

Clocks Imitate Life, but Life Is Too Complicated

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A tool's value is traditionally measured by its utility—how efficient and effective it is at doing a certain job. In the 16th century, German clockmakers invented the portable timepiece—known today as the watch. It was a messy pocket-egg—just two brass discs folded over a crude system of gears and metal bars, powered by a strip of some more metal coiled into a spiral-like shape, called the mainspring. When the mainspring was wound, it maintained enough elastic potential energy to run a mechanism.

These early pocket-watches had only an hour hand, and despite their complex design, had an error of several hours per day due to the weakening of the mainspring as it unwound. Nobility wore them for the sake of novelty; their time telling utility was largely irrelevant due to the consistent inconsistency. The noble age was defined by pure aesthetics, watches were jewellery that happened to occasionally tell the time. However, people still sought to improve them.

Thus, the revolution of horology began. Watchmakers began improving their designs with hairsprings and balance wheels, lever escapements, minute-hands, second-hands, frictionless ruby bearings. Working men began wearing cheap chain watches on the outside of their soot-covered waistcoats, women of the era began wearing their braceleted wristwatches for teatime tracking.

By World War One, necessity professionalized the wristwatch. An error of just half a minute or so per day transformed it from a novelty into a tactical advantage; a mud-slicked soldier who knew to come up at sunrise from inside a dark trench was better than one who rose at the sound of rifle fire in his bed. Indeed, soon the British issued watches as standard gear to their army, navy divers tracked their time spent submersed with “dive watches”, officers timed their charges to pilots relied on them under shifting gravity. It was the golden age of timepiece utility.

Switzerland—known for its neutrality in the Great War—supplied both the Central and Allied powers with watches. It became the birthplace of Rolex, Tissot, Omega, Longines, and TAG Heuer, all watchmakers known now for their commitment to mechanical movements. This became especially important when the Japanese company Seiko – who had up until this point chased the rainbows of Swiss watch designs – developed the very first quartz watch in the 1960s, beginning the Swiss “quartz crisis” or to the rest of the world, the “quartz revolution”.

The quartz crisis was known as such to the Swiss because it was the first time that the limit of timekeeping innovation seemed truly in sight. The oscillation of a piezoelectric quartz crystal at 32768 Hertz, sliced in half repeatedly until it reached nearly exactly one cycle per second, powered entirely by a small, replaceable battery lasting for years, all for a fraction of the price and effort of a mechanical watch. The error rate of this quartz watch was just a few seconds a month, vastly improving on the stability of mechanical watches.

At the time, the excellence of Swiss watchmaking was a matter of national identity—as such, they were hesitant to invest in the quartz technology. Other countries were not so reluctant, and by the late 1970s, American and Japanese quartz watches overtook Swiss mechanical watches in market popularity. It was seemingly the end of analogue timekeeping as a utility-based product.

But in its place, there was still *something*. In a rare moment of consumer and corporate agreement, mechanical watches stopped trying to be the best at telling the time, and instead tried to be the best at being mechanical watches.

While digital manufacturers built complications like alarms, radio-synchronization, and solar charging entirely in silicon and code, the Swiss stubbornly refined their mechanisms through increasingly intricate gears and gemstones—by far the steeper hill to climb.

But still, slowly, painstakingly, utility as it was defined by the military man was replaced with the value found in the struggle itself. The darkest era for mechanical watches was during the short period between the invention of quartz watches and the advent of the cell phone, when the Swiss nearly lost hope for their former industry leaders, now relegated to antiques.

Once phones came to be, the obsolescence of mechanical watches weren't just in their accuracy compared to quartz clocks, but in their necessity as a quick way to check the time entirely. Quartz watches themselves became significantly less useful when everyone had one in their pocket. What would be the point of having a clock on the wrist when one was always in your hand? However, this second "crisis" was a form of liberation for the mechanical watch industry, as by then no one was under the impression that mechanical watches were better in terms of objectively telling the time.

By the early 2000s, the atomic clock – the final frontier of timekeeping beyond even the quartz clock – was common. The large apparatuses sat stationary in quantum labs, moving atoms of liquid caesium or ytterbium using lasers and sending radio signals that synchronise to an internal quartz clock stored in each and every smartphone, all with an error of just a few seconds per *billion* years. The mechanical watch by now had returned to its roots as a complete novelty.

Yet, millions of people throughout the world continued to discuss the improving efficiencies of mechanical movements as if they were each a breakthrough in technology. The mechanical watch – now often called the automatic watch for the ubiquitous self-winding mechanism – is prized for its mixture of modern tradition, elaborate beauty, and glamorous luxury. The utility of the watch has shifted from literal chronological accuracy to the social and personal benefits of owning a "nice" watch.

In the present day, automatic watches are even considered *superior* to quartz watches amongst many enthusiasts, possibly because of the fact that they're significantly harder to construct. For mechanicals, the inefficiencies inherent to their design nearly become the draw itself, which is unlike almost any other engineering discipline in the world. The uniqueness of horology is apparently in its combination of art and precise engineering.

If a luxury, atomic wristwatch the size of an automatic hit the market today, would it become the ultimate status symbol? No. The enduring popularity of the mechanical watch is rooted not in status, but in artistic tangibility.

People don't exclusively wear quartz watches for this same reason. Though many pledge allegiance to them for their singular ability to take excessive amounts of abuse (like CASIO's G-SHOCK line, which is world famous for its insane durability and reliable low-power movement), the quartz watch exists on a layer distinctly below the automatic watch in terms of both prestige and further—human comprehension itself.

When the layman takes apart a classic quartz watch like the CASIO F-91W, all they'll see is a circuit board, a thin film of LCD, and a hermetically sealed alloy canning the oscillator. The 'magic' of the clock is hidden in the invisible design of highly-compressed electrical engineering. But when someone looks through the sapphire glass case-back of a mechanical watch, they see actual movement.

They see hands sweeping smoothly across the dial, they see a miniature metropolis of gears driving those hands, and finally, they see the beating heart of the balance wheel—swinging back and forth like a spring pendulum to pulse out that raw power. It's in the size and verifiable reality of the mechanism to define the automatic watch as a valuable piece of art, rather than a mere object.

In a way, I find this to be a microcosm of humanity and our relationship to art. Though we spend hours detaching ourselves from our art and creating such complex works of it that it cannot be collectively understood outside of a surface-level, we always return to that which is simple and tried. Rather than continue to pointlessly revolutionise, we choose to improve and reexamine the classics.

Not because we are necessarily lazy or believe them to have been perfected at that time, but because we understand them so deeply. We relish in transparency, not in the wonder. I argue that humans are curious, yet our real joy and comfort comes from that which we get completely.

Humans search for questions to find their answers, not the other way around. A silicon chip or an atomic laser provides a flawless answer to the question of time, but it buries the explanation in the dark. A mechanical watch, with all its inherent inefficiencies, keeps nothing a secret. When we look at a mechanical clock, we witness the struggle of finding the time, not just the time itself.

In a world increasingly driven by invisible forces, we choose gears because they show their working.