BY CURTIS D. THOMSON

THE CRAFTSMAN

Working strictly by hand, Richard Miklosch creates traditional pocket chronometers with decidedly low-tech, masterful watchmaking

Miklosch made these pocket watches strictly for his own pleasure. **Below**: A commisioned piece for Piaget.

"Yes, you may come visit me, but you do realize I make serious watches here–tourbi with detent escapements, not watches tha go 'ding-dong.' I don't make ding-dong watches."

That was the gist of my telephone conversation with the Richard Miklosch. A maker of handmade watches, he isn't a watchmaker technically speaking. He is a retired math teacher whose life long passion for the art, science and craftsmanship of horology compelled him to make watches.

In 1945, as a five-year-old boy in Czechoslovakia, his family, originally of Hungarian heritage, fled to western Germany, "because the Russians were coming."

Staying in an abandoned and mostly empty watchmaker's home (the watchmaker had already fled Czechoslovakia) while securing train passage to western Germany, the young Miklosch occupied his time with mechanical curiosities found in cast off furnishings. Playing with these watch and alarm clock movements during the several months they awaited passage from Czechoslovakia was enough to spark an interest and lifelong passion for horology.

By the time he was ready to graduate high school, Miklosch had three complementary interests–watchmaking, photography and mathematics, in that order, with watchmaking and photography reaching the level of passions. His school counselor gave the class some advice towards their futures: one's field of employment should not be one's passion. To earn a living from your passion will soon diminish the love affair.

Whether this was sound advice or not is for each individual to determine, but Miklosch followed it and made his profession mathematics. For him it was the correct decision.

Running parallel to his work as an educator, he vigorously pursued his passions. Watchmaking was in the form of repair work and study (Miklosch is a serious collector of watches and clocks), with help from two local watchmakers in his hometown of Aachen, Germany.

By the time he reached his mid-thirties he was ready for more serious and complicated watchmaking. His parents purchased a watchmaker's lathe for him, with all necessary attachments to begin the work of restoring and making watches. During this time, the mid 1970's, he began the "dangerous" trips into eastern Germany where he would learn various theories and techniques from the great watchmakers Gustav Gerstenberger and Alfred Helwig who instructed at the German Watchmaking School in Glashutte.

It was Gerstenberger who primarily trained him during these visits in the making of the detent escapement and timing a watch. Gerstenberger also presented Miklosch with an

A regulator styled pocket chronometer, with flying tourbillon. Hours indicated on the lower right, seconds indicated on the lower left and the minutes are indicated around the periphery.

ebauche, which he took home and returned a year later for his approval. This exercise continued for some time and Gerstenberger became, in effect, Miklosch's teacher.

Their relationship would last thirteen years and Miklosch would make four watches during those years–two pocket chronometers (Gerstenberger's specialty) and two tourbillons (Helwig's specialty).

After the passing of these two great watchmakers, Miklosch continued making watches and striving to become as skilled a watchmaker as possible. He visited well-known watchmakers like Philippe Dufour, Derek Pratt and George Daniels, absorbing information as it came. In purchasing and/or studying watches made by Pellaton, Bornand, Charrue and other great craftsman of the past he found new tutors and benchmarks for his standard of quality.

Customizing

Now making watches for his pleasure, he will sell his watches and take on commissions from time to time, with the proceeds expanding his collection of precision timepieces and, thus, his education.

Just as Gerstenberger and Helwig were willing to share their knowledge, so too is Miklosch with those who contact him for advice and instruction.

I visited Miklosch recently to observe his work and learn his methods. From Basel last year, I boarded a train for Aachen, Germany, to meet him. Richard Miklosch. His reputation as a no-nonsense and unbending man had reached my ears and gave me some concern, but during my five days with him, I quickly found these concerns to be unfounded.

Waiting for me outside of the Aachen train station was a tall slender man, with grey hair combed straight back.

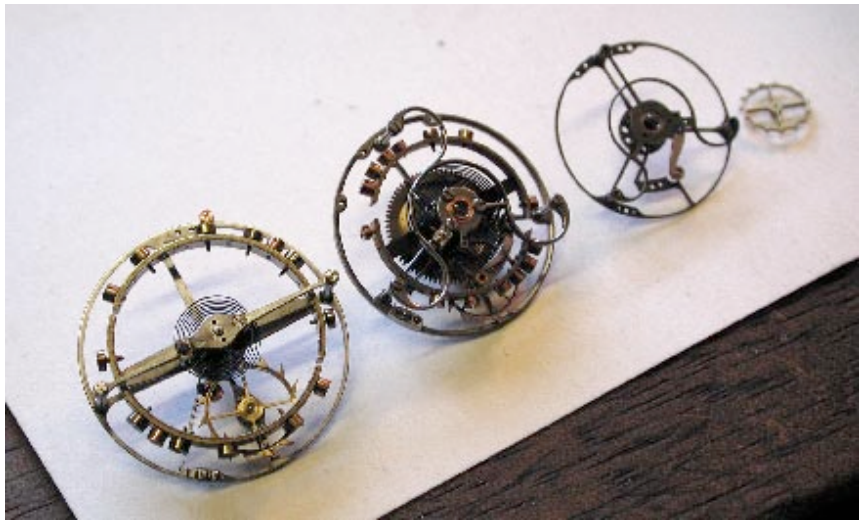
"There are no presents in techniques... you must do exercises."
--Richard Miklosch

"You must be my American pupil," he said as I approached. A firm handshake and smile welcomed me, as I wondered if I appeared that American. We made a stop at his home, where his wife had prepared dinner and then we visited his workshop on the third floor of his house. The house is fortified with iron gates and security blinds for the windows. In the house there is a spiral

staircase, which is gated and locked at each level, as is the entry to his workshop. Nobody gets in or out without Miklosch's approval.

His workshop is a large room that has all sorts of horological items–clocks, watches, marine chronometers, tools and parts are scattered about without any apparent rhyme or reason. The "business" end of the workshop encompasses a small area of five to eight feet, with his bench occupying the space under the only window.

This is the kind of workshop that one can become happily lost in for quite sometime searching through and enjoying all of the goodies. After a couple of hours of discussion I was taken to the apartment where I would be staying for the duration of my visit.



Each morning Miklosch would pick me up at 8:00 a.m. and take great pleasure in seeing the "good people of Germany working for Miklosch." You see, Miklosch had recently retired from forty years of teaching mathematics and was thoroughly enjoying the benefits.

Top: Several tourbillons in various stages of completion are typical treasures found lying about Miklosch's workshop. **Bottom:** Broaching holes to final size.

Work without end

My five days with Miklosch went by too fast. He was in the midst of making several watches and had just completed a watch for Piaget, so we worked on various bits of each watch as the mood struck him.

For example, he needed some screws made for a detent escapement he was making for one of the watches. While this may seem like a quick task, to make a screw, it can take an hour or more to make a rough screw (not polished) properly. Turning the material, threading it, filing the slot, hardening and tempering…it takes time to do correctly.

While this work is being done we spoke of his interests in making watches. He likes, first and foremost, the challenge of the work and comparing himself with the work of his predecessors.

"There are no presents in techniques… you must do exercises," he explains.

This becomes crystal clear when looking through some old cigar box-

es. I find several boxes with at least twenty watches made to varying stages of completion and another box with thirty tourbillon carriages made to various stages of completion. All of this is part of his "curriculum." When someone wishes to pay him to make a watch, he puts his "exercises" into a box… maybe to complete at another date, but maybe not.

Miklosch specializes in making precision pocket chronometers, with and without tourbillon (also a specialty in Glashutte-style tourbillons as Helwig describes, especially flying tourbillons). He is fond of Earnshaw's spring detent escapement, which he calls "the finest of all escapements," and he also makes Peto Cross detents, with a lever maybe sneaking in here or there.

"A precision timepiece should have a spring detent (doesn't have to have a tourbillon), large balance, light balance, large barrel and an up/down indicator… nothing more," he explains. Because of this thinking, Miklosch is also an expert in all manners of up/down indicators.

Unusual methods

As the week progresses, I notice some unusual methods being employed, methods that would certainly be frowned upon by watchmaking schools, but have nonetheless served him quite well.

For example, he prefers to hold the work with his hands. The movement is not in a movement holder, but is being held in his left hand while he places parts into it and screws them down with his right hand. He also magnetizes his screwdrivers and finds this to be a "great advantage." Instead of resting the tourbillon carriage flat on a block while filing it, he prefers to cradle it in his hands.

Top: The "hi-tech" work of Miklosch. He uses an 8mm watchmaker's lathe to cut wheels for his watches. **Left**: He rounds-up the wheels just cut to improve their appearance.

Unusual practices? Yes, but who can argue with the results.

Using diamond files he takes four to five months to make a tourbillon carriage, with an additional month required to finish it. The carriage is worked on in a hardened and tempered state, as he doesn't wish to risk distorting the finished carriage, thus the use of diamond files.

As he files the carriage I note the lack of sophisticated tooling in his workshop. There aren't any profile projectors, jig borers, large lathes or CNC equipment, only a dozen or so 8mm watchmaker lathes, seven rounding up tools and an assortment of hand tools. He makes all the parts except for the jewels, mainspring

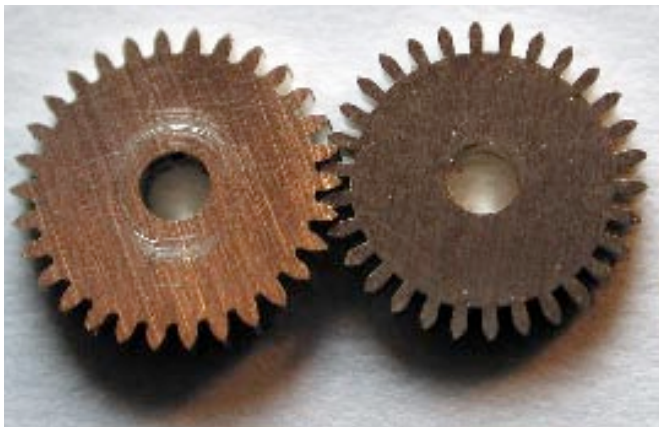
and hairspring (if he uses a split bimetallic balance he doesn't make that either). He has each lathe and rounding-up tool set up for one specific task to expedite his working. All he has to do is move one lathe to the floor and another to the bench top and away he goes–no set-up or teardown time.

With most of the work being accomplished with his hand tools, skills and time, a Miklosch watch is about as "hand made" a watch one can purchase.

In his estimation it takes ten years of practice to make a proper tourbillon carriage using his hand methods. These are the practices learned and followed by many of the great tourbillon makers. In recent years, making a tourbillon has become old hat, not a challenge, as the components are CNC milled, spark or wire eroded or even stamped out leaving only finishing and adjusting for the watchmaker. The wonders of modern technology come with a loss of craft.

Miklosch continues the watchmaking tradition by using piercing saws, drills and files to make tourbillon carriages. He is a true master of his craft.

"You must do exercises!" One of more than a handful of partially completed watches to be found in Miklosch's workshop.



Left: Gear on the left as it appears after being cut on his lathe and after it has been rounded-up on the right. In this case, their isn't a mechanical improvement, only an aesthetic one, which I find quite nice. **Below:** A pocket chronometer near completion - note the large, light balance to improve the stability of timekeeping.

Tourbillon talk

About modern tourbillons, Miklosch says most are toys that are poorly proportioned.

"The main reason to make a tourbillon is to achieve a fine and stable rate…not toys."

He feels the balances and carriages are too small and too heavy, as are the other escapement components. This is a running theme I have encountered in speaking with many of the worlds finest watchmakers.

As the week and my time with Miklosch approached its end, we continued some work on a detent and we cut and rounded up some wheels (a rounding-up tool is used to reshape an existing wheel or change its diameter). Rounding up a wheel is usually left for restorers, but there are a few makers of hand made watches who will use a slitting saw followed by a rounding up tool or, as in Miklosch's case, he will use a conventional cutter followed with a rounding up tool to give it the appearance he wishes.

He is quick to point out that functionally one isn't better than the other, he just like the way a rounded up wheel looks. I must agree.

After a few tasty beers with lunch it was time to head back to Switzerland. Conversation flowed easily as we made our way back to the train station. I was a bit sad that I didn't have more time in Aachen. Richard Miklosch is a throwback to the days when watchmakers were craftsman and not technicians. His passion and devotion to the art and science of watchmaking is legendary within this tight-knit community and I was honored to spend a week him.

Oh, and for those who are interested, Miklosch achieves a rate of one second a day in his pocket chronometers. As he says, "All is correct!"

Curtis D. Thomson restores complicated watches and clocks in Walpole, N.H., and also moderates the AHCI discussion board on thePurists.com.