

# DEBUNKING THE QUARTZ CRISIS

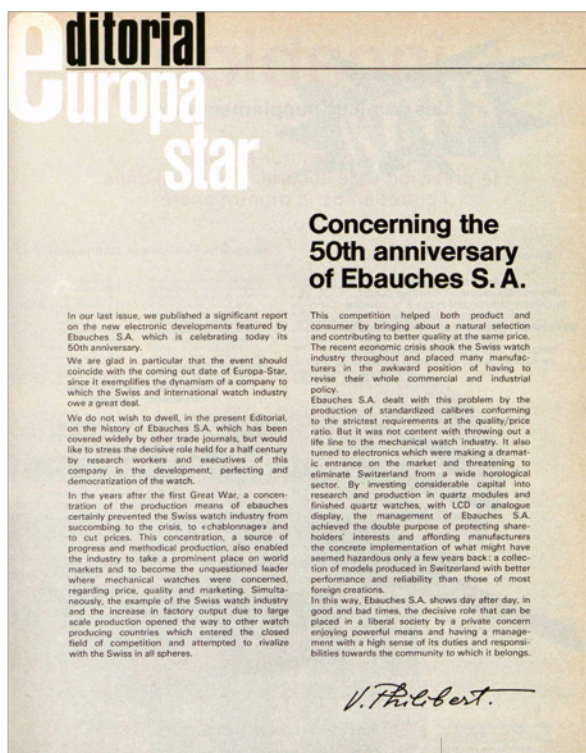
BY STEPHEN FOSKETT / GRAIL WATCH

The distinction between vintage and modern is often drawn at the beginning of the 1980s, when nearly every Swiss watchmaking company failed. Although widely called the quartz crisis today, this transition was driven more by the changing global economy than quartz technology. But the disruption at this time presents an obvious end to the vintage era of watchmaking.

**M**ost people know that the Swiss watch industry collapsed between 1975 and 1985, resulting in most manufacturers going out of business or consolidating into the modern Swatch Group. But why did this happen? Folklore would have it that the Swiss watch industry was shaken by the onslaught of cheap quartz watches, many from Japan. They have heard that this "quartz crisis" derailed the entire industry in the 1970s and nearly ended watch manufacturing in Switzerland. But this tale is highly inaccurate. It seems logical that a new technology like electronic quartz movements would be disruptive to the industry. But the actual crisis that shook the industry was economic, triggered by a rapid increase in value for the Swiss franc but actually caused by the hopelessly-fragmented industry legally restricted from modernisation. Although Japanese and American suppliers of quartz watches made this economic crisis worse, technology was not the driving force. And many high-end manufacturers survived the crisis, laying the foundation for the modern luxury watch industry.

## The economic crisis and the rise of quartz




























They say that generals are always fighting the last war, and this observation is true of businesses as well. From the great depression to the Covid pandemic, investment and trade policy is usually directed by recent failures rather than forward-looking economic analysis. So it is no surprise that the policies that drove Swiss watchmaking in the 20th century were a reaction to past rather than future challenges.






























After decades of boom and bust, the Swiss government and industry joined together to put an end to over-production and cut-throat price wars. But these moves, adopted in the 1930s, also reduced the incentives to modernise production and distribution of watches. In fact they might have spelled the end of the industry entirely if the world was not immediately plunged into a decade of war. After World War II, global exchange rates were locked in place by the agreements signed at Bretton Woods. The value of the Swiss franc remained artificially low for two decades, allowing Switzerland's watch industry to prosper without adopting the verticalised mass production that transformed the world in the 20th century. Although they were aware of this perilous situation, the industry did little to prepare for international competition and floating exchange rates.

This 1977 editorial is clear that the crisis was economic, and that the Swiss watch industry was responding with standardised mechanical and electronic movements.

## ELECTRIC AND ELECTRONIC WATCH MODELS

TYPE	BALANCE-SPRING ELECTRIC		BALANCE-SPRING ELECTRONIC		SONIC RESONATOR ELECTRONIC		LOW-FREQUENCY QUARTZ ELECTRONIC				
	1	2	3	4	5	6	7	8 (CYBERNETIC)	9		
RESONATOR	 Driving balance	 Driving balance	 Metal tuning-fork	 Compensated metal tuning-fork	 Quartz rod	 Quartz rod	 Quartz tuning-fork	 Quartz rod + micromotor	 Quartz tuning-fork		
FREQUENCY	2.5 - 4 Hz	2.5 - 6 Hz	360 - 480 Hz	300 Hz	8192 Hz	8192 Hz	8192 Hz	9350 Hz + 170 Hz	16,384 Hz		
CIRCUITRY	 Electric contact	 Transistors	 Transistors	 Transistors	 Integrated circuit	 Integrated circuit	 Integrated circuit	 Transistors	 MOST integrated circuit		
DISPLAY CONTROL	 Gears	 Gears	 Wheel and pawl	 Wheel and pawl	 Micromotor and pawl	 Stepping motor	 Stepping motor	 Micromotor - pawl	 Stepping motor		
SPECIAL FEATURES	Ladies models in existence This system has been abandoned in Switzerland	Ladies models in existence	Ladies models in existence	Chronograph model available	First watch with integrated circuit			Vibrant motor regulated by the quartz through a compensator circuit			
EXISTING MODELS	Various	Various	Bulova Accutron Mini-Accutron Slava (USSR)* *Accutron copy	Swissmatic 100 (Mosaba)	Various; Beta 21 Development Group (CEH-Beta 21)	Lip (France) 1972	Junghans (Germany) 1972 72	Longines ultra quartz	Seiko (Japan) 3rd version		

TYPE	LOW-FREQUENCY QUARTZ ELECTRONIC								HIGH-FREQUENCY QUARTZ ELECTRONIC
	10	11	12	13	14	15	16	17	18
RESONATOR	 Quartz minirod	 Quartz tuning-fork	 Quartz minirod	 Quartz minirod	 Quartz minirod	 Quartz minirod	 Quartz minirod	 Quartz minirod	 Quartz wafer
FREQUENCY	32,768 Hz	32,768 Hz	32,768 Hz	32,768 Hz	32,768 Hz	32,768 Hz	32,768 Hz	32,768 Hz	2,359,296 Hz
CIRCUITRY	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit	 MOST integrated circuit
DISPLAY CONTROL	 Stepping motor	 Stepping motor	 Tuning-fork and pawl	 Stepping motor	 Stepping motor	 Electronic display system	 Liquid crystal display	 Liquid crystal display	 Stepping motor
SPECIAL FEATURES	A single circuit carries out all functions	Day-Date calendar	Highly miniaturized a 28 mm Day-Date calendar	Day-Date calendar	Men's model Day-Date and ladies version (the world's first)	World's first watch with electronic display. Non-permanent: actuated by pressing a button	Permanent display	Permanent display with seconds hand and calendar	First high-frequency quartz watch
EXISTING MODELS	Girard-Perregaux	Ricoh (Japan)	Bulova Accuquartz	Roamer Micro-Quartz	Ebauches S.A. Swissonic 1000	Hamilton (USA) Omega (improved model)	Societe des Garde-Temps Dittion Tissot - Lanco	Ebauches S.A. Swissonic 2000 Longines	Omega megaquartz (prototype)

Quartz watches are listed by order of resonator frequency and – in cases of equal frequency – by order of information release date.


Thus it is no surprise that the entire Swiss watchmaking industry collapsed once the Bretton Woods system failed in the 1970s. With the franc rising rapidly, Swiss watches were no longer competitive on the international market and dispersed Swiss factories were not able to reduce costs through centralised mass production.

Already on its knees due to economic factors, the Swiss industry then faced a new challenge: quartz. American and Japanese electronics companies rapidly reduced the cost of quartz watch components, notably integrated circuits, quartz crystals, and stepper motors. Although Switzerland had competitive technology from the start, they could not compete with the global electronics industry and were forced to source these components from outside the country. Thus it was that the hundreds of specialist component factories in the Swiss Jura felt the impact of quartz even as the Swatch sold millions of units globally. These sequential crises pushed Switzerland out of the low-priced watch market entirely. Japan emerged as the global supplier of mass-produced watches, and quartz movements dropped to the bottom of the market. But high-end and complicated watches retained some demand even in the 1980s, and the Swiss industry embraced luxury and craftsmanship.

In reviewing the Basel Fair in 1972, *Europa Star* published this illustration of the state of the art for electric and electronic watches. It shows that the Swiss industry was actively developing advanced watches, and was competitive in every aspect of technology. The eventual crisis was financial and manufacturing-related, not technological.

Even as the industry was at its lowest point in 1983, mechanical watchmakers like Blancpain, IWC, and Jaeger-LeCoultre were again on the rise.

We don't have to guess about the cause of the crisis. In a 1977 editorial, *Europa Star* editor V. Philibert noted specifically that "the recent economic crisis shook the Swiss watch industry throughout and placed many manufacturers in the awkward position of having to revise their whole commercial and economic policy." Let us take a deeper look at the true root of the crisis.



	Cal. 3882 GFA	Cal. 3823 VFA	Cal. 4100/4110 CN & CR	Cal. 5000 CM	Cal. 5624
Frequency	10,384 Hz	10,384 Hz	32,768 Hz	32,768 Hz	32,768 Hz
Accuracy	1 second a month	5 seconds a month	15 seconds a month	15 seconds a month	10 seconds a month
Characteristics & additional function	The world's most accurate quartz watch. Day/Date calendar.	Day/Date calendar	Currently the world's most accurate quartz watch movement. Shocking 2.02 mm.	Day/Date calendar	8 digits for hours, minutes and seconds. Simultaneous pushbutton time adjustment.
Display	Analog	Analog	Analog	Analog	FE type LC Digital

**SEIKO, K. HATTORI & Co., LTD., Tokyo (Japan)**

The Japanese watch industry was amongst the first to see the future that was opening before quartz watches and Seiko can pride themselves on being the first to have sold a timekeeper in this category. Today, this company offers a particularly wide range of lengthily tested watches in a great variety of prices.

*From left to right:*  
 Quartz GFA watch by Seiko. Guaranteed precision: one second per month.  
 Seiko watch with digital LCD display, 6 indicators.  
 Two extra-flat watches from the Quartz CN series by Seiko.

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## A workshop or factory in every valley

The roots of the watchmaking crisis in the 1970s are seen even a century earlier. Mass-produced American watches took the world by storm in the 1870s, offering higher quality and lower prices than the largely hand-made European products. Switzerland still followed the system established by Daniel JeanRichard at the end of the 17th century. Small workshops, some just a workbench in the kitchen, produced individual components by hand throughout the Jura mountains. These hand-made components were collected, assembled, and adjusted by family workshops in towns like Le Locle, La Chaux-de-Fonds, and Saint-Imier before being distributed and sold worldwide. So-called etablissage matched the geography, philosophy, and politics of Switzerland but the resulting watches were widely seen as unreliable compared to the products of large American factories.

Even as they were reeling from the drop in demand due to American production, the world was rocked by an economic crisis in the 1870s. Neuchâtel watchmaker Théodore Gribi wrote from the Philadelphia Exhibition of 1876 of the tremendous progress of industrial watchmaking by Waltham and others. Although Jacques David and Ernest Francillon of Longines and Georges Favre-Perret of Zenith quickly built more modern factories, the wider industry was resistant to change. As watchmaking factories proliferated around the turn of the century, most were small or specialised, scattered in every valley and town in the Jura.

## THE WORLD'S LARGEST SELECTION OF QUARTZ WATCHES. SEIKO.

Seiko sold the world's first quartz wristwatch. And Seiko makes the world's most accurate quartz, the world's thinnest quartz and the world's largest selection of quartz watches.

Seiko makes every part of every quartz watch it sells. Our quality control is unparalleled in the industry. That's why our finest quartz watch can be guaranteed accurate to within one second a month, our quartz dress styles are the thinnest in the world, our digital model offers a continuous read out, down to the precise second, with no buttons to push.

Whatever Seiko Quartz model you select, you get more than just a technologically advanced timepiece, you get the watch that's changing the world's standard of accuracy.



**SEIKO**



**SEIKO QUARTZ**

Someday all watches will be made this way.

Seiko released a pair of practical and modern quartz watch movements in 1974. Calibres 38 and 41 enabled the company to deliver a full line of analogue quartz watches at a competitive price, laying the foundation for the dominance of Japanese quartz watches in the 1980s.

Overproduction after World War I and competition from German factories, desperate for currency after the Deutsche Mark collapsed in the Weimar Republic, caused the next great crisis for Swiss manufacturers. About half the watch and component makers active when the war started were no longer in business a decade later, but these were quickly replaced by an explosion of new names in the 1920s. Industry leaders began to sound the alarm that a new round of overproduction was looming.

## The Swiss watchmaking cartel

Throughout the 1920s, Swiss politicians, bankers, and industrialists came together to protect the industry. Although the largest factories were consolidated in towns like Le Locle, La Chaux-de-Fonds, Saint-Imier, and Bienne, hundreds of factories remained scattered through the cantons of Vaud, Neuchâtel, and Bern. Fearing the economic impact of real consolidation, their decisions focused on retention of this dispersed manufacturing base.



The cartels, cooperatives, and holding companies created in the 1920s were designed to retain the geographical and functional dispersion of watchmaking. The Swiss solution was to protect existing companies through subsidies, tariffs, price controls, and quotas rather than concentration of production in a few large factories. This began with the industry but soon brought the power of the Swiss state to bear.

Starting in 1923, the Swiss Watch Chamber initiated a series of measures to protect the "common interests" of the industry, creating the *Federation Suisse des Fabricants d'Horlogerie* (FH) in 1924, Ebauches S.A. in 1926, and UBAH for component makers in 1927. Although they were somewhat successful in restricting competition, some firms persisted in exporting movements and skirting the quotas established by these groups. In 1931, a "super holding company" called ASUAG was created to exert more pressure on these companies. But even this group, which included the Swiss banks and the government itself, was not entirely effective.

In 1933, a federal statute was passed to create "Measures of Economic Defense against Foreign Countries." The first measure was to legally restrict exportation of watch movements and components without permission of the Chamber or a compliance organisation known as Fidhor. In 1936, these export controls were extended to include complete watches, and minimum price lists were established, along with restrictions on new firms entering the field.

Thus, the fragmented Swiss watchmaking industry was cemented into law under the control of a central committee. The Fidhor rulings eliminated real competition between firms and blocked innovation in design and production of watches. And tight export controls were designed to stop any other country from developing a competitive industry to produce watch components or assemble watches based on Swiss movements.

### **Saved by the post-war economic system**

The strict controls of the cartel would likely have interfered with the long-term competitiveness of the Swiss watch industry had the 1940s not seen every other watchmaking nation turn its attention to World War II. Production of watches was halted in Germany, France, Britain, Russia, Japan, and the United States, and the factories and machinery in Europe and Japan were destroyed. Watchmakers joined the war as

*The fragmented Swiss watchmaking industry was cemented into law in the 1930s under the control of a central committee.*

## **ETYMOLOGY OF THE QUARTZ CRISIS**

**Given the true history of the economic crisis of the 1970s, where did the term "quartz crisis" come from?**

The earliest references in *Europa Star* to a crisis of quartz watches come in 1983, when Philibert referred to "the crisis of the technical timekeeper." It was not until 1993 that the term "quartz crisis" appeared there, and then as a reference to the push to develop competitive movements in the late 1970s. Throughout the 1990s, we see the economic crisis being mentioned alongside the rise of quartz. A 1999 profile of Ernst Thomke tells us that the "quartz crisis" was the need for a modern quartz movement in the 1970s, which Thomke delivered as head of ETA. In the 2000s, however, the reality of these crises was merged in the words of those covering the industry. As the resurgence of mechanical watches crested and massive industry consolidation occurred, the economic and technological issues of the 1970s and 1980s lumped together under the banner of the "quartz crisis." Perhaps it was a case of marketing spin. The differentiating factor for Swiss watches in modern times is their craftsmanship and heritage, and this could be undermined by the collapse of most companies around 1980. So what better way to spin that failure than blame quartz, which was by then seen as an uninteresting commodity? Seen this way, the term "quartz crisis" actually delegitimises the electronic watch industry while highlighting the resurgence of Swiss artistry.



## HOW SWITZERLAND ALMOST AVOIDED THE CRISIS

Despite the stability of the 1960s, the Swiss watch industry was aware of the challenges they faced. Even without direct competition they invested in new technologies and attempted to rationalise production of watches. But they were unable to make the changes needed to hold off the crash that started in 1978.

Although Japan, America, France, and Germany were instrumental in the development of electronic and quartz watches, Switzerland was clearly in the lead. The Neuchâtel-based research group known as CEH was home to many breakthroughs, showing the world's first quartz watch in 1967. Swiss scientists and engineers were deeply involved in the development of integrated circuits and quartz crystals, and Swiss companies were well ahead of Japan and America in the early days of quartz and LCD watches.

But Switzerland's small distributed manufacturing system could never compete with emerging giants like Intel and Texas Instruments who would come to dominate the electronics industry. It was not until Swiss companies embraced this global supply chain that they were able to build low-priced quartz movements. And it is important to note that the first Swatch watches came off the line in 1982, the darkest year of the quartz crisis! Watch industry management saw what must be done as well. In 1968, SSIH commissioned consulting firm McKinsey to study the reorganisation of the holding company that then included Omega, Tissot, Lemania, and Rayville (Blancpain). The company responded by reorganising along functional lines and integrating from the top down. In 1972, SSIH Management Services wrote in *Europa Star*: "Economic inflation, technological renewal, the world monetary crisis, and present protectionist trends, following on 25 years accelerated expansion, need to be faced realistically with a view to altering our structures whenever necessary." They also noted that "Omega has sold more quartz watches than all other competing firms together" as of that date.



Over the years, engineers of ETA SA have been developing products that have kept pace with the trends in watch technology. Our company intends to remain faithful to this tradition.

The tendency in the watch market is clearly moving towards quartz movements, but we still have an enduring faith in mechanical watches. In the future as in the past, ETA SA will continue to market new, consumer-oriented calibres of both types, in cooperation with our

customers who all through the years have helped to consolidate and extend the high reputation enjoyed by ETA, through their worldwide sales of watches equipped with ETA movements.

In the future, likewise, we will do all that is in our power to extend even wider and deeper the already-established close cooperation, by means of maintaining a frank constructive dialogue and by developing a marketing philosophy that keeps its eyes fixed firmly on the future.

We are convinced that the flexibility and the market-oriented individualism of approach that must derive from such a strategy will prove a successful counter-balance to the massive foreign competition, both for our trade customers and for our own company.

*Ernst Thomke, Managing Director*



Moves like this explain why the SSIH remained stronger than most companies through the economic crisis and became the foundation for the Swatch Group. But most others failed to centralise production, with hundreds of small struggling factories closing around 1980. Despite this ongoing crisis, hundreds of new factories popped up at the same time, most failing just as quickly. It is shocking to see that there were twice as many Swiss companies exhibiting at the Basel Fair in 1980 as in 1960!

Switzerland fought a losing battle throughout the crisis, but the success of the Swatch Group (and the Swatch itself), the focus on haute horology (exemplified by Audemars Piguet, Blancpain, and Breguet), and the exit from hopeless markets like low-end watches brought us to where we are today.

The Thin Watch War saw Ebauches SA, Citizen, and Seiko battling to deliver the thinnest quartz movement. ETA's Delirium measured under 2 mm when it was released in 1978, and the technology and architecture paved the way for the Swatch.



## The height of the crisis

The industry suffered particularly in 1981 and 1982, as the world economic crisis impacted production of watches in Switzerland, France, and Asia. But commentators were clear that it was an economic crisis rather than a technological one, with the rise of quartz movements dealing a second blow to an already-struggling industry. V. Philibert, writing in *Europa Star* in 1982, noted that "the storm that broke of the watch industry occurred at the same time as the world [economic] crisis, and contributed to undermine this industry's foundations." But insiders saw some hope as well. Although "buyers made a beeline for novelty," Philibert saw that "the quartz watch with LED display has disappeared" and that "with LCD display has lost its impact." And already it was clear that "jewellery watches and top-grade watches whether mechanical or quartz maintain their popularity because, at that level, the quantity and quality of the gemstones and the originality of the ornamental work are the most essential factors." But even the full might of Japanese quartz watch production was not immune to economic conditions. Later in 1982, Philibert warned that "quartz watch sales are toppling too" and that "the only kind of watch that seems to be holding its own in this general collapse is the top grade one." He then states clearly that "the factors responsible for the crisis are increased unemployment and the fall of purchasing power in almost every country." He also saw that mass production was driving down the cost of watches, undermining the global industry.

By 1983, the low-end Swiss watchmaking industry was gone, but the iconic plastic Swatch was emerging as a global fad. Jean-Claude Biver's reborn Blancpain and Chaumet's Breguet debuted that same year, and Chronoswiss, Ebel, and Kelek showed the value of complicated mechanical movements. As predicted, mechanical watchmaking came roaring back in the second half of the 1980s, with IWC's Da Vinci and a raft of tourbillons leading the charge. The true quartz crisis was over as quickly as it started.

## Conclusion

It was not quartz that nearly spelled the end of the Swiss watchmaking industry but the structure of the industry itself. Today, a remarkably similar challenge is rising. Smart watches are displacing mass-produced Swiss watches, especially those built of commodity components. Yet the haute horology market is barely even noticing the rise of the Apple Watch and its ilk. Once again, Switzerland is thriving by focusing on what it does best. ♦

ETA caused a sensation with the low-cost Swatch, which first appeared in 1982 just as Swiss watchmaking was at its lowest point. But the fashionable plastic watch provided the impetus and financing for much-needed consolidation and focus, saving the industry.

When this editorial was written in 1982, analogue quartz watches were dominant, but LED and LCD had failed, and top-grade mechanical watches were ready for a renaissance.

### The SWATCH Watch by EBAUCHES S.A.

Bienne, Switzerland

The ETA Group, a manufacturing unit belonging to Ebauches S.A., has just launched a new kind of watch made of synthetic material — the "Swatch" — in which a completely new concept and production technology are applied. This is a water-resistant analog quartz watch of synthetic material which meets the high quality standards of the Swiss watch industry but retails at prices from 40 Swiss francs.

In order to achieve this remarkable quality / price ratio a new concept for the product was developed which enables production to be totally automated. The traditional method of producing a watch involves the assembly of components on a base plate — the main plate — followed by the insertion of the movement into the watch from the back. In the new watch the back, made of plastic material injected with great precision, serves as the base for the components. This concept makes it possible to reduce the number of components by 50%. Assembly is carried out through the upper part of the case and the last step is the welding of the glass — also made of synthetic material — to the case. This system ensures that the watch is water-resistant to a depth of 30 metres.

The development of this new idea benefited to a considerable extent from the experience gained since 1978 with the "Delirium" watch which, with its overall height of 1.98 mm (0.98 mm in one version) is the world's thinnest watch.

In spite of its particularly strong construction the new product is outstandingly elegant and slim. A special system for attaching the bracelet enables it to be adjusted to all sizes of wrist without spoiling the line.

The consumer can easily change the battery (which lasts 3 years) himself. The water-resistance gasket in the battery cover and the bayonet fitting of the cover ensure that the watch is still water-resistant after a battery change.

The launching of this watch shows the creativity and spirit of innovation of the Swiss watch industry's engineers and technicians as well as the expertise of the ETA Group in various micro-engineering fields such as high precision injection, pressing and machine tooling.

This product will offer the Swiss watch industry new opportunities in a complementary segment of the market, which is expanding and covers low-price quality watches sold through the mass-distribution channels.

As a first stage the new watch was introduced in Autumn 1982 on the American market.

# editorial

## Europa

### star

## After the Storm

20 years ago, almost nobody believed in electric watches and still less in electronic ones. The first models released on the market — I believe they were developed by Lip, at Besançon, France — caused smiles and the experts declared that the general public would never, really never, exchange their highly perfected mechanical watches for those heavy and not very reliable gimmicks. And then came Bulova with its transistorized Accutron produced in the United States from a patent taken out by a Swiss researcher. Although not taken too seriously at first, the later improved models forced people to understand that electronics had succeeded in penetrating the hitherto sacrosanct field of horology and were not to be driven out by mere scorn.

"If you can't beat them, join them" was the attitude taken in Switzerland and elsewhere and after a few more years, a competitor to the Accutron was developed in Switzerland. And then the quartz watch made its entry. I well remember the press conference at Neuchâtel where it was first displayed. The first quartz models were heavy and clumsy. The experts shrugged their shoulders once again and it was the Japanese who were left to market them. A bombshell followed. Buyers suddenly made a beeline for this novelty. Seeing a vast potential market, the Americans flooded the horological world with calibers each one more sensational than the last and equally transient. Mechanical watches which had seemed to be secure for eternity, trembled on their pedestals. Suddenly everything traditional was considered old-fashioned and even watch hands crumpled before the invasion of LCD and LED display systems. The storm that broke over the watch industry occurred at the same time as the world crisis and contributed to undermine this industry's foundations.

After the storm abated, the damages had to be assessed. They were enormous, especially in Switzerland, so famous for its watch and clock production. Most firms of ancient or prestigious reputa-

tion had disappeared, or only the name subsisted and the new owner was unknown.

A few sturdy firms however stayed afloat and survived the turmoil, amongst which those that had specialized in high-grade jewellery watches and, in one or two cases, of models dripping with gemstones for the delectation of the new petrol kings.

And the years passed...

Now, in 1982, the situation is clearer and it is time to take stock. Mechanical watches of the lever type are in low demand except in two strangely opposite sectors: countries where the climate is unsuitable for batteries and electronic modules, and the "de luxe" watch sector where beauty of mechanism counts more than its accuracy.

- ★ The inexpensive "Roskopf" type watch is sinking into oblivion.

- ★ The quartz watch with LED display has disappeared.

- ★ The quartz watch with LCD display has lost its impact and is limited to highly specialized fields.

- ★ The quartz watch with analogue display is in steadily growing demand.

- ★ Jewellery watches and top-grade watches whether mechanical or quartz maintain their popularity because, at that level, the quantity and quality of the gemstones and the originality of the ornamental work are the most essential factors.

At the technical level, quartz watches are finished with teething troubles. Besides ensuring far higher precision than mechanical calibres, they enable the creation of stunningly elegant models. The calibre war is in abeyance at the moment and has been replaced by competition with regard to styling only. For how long? Man is thus made that he cannot help always looking for something new.

It would not be surprising if a new storm was brewing on the horizon, bringing fresh troubles. In what sphere? Who knows? Perhaps again in the matter of quartz display.

V.P.