CREATING COMPLICATIONS

What is a complication after all?
How complicated are complications?
These are questions that have been asked in recent years
by every friend of Haute Horlogerie.
Let's see what the protagonists in the field have to say about complications.

SINCE I WAS AN ADOLESCENT, I have always been impressed by the paradoxical expression: "Why do it simply when you can do it in a complicated way?" Later, it was a phrase of Sir Winston Churchill that impressed me even more because it was provocative, as well as true: "My tastes are simple: I am easily satisfied with the best".

AT THE END OF THE DAY, what is the best? Is it the most simple or, on the contrary, the most complicated? Today, I think that it is easier to find "the best" rather than the "less good". If you've listened to the famous aria "Casta Diva" from the opera "Norma" by Vicenzo Bellini a hundred times in your life, then most probably you've listened mainly to the divine interpretation of Maria Callas, rather than to an unknown singer!... This is the case, of course, in an "ideal" area, such as the Opera. But what about an area, such as Haute Horlogerie, that borders on art, in which the accomplishment of technical objectives is still the predominant tendency -this being always the heart of competition (with or without commercial interest, and whether or not in the good sense of the term)- leading not only to (formal or informal) confrontations, but also to impressive achievements, which fill the friends of good mechanics with enthusiasm?

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IT IS TRUE THAT HAUTE HORLOGERIE, especially when we speak of complications and, even more so, when we speak of the simultaneous presence of many complications, represents a magical world, where the calculation of exhaustive details competes with the imagination of watchmakers in creating watches. It is also true that the nature of man is to want to surpass himself, and also to discover pathways where nobody has tread before. We owe to this truth some of the greatest achievements of humanity that either move us or make our life easier.

THUS, since the first years of the existence of the watch, thousands of watchmakers have tried and succeeded in creating works of art that adorn the history of Haute Horlogerie today. Some of these achievements arrived so early that it could be said that the major breakthroughs in the watchmaking art were realized two centuries ago, and not much is left to do with regard to the evolution of the watch from a technical point of view.

HOWEVER, the imaginatively rich adaptation of the most complicated techniques of Haute Horlogerie into a cocktail of complications (that's how the famous watchmaker Philippe Dufour calls it in one of his answers) remains always a challenge, intoxicating the most demanding collectors and, at the same time, raising the bar of competition very high in this rigorous and extremely competitive "sport" that is Haute Horlogerie.

DURING THE EVOLUTION of the watch, there were some isolated cases of these types of watches. During the 30s, in New York, the banker Henry Graves asked Patek Philippe to create for him the most complicated watch ever made. Thus, he obtained the pocket watch which still holds the record for the highest price in history, because it was sold in an auction at Sotheby's in 1999 for the sum of 11,000,000$! In 1989, the famous Calibre 89, which beat all the records with 33 complications, was presented on the occasion of the 150 year anniversary of the prestigious House of Patek Philippe. In 2005, it was the turn of Vacheron Constantin to present on the occasion of its 250 year anniversary the Tour de l'Ile, which also has its place in history, along with the 1735 of Blancpain, the Sky Moon Tourbillon of Patek Philippe, and two or three other famous watches that have been presented throughout the years.

IN 2009, the appearance of Hybris Mechanica by Jaeger-LeCoultre came to trouble the waters, while the Franck Muller House, always plethoric, launched the ultimate Aeternitas Mega 4, leaving everyone open-mouthed and offering the biggest smile in the history of Haute Horlogerie to the two fortunate persons who quickly received their watches (after having paid around 1,000,000 euros each)! A few months later, a collector, reportedly from Taiwan, succeeded in obtaining one of the four Calibre 89

for a sum of 4,500,000 euros, again in an auction, this time organized by Antiquorum!

FROM THAT POINT ON began the great debate on what is a complication, whether all complications have the same value, whether we should add them up, how each manufacturer fabricates them, how to count them, what is the role of marketing, etc.

THEREFORE, I attempted to clear up my questions - which are also yours, I assume - by asking all the protagonists, but also some of the most celebrated watchmakers in the world to give me their opinion on 11 basic questions, concerning the subject of watchmaking complications.

IN ADDITION, you will find the most complicated watches in the world with the official list of their complications, and you will thus be able to judge what each company has to offer and to draw your own conclusions.

READ THE OPINION of the professionals and. relax. We will never be able to acquire these exceptional watchmaking works of art!

PAUL BUCLIN

NAME

WATCHMAKER

PROFESSION

PATEK PHILIPPE

HOUSE

–1– Give us a definition of the word "complication" (in watchmaking).

-1- TODAY, IT IS VERY DIFFICULT to say what a complication is, because every watchmaking brand has its own definition. In any case, my own view is that it is any indication beyond the display of the hours, minutes, and seconds, which has also a direct relation with time.

–2– Can a (mechanical) thermometer be considered a complication?

-2- NO.

–3– What's more important for you: the complication or the method of fabrication (watchmaking art)?

-3- UNFORTUNATELY, not all Tourbillons have the same quality. We have to encourage quality watchmaking and, especially, the working precision of watches.

–4– If finishing is pushed to the extreme, does it count as for a complication?

-4- NO.

–5– Given that all complications do not present the same level of difficulty in their fabrication, does it make sense to add a Tourbillon to a retrograde date indicator and to say that this watch has 15, 26 or 35 complications?

-5- I WILL SPEAK PERSONALLY, and not in the name of Patek Philippe, but I am not at all in favour of this mad race to add more and more complications in a movement. After having realized the Calibre 89, I think that Star Caliber 2000 has managed to combine complications with a more artistic aspect, such as the marvellous mechanism "Sky and Moon", which proves my point.

–6– What do you think of watches with many complications?

-6- LET'S SAY THAT we need watches for every taste!

–7– Does the retrograde date count as one or two complications?

-7- JUST ONE. Date indication is a complication in itself, and not the mode of display, even if it involves a mechanism that demands more work for its realization and setting, than the more conventional date display, like the display by hands or apertures.

–8– Can you give us the 5 most important complications in order of difficulty?

-8- 1. GRAND SONNERIE 2. Minute Repeater 3. Instantaneous Perpetual Calendar with apertures 4. Split-seconds 5. Tourbillon.

–9– In your view, which is the most complicated watch ever made?

-9- IT HAS NOT BEEN MADE YET.

–10– What is your favourite complication?

-10- THE INSTANTANEOUS perpetual Calendar with apertures.

–11– Today, many brands are offering a Tourbillon, but very few are proposing their own chronograph. Is it more difficult to manufacture a chronograph than a Tourbillon?

-11- ABSOLUTELY. The chronograph is a movement in itself. Such a complication affects the whole movement, while a Tourbillon concerns only a part of the movement, the escapement!

PATEK PHILIPPE

CALIBRE 89

1.728 COMPONENTS

1989

1. *Sidereal Time Hour Hand*
2. *Sidereal Time Minute Hand*
3. *Sidereal Time Second Hand*
4. *Time in a second time zone*
5. *Time of sunrise in Geneva*
6. *Time of sunset in Geneva*
7. *Equation of time*
8. *Tourbillon Regulator*
9. *Perpetual Calendar*
10. *Secular leap year correction*
11. *Date of the month*
12. *Century, decade, year*
13. *Day of the week*
14. *Month of the year*
15. *Four-year cycle of leap years*
16. *Sun hand (season, equinox, solstice, and zodiac sign)*
17. *Sky Chart at Geneva latitude*
18. *Age and phases of the moon*
19. *Date of Easter*
20. *Chronograph*
21. *Split-seconds*
22. *30-minute recorder*
23. *12-hour recorder*
24. *Grande Sonnerie with four bells*
25. *Petite Sonnerie with the same four bells*
26. *Minute Repeater*
27. *Alarm with a fifth bell*
28. *Going train up-and-down indication*
29. *Striking train up-and-down indication*
30. *Striking train stop work*
31. *Twin barrel differential winding*
32. *Four-way setting system*
33. *Winding-crown position indication*

CHRISTIAN SELMONI

NAME

PRODUCT MARKETING DIRECTOR

PROFESSION

VACHERON CONSTANTIN

HOUSE

CLICK TO LISTEN

–1– Give us a definition of the word "complication" (in watchmaking).

-1- BY THE TERM "COMPLICATION" we mean any additional function to the functions of time, that is to say, the hours, the minutes, and the seconds.

–2– Can a (mechanical) thermometer be considered a complication?

-2- EVERY HOUSE has its own way to approach the subject. The thermometer could be considered a complication, even if it is an external indication that is not directly linked with the movement.

–3– What's more important for you: the complication or the method of fabrication (watchmaking art)?

-3- NO, I DON'T THINK SO. Historically, the Tourbillon was a major complication because it was difficult to realize without the modern methods of micromechanics. Nowadays it has become much easier to fabricate at the level of the cage and its poising. Therefore many companies manufacture Tourbillons, and they have lost their mythical dimension a little. In Vacheron Constantin we manufacture Tourbillons with great care and we spend many hours finishing by hand. That's the art of the watchmaking: the respect for tradition and the application of diverse techniques of Haute Horlogerie.

–4– If finishing is pushed to the extreme, does it count as for a complication?

-4- NO. It's an additional function, that we can attach to a watch, but I don't think it can be considered a complication.

–5– Given that all complications do not present the same level of difficulty in their fabrication, does it make sense to add a Tourbillon to a retrograde date indicator and to say that this watch has 15, 26 or 35 complications?

-5- THAT'S A VERY INTERESTING QUESTION! We asked this question ourselves back in 2005, when we presented the Tour de l'Ile for the 250 year anniversary of the House. We tried to manufacture the most complicated wristwatch that Vacheron Constantin ever made and to display all the know-how of our company. We didn't try to produce a watch that would beat the absolute world record. On the contrary, we posed the question that you are posing to me now: how are we going to count complications, and how are we going to communicate our new watch to the public? When we drafted a list of the complications, we realized that, at the end of the day, we accorded them the same weight, although they didn't present the same difficulty. This is one of the great paradoxes of the profession. There is no objective manner, no expert rule for measuring the weight of each complication. Unfortunately, there is no rule which can be accepted by everyone.

–6– What do you think of watches with many complications?

-6- FOR US, IT IS AN OPPORTUNITY to display our know-how and also to illuminate important moments in our past. It is also a magical world for collectors around the world. The quest for perfection is part of human nature. It's about trying to surpass yourself and wanting to always create more complicated things. I don't believe there is a "race" for complication going on. Every brand has its own reasons for making these kinds of demonstrations. Clearly, the 250 year anniversary was for us an opportunity to show ourselves in the best light, without meaning to say that we are the best.

–7– Does the retrograde date count as one or two complications?

-7- THIS IS VERY DANGEROUS GROUND, as I've already told you. In 2005, when we presented the Tour de l'Ile, we were very careful about the way we communicated. I think it's more a case for independent experts to decide.

–8– Can you give us the 5 most important complications in order of difficulty?

-8- 1. WESTMINSTER CARILLON 2. Minute Repeater 3. Tourbillon 4. Perpetual Calendar 5. Split-seconds Chronograph

–9– In your view, which is the most complicated watch ever made?

-9- WE'VE BEEN THROUGH a very difficult period in Haute Horlogerie, and we've come a long way. It took us many years to arrive at the current level of watch fabrication and it was something that was achieved day by day. Thus, we are trying to improve ourselves rather than compare ourselves to others. And the Tour de l'Ile is the most complicated watch that we've ever made!

–10– What is your favourite complication?

-10- MY GRANDFATHER was a watchmaker in the Valley of Joux and he was one of the first to manufacture complicated movements, specifically for Audemars Piquet. So, that would be a personal choice, but I would choose a watch with a Minute Repeater, if possible a skeleton one.

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–11– Today, many brands are offering a Tourbillon, but very few are proposing their own chronograph. Is it more difficult to manufacture a chronograph than a Tourbillon?

-11- I'VE ALREADY SAID that all Tourbillons do not have the same value. This is also true for chronographs. If we speak of the Tourbillons of Vacheron Constantin, they are indeed very carefully crafted and they involve a lot of handwork. Similarly, not all chronographs have the same value. There are simple chronographs, which are manufactured more easily, and there are chronographs of a special type, which are extremely complicated to manufacture.

CLICK TO LISTEN

VACHERON CONSTANTIN

TOUR DE L'ILE

834 COMPONENTS

2005

1. *Hour, quarter and minute Repeater on request*
2. *Tourbillon Regulator*
3. *Power reserve indicator*
4. *Time in a second time zone*
5. *Phases of the moon*
6. *Age of the moon*
7. *Sky chart*
8. *Time of sunrise*
9. *Time of sunset*
10. *Perpetual Equation of time*
11. *Torque of the striking mechanism*
12. *Perpetual calendar*
13. *Day of the week*
14. *Date of the month*
15. *Month of the year*
16. *Four-year cycle of leap years*

CHRISTIAN LAURENT

NAME

DIRECTOR OF COMPLICATIONS WORKSHOP

PROFESSION

JAEGER-LECOULTRE

HOUSE

–1– ***Give us a definition of the word "complication" (in watchmaking).***

-1- ANYTHING BESIDES the simple indication of time expressed in hours, minutes, and seconds.

–2– ***Can a (mechanical) thermometer be considered a complication?***

-2- NO. Not for me. It's an addition that we may include and, on top of it, it's not mechanical.

–3– ***What's more important for you: the complication or the method of fabrication (watchmaking art)?***

-3- I CONSIDER the watchmaking art a complication. It's obvious that not all Tourbillons have the same value. Some have a rather decorative purpose, while others offer remarkable precision to watches.

–4– ***If finishing is pushed to the extreme, does it count as for a complication?***

-4- IT'S A COMPLEXITY. It's the transfer of watchmaking know-how to decoration. It is not a complication.

–5– ***Given that all complications do not present the same level of difficulty in their fabrication, does it make sense to add a Tourbillon to a retrograde date indicator and to say that this watch has 15, 26 or 35 complications?***

-5- ANY DIVERGENCE from the traditional display becomes a complication. And all complications require special design, fabrication and handling. As a result, the presence of any complication calls for complexity in the fabrication of a watch.

–6– ***What do you think of watches with many complications?***

-6- IT'S A WAY to show the know-how of an enterprise and all its technical accomplishments, but it is also, at the same time, a way for watchmakers to show how far they are able to go.

–7– ***Does the retrograde date count as one or two complications?***

-7- THINK OF IT AS adding a retrograde display to the function of time. We always have to link the two functions, and thus it becomes complicated. The retrograde date counts as two complications.

–8– ***Can you give us the 5 most important complications in order of difficulty?***

-8- 1. GRANDE SONNERIE 2. Minute Repeater 3. Perpetual Calendar 4. Tourbillon 5. Equation of time with sunrise and sunset

–9– ***In your view, which is the most complicated watch ever made?***

-9- IT DEPENDS ON the historical period. Nowadays, there are Houses which have added multiple complications to their watches. In our case, a good example is the triptych Hybris Mechanica that we have just introduced. When the first watch is ready to be delivered to our first client, it will undoubtedly be the most complicated watch in the world!

CLICK TO LISTEN

–10– ***What is your favourite complication?***

-10- I LIKE THE PERPETUAL CALENDAR very much because it is a useful complication.

–11– ***Today, many brands are offering a Tourbillon, but very few are proposing their own chronograph. Is it more difficult to manufacture a chronograph than a Tourbillon?***

-11- YES. The reason is that manufacturing a chronograph requires many pieces and a much more specialized development than a Tourbillon. The Tourbillon only requires good setting. The chronograph requires setting the hours, the minutes, and the seconds, and this is one of the reasons why most brands prefer to buy a standard chronograph movement. We've had a difficult start with the Duometre, but today we are proud of it.

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JAEGER-LECOULTRE

HYBRIS MECHANICA GRANDE SONNERIE

1.300 COMPONENTS

2009

1. *Westminster Carillon*
2. *4 Crystal-gongs*
3. *Grande Sonnerie*
4. *Petite Sonnerie*
5. *Silence*
6. *Minute Repeater*
7. *Tourbillon*
8. *Flying Tourbillon*
9. *Perpetual Calendar*
10. *Instant Calendar*
11. *Day of the week*
12. *Retrograde day indicator*
13. *Month of the year*
14. *Retrograde month indicator*
15. *Date of the month*
16. *Retrograde date indicator*
17. *Jumping hours and minutes*
18. *Regulator with inertia-block*
19. *Strike power reserve indicator*
20. *Watch power reserve indicator*
21. *Secured incremental hours setting (forward)*
22. *Secured incremental minutes setting (forward)*
23. *Secured incremental minutes setting (backward)*
24. *Striking mode selector*
25. *Instant Minute Repeater activation*
26. *Automatic modes' switch*

PIERRE MICHEL GOLAY

NAME

WATCHMAKER - TECHNICAL DIRECTOR

PROFESSION

FRANCK MULLER

HOUSE

–1– Give us a definition of the word "complication" (in watchmaking).

-1- IT COVERS A RATHER LARGE RANGE. There are the "grand complications", such as the Grande and the Petite Sonnerie, the Tourbillon, the Minute Repeater, the Split-seconds Chronograph, the Perpetual Calendar, the Equation of Time, and more rarely today sunrise and sunset indications. There are also complications that are easier to realize, such as the date or the day of the week. In general, a complication is every indication, system or function beyond the hours, the minutes, and the seconds of the watch.

–2– Can a (mechanical) thermometer be considered a complication?

-2- WHY NOT? You could say that, because it is an additional indication. I wouldn't produce a thermometer, but you could consider it a complication.

–3– What's more important for you: the complication or the method of fabrication (watchmaking art)?

-3- THERE IS THE SIMPLE TOURBILLON, and then there is the double-axis or even triple-axis Tourbillon. They don't have the same level of difficulty, or even the same value. Sometimes, a great source of difficulty is the movement's architecture. For example, in Mega 4 the Tourbillon is situated on the same side as the mechanism of the Grande Sonnerie. It's different from the famous Grande Sonnerie that I manufactured at the time for Gerald Genta, in whose movement the Tourbillon was on the other side of the Grande Sonnerie.

–4– If finishing is pushed to the extreme, does it count as for a complication?

-4- NO. It's only part of the movement's decoration.

–5– Given that all complications do not present the same level of difficulty in their fabrication, does it make sense to add a Tourbillon to a retrograde date indicator and to say that this watch has 15, 26 or 35 complications?

-5- OF COURSE YOU CAN ADD THEM, since they are all complications. In the beginning we presented 25 complications for Mega 4, and they were all visible complications. Later, another house said that they had 26 complications in their new watch. Then we added 11 more complications, by attaching mechanisms which were not visible but which can still be considered complications. They are protections, complex systems, securities etc., which are also complications.

–6– What do you think of watches with many complications?

-6- THE MORE INDICATIONS and mechanical systems a watch has for providing additional functions, the more it is difficult and rare to produce. A Sonnerie which sounds the time with two hammers and a Perpetual Calendar do not make a Mega. What is very important is the number of components. It's certainly not a complication, but they give a general idea of the complexity of a watch.

–7– Does the retrograde date count as one or two complications?

-7- NO. It is one complication.

–8– Can you give us the 5 most important complications in order of difficulty?

-8- 1. WESTMINSTER GRANDE SONNERIE 2. Minute Repeater 3. Split-seconds Chronograph 4. Perpetual Calendar 5. Mystery Tourbillon (without bridge)

–9– In your view, which is the most complicated watch ever made?

-9- IT'S MEGA 4, OF COURSE.

–10– What is your favourite complication?

-10- THE GRANDE SONNERIE. It is really spectacular. What's more, its mechanism is beautiful to watch and to listen to at the same time.

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–11– Today, many brands are offering a Tourbillon, but very few are proposing their own chronograph. Is it more difficult to manufacture a chronograph than a Tourbillon?

-11- THERE ARE MANY MORE COMPONENTS in a Chronograph. I'd say that a Tourbillon is not difficult to manufacture today. You have to make it beautiful, you have to make it in the right way, and you also have to take into account the factors of weight, equilibrium etc. Still, it is less difficult to manufacture than a chronograph. In our new House which carries my name, we are ready to present a new chronograph that includes 4 patents.

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FRANCK MULLER

AETERNITAS MEGA 4

1.483 COMPONENTS

2009

1. *Day-Night display*
2. *Grande Sonnerie*
3. *Petite Sonnerie*
4. *Silence*
5. *Minute Repeater*
6. *Westminster Carillon on 4 gongs*
7. *Programming of the Grande - Petite Sonnerie function with a waterproof push-piece and display on the dial*
8. *Programming of the Sonnerie - Silence function with a waterproof push-piece and display on the dial*
9. *Lifting-lever mechanism of the strike when in hand-setting position*
10. *Mechanism which will not allow the start of a new strike if the preceding one is not to the end*
11. *Bolting mechanism of the hand-setting during the strike*
12. *Transmission mechanism to the hammer which permits the adaptation to different shape of the gong*
13. *Movement power reserve indicator (3 days)*
14. *Strike power reserve indicator (36h)*
15. *Silent centrifugal regulator of the rate of the strike*
16. *Flying Tourbillon on a ball bearing with ceramic balls*
17. *Balance wheel with adjustment screws in gold, without index*
18. *Breguet overcoil with Phillips curve*
19. *Tourbillon carriage, without any bridge, visible in the dial*
20. *Automatic self-winding mechanism of the movement with platinum micro rotor*
21. *Automatic self-winding mechanism of the Westminster Carillon with a platinum micro rotor*
22. *Perpetual Calendar*
23. *Display of the days*
24. *Display of the months*
25. *Retrograde Date*
26. *Secular Calendar*
27. *Display of the year up to 999 years*
28. *Display of bissextile year*
29. *Display of secular years*
30. *Astronomic moon: deviation of 6.8 seconds for each lunation representing an error of one day every 1000 years*
31. *Equation of time*
32. *Two additional time-zones*
33. *Chronograph incorporated with three column wheels*
34. *Instantaneous minutes counter*
35. *Hours counter incorporated in the mechanism of the chronograph, retrograde hand display*
36. *Fly-back hand mechanism*

PHILIPPE DUFOUR

NAME

WATCHMAKER

PROFESSION

PHILIPPE DUFOUR

HOUSE

–1– Give us a definition of the word "complication" (in watchmaking).

-1- MY VIEW IS that a watchmaking complication is any element, system or indication, in addition to the base, which is of course the display of the hours, the minutes, and the seconds.

–2– Can a (mechanical) thermometer be considered a complication?

-2- OF COURSE. Personally, I classify the complications by family: there is the family of complications of the calendar, the family of complications which serve to measure time, like the chronographs, the family of complications which show the time in an acoustic manner, and lastly there is the family of complications which aim to increase the precision of the watch, like the Tourbillon, the Regulator etc.

–3– What's more important for you: the complication or the method of fabrication (watchmaking art)?

-3- THAT'S PRECISELY THE POINT. The complication is of course very important, but the value always lies in the way it is made. The ideal is to combine both at the same time. A Tourbillon of high quality, for example, is the best.

CLICK TO LISTEN

–4– If finishing is pushed to the extreme, does it count as for a complication?

-4- NO, I DON'T THINK SO. I'd rather say that extreme finishing is something to be expected when you fabricate a watch - complicated or not that you want to present as high quality.

CLICK TO LISTEN

–5– Given that all complications do not present the same level of difficulty in their fabrication, does it make sense to add a Tourbillon to a retrograde date indicator and to say that this watch has 15, 26 or 35 complications?

-5- NOW WE ENTER THE FIELD OF MARKETING. When I speak of complications, I mean separate complications. For instance, a watch with a Tourbillon, and nothing else. No other complications. On the other hand, you are talking about a "cocktail" of complications! It's like the Big Mac, which has several layers!...

–6– What do you think of watches with many complications?

-6- THAT'S A TECHNICAL ACHIEVEMENT, if you like, but, at the end of the day, I don't think that we gain much in this way. We may mix all sorts of complications in order to create the most complicated watch, but we have to make compromises. We may include a Tourbillon with a Minute Repeater, and many other complications, in the same watch, but it has to be a small Tourbillon because there is not enough space, whereas a big Tourbillon would give better results in terms of chronometry, etc. We have to make concessions in every domain in order to have as many complications as possible, but I think that this goes against the good operation of each of these complications.

–7– Does the retrograde date count as one or two complications?

-7- THE RETROGRADE DATE is a complication in itself.

–8– Can you give us the 5 most important complications in order of difficulty?

-8- 1. GRANDE SONNERIE 2. Minute Repeater 3. Tourbillon 4. Double Split-seconds Chronograph 5. Perpetual Calendar with Equation of Time

–9– In your view, which is the most complicated watch ever made?

-9- WHEN YOU TALK about the most complicated watch in the world, I immediately think of a pocket watch. The Calibre 89 or the watch fabricated in the 1930s for Henry Graves, both of which were created by Patek Philippe.

–10– What is your favourite complication?

-10- THE WESTMINSTER GRANDE SONNERIE.

–11– Today, many brands are offering a Tourbillon, but very few are proposing their own chronograph. Is it more difficult to manufacture a chronograph than a Tourbillon?

-11- OF COURSE. A chronograph has many elements. It's not easy to fabricate all of them. Clearly, it is more difficult to construct a chronograph from zero than a Tourbillon. There was a myth around the Tourbillon. Remember that, some years ago, when a House launched a Tourbillon, they organized a big press conference announcing that, finally, after five years of research, the House's watchmakers succeeded in fabricating this centrepiece of watchmaking art, the Tourbillon. Today, if you go to Basel, you can see cardboard boxes with thousands of Tourbillons produced in Hong Kong in incredible quantities. For me, the "myth" of the Tourbillon is dead.

CLICK TO LISTEN

GIULIO PAPI

NAME

WATCHMAKER

PROFESSION

RENAUD & PAPI

HOUSE

–1– ***Give us a definition of the word "complication" (in watchmaking).***

-1- WE HAVE THE BASIC MOVEMENT, which is made up of the barrel, the balance, the escapement system, as well as the winding and the time-setting system, whereas a complication would be anything that we add on top of that. For example, a calendar -even a simple one- or a chronograph are complications.

–2– ***Can a (mechanical) thermometer be considered a complication?***

-2- FOR ME, a thermometer is not a complication, because it doesn't need a basic movement in order to function. A true complication always needs a basic movement.

–3– ***What's more important for you: the complication or the method of fabrication (watchmaking art)?***

-3- ACCORDING TO MY DEFINITION, a Tourbillon serves to improve chronometry and is part of the basic movement. In the collective imagination a Tourbillon is a complication, but it is in fact a technical sophistication whose purpose is to improve chronometry, and it will always be part of the basic movement.

–4– ***If finishing is pushed to the extreme, does it count as for a complication?***

-4- NO. It's not at all a complication, but it concerns the quality of execution. It's something that we can do with every object that we produce. I'd say it's a complexity, not a complication.

–5– ***Given that all complications do not present the same level of difficulty in their fabrication, does it make sense to add a Tourbillon to a retrograde date indicator and to say that this watch has 15, 26 or 35 complications?***

CLICK TO LISTEN

-5- WE WANT TO PRESENT A PRODUCT to clients, and we want to produce a watch with many complications. We try to carry out a technical achievement, that is to say, to mechanically add several complications in the same watch. A Minute Repeater is a complication, and so is the Perpetual Calendar. Now, if we start saying that the Perpetual Calendar amounts to five complications, then we should at least make sure that everyone agrees with us.

–6– ***What do you think of watches with many complications?***

-6- PERSONALLY, I very much like proposing watches with several simultaneous complications. It's true that they are more difficult to make, they are much more expensive, and we also have to find the customers. On the other hand, they are objects of great beauty.

–7– ***Does the retrograde date count as one or two complications?***

-7- HERE WE GO AGAIN. The date is already a complication. Then, the fact that it's retrograde adds one more complication. So, why not? You could say that.

–8– ***Can you give us the 5 most important complications in order of difficulty?***

-8- 1. GRANDE SONNERIE 2. Minute Repeater 3. Perpetual Calendar 4. Split-seconds Chronograph 5. Chronograph

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–9– ***In your view, which is the most complicated watch ever made?***

-9- I THINK THAT it's still Calibre 89 by Patek Philippe.

–10– ***What is your favourite complication?***

-10- THE GRANDE SONNERIE.

–11– ***Today, many brands are offering a Tourbillon, but very few are proposing their own chronograph. Is it more difficult to manufacture a chronograph than a Tourbillon?***

-11- FABRICATING A TOURBILLON is always a complex task. The reason is that it affects the heart of the watch, which is the basic movement. A chronograph is a sequence of mechanisms which depend also on the precision of the basic movement.

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