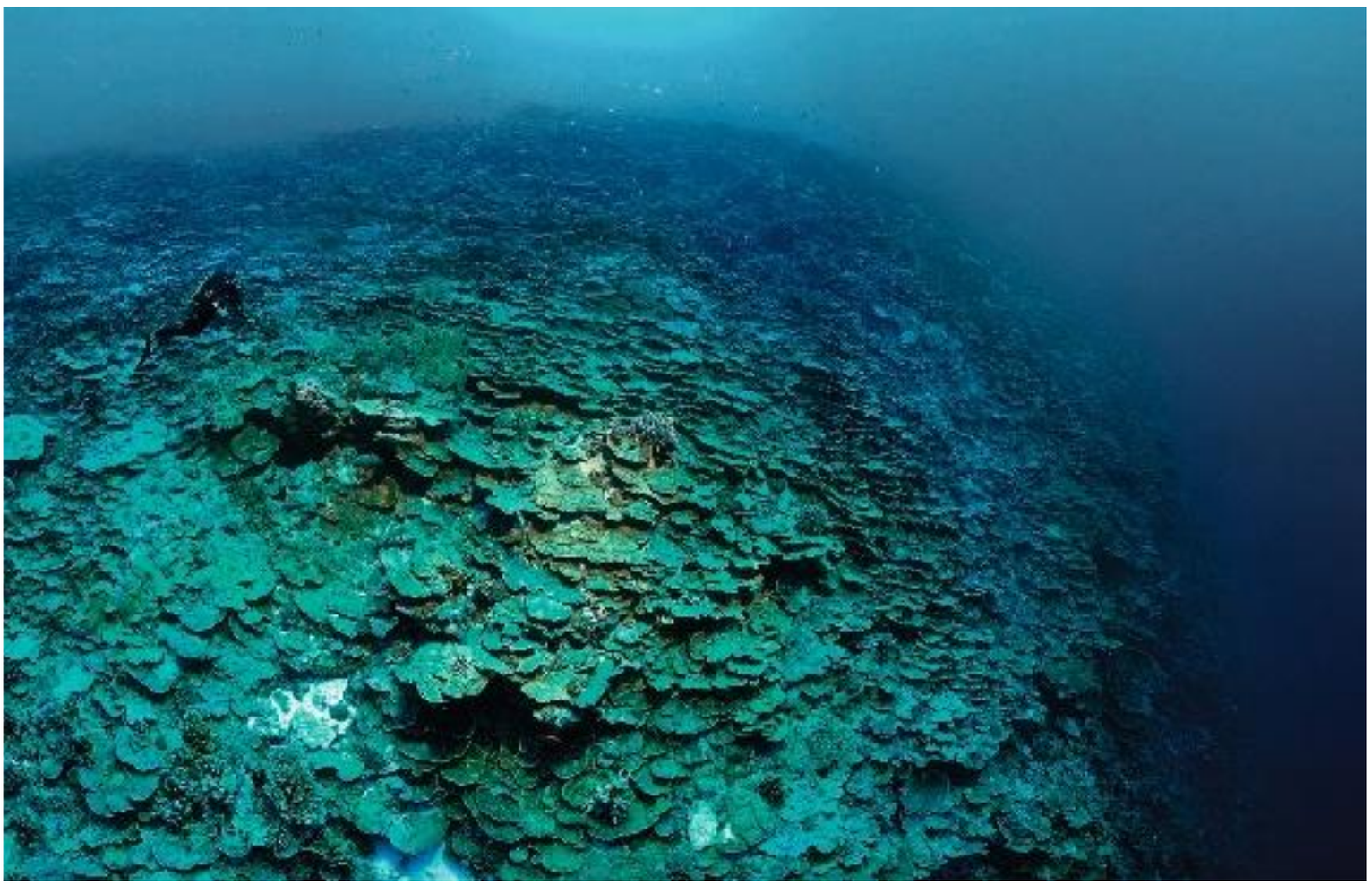
Nothing is more essential than time when it comes to solving the "grouper mystery". It's a mystery that is both subtle and complex. What I am hoping to witness is the rendezvous of all camouflage groupers *(Epinephelus polyphekadion)* around the Fakarava atoll, 490 km northeast of Tahiti. Their gathering takes place in this unique location that links the lagoon to the ocean: a pass that forms a break in the coral barrier reef, a tiny gate between the vast lagoon and the largest ocean in the world. In this indentation, the currents are violent but predictable: they follow the tide and the lagoon, alternately filling and emptying every six hours. The animals live according to this rhythm.

And it is when actually saying it that I evaluate the extent of my folly: I AM REALLY GOING TO DIVE FOR 24 HOURS.

Above: The full moon is finally here, the day that the groupers are supposed to reproduce. The team heads for the boat for the last dive of this long mission, mentally prepared for their four to six-hour stint under water.

Bottom left: A few minutes before entering the water, the team, true to form, conceals its concentration with jokes and official photo sessions! But the equipment is ready and motivation running high.

Bottom right: A few days earlier, Laurent Ballesta just before his 24-hour dive, as apprehensive as he is determined.



Intense living like nowhere else, amid cohabitation arrangements that are not always simple. To live here is as beneficial as it is dangerous: to eat without being eaten, to brave the predators in order to reproduce. The pass accelerates all processes. The size of two or three football fields, this area is sheer concentrated ocean. A canyon paradise, and a trap for groupers with the mass arrival of gray reef sharks. Why come here to breed? The pass is shaped like a funnel, ideal for an ambush. In fact, the groupers have no choice: they come in search of the only current that is powerful enough to disseminate their eggs into the ocean, in exactly the same way that flowers need wind to disseminate their pollen.

I have always been convinced of a very simple fact: to understand marine life, one needs to take the time for lengthy, uninterrupted observation. So I dream of setting off to dive in the same way that a botanist heads for the forest, for lengthy periods, and covering many kilometers. The objective is quite simply to observe, not to set a physical resistance record. The success of this project lies in facilitating the endeavor and proving that a new method exists to enjoy longer dives than any fit diver could in turn undertake.

My friend Jean-Marc Belin worked for a year in order to solve the problem that these 24 hours at more than 20 m create for me: decompression. Theoretically, at the end of the 24 hours, I will need an additional 20 hours to ascend to the surface, thus a total of nearly two days spent under water. The exercise becomes feasible if one breathes something other than compressed air. Jean-Marc has chosen an extreme mixture of gases: 87% helium and 13% oxygen. This cocktail will gradually dissolve in my body throughout the dive, without the oxygen damaging my lungs. The downside is that this precludes any emergency exit. After 18 hours of diving, the helium simply needs to be replaced with air. By doing this, I'll start my decompression but without changing depth, so I won't need to ascend immediately and I'll be able to continue the exploration. That is the clever part of Jean-Marc's system.

But I'm nowhere near that stage yet. I've only been under the water for three hours observing schools of groupers: the largest ever gathering to date, comprising 18,000 of them. It is 6 p.m. and the light is fading. On the surface, the sun must be setting. It won't be long before my buddies join me for the first resupply. I am meeting them in a prearranged location, because I need to recharge my rebreather which does not have sufficient capacity for 24 hours. Antonin comes down to take my rebreather and bring it back to me—filled—as fast as possible. Meanwhile, I wait for him on the bottom using a spare rebreather. Everyone has their quirks and mine is that to me: my own rebreather is like an old pair of sneakers. One is comfortable in them and has no desire to change, especially not when it comes to a long hike.

Opposite above: In the middle of Fakarava's southern pass, a strip of sand swept by the current, where it feels good to just succumb to the pleasure of walking.

Opposite bottom: It's the edge of the pass on the ocean side and the diver is 30 m below the surface with an almost vertical slope which drops around 2000 m…

Right: From right to left: Laurent, Cédric, Tybo and Manuel, along with their extensive equipment (photo by Ron Watkins).

The current can get up to two knots when the tide is at its height, while the camouflage groupers line up facing the current, each week more numerous than before, awaiting the D day for breeding.

The resupply operation went perfectly, at least from my perspective. Later, I will learn that they'd had a pretty frantic time of it on the surface when it came to recovering the equipment, what with the current and the already well ensconced pitch-dark night.

It's nighttime and I have 12 hours of night ahead of me. My buddies will come one after the other, Cédric, then Manu, Antonin and finally Cédric again. In turn, they will each spend three hours keeping me company by hovering 10 m above me with a powerful light. They light up my path and I see it as a great token of friendship. I owe them this magical vision, this indiscreet skylight on the little secrets of nocturnal life.

The fish have changed color. They have truly donned their pajamas, given the incredible difference in their livery from day to nighttime. Hour after hour, I add to my personal bestiary of nocturnal creatures. Nighttime is the kingdom of crustaceans and mollusks. In Polynesia, there are more than 5,000 species. Invisible by day, they wait for dusk to emerge from the bowels of the coral. Cautious, they remain on the threshold. At the slightest glimmer, they plunge back into this overpopulated "crypt" of the coral reef. I have but a brief moment to capture a picture of them as they flee from the light.

The night continues, and I have already roamed 7 km along the reef, a long loop that brings me back to the refueling meeting place for a second time. It is midnight and I await the relief. It's all going well and I'm not cold, but I am impatient. I learned that a diver recently set a record in Egypt by remaining under water for 55 hours, at a depth of 5 m, sitting on the sand near a beach, without moving and connected to bottles on the surface by a long umbilical cable. I actually suspect that he took sleeping pills to make the time pass faster. For my part, I'm trying to extend the time!

NIGHTTIME IS THE KINGDOM OF CRUSTACEANS AND MOLLUSKS.
In Polynesia, there are more than 5,000 species.

Left: This little crab spends its entire life on the back of the holothurian to which it attaches itself with its little pincers.

Right: When night falls, the crustaceans emerge from the bowels of the coral and the slipper lobster sets off in search of its pittance.

Opposite above: Seen from the sky, the sun sets on a small piece of the southern pass of Fakarava, on the lagoon side, where the canyon narrows and the current accelerates, resulting in countless whirlpools on the side of the pass.

Opposite bottom: The little *Periclimenes* shrimp lives on the skin of the cushion starfish. It is found between the quills of the star and the respiratory papulae, which provide both board and lodging.


BLANCPAIN

Midnight, and the groupers have already been asleep for six hours. They are hidden wherever possible, as they are able. There are so many of them that there are not enough crevices in the reef to shelter them all. And the sharks are patrolling. Johann, a shark specialist, has made repeated counts nearly every day since our arrival. He thinks that there are nearly 700 in the pass. The water is electric. During the day, the shark is calm and rests in the current. He knows all too well that the groupers are too quick. The shark awaits his moment after nightfall when the groupers are forced to rest a little. The sharks are no longer in open water. They have come down and swarm along the seabed in their hundreds. Their agitation bothers me, doubtless because I know that tonight I cannot ascend whenever I want. It's stressful but, above all, it's a show. I realize how much their speed is underestimated by day. By night, my gaze can barely keep pace with their spurts of speed. Many of us think we understand the hunting behavior of sharks from mock attacks during chumming sessions using bait. This seems so naïve to me today. It would be like pretending to understand wolves hunting in packs because a dog has been given its food bowl.

Night has fallen and the sharks have left the open water. Currently they are swarming on the bottom to track down the groupers. Because there are too many of them, there is not enough space for them all to hide in the reef.

Yanick has joined me for a few hours with his special slow-motion Phantom camera that is capable of taking 1,000 images a second. A violent and chaotic frenzy explodes before him. But the same scene, when watched in slow motion, will later show us all the efficiency and precision of the sharks' attack. They devour the groupers in hundreds, perhaps in thousands: another factor that further deepens our "grouper mystery". It would appear that the gathering nonetheless works, that this breeding ground is worth it despite the risks, and that the groupers have managed to solve the equation between sacrifice and benefit to their advantage. We are keenly aware that these hunting scenes filmed in slow motion, as well as these photographs that freeze the dazzling speed of the attacks, are all unprecedented images. Like me, my companions are exhilarated. As if we had transgressed a taboo: diving in the pass by night when the sharks are hunting.

During the night, the sharks make contact incessantly. My slightest movement and the slightest ray of light attract them. Initially just one excited representative, then two, then ten, and then they vanish as quickly as they appeared and the carrousel begins all over again. I even recognize individuals, because it is often the same ones that react. All make a beeline for me but although some make contact without ever opening their mouths, most turn around without touching me. In the end, when I get out of the water the next day, I barely notice two or three bruises on my thighs.

It is 6 o'clock in the morning. On earth, we say the day is breaking when, far away on the horizon, the light gradually ascends. Here, the light descends. In the small hours, it filters gently in from above. A dim glow pours blue-tinged water into the inky black depths. It is 6 o'clock and the bells are ringing. At least that is what comes to my mind all of a sudden, at the very moment when the light reappears and I hear whales singing! I unfortunately do not get to see them and maybe they are hundreds of kilometers away, but they sing for us. Who else would it be for after all? I have no idea if one can have goosebumps under a 7-mm-thick wetsuit but that's still what it feels like.

It's time for the final resupply. Sané, the Polynesian who has lived here for twenty years, has come for a little morning visit. With a naughty smile, he proffers the toothpaste tube and a toothbrush. I share his game happily and do the necessary without swallowing a mouthful of water. The night is over, along with much of the stress and I only have nine hours left in which to enjoy the surprises of the southern pass seabed. But it is nevertheless a critical moment: watched by Jean-Marc, I replace 87% of the helium with air. I am not at all dizzy, everything's fine. This operation marks the beginning of my decompression but not the beginning of the ascent. I can remain at 20 m the entire morning.

The sharks have calmed down and the groupers are beginning to stir. Some resume their lethargic swimming, others their hysterical struggles. This morning, after spending a whole night in their presence, they look like survivors to me. Twenty-four hours down here is an opportunity to bear witness to a touching sight and to put together a tragic gallery of portraits,

THEY DEVOUR THE GROUPERS IN HUNDREDS, PERHAPS IN THOUSANDS: *another factor that further deepens our "grouper mystery".*

Above: Around 350 kg of fish are devoured by the sharks every night. How many groupers is that at the end of the breeding season?

Bottom: The groupers are sometimes fairly large and can weigh several kilos, so a gray shark will struggle to swallow it in one bite. The other sharks know and this results in frequent frenzies breaking out because, even if this only lasts a fraction of a second, they all hope to have a piece of the pie.

a collection of gravely injured soldiers, miraculous survivors bearing the stigma of these nocturnal raids. The wounds are deep, with fins and gill covers torn off revealing raw gills. But nothing appears to be able to stop them. Even in their sorry state, they proclaim their determination to reproduce, and challenge each other again and again. Being near them makes me think that the reproductive act here is no longer a reward but a sacrifice. These fish are not the masters of their own destiny, they are slaves to their own instinct.

The current reverses one last time and begins to enter the lagoon, as I let myself be swept along on it. It is almost 3 p.m. and the adventure is nearly over. I have been under water for more than 23 hours. My teeth hurt because of the mouthpiece that has injured my gum, but I feel good. The final minutes are approaching but I am in no hurry for it to be over.

I move closer to the surface once again, and my buddies dive to meet me. By now I am at last really keen to be out of the water. I want to join them, to talk with them, to laugh with them. I already know that in a little while, everyone will have something to say. Around the table, everyone will want to recount every detail of this strange day in their own way, through successive burlesque slapstick-comedy one-man shows serving to disguise our pride. A little later still, we'll undoubtedly raise our glasses in the name of friendship and the sea, while laughing boisterously as a diffident way of digesting these overly painful emotions. In the name of friendship and the sea, I know that our gazes will barely cross, no longer out of modesty but from a sense of caution, because there are certain values that transport you to such heights they make you dizzy if you open your eyes.

A day of rest has gone by since the 24-hour dive. Galvanized by this very recent experience, bonded more strongly than ever by this collective success, my team and I have never sensed such a surge of enthusiasm and solidarity. That's just as well because it's not yet over: the full moon is finally here, the day that the groupers are supposed to reproduce. From the first minutes of this final dive, one thing appears to be obvious: the ecosystem has changed. The fusiliers, a type of tropical sardine, have appeared in their tens of thousands.

Opposite: They are so excited that the sharks jostle, break and reduce whole chunks of the reef to powder when the presence of a grouper becomes apparent, even hidden between the coral.

Group of four photos: In the early morning, the survivors sometimes sport shocking wounds. They are the "broken-faced" survivors of the battles that have raged every night. These scars are proof of the nocturnal raids of the gray sharks.

I have never seen this many since our arrival. They too know that something is going to happen. The groupers' excitement is also unusual, but after weeks of confrontations, a certain spatial organization has set in. This natural work of art is no longer abstract: the canvas now begins to make perfect sense. Firstly, the females in camouflage dress and with their bellies dilated with eggs, either near the seabed or sometimes even resting on it, and just above them the pale gray males, watching over them from above. A male regularly goes down to a female, and begins a parade consisting of delicate tremors and then very fast, he jostles her, always in the same way, by biting her stomach, undoubtedly to induce spawning, a phenomenon that appears to be imminent!

And suddenly, it's all happening! Bands of groupers shoot upwards and the reproduction has well and truly begun, although unfortunately too far away and too fast for us to be able to get a good view of the intimate details. The fusiliers, of which there are more and more, block out the horizon so effectively that it is hard to make out the groupers. The cloud of eggs and semen barely has a chance to appear before the fusiliers rush to swallow the fertile milt.

Pandemonium reigns at the bottom of the pass. The groupers leap here and there, taking off all around us like live fireworks, while the fusiliers are everywhere and the sharks plunge into the fray but re-emerge empty-handed most of the time. The act lasts less than a second and we don't even have time to understand what is happening. Two things however appear certain: it is always a band of a dozen or so groupers that leap from the seabed, never a single couple; and it is anarchy, the laws of survival of the fittest or fastest, that appears to prevail.

And it is precisely that which surprises me. What is the use of fighting for four weeks if the winner is not then entitled to a female all to himself? It's a complete waste of energy! What is the use of coming so early in the season with the risk of being eaten every night if it doesn't offer any form of privilege on breeding day? I don't understand. The "grouper mystery" remains intact. Weeks of fighting, but when it comes to breeding, no rules appear to apply: all the males, winners and vanquished alike, leap towards the female laying her ova and all appear to have the same chance of fecundating her. Only the ocean currents, which blend this fertile soup, will decide who will be paired with whom. Will the happy sire be chosen by fate? I can't believe it. This truly is the crux of the "grouper mystery" and something has definitely escaped us. But how can we possibly have any idea? The mating is so quick, although one can definitely understand the speed factor: to avoid the sharks when they ascend to the open water and also to be the first to fertilize the female's eggs. But perhaps this speed hides another truth from us.

Bottom left and right: On the one hand, the female in camouflage dress and with her stomach dilated by her eggs, and just above, the pale gray male, watching her from above. The male regularly goes down to the female, and begins a parade consisting of delicate tremors and then bites her stomach, undoubtedly to induce spawning.

Opposite top: A yawn, possibly between two battles, which shows the groupers' immense mouth, and the small teeth on its jaws.

Opposite bottom: The groupers face each other down (they have binocular vision which enables them to see reliefs); they can remain face to face for several minutes before actually attempting to bite at such speed that a diver frequently only sees a cloud of torn off scales somersaulting before his mask…

THE FULL MOON IS FINALLY HERE,
the day that the groupers are supposed to reproduce.

Once again, Yanick manages to be in the right place at the right time. He triggers his special camera bang onto a stupendous breeding session, a moment of life lasting but a single second, but a second that will later become 40 seconds with the magic of slow motion. And in slow motion, everything becomes clear: it is obvious that in fact just one single male starts the round with the female, holding her body to body as long as he can. Admittedly, he hasn't earned exclusive rights, only a chance to be first in line, because the other males are already converging on the couple. This privileged being is the dominant male whose status is the hard-won prize after four weeks of bitter battles. And he enjoys only the benefit of this short lead that enables him to sate himself before the other opportunistic males take their chances by inundating the stage with their semen, but a microsecond too late.

This only happens on one day a year and it's today: the groupers leap from the bottom to breed. The female has laid her eggs and she is already on her way back down when an entire group of opportunistic males take their chances and inundate the scene with their semen.

So that was the key to understanding the "grouper mystery": a chance to observe the inner workings for a fraction of a second and discover, thanks to slow motion, the existence of a respected if fleeting hierarchy, evidence of a meticulous organization, albeit invisible to the naked eye. I spent 24 hours under water when in fact everything became clear in a fraction of a second! I like to think it was necessary, that one should take time if one wishes to capture the moment.

We have naturally not yet grasped everything. How could one even profess to, with an event that can be observed only once a year? Only one thing is certain, and that is that each year from now on, when it is full moon, we will also want to return. Starting next year, and then in ten, twenty and forty years' time. Because in these biodiversity hotspots, ecological studies only make sense if they are repeated and continued from year to year. The stats collected during this expedition will only have any value if they are compared with future figures. Seven hundred gray sharks, 18,000 groupers, but how many will there be in twenty years? The southern pass of Fakarava is classified by UNESCO as part of a biosphere reserve, but will it nevertheless escape the ecological crises of the 21st century? In the other big atolls of Polynesia, these annual gatherings of groupers also existed in the past. Today, they have all disappeared. •

Left: The count in 2014 revealed a number totaling 18,000 groupers. In 2015, Laurent returned to the location and there appeared to be even more. In 2016, the entire team will attempt a new expedition and who knows how many groupers will be there this time?

Right: Laurent exiting the 24-hour dive.

It is the Fifty Fathoms, the first modern diving watch, which established Blancpain's intimate connection to the ocean. This timepiece earned its place as one of the key developments in the overall history of scuba diving and ocean exploration. Its prominence in the opening up of the underwater world established ties between Blancpain and leading scientists, underwater pioneers, environmentalists, underwater photographers and others who have dedicated their lives to the ocean.

From these ties, Blancpain has come to understand the critical importance of preserving and protecting the world's oceans.

And Blancpain has become a fervent supporter of ocean protection initiatives.

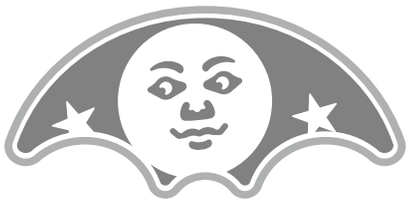
We call our efforts in furtherance of this cause the "Blancpain Ocean Commitment" and this commitment has been manifest through our backing of and partnerships with leading organizations and their projects, including Laurent Ballesta's Gombessa Expeditions. Blancpain is proud to have sponsored both of the Gombessa Expeditions which have produced the dramatic findings chronicled in issues of *Lettres du Brassus.*

TEXT: JEFFREY S. KINGSTON

The phase OF THE MOON

A symbol of Blancpain.

In religion, in calendars and in daily life the PHASE OF THE MOON HAS PLAYED A VITAL ROLE.



There are two orbs that dominate the sky. In order of importance, one of them hugely surpasses the other. Indeed, without this one, life would not exist; as for the other, certainly there would be an altered state of affairs, but the planet would survive. Yet oddly over the millennia, it is the less important of these two celestial objects that has been the more studied by amateurs. Of course, that object is the moon. This is not to say that we have our priorities turned topsy-turvy, as owing to the searing intensity of its light that forbids close study with the naked eye, the sun hardly presents itself as readily as the moon as an object for gazing and contemplation.

Indeed, lending itself so openly to imagination of ancient peoples, some cultures, notably in Mesopotamia, India, and Egypt favored the moon over the sun. Others adopted the moon as a core element of their religion. Naturally, with its constantly repeating progression of phases, the moon has featured prominently in calendars. For thousands of years, and still today, the Chinese calendar is based upon the cycles of the moon. So accustomed are Westerners to the Gregorian calendar, promulgated by Pope Gregory XIII which is based upon the sun, it is forgotten that in earlier times it was the moon that played a key role in western calendar calculations. For example, the Julian calendar adopted by Julius Caesar was based on both the sun and the moon. Prior to that the Roman calendar constructed each month in accordance with the moon, with each phase representing a monthly division. Reaching further back, the ancient Greeks modeled their calendar solely upon the moon, with each month commencing with the new moon and featuring a holiday with every full moon.

Beyond religion and calendars, the phases of the moon have played an important part of daily life. Before modern lighting systems, the full moon, lighting the sky twenty-five times more brightly than, for example, a quarter moon, was favored for nighttime work by farmers who were able to continue their daytime work into the evening. Hence, the origin of the phrase "harvest moon". Even more broadly beyond agriculture, the ability to prolong activity into the evening under the light of the full moon gave rise to the expression "moonlighting" which is now generally applied to any supplementary work activity.

Knowing the phases of the moon has also played an important role militarily. Julius Caesar favored beginning his attacks under the darkened sky of the new moon, hoping that the darkness would confuse and disorient the enemy. The opposite philosophy guided General Eisenhower in the planning of D day. He selected the day proximate to a full moon needing the extra light to aid paratroopers and glider pilots who were to be dropped behind the lines on the evening before the landings in Normandy.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Against this backdrop it is not surprising that, nearly from the outset of the construction of the first timepieces, depiction of moon phases was adopted as a central element. The oldest mechanized device depicting moon phases is thought to have been built by Archimedes, earlier than 200 B.C. Although the device itself no longer exists, references to it do. Cicero's *De Republica* discusses globes taken as booty upon Marcus Claudius Marcellus' capture of Syracuse. Two globes in fact were seized. One placed in the temple of Vesta, the other, spoil of the battle, kept by Marcellus himself. According to the written descriptions, these spherical machines showed the waxing and waning of the moon.

From the OUTSET OF THE CONSTRUCTION OF EARLY TIMEPIECES*, depiction of moon phases has been adopted as a central element.*

More sophisticated still is the famous Antikythera machine. Fragments of this device, which sank while on board a ship making its way from Rhodes to Rome between 80 and 50 B.C., were discovered in 1901. Now that the modern techniques have been brought to bear in its study, it has become clear that this was a remarkably sophisticated device equipped with a complex gearing system. Not only did it calculate both sidereal and synodic months (sidereal month being defined in reference to a distant star; synodic month defined in reference to the moon), but engravings which appear to be a form of dial contain indications for the phases of the moon and, even more astonishingly, the times of moonrise and moonset.

The next jump in progress moves to Islamic clockmakers working in the 12th century. Clockmaker al-Jazari is said to have constructed a water clock featuring a moon ring with twenty-eight equally spaced holes formed to represent the phases of the moon. Far from autonomous in operation, the clock required a custodian manually to move the moon ring so that the correct phase would be shown. Curiously, at night, a lamp was lit behind the disk so that the display would correspond to the real moon in the night sky.

The DISPLAY *of the moon phase with a window and disk* DATES TO 1221.

A closer precursor to moon phase clocks came in 1221 with the astrolabe of Muhammad ibn Abi Bakr al-Ibari of Isfahan. A complex gear train, in many ways resembling modern constructions with its combinations of wheels and pinions, not only enabled indications of the moon's phase and age, but a representation of the relative positions of the sun and the moon. This geared system and its display disks became the model that endured for centuries in clock designs and, as we shall see, much more. What is particularly noteworthy is that at the back of the clock al-Ibari placed an aperture or window behind which was a rotating disk upon which were placed two dark disks opposite each other. As the disk rotated behind the window, the phase of the moon would wax and wane. The representation of the new moon occurred when the entirety of a dark disk was directly behind the window; for a full moon, the light portion of the disk would be positioned behind. This should strike a familiar ring to watch aficionados, as similar rotating disks behind a window have become the classic way of presenting the phases of the moon in modern wristwatches, including Blancpain's.

Of course, before appearing in wristwatches, al-Ibari's display became standard for many clocks and later, with the appearance of pocket watches, for those as well. What is remarkable is that moon phase displays made their way into the very earliest pocket watches. Keep in mind that these primitive first efforts at providing portable time keeping came before the invention of the balance wheel. Thus, these watches were wildly inaccurate as they lacked a precise means of regulating the unwinding of the spring that powered them. Nonetheless, including a moon phase complication was seen as important and was far from rare.

Later, of course, after Dutch mathematician Huygens's invention of the balance wheel in 1675, which, for the first time, opened up the possibilities to invent escapement systems for accurate timekeeping, moon phase indications joined with other complications to bring interest to the now fully useful timepieces.

Centuries later, the display of the phase of the moon was to play a critical role in horology. In the 1970s, the entirety of the Swiss watchmaking industry had been thrown into crisis. The consumer market became flooded with inexpensive and, it must be said, highly accurate quartz watches. The initial response across the broad expanse of the industry was to dumb down the offerings of mechanical timepieces. In a futile effort to compete with the low cost of quartz watches, Swiss companies stripped away complications from their mechanical watches. However much this removal of complications may have lowered cost, it was a game that mechanical watch houses could not win. No matter what was done, quartz would always be cheaper. One by one, Swiss manufacturers disappeared or sought survival through consolidation.

The 1221 astrolabe.


صنعة علي بن ابي بكر بن محمد الرشدي
الاسرى الاصفهاني
يوم التيرز يجتمعان
يوم الاجتماع ويقابلان
يوم الاستقبال



When modern Blancpain emerged in the 1980s, it had a different idea. Rather than competing with inexpensive quartz watches in that segment of the market, Blancpain wanted to demonstrate that a fine mechanical timepiece was something different. It was a rare piece of mechanical art that carried with it beautiful handcraft and centuries of watchmaking tradition. What better way emphatically to make that statement than with a watch offering a display of the moon? Thus, Blancpain, instead of cheapening its Vallée de Joux watchmaking, enrichened it when it introduced its first moon phase watch in 1983. The romance of the display, recalling the rich history of clocks, pocket watches and earlier wristwatches, not only launched modern Blancpain to prominence, it taught other watch houses what they needed to do to combat quartz. The moon phase became the winning formula which allowed mechanical watchmakers to say that a prestige mechanical watch was not at all the same thing as a quartz watch. More than that, Blancpain had shown that no quartz watch could ever be a substitute for a finely made handcrafted timepiece.

Since that pivotal 1983 debut, the moon phase complication has become a symbol or, said another way, a signature of Blancpain. The devotion of the house to the moon has led it to feature the moon phase in more varieties of timepieces than any other watch house. Naturally, the style of that first model, with a moon phase window at 6 o'clock, day of the week and month in small windows, and date shown with a supplemental hand, has, without interruption, been a fixture in Blancpain's collections.

There have been many milestones in the evolution of Blancpain timepieces featuring its emblematic and now iconic display:

- increases in the power reserve from 40 to 48 hours;
- the introduction of a 100 hour power reserve model, including the much sought after limited edition half-hunter case version;
- the rare collectible anniversary edition from 2003 with its specially hand carved "man in the moon" winding rotor;
- the first wristwatch in the world offering correctors under the lugs allowing setting of all indications with one's finger tips while at the same time removing correctors from the side of the watch to achieve a stylish clean profile;
- the introduction of the moon phase to Blancpain's Women collection;
- with the debut of the L-evolution collection, the first complete calendar/moon phase watch achieving an eight day power reserve and a secure calendar/moon phase mechanism protected from breakage if the owner were to adjust the watch during the changing hours of the mechanism;

Above left: Blancpain's 1983 complete calendar/moon phase.

Above center: The 2003 anniversary complete calendar limited edition.

Above right: L-evolution Quantième Complet 8 Jours.

Opposite: Blancpain Women Quantième Complet.


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THI
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BLANCPAIN
8 Jours
SWISS MADE

· the first diving watch with complete calendar / moon phase indication in the Fifty Fathoms collection;
· today's Villeret model, offering all three of the latest innovations—eight day power reserve, correctors under the lugs, and secure calendar/moon phase mechanism.

Many additional technical improvements have been showered upon the movement over this more than three decade evolution. The balance wheels are now free sprung, with gold regulation screws and equipped with silicium spirals to offer better rate keeping and protection from magnetism. The eight day power reserve models have been designed with three main spring barrels.

Although the progression of models of the now classic complete calendar/moon phase display is important, so, too, is the appearance of the moon phase with other complications. In today's collections, Blancpain offers the moon phase with a variety of perpetual calendar models. These include in the Villeret collection both the Quantième Perpétuel 8 Jours and the Quantième Perpétuel. Formerly, Blancpain in the Le Brassus collection featured the Quantième Perpétuel Chronographe Flyback à Rattrapante.

Two complicated calendar/moon phase models merit special attention; both are world firsts and remain Blancpain exclusives. The first is the Villeret Équation du Temps Marchante. Not only does this feature a perpetual calendar with moon phase, but when it debuted in the Le Brassus collection it was the first wristwatch in history to be equipped with a running indication of solar time *(équation du temps marchante)*. The moon phase for this timepiece is unusual in Blancpain's collections, in that in place of the classic window with the rotating moon disk behind, the Villeret Équation du Temps Marchante depicts the moon with a retrograde hand pointing to disks upon the dial representing the full moon, new moon and the quarters. Not only when this watch debuted in 2004 was it a world first, it remains exclusive as no other wristwatch today combines these same complications.

At left: Villeret Quantième Complet 8 Jours.

At right: Villeret Quantième Perpétuel 8 Jours.

At far right: Le Brassus Équation du Temps Marchante.

There are moon phase timepieces
THAT ARE EXCLUSIVE TO BLANCPAIN.

The second Blancpain exclusive piece is its Villeret Calendrier Chinois Traditionnel. As with the Équation du Temps Marchante, this, too, was a world first upon its introduction. Exceedingly complex, the Chinese calendar's movement combines both Chinese and western calendar indications. The Chinese indications include the zodiac, month, leap month, year, stem yin/yang, and Chinese hours. On the western side are indications of date and, of course, moon phase. Five hidden correctors have been fitted under the lugs and under the case back for the setting of calendar, which far exceeds a perpetual in its complexity.

There is a third timepiece unique to Blancpain, the Carrousel Volant Une Minute. Initially developed by a Danish watchmaker, Bahne Bonniksen, the carrousel in pocket watches like the tourbillon compensated for rate errors for watches in a vertical position. Hugely successful when introduced, carrousel equipped watches dominated timing competitions, besting the tourbillons of the day. Tragically, the know-how to construct them disappeared until Blancpain revived it in 2008. With a date and moon phase indication, the Villeret Carrousel Phases de Lune is the only moon phase watch in the world with a carrousel.

There is one other important Blancpain moon phase watch to single out: the 1735. Although this limited series of 30 pieces has long since been sold out, it was the most complicated automatic winding wristwatch in the world while it was offered. Housed within its platinum case were a perpetual calendar with moon phase, minute repeater, split seconds chronograph and tourbillon.

The breadth and depth of this range of Blancpain moon phase timepieces is unmatched. But with the key role that the moon phase played in the revival of Blancpain and the remainder of the Swiss watchmaking industry it is only natural that this intriguing and beautiful complication remains center stage at Blancpain. •

Above left: Villeret Carrousel Phases de Lune.

Above right: The 1735.

Opposite: Villeret Calendrier Chinois Traditionnel.


BLANCPAIN
SWISS MADE

TEXT: JEFFREY S. KINGSTON

JOËL ROBUCHON

The most celebrated chef of our time.

The Michelin verdict: 25 STARS *and counting!*

Is it possible in an authoritative creditable way to nominate *one* chef as the most acclaimed in the world? Banish all thoughts of reference to the preposterous and amateurish list hawked by a sparkling water company of the "World's 50 Best Restaurants", for it is a survey that does not even verify, much less require, that the nonprofessional voters in its compilation have *actually* eaten at the establishments being rated. Look instead to the Guide Michelin and Gault&Millau. Michelin, which has been at it since 1900, with its star rating system dating from 1926, and with a rigor prized by its readers and feared by restaurateurs, justifiably has no peer. For the top restaurants, those which would vie for the prized crown of three stars, inspectors visit anonymously and multiple times each year. As a testament to its integrity and impartiality, Michelin, in the forming of its yearly judgments, famously proclaims, *"ni piston, ni pot-de-vin"*, which translates to immunity from both pressure and bribes. Gault&Millau's inspection system does not boast the famous secrecy of the Michelin clandestine visits. Nonetheless, its reviewers are both thoroughly professional and experienced. Both of these authoritative institutions have coalesced in their opinions around a single person as the most important *cuisinier* in the world. From the Guide Michelin, a total of 25 Michelin stars have been bestowed upon his restaurants around the globe (and the newest restaurant in Bordeaux has opened too recently to have been awarded stars by Michelin), vastly more than any other chef. Looking at Gault&Millau, he has received both the highest number of points that Gault&Millau awards in France, 19 out of 20 (and previously 19.5 out of 20, before the decision was made to limit the top possible score to 19), and been awarded the title of "Cuisinier of the Century". Taking these distinctions together, the name of Joël Robuchon clearly emerges as the most honored chef of our time.


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BLANCPAIN
Joël Robuchon

Robuchon now has TWO STYLES *of restaurants, the Ateliers and the grand restaurants.*

Robuchon arguably has had two careers. The first was completely conventional, culminating with his 1984 garnering of three stars for his intimate restaurant Jamin located in Paris' chic 16th arrondissement. "Conventional", that is, if you consider that he rose to that lofty perch in but three years and at the age of 39, both records in the history of Michelin ratings. With his characteristic humility, Robuchon remarking at the time over his twin records—fastest to three stars and youngest chef so recognized—noted, "Receiving three stars does not mean I am worth it—it only means I have the right to prove it." Ten years later, he moved to larger quarters on Avenue Raymond-Poincaré in Paris, changing the name of the restaurant to "Joël Robuchon".

He was not to stay long on Raymond-Poincaré. Two years later, in 1996, he closed. Asked about his decision coming at the then peak of his fame, Robuchon wistfully muses that until that point he was working so intensely, particularly in the winter months, that "he never got to see the snow in the Alps".

Although he kept himself well occupied on French TV starring in *Cuisinez comme un grand chef* (Cook like a Grand Chef), he was largely removed from the restaurant world until 2003, when he began his second major career. Approached by his friends and colleagues pleading for him to re-exercise his talents in a restaurant, Robuchon was persuaded to re-enter that world supported with teams of grand chefs. He would not be permanently attached to any single restaurant on a daily basis as he had been in his first career, but would be the creative force and inspiration for the restaurants. Along with this new way of working, Robuchon designed an entirely new restaurant concept called L'Atelier de Joël Robuchon (The Joël Robuchon Workshop). Instead of the grand restaurant format which propelled him to stardom with Jamin and Joël Robuchon during the 1980s and 1990s, L'Atelier would offer more informal surroundings with open kitchens, relaxed service, and, most radically of all, counter seating. The cuisine, however, would feature many of the dishes that built his legend. Said another way, this format placed the food first, with ceremony largely removed.

The first two Atelier restaurants opened in 2003, one in Tokyo and the other just off Rue du Bac in the 7th arrondissement on Paris' Left Bank. As he puts it, after he opened these first two, "he just kept going" so that since then, Atelier doors have welcomed foodies around the globe: a second location in Paris near the Étoile, London, Hong Kong, Taipei, Las Vegas, Singapore…

La betterave, en duo d'avocat, aux pousses de salades amères, sorbet à la moutarde verte.

Having initially foresworn the grand restaurant style when he commenced this second chapter of his career, he has allowed for some exceptions. Robuchon refers to these in conversation as "gastronomic" and presides over them in Las Vegas, Tokyo, Macau, Hong Kong and, the most recent addition, La Grande Maison in Bordeaux.

Naturally the question presents itself: how can he possibly preside over an empire this imposing and geographically dispersed? The answer is fourfold. First, of course, he selects a chef for each with the talent and skill to master his recipes and the fortitude to lead the staff. Second, he has assembled a team of five, certainly beloved by the airlines, who travel permanently from city to city supervising and quality controlling each restaurant. Then, on top of all that, Robuchon himself travels incessantly to each of his locations, not only to ensure the excellence of each, but to assist in the selection of local providers.

There is, however, one constant that towers over all of the others, Robuchon's bottomless devotion and loyalty to the key members of his team, which is steadfastly returned by them. Examples: Chef Éric Bouchenoire, "Un des Meilleurs Ouvriers de France" in his own right (a distinction that few chefs ever achieve which is always marked by a tricolor collar on the chef's blouson which only a "Meilleur Ouvrier" is entitled to wear) and seeking no time in the limelight for himself, has been at Robuchon's side for over twenty years, or Philippe Braun whose association dates back to the Jamin era and who returned to rejoin Robuchon in 2003 as the second chapter began, or Tomonori Danzaki, now the chef at La Grande Maison in Bordeaux, who began his career with Robuchon in Tokyo and followed him to Las Vegas and Singapore.

Of course, there is a degree of flexibility among the outposts to account not only for local tastes, but even more importantly local ingredients. For example, whereas giblets and rabbit are both adored in France, there are so few partisans in the US that they are not included on the Las Vegas menus. What is replicated worldwide is Robuchon's cooking philosophy. In the more than three decades that yours truly has been following his career (and yes, we were fortunate to have experienced Jamin in Paris in the late fall of 1983, just a few months before Michelin announced his third star), he has steadfastly hewn to the course of freshness, purity, intensity of flavor and absence of artifice. Some of his creations from Jamin endure; devotees would take to the streets with pickaxes and flaming torches if his famous and unrivaled *purée de pommes de terre* were to one day disappear from any menu. Yet, ever faithful to his credos, he continues to innovate; *Filets de maquereaux grillés au curcuma et à la coriandre fraîche* or a coconut tandoori sauce napping a *saint-pierre* that would not have been seen earlier in his career both made debuts on current cards.

One constant, ROBUCHON'S DEVOTION TO HIS TEAM.

Above: *Caviar en surprise sur araignée de mer et une infusion de corail anisée.*

Below: *Le homard aux fines lamelles de daïkon en aigre-doux au romarin.*

L'Atelier de Joël Robuchon, Paris, 7th arrondissement
This Atelier pioneered the style and ambiance for those that have followed. The black color palate, punctuated by red leather stools and accents, an open kitchen, flanked by counters on three sides, waiters clad in black blouson set a contemporary vibe. Emphasizing the casual atmosphere, plates are served from the backside of the counter in front of each guest rather than, as tradition dictates, from the back of the diners, and, if shared, are placed on a facing upper level of the counter. With the distance barriers of separate tables removed, conversations among groups and, yes, leers at plates "next door" spontaneously break out around the room. If you are inclined to think of this as somewhat of a shared foodie community or, perhaps, a western interpretation of the ambiance of a Japanese sushi bar, you would not be too far off the mark.

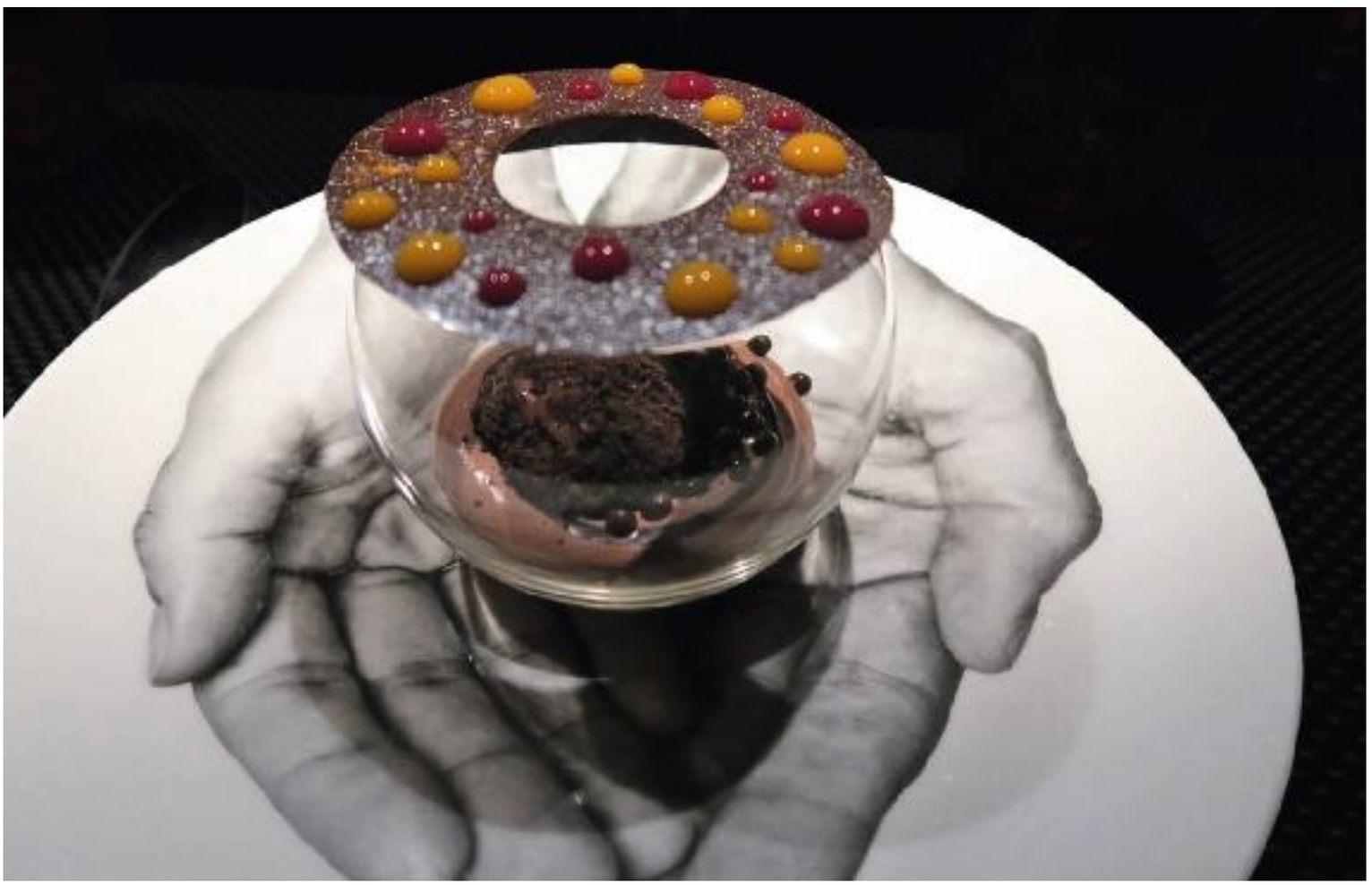
Today, Robuchon has installed young chef Axel Manes to lead the Left Bank brigade.

A recent visit began with glasses of champagne served with a platter of nearly transparent beef carpaccio finished with a sheen of delicate olive oil. Visually and sensually it masqueraded as a plate of Iberian ham, but vastly more subtle and understated. Spice was served alongside with a plate of ethereally light and crisp green pepper tempura with *piment d'Espelette.*

Sharing continued as a first course of *ceviche de dorade*. Accented with chives, lime juice and zest, and punctuated with *piment d'Espelette*, it hit the bull's-eye of rusticity and refinement at the same time. Magically, each bite vaporized on the palate without a trace of the mushiness that sadly infects lesser ceviches.

Robuchon's Ateliers bring
a MODERN VIBE.

The Atelier in Paris'
7th arrondissement.



Atmosphere informal, SOPHISTICATION ON THE PLATE.

Individual plates followed. First was *Asperges vertes de Cavaillon, jambon ibérique, parmesan, sauce mousseline.* This was an utterly classic pairing executed with millimetric precision and sparklingly magnificent ingredients. Riveting with the smokiness of the ham offsetting the sweet asparagus, it offered vivid proof of the virtues of exquisitely selected ingredients, simple preparation without artifice, and perfection in all details of execution.

As it was spring, morels were the next to take the stage with *Cannelloni végétaux, sauce au vin jaune.* These were cannelloni with a *farce* of celery root and morels. The pasta and celery root were perfect foils for the morels, propelling the earthiness forward.

Saint-pierre followed with an iridescent coconut tandoori infused sauce. There is always a bit of contradiction in the conception of a *saint-pierre* dish. On the one hand, the delicately flavored fish begs for an assertive sauce to bring it interest, but, on the other hand, not one that will completely mask it. Again, Robuchon found the balance. Tandoori, that can overwhelm if done without deftness, instead was there to bring a smoky highlight to seared white fish.

The meat course was grilled beef served with a rich red wine *glace de viande* sauce and shallot foam. It was the shallot foam that elevated this classic preparation above the usual genre.

High theater marked the principal dessert. The service plate was a *trompe-l'œil* with a photo of two hands appearing to bear the glass globe poised upon it. The glass globe was a cornucopia of different chocolate savors and textures: chocolate passion fruit/raspberry crisp, malt balls, salty chocolate powder, chocolate mousse. This was a work of genius. Counsel was given to eat these different declinations of chocolate together. Magic.

One last surprise awaited. *Petits-fours* included small wedges of *tarte vaudoise.* This is a classic Swiss tart, rarely seen outside of the country, that hails from Blancpain's home Canton de Vaud. It features a highly reduced cream filling flavored with cinnamon. Robuchon's execution was perfect.

Above left: *Asperges vertes de Cavaillon, jambon ibérique, parmesan, sauce mousseline.*

Below left: *Le chocolat tentation.*

Above right: *Saint-Pierre.*

La Grande Maison, Bordeaux

This newest gastronomic restaurant opened in December 2014. Almost immediately it has become a sensation, with overflowing reservation books requiring two months advance reservation to secure a coveted place. Set within a lovingly restored former residence, its luxuriously separated tables, high ceilings, floral drapes, Baccarat crystal chandeliers, gilt framed mirrors, and, in another room, bookshelf lined walls with leather bound volumes, all breathe classic French grandeur.

Both a preset tasting menu or individually composed menus chosen from the card are offered.

One of Robuchon's grand classics heralds the start of the tasting menu parade, *Caviar en surprise sur araignée de mer et une infusion de corail anisée.* Here Robuchon poised a generous disk of *caviar d'Aquitaine* completely concealing delicate spider crab beneath. Surrounding the disk was nothing less than a mesmerizing work of modern art. Upon an intensely flavored bed of *gelée* of crab were miniature dots of cauliflower, each decorated with a nearly microscopic green dot. It seemed tragic, spoon poised above, to destroy the composition. But destroy we did and with gusto. Different dimensions of this preparation's perfection emerge with every spoonful: the interplay of the sweet crab with the salty caviar, the depth and remarkable power of the *gelée*, the subtle earthiness of the cauliflower dots. Even with an armada of following plates waiting in the wings, the temptation was to terminate the proceedings at that point and indulge in several replenishments.

A paradox: why is it that notwithstanding Herculean the efforts expended to find boutique farms growing sparklingly perfect produce, the grander the restaurant, the fewer the vegetables evidenced on the plates? Garnishes, yes. Accents, yes. But center pieces, increasingly rare. Robuchon is not of that school.

La Grande Maison.

La Grande Maison proposes several plates with vegetables squarely in the limelight. Examples: *La betterave, en duo d'avocat, aux pousses de salades amères, sorbet à la moutarde verte.* Balanced, subtle and harmonious, each forkful revealed an intriguing interplay between sweet, earth, grass and spice. Equally show stopping, *L'artichaut, rôti sur une purée onctueuse, voilé d'un cappuccino de pois chiches au curcuma et à la coriandre fraîche*. Roasting concentrated and sweetened the sections of artichoke heart, all wrapped in the velvet of the purée. The chickpea foam, enrichened with abundant saffron and accented by the smoky curcuma (a type of turmeric), deepened and ennobled the plate.

Two shellfish preparations were standouts. *Le homard aux fines lamelles de daïkon en aigre-doux au romarin.* The appearance of the cooked, until just translucent lobster, sheathed in transparent daikon was of a raviolo. Plainly marinated, the daikon lent sweet notes harmonizing with the lobster, both bathed in a shell stock based sauce. *Les écrevisses dans un bouillon léger aux morilles dans un navet nouveau farci.* Crayfish are delicate and too often overwhelmed in their pairings. Robuchon steered clear of this peril with a crayfish bouillon hinting of the morels and whipped into a foam. Rather than obscured, fragile flavors were concentrated. The sweet turnip served as the bowl to hold it all and offered a sweet counterpoint. Perfect.

A nod toward the Far East with *Le bar de ligne cuit en côtelette, petites feuilles d'épinards ravigotées au poivre noir de Malabar.* Formed into a cylinder, wrapped in its naturally black and crispy skin, the appearance was not unlike a sushi roll, the thought not dispelled at all with a leaf of baby bok choy poised as a sail atop. The eastern flair continued with the deep rich sauce redolent of soy and bringing slightly sweet and smoky notes.

La Grande Maison BREATHES FRENCH GRANDEUR.

A SHOW STOPPER *main course.*

The main course was a show stopper. *Pintade fermière et foie gras rôti, pommes de terre confites au jus gras.* The perfectly bronzed glistening guinea fowl, regal in size, was presented then carved tableside. In every single dimension this guinea fowl defined the genre. Crackling skin, rich savory meat offering just enough chew to show that, far from being caged, this bird had been given abundant freedom to roam, laced with a concentrated *jus* and served with a generous portion of roasted foie gras, here was a dish to inspire revelry for devotees of game. And, so as not to disappoint Robuchon followers, both roast potatoes and his legendary purée were served alongside.

La Grande Maison revives one of the past glories of fine dining, a dessert trolley groaning with seasonal fruits, tarts, chocolates and mousses. Guests are invited to chose as their hearts and appetites allow. From the cart, a recent spring offering of a strawberry-rhubarb tart with a thin layer of pistachio between the fruit and the pastry was a reference point for the genre. Desserts are offered on the menu as well such as *Le citron, crème légère au mascarpone, sorbet au basilic* packing an astonishing punch of citrus de Menton flavor, moderated by the mascarpone but followed by an explosion of spice from the sorbet. Another standout, *La perle de sucre aux fruits exotiques, granité Royal Ambré, légèreté à la noix de coco* which featured a featherlight ensemble of passion fruit, rum granita, and a cloud like coconut mousse, all meant to be eaten together in each spoonful.

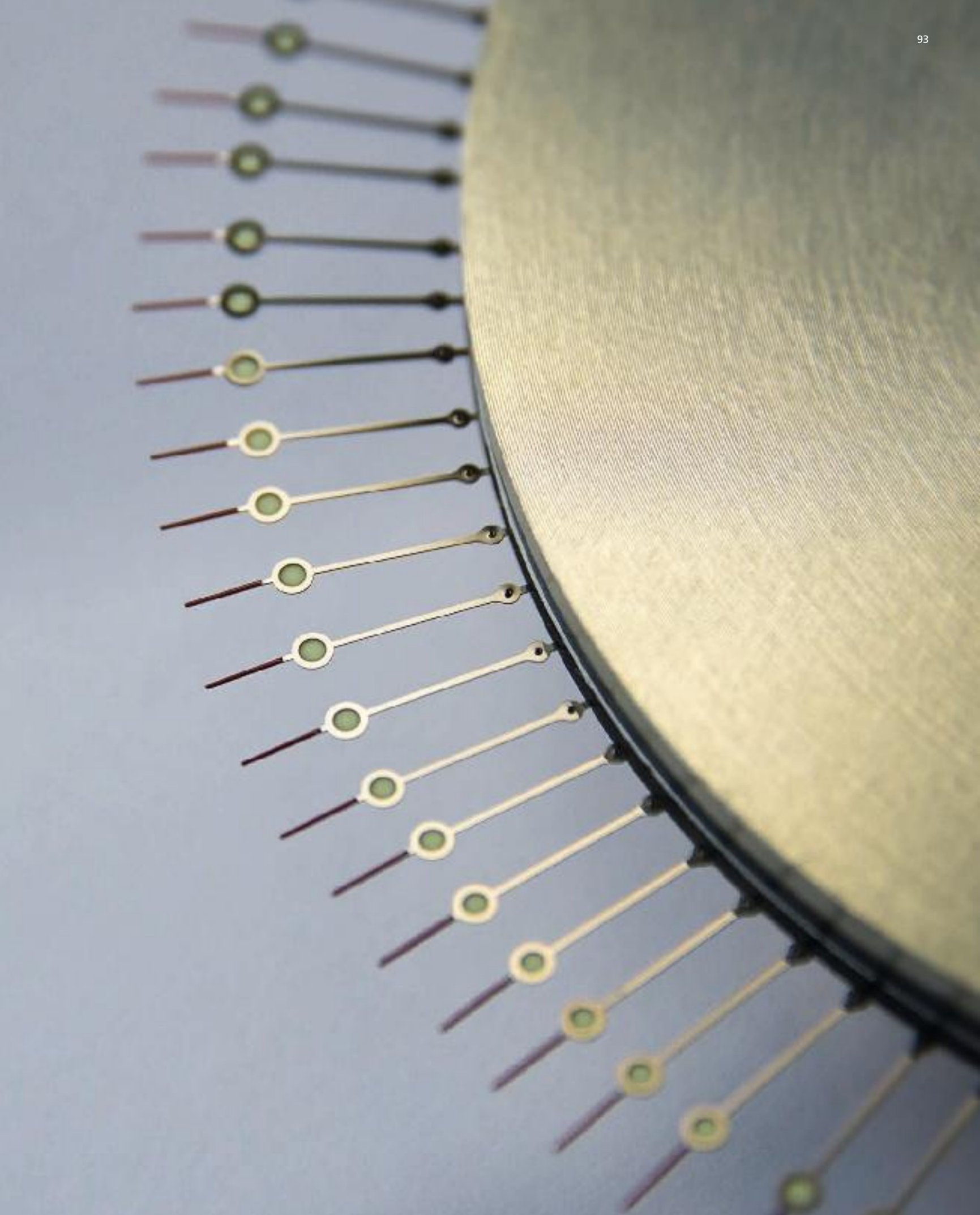
In many ways, Robuchon is the Mick Jagger of grand cuisine. As Jagger, at the age of 72, improbably still seems at the peak of his powers, Robuchon's energy and creativity seem inexhaustible. It would be a remarkable achievement to have created two different styles of restaurants of the quality of his Ateliers and gastronomic houses next door to each other in the same city. It is astonishing to do so across the globe all the while accumulating verdicts of stars and unwavering acclaim from the most discriminating of all inspectors, those from the Guide Michelin. •

Pintade fermière et foie gras rôti, pommes de terre confites au jus gras.

TEXT: JEFFREY S. KINGSTON

HANDS

Delicate, diverse and demandingly precise.




BLANCPAIN
JAN
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MAY
JUL
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+15
0
-15

As a connoisseur of fine timepieces, have you ever inspected watch hands? Inspected…*really inspected?* Beyond gazing. Beyond looking. Instead, preferably armed with a loop, doing a deep dive to extract every fine detail of form and finishing. If you take the plunge, either during your submersion or afterwards when you once again regain the surface, several thoughts no doubt will plant themselves in your consciousness. First the insight, "even a seemingly simple straight hand is actually not so simple after all, as it, with study, reveals subtly complex forms and details", likely swiftly followed by the question, "just how can these impossibly small, complex, and delicate objects ever be made?" It was precisely that immersion and subsequent surfacing that lay behind a trip to Universo in La Chaux-de-Fonds to learn the secrets behind the multitude of Blancpain hand styles.

It probably is no surprise to learn that the production of hands is one of watchmaking's grand specialties. The historical roots of this craft led to a proliferation of very small workshops dispersed throughout Switzerland, each one serving the particular needs of the watch workshops located nearby. Today's Universo, a member of the same group as Blancpain and the source of all of Blancpain's hands, was formed more than a century ago from the merger of no less than fifteen such small workshops. Over time, yet further consolidation took place with eight more small ateliers joining in 1924. By the 1940s, forty miniature manufacturing sites had merged in or been closed in the process of consolidation. By 1949, which saw the opening of a new atelier in Vallorbe (just outside of the Vallée de Joux), Universo had coalesced into twelve different, geographically dispersed production sites. Thus, although legally unified and, from the point of view of administration and finance consolidated, in practice these were all nearly independent workshops operating separately from one another. In one important sense, this nearly autonomous way of operating in dispersed shops reflected the historical artisanal roots of this craft aimed at meeting the unique demands from each watch manufacturer to have its own distinct hand styles. Just as one surveying the universe of watches can't help but remark upon this enormous diversity of hands, not only in style but in quality as well, operating separately well served the purpose of permitting that diversity to flourish.

The production of hands is one of
WATCHMAKING'S GRAND SPECIALTIES.

A single watch, the Villeret Équation du Temps Marchante with five distinct hand styles.

The demand for DIVERSE STYLES
is greater today than ever before.

Certainly, not only does the demand for diverse styles continue, if anything it is greater today than ever before. In Blancpain's case, six different collections, each with its own signature style, are offered. Then, recall that that when modern Blancpain emerged in the 1980s there was but one single collection with but one style. However, the range is far broader than suggested by the number of collections, as within a single collection, there can be wide design differences. For example, within the Fifty Fathoms collection, the hands of the Bathyscaphe models have their own separate identity distinct from core Fifty Fathoms models. Even then, within the Bathyscaphe subcollection there are some remarkable distinctions between the hands for the ceramic case models and those for the steel. And carrying matters further, a single watch may incorporate a variety of different shapes and colors such as the Villeret Quantième Perpétuel 8 Jours with leaf hour and minute hands, blue small counter hands, and small contrasting counter hands. So although today Universo may have succeeded in conquering its dispersion of small workshops, bringing the manufacture under one roof, it has done so in a way to perpetuate its origins in being able to respond the requirements for a multitude of radically disparate shapes and styles. What this means is that Universo within its walls is home to a vast range of methods and processes which it calls upon depending upon the design of each particular hand.

Banish all thought that a day spent in La Chaux-de-Fonds yielded the secret process or recipe to make the hands for Blancpain. It's that diversity at work again, because for even a single watch, much less those found in different collections, a full repertoire of processes are brought to bear, varying according to the specifics of each hand.

A few basics to understand hand making fundamentals. Most watch hands are constructed as a single

The shaping of hands with a stamping tool.

piece referred to as a *planche* (plate). The *planche* can be thought of as being comprised of two principal elements: the *tête* (head) which includes a small hole outfitted with a *canon* (small grip) which attaches the hand solidly to the axis supporting it in the watch and the *corps* (body) which is its arm ending in the *point*. Some hands such as large seconds or chronograph seconds have a more complicated form as they incorporate a counterweight placed opposite the *corps*.

For the hour and minute hands, fabrication begins with the hole and the *canon*. According to the length of the hand, specifications and tolerances are defined for its later attachment to its axis. Proper attachment will depend upon the precision of the hole and *canon* created through the stamping of the *planche*.

For other hands that require a deeper *canon*, the hole is hand drilled and the *canon*, thereafter, hand riveted in place. Deeper *canons* are particularly essential for long hands that move rapidly such as large seconds or chronograph seconds (and as connoisseurs know, the return to zero of a chronograph seconds hand is particularly rapid, bordering on violent and, thus, requires an extra robust attachment design). The extra deep *canon* helps ensure that a hand so equipped will stay securely attached to its axis. The demands for precision in this process are enormous. Blancpain's tolerance is on the order of one micron!

The fabricators of watch hands have a choice of different methods for creating the *planche*. For the Villeret hour and minute hands a cutting process is used. These hands feature a *squelette* (skeleton) center which also is achieved in the cutting process. An initial polishing, artisanal in its application, follows the cutting. A specialist glues the hands to a holder and, respecting grand watchmaking tradition, polishes each hand, one by one. Thereafter, the hands are washed and given a detailed visual examination. Following this inspection, the hour hands are given a gentle stamping in order to create a decorative *filet* effect. This is a sloping downward angle applied to the outer edge of the *tête*. As well, through stamping, an understated rounding is applied to the *corps*. The minute hands receive an additional decoration which is called *gouge*. The *gouge* consists of a refined groove around the center of the *tête*. The *gouge* decoration brings added visual interest to the center. The hour hand, by contrast, is not given *gouge* decoration. A few moments of thought lead to the reason why. Since the *tête* of the minute hand completely covers that of the hour hand, any *gouge* decoration on the hour hand would not be visible!

Hand fabricators must MASTER A MULTITUDE OF TECHNIQUES.

Above: Fine polishing.

Below: Hand painting of the tip.

When examined closely,
LOVELY DETAILS REVEAL THEMSELVES.


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BLANCPAIN
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Watchmaking TRADITION *is respected in the crafting of blued hands.*

Still more steps remain. A second polishing is performed on each hand, one by one, to achieve a brilliant finish. That is followed by cleaning and another careful visual inspection. Since the Blancpain Villeret hands have been subtly rounded, this inspection must include an examination to verify that the curvature of the *corps* is correct and that the *tête* remains perfectly flat.

Depending on the complication there are additional processes. For example, the Villeret Quantième Perpétuel 8 Jours features blued hands for the month, day of the week and date indications. Although many in the watch world use chemicals or a galvanic process in order to arrive at a blue color, Blancpain respects watchmaking tradition which demands a heat process to produce the blue. There is enormous *savoir-faire* required to achieve a perfect blue color which is not only uniform along the entirety of the hand but between different hands on the same watch. Following the bluing process, each hand undergoes a detailed visual inspection to verify the uniformity of color, flatness, and shape.

Things become more complicated still for Blancpain's blued serpentine hands. These hands are found on the Villeret complete calendar/moon phase timepieces. The presence of these serpentine hands used for the date indication honors a grand historic watchmaking tradition. In the past, watchmakers employed serpentine hands for supplementary indications such as the date, the serpentine shape serving to distinguish the supplemental indication from the principal time indications. As Blancpain's serpentine hands are blue in color, they undergo the same heat bluing process as the straight blue counter hands. Following bluing, each hand is individually inspected for flatness and shape using a loop.

There is yet an additional inspection process for long thin hands such as those used for a chronograph. These hands are placed on the flat plate called a *plaque à rectifier* to ensure perfect flatness. If necessary, a hand may receive a delicate manual straightening.

Verifying and correcting flatness for each individual hand.

The hands for the Fifty Fathoms and Bathyscaphe timepieces require yet a different set of methods. Principal among them is the addition of Super-LumiNova so that they will glow in the dark. The Super-LumiNova is painted by hand, working from the back surface. The craftsman places each hand face down and gently brushes the Super-LumiNova into the *squelette* middle of the hand. The process is demanding and requires great patience as Blancpain has a strict specification on thickness of the material remaining on the back side of the hand after the craftsman brushes the material into place. If too much material is applied, there is a risk that it will either scrape one of the other hands (the minute hand passing above the hour hand) or the surface of the dial (the hour hand placed closest to that surface). There is still further work remaining for the Bathyscaphe large seconds or chronograph seconds. The outer portion of the hand is manually painted with a red color. To enhance readability as the hand passes adjacent to the chapter ring, its tip must be gently bent downward. Again this is accomplished for each hand, manually, one by one.

Special treatment is given to chronograph seconds hands because of the counterweight. Blancpain's design calls for a short counterweight opposite the long *corps* and for the *corps* itself to be extremely thin and fine. So how can a hand be built that is thick in one area—the counterweight—and thin at the other—the tip? The answer is not to add material to the counterweight portion, but to remove material elsewhere. Thus, each of these hands begins with the thickness of the counterweight portion and the unwanted material is machined away from the *corps*.

One of the joys of watch collecting is learning the details of all of the crafts that come together in a fine timepiece…movement components, cases, dials, *métiers d'art*, bracelets and, of course, hands. •

The hands for the FIFTY FATHOMS *and* BATHYSCAPHE *require their own specific methods.*

Manually painting Super-LumiNova on the backside of Bathyscaphe hands.


JB
1735
BLANCPAIN
Fifty Fathoms
BATHYSCAPHE
SWISS
MADE
31

TEXT: DR. ENRIC SALA / NATIONAL GEOGRAPHIC EXPLORER-IN-RESIDENCE

Pristine Seas Expeditions

2011–2015 Pristine Seas Expeditions with Blancpain.

NATIONAL GEOGRAPHIC
PRISTINE SEAS




From left to right: Marine life on the coral reefs of Palau, Micronesia: a *Nautilus*; a manta ray swimming through a school of fusiliers; a colorful *Anthias*; gobies resting on a sea fan; Pristine Seas' chief scientist Alan Friedlander documenting life on the reef.

Blancpain has partnered with and supported National Geographic Pristine Seas since 2011 to explore, survey, and help to protect the last wild places in the ocean.

The ocean is critical for our well-being, because it gives us more than half of the oxygen we breathe, the seafood we eat, and it absorbs a quarter of the carbon pollution we throw in the atmosphere. Yet, only 1% of the ocean is fully protected from human activities such as fishing—which is taking fish out of the ocean faster than they can reproduce. The United Nations has established a target to have 10% of the ocean protected by 2020, although scientific studies recommend that at least 20% be protected.

National Geographic Pristine Seas and Blancpain are working together to fill this gap. The Pristine Seas team conducts expeditions to the most remote areas, conducts groundbreaking scientific research, and produces compelling films and media—with the ultimate goal of inspiring country leaders to save these areas before it is too late. Although remote and mostly uninhabited, these wild places are beginning to be exploited by long-distance fishing fleets. Therefore it is critical that they be protected in large "no-take" marine reserves (i.e. national parks in the sea).

• Expeditions • Protected areas following Pristine Seas Expeditions with Blancpain

From left to right: Sharks approaching a baited camera; a parrotfish; expedition leader Paul Rose with a blacktip reef shark at Aldabra Atoll, Seychelles; a pod of narwhal and a seal breathing hole at Baffin Island, Canadian Arctic; the remote Marotiri rocks off French Polynesia.

To date, Pristine Seas and partners have inspired leaders to protect pristine areas totaling 3 million km^2 in seven countries in both tropical and temperate seas. That's more than half of all the ocean areas that are currently fully protected—and more reserves are in progress.

These last pristine places are the last wildernesses left in the ocean. They are like time machines, taking us hundreds of years into the past. That allows us to understand what we have lost because of centuries of overexploitation and pollution. But, most important, they help us determine what future ocean we want: one polluted and without fish, or one that looks like those rich and diverse places that are now protected? We are betting on the latter, because we all need a healthy ocean. •

TEXT: JEFFREY S. KINGSTON

Bordeaux

CHÂTEAU PAPE CLÉMENT

Drones, cows and a pope.


BERT
TRAN
À LA
PAPE
GOTH
L'EV. DE COMMINGE
BOURDEAUX EN 1300
NOM DE CLEMENT
EN 1305.

CHÂTEAU
PAPE CLÉMENT

Drones, cows, and a pope. How can a single institution bridge across that improbable expanse? But that is precisely both the present reality and the legacy of Bordeaux's prestigious Château Pape Clément.

Château Pape Clément is one of Bordeaux's most storied châteaux. Indeed, it can trace winemaking in its vineyards located in Pessac, now a Bordeaux suburb and part of the region known as "Graves"[1], to 1252. Regrettably, even though Graves was the principal winemaking region in Bordeaux in the 13th century, following the official 1855 classification of wines which only included a single Graves château, Haut-Brion, the world's attention for long periods looked north to the Médoc with its renowned names Lafite, Latour, Margaux, Mouton, Léoville, Ducru, Pichon and Cos d'Estournel.

Both history and tastings today widen this artificially narrow field of view. From early in its evolution, the vineyards of the present day Château Pape Clément were among the most prized in the region. So prestigious, in fact, that the archbishop of Bordeaux, Bertrand de Goth, selected them as his own in 1299. At the time, the vineyards bore the name de la Mothe because they sat upon slightly elevated terrain. De Goth's stewardship of de la Mothe was dramatically altered not long after, in 1305, when he was appointed pope, taking for himself the name Clément V and becoming the first pontiff to establish the seat of the Church outside of Rome, in Avignon. Absorbed with his responsibilities in the Châteauneuf, Clément V in 1309 decided to cede de la Mothe to the new archbishop of Bordeaux and the vineyard assumed the name Pape Clément in his honor. For the next nearly 500 years, production of Château Pape Clément was principally reserved for the Church's own consumption.

The French Revolution tore ownership of Château Pape Clément from the Church and placed it in the public domain. A series of private owners followed, some of whom endured difficult challenges, the most

At left: Pope Clément V who, upon being selected as the pontiff, donated his vineyard, which was renamed "Pape Clément" in his honor.

[1] Since 1987, Château Pape Clément's location within what was previously classified as "Graves" has received a more specific appellation: Pessac-Léognan.

notable of which was a hailstorm of nearly biblical proportions that destroyed the vineyard in 1937. It was not until after the war that the full process of restoration began. Even then, the assent was not without its setbacks in the beginning and critics later on. Since the original 1855 Bordeaux classification essentially ignored the Graves region, notwithstanding its rightful claim to being the birthplace of claret, a jury appointed by the Institut National des Appellations d'Origine in 1953 set out to right the slight with a classification of Graves wines. Sadly, Château Pape Clément was omitted from the list. Not until 1959 was this error corrected. Nonetheless, decades passed without Château Pape Clément being part of the conversation when the superstars of Bordeaux were being discussed. Famed wine critic Robert Parker was not gentle in his descriptions of Château Pape Clément from these decades in the past, calling the wines "undrinkable" and the estate "moribund".

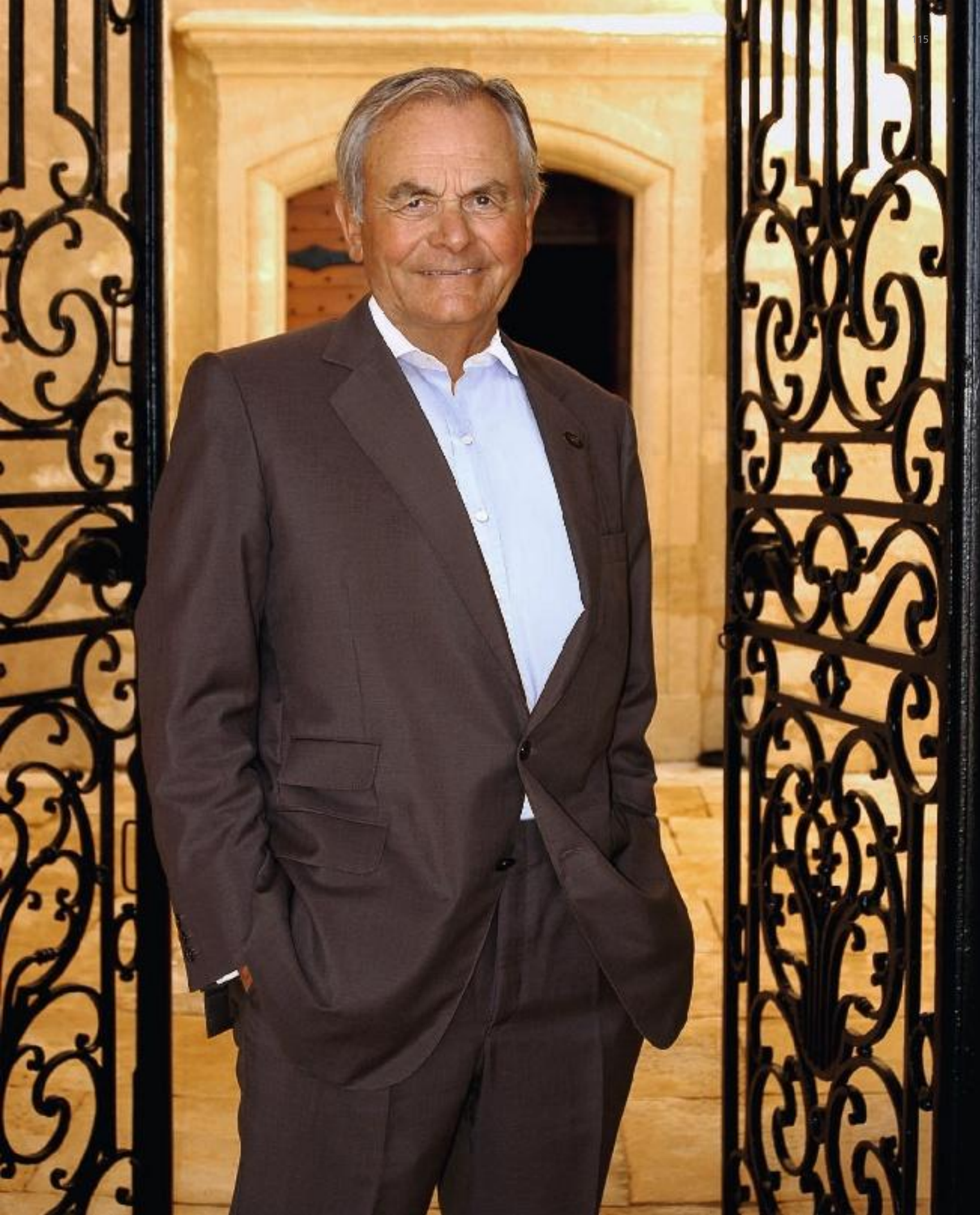
Enter Bernard Magrez in 1983. His ownership and guidance of the château have been marked by creativity, a nose for talent, lavish investment in facilities and research, uncompromising standards, and obsessive attention to detail. Wines that Parker had previously denounced as "undrinkable" have soared to garner the ultimate accolade of 100 points.

There has been no single silver bullet responsible for this remarkable ascension in quality. A day spent with Bernard Magrez accompanied by his vineyard manager, Frédéric Chabaneau, revealed the breadth and depth of the transformation of the estate.

It is clear that Magrez is an innovator. So much so that he sponsors a center for research. And what has emerged from this investment? Both cutting edge technology and science and a bold and costly about-face towards the past. Drones and cows. The Château Pape Clément estate comprises some 32.5 ha in Pessac. As the saying goes "wines are made in the vineyard" and drones flying just above the leaves enable forms of detailed monitoring of vine health and growth never before possible. Indeed, so rich is the data collected, that Château Pape Clément is able to subdivide their vineyard into minute sections, microparcels if you will, so that at harvest it can decide which vines to pick first and which vines to harvest later. Of course, in the past and practiced elsewhere by prestige estates, vineyard managers have been and are able to walk the vineyards inspecting for health and ripeness. But with the drones (and the experts who examine and interpret the gathered data) inspection can be done more quickly, regularly and accurately. Currently, only Magrez has rolled out this technical advance for vineyard management.

Multiple factors lie behind the REMARKABLE ASCENSION IN QUALITY *of Pape Clément.*

At right: Bernard Magrez.



Drones may be the future, but the cows are unquestionably the past. Not only is it the norm to use tractors for vineyard plowing, there are those investing the development of driverless tractors able to follow automatically vineyard rows and, upon reaching the end, sveltely execute a turn to select the next row. A Google driverless car or a robot vacuum cleaner come to mind. Magrez may have fully embraced cutting edge science for his drones, but he rejects completely the notion of a driverless tractor. In fact, he spurns tractors altogether. Instead, for tilling the soil, he favors plows pulled by cows. Why this centuries-old solution? First and foremost, the weight of a cow's foot leaves largely undamaged tender shoots from the vines lying just under the surface of the soil and, as well, hardly compacts the soil as it passes down a row. By contrast, heavy tractors both damage tender shoots and tramp down the earth. Second, if the plow strays from a perfect path and comes up against a vine, the cow feeling a change in resistance stops. There is no similar sensibility built into tractors or felt by the operators and the vine will become damaged. For one or two Burgundian domains, with their parcels miniscule in dimension compared to Bordeaux, animal plowing is practiced. In Bordeaux, it is the tractors which rule elsewhere.

Above: Sorting and
de-stemming of the harvest.

Intense hand work when the grapes arrive in the chai; NO LESS THAN 100 WORKERS SORT AND DE-STEM.

One interesting twist. In the 800 years that have elapsed since winemaking began here, the surroundings have urbanized. Only the vineyard walls lie between the vines and the homes. So whereas the neighbors of most estates in Pessac complain about the noise of tractors, at Château Pape Clément it is the odors emanating from the barn.

Similar rigor is practiced at harvest. All of the production is picked by hand. Most importantly, based on the data gathered by the drones, multiple passes are made through the vineyard with some of the micro-parcels harvested later than others in order to optimize maturity.

There is no letup in the intensity of the hand work upon the arrival of the grapes in the chai. Magrez employs no less than 100 people…a staggering number… to sort and de-stem the grapes as they arrive from the vineyards. The arriving grapes pass along a conveyor belt (four of them are used at a time). Workers on each side of each belt remove the grapes, one by one, from the stem. The process is more difficult than it might otherwise seem, for it is essential that skin not be torn or damaged anywhere, particularly at the small point where it is attached to the fine stem. Skill and unhurried patience are required to de-stem perfectly. The refuse is tossed into a center channel on the belt, while the selected, perfectly intact grapes pass down the line to be inspected by others manning the belt. Any flaw, and the grape is rejected and tossed into the center channel. The cost of this inspection process is enormous, but that is the price to achieve perfection.

The grapes are vinified parcel by parcel. The reds are vinified in wooden, temperature controlled vats. Temperatures are kept cool for four or five days, before being allowed to rise for fermentation to start. Equipped with arms, the vats stir the wine *(remuage)* constantly. The whites are vinified in special concrete vats shaped like eggs. This form promotes circulation of the fermenting wine.

Magrez has led PAPE CLÉMENT *to the summit with* 100-POINT WINES.

Selection and blending are key steps. Magrez works side by side with Michel Rolland, one of Bordeaux's most renowned consultants. Superlatives pour from Magrez when he speaks of the talents of Rolland in his selection of the wines from the particular parcels. Judgments and decisions change from year to year, so that Rolland and Magrez taste the wines from each parcel separately. Not only are the final blends determined, but the selections are made for the wine that will be the Château Pape Clément Grand Vin and that which will go into the second wine, Le Clémentin du Pape Clément. Although there is yearly variation and fine-tuning in Rolland's and Magrez's blend, in general Château Pape Clément is approximately 50–55% cabernet sauvignon, 42–45% merlot with the remainder composed of 1–2% each cabernet franc and petit verdot. Soil types determine where these principal components are planted. The cabernet is planted on the gravelly sandy areas; the merlot is located on clay soils.

Château Pape Clément produces a small quantity of an outstanding white which is generally 45% sémillon, 45% sauvignon blanc and 10% muscadelle.

As he has transformed the winemaking and catapulted the quality to the very pinnacle of Bordeaux, so, too, has Magrez burnished the château itself. Outside, the château, surrounded by a park with thousand year old olive trees, gleams. Inside, it boasts artifacts from its papal history. Magrez has not, however, confined all of his energies to this restoration of Château Pape Clément, as his portfolio includes three other classified Bordeaux estates: Château Fombrauge in Saint-Émilion; Clos Haut-Peyraguey in Sauternes; and Château La Tour Carnet in the Haut-Médoc. •

TASTING
Notes

These tasting notes combine the memories and experiences accumulated over the past three decades by Dr. George Derbalian, the *Lettres du Brassus* wine expert, and yours truly.

DR. GEORGE DERBALIAN

Dr. George Derbalian is the *Lettres du Brassus* wine expert. Dr. Derbalian is the founder of Atherton Wine Imports, located in northern California. Not only has he become one of the United States' premier importers of fine wines, but he has acquired a well-deserved reputation as one of the leading and most respected wine connoisseurs and expert tasters in the world. Each year, Dr. Derbalian travels the wine circuits of Europe and the United States, meeting with wine producers, owners of the finest domains, chef de chai, and other key figures in the world of wine. Throughout the course of each year, he tastes literally many thousands of current production and vintage wines.

2011 CHÂTEAU PAPE CLÉMENT.

A challenging vintage. April was very warm and was followed by an exceedingly dry summer with a few dramatically high spikes in temperature (40 degrees in June). Harvest conditions were good. A cassis and black fruit nose is followed by pronounced tannins and oak balanced by abundant fruit and notes of tobacco and leather. In spite of the warm temperatures and lack of rain, the texture is delicate in the mouth. Excellent finish. Clearly a *vin de garde*. The cabernet percentage is high: 55%, merlot 42%.

2010 CHÂTEAU PAPE CLÉMENT.

Nearly perfect conditions throughout the growing season and harvest. A blockbuster wine. The nose explodes from the glass delivering a cornucopia of raspberries and other red fruits mixed with cassis, smoke and tobacco. The bright focused flavors burst forth on the mouth with splendid concentration and riveting richness leading to a long opulent finish. A textbook example of Graves at its finest. This is a wine with a 30–40 year future. Parker has awarded 100 points, a verdict with which there can be no dispute. Cabernet 50%, merlot 47%.

2009 CHÂTEAU PAPE CLÉMENT.

Excellent conditions from the beginning of the season through the harvest. Intense nose offering ripe red and black fruits. Excellent concentration on the palate. Ripe and round sweet red fruits mixed with earthy notes and smoke all wrapped in velours. A noble aspect as it is both powerful and delicate at the same time. Already well evolved and easy to enjoy. Cabernet 51%, merlot 49%.

2008 CHÂTEAU PAPE CLÉMENT.

Good growing conditions followed by some rain at harvest. Rigorous sorting of the grapes on the belt. An enchanting nose with abundant smoke, black fruits and plums. Round in the mouth with toasty oak, smoke and plums. Quite rich. A touch dry in the finish. Cabernet 48%, merlot 48%.

2006 CHÂTEAU PAPE CLÉMENT.

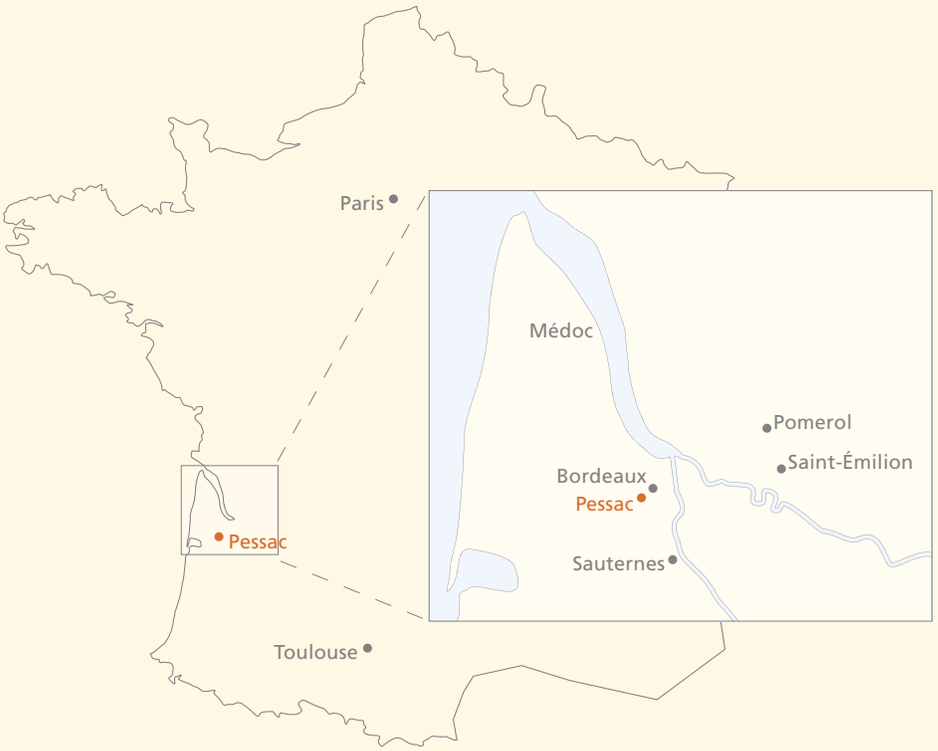
Magnificent and majestic wine. Smoke, chocolate, meat soar in the nose. Ripe and deep on the palate with sweet blackberries and black currants. The ripe tannins are round and largely resolved. Extremely long pepper and black fruit finish. Drinking perfectly.

1996 CHÂTEAU PAPE CLÉMENT.
Powerful smoke, meat and black fruit nose. Beautifully soft and round in the mouth. Almost Burgundian with the sweetness of the fruit mixed with spice. Exceedingly long sweet finish. A delight to drink now.

2009 CHÂTEAU PAPE CLÉMENT BLANC.
Delicate citrus peel nose with only the slightest touch of sauvignon grass. Round gourmandise on the mouth offering butter, cranshaw melons leading to a nearly sweet finish. A very Burgundian personality.

2011 CHÂTEAU FOMBRAUGE.
Black fruit nose. Delicate, round and rich with abundant sweet ripe fruits. Satisfying and easy to enjoy.

All wines tasted in May 2015, in Bordeaux, and red unless otherwise noted.



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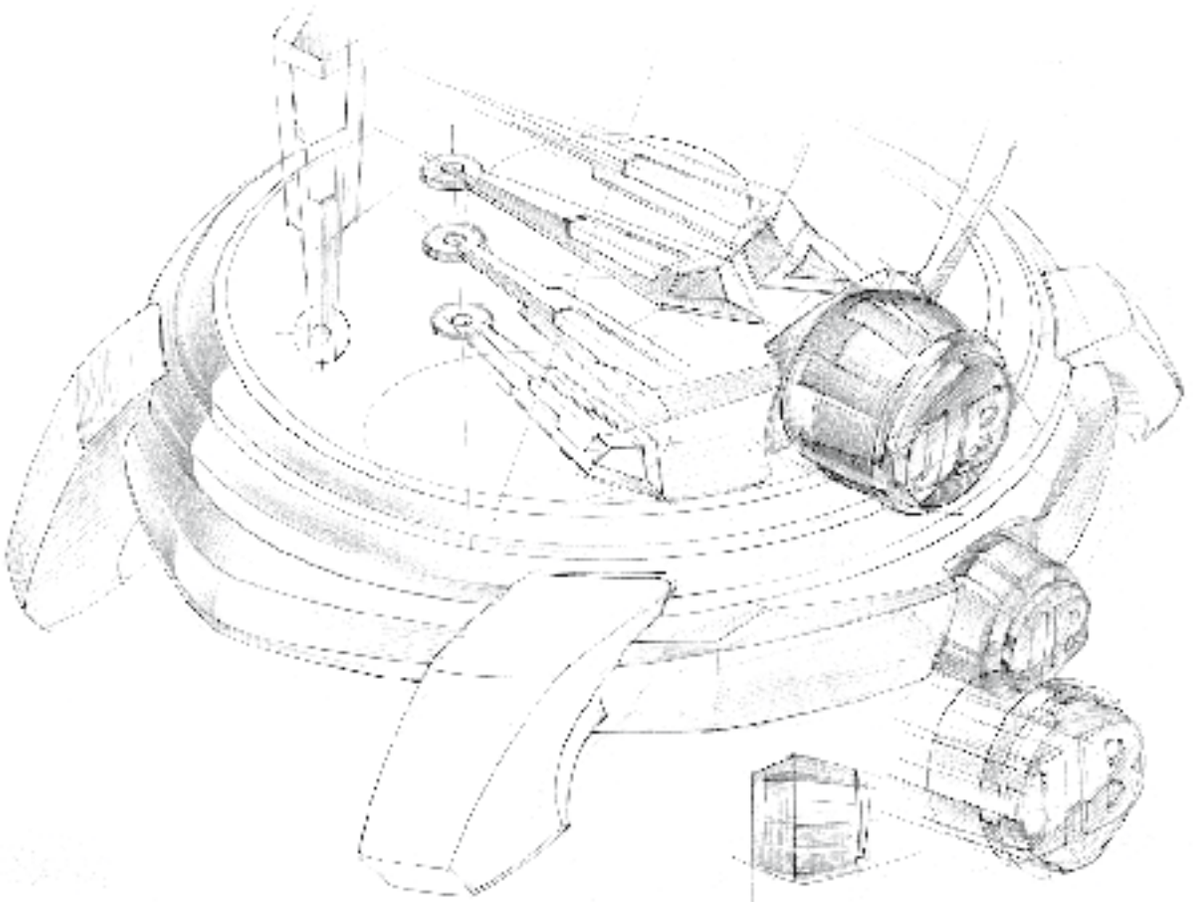

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