

## **Guilloché: The 250 year history with changes happening only now.**

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### **Brief History**

Guilloché has been around since the mid 1700s, and in all that time, very little has changed. Most of the watch companies in Switzerland are using the same patterns that they began with in the 1700s. In fact, these patterns are often referred to as the classic 8. Many of these companies are stating that they are bringing back their heritage, but in reality, not much has changed in all the time these companies have been using guilloché. In guilloché patterning the possibilities are limitless as you have heard or read in my book. Each rosette or pattern bar can create hundreds of different patterns, with only small adjustments to the machine. It is incomprehensible as to why more patterns are not employed. As of late, a very few watch companies are beginning to employ interesting guilloché in their dials, and some even on their movements. I particularly enjoy seeing the guilloché that is coming out of the Kari Voutilainen companies. These dials are not only playing with perspective, but also the range of colors applied as anodizing really emphasizes the patterns created.

While there is no denying that guilloché is absolutely mesmerizing to look at, adds a brilliance that makes the eye wander, one has to wonder why there has not been any experimentation with the patterns, the types of work guilloché is applied to, or the forms over the years? In fact, whatever was created by Fabergé seems to be deemed the best even still, hundreds of years later, and many people strive to emulate this style. Why aren't people more interested in forging ahead a new style, one that is different, innovative, and up with the times?

### **Guilloché Training: Two Methods**

As someone who has been practicing guilloché for 10 years, I have been exposed to the two different camps of thoughts on the application of guilloché. There are the traditionalists: where only 8 classic patterns are used and there is no room for experimentation. This group of people believe that these patterns are a heritage to be preserved, and they are often not interested in learning different applications because for them, guilloché is simply a job, and they are happy to go along with what has been decided for them.

Then there are the innovators: where anything goes. Most of the people I know who practice guilloché are a little bit traditionalist but have the heart of innovators deep down in them. There is nothing wrong with being strictly a traditionalist and it has its own perks. The only places I know of still teaching and using strictly the "traditionalist" methods is where I am in Switzerland. Within a 100-kilometer radius, is the most concentrated guilloché, although the U.S. is quickly catching up on concentrated areas (Colorado and New Mexico notably) of guillocheurs. In Switzerland, the craft is taught to be perfect and nothing else, and the workers are only taught to do the "classic 8" patterns.

There is no time for experimentation, in fact it is frowned upon to have one's own ideas and envy to experiment but many of the people in these situations don't have any interest in experimenting anyway. In 2019 we need to look at not what was done, or the history, but what can be done and how to "integrate" guilloché into a society that is already overwhelmed with beauty, perfection, and a slew of crafts. The generation (most guillocheurs are between 65-75-year-old white men) was taught to be rigorous and strict and by the time they were finished with daily work, were too tired to even think about different types of applications. Many were not passionate about guilloché how we might think of someone today, but were highly skilled workers, paid to be perfectionists. In fact, having encountered many operators of Rose Engines, I am amazed that for most people in Switzerland, it is merely a means to an end. I don't find many people curious about the origins, the parts, and the ability of the machines.

The two types of teachers I have encountered in my studies and research into guilloché

There are two main methods in this modern age to learn guilloché. The first is to find someone who has a machine and is willing to let you try your hand at it, then ask for some guidance and knowledge OR find a machine and get to fabricating the missing pieces, because inevitably, many will be missing, and teach yourself through trial and error. Although this is how people can still be introduced to guilloché, this was the only method from the mid-1700s until now. There have been only two official schools, to my knowledge, that held actual courses with certificates, but those died out with the first world war, and were short lived at that (roughly 8 years).

### **The Future: Possibilities**

Here is where the future begins. Looking towards the future for guilloché is not an exact science, it is very similar to those who watch for trends in jewelry making. It is about watching the trends, are people into decoration or minimalist objects, are they interested in old techniques or would they rather be surrounded by technology, and so forth. About half of the people who learned guilloché by way of mentor, professor, or apprenticeship training, were told that guilloché had to be the absolute last step in decorating, with the exception of enamel. The other half of people learning guilloché were never told what they could or could not do, they were left to learn and experiment. This leads to the two distinct “personalities” in guillochage (the act of applying guilloché). The first group believes wholeheartedly that guilloché is so fragile and precious that it must be the last step and almost all of the people at watch companies are taught to think like this. These people seem to hold themselves above any other practitioners because they are forced to create almost perfect work and interpret guilloché to be one of the highest arts. The second group throws caution to the wind and does whatever they want. This group likes to play, experiment, and if they have some throwaway pieces, so be it.

I started haphazardly with research and then when I began with guilloché, my mentor, G. Phil Poirier never told me what I could and could not do, he simply showed me a Plant Rose Engine, gave me the function of each different moving part, explained which bits created which types of patterns and then let me start experimenting.

After two years of phone calls and a few visits, I got offered a job at a watch company in Switzerland. It was here that I feel like I was brainwashed into the first category of cannot. For my first three months, during my ‘trial’ period I was good, I did what I was told for the most part, and I didn’t question the reasoning behind patterning one way and not another, which I knew to be possible, too much. Until I found the work to be boring and I invented systems to make my production much quicker and by being logic. The Swiss are precise, but I was a bit too precise even for them. I started day –dreaming of more interesting applications and have found my way back to the innovative group.

The future of guilloché lies with these people in the innovative camp, so that is where we will begin. The future of experimentation also has a secret past. Ever wonder about the Fabergé eggs and how they were so seemingly perfect? That takes years to master and get the angles perfect, a master could do it. But I have met a gentleman in Germany who creates round sheets of guilloché and uses a wood male and female die to press the top half and bottom half and there is not any obvious stretching or distortion of the pattern. In fact, unless the pattern is super tiny and super tight, there won’t be any obvious distortion. Why not use entire patterned sheets of guilloché to create this egg form. Maybe even think of using a sheet patterned on both sides to create a little surprise for the owner of the piece. In Figure 6 we see a piece that has been attached to a die (used to form the piece from a solid sheet) which is inserted directly onto the Rose Engine for pumping action but could easily be patterned and then formed as well.

I am a believer in the craftsmen’s touch, who doesn’t love a perfect piece? I don’t like to have people think that a piece was machine made, absolutely no variation in depth, or a small

(someone at the door?) moment where there was an interruption, also known as life. I like to see a teeny bit of irregularity. I'm not saying this to encourage people to be lazy, I just know that these things happen, and it gives a human touch. While many companies strive to make perfect pieces, I wonder why? If it must be absolutely perfect, why not use a machine? I like to see a little more pressure in one line, not huge mistakes, but little hand/human touches. We have also seen a slew of "innovations" from people to make the working of guillochage much better. There are now almost exclusively, binoculars being used to aid with sight, there are LED lights, there are compressed air nozzles attached to get rid of swarf (the bits of cut metal). All of these inventions came about due to necessity and all of these inventions came about around the same time. Sometimes people who do guilloché feel like they are really isolated and coming up with these incredible ideas, but we are all naturally evolving around the same time. The methods of holding a work piece have varied over the years, but now, if one doesn't have a holding chuck, link chuck or centering chuck, then what do they do? They have a machine, but no way to make a complicated chuck. Many people have been using cyano-acrylates (more commonly known as superglue) to hold work on securely, flat, and easy to remove, I often employ this method, as well as using Jett Set, a type of heat moldable plastic, when I don't have a chuck handy. This isn't much different from the shellac, wax, or pitch methods. We have seen the rise of new materials in the RE and SL machine. David Lindow has a great RE with acrylic rosettes. And very detailed work can be done with this machine if you change the base for more stability. I use rubbers/touches made from Delrin® and steel. In Figure 1, the steel body of the touche with multiple differently shaped heads.



Figure 1, Steel and Delrin Touche/Rubber

With the added use of motors to combine guilloché and ornamental turning, roller printed plates to press guilloché type patterns into a softer metal, hydraulic presses and their myriad of attachments the possibilities are multiplying rapidly. Nothing has to be created painstakingly by archaic methods, although purists still do so. We are now able to quickly press an entire sheet of faux-guilloché, which gives instant decoration. This was popular in the 1930s to press plastic for car dashboards, clocks and vanity sets.

We can now form, alter the look and change guilloché into objects in their own right, gone are the days of exclusivity to watch dials and picture frames.

### **The Future: Processes**

I have done verbal interviews for the most part as there are very few books on the subject, which I hope will begin to change soon! I viewed a series of photos on Instagram that really got me thinking about what inspired people to move out of the 2-D comfort zone?



Figure 2, Al Collins' Brass Boxes

So, I contacted the person, Al Collins, and asked to interview him via telephone. For him, the leap came when I posted something on Instagram that had him thinking about different possibilities and construction techniques and why couldn't he do something that had guilloché going over the edge and continuing. He had been making some boxes with a break from the pumping action into the rocking action, as many people do. Figure 2 depicts what Al's boxes looked like when he applied guilloché flat and **then** formed them into boxes. Al told me that he used some home-made dies and hydraulic press to press out a box after it had been decorated. I was thinking that he probably used some wood dies because I couldn't see marring on the box. I was surprised when Al said he used some steel dies, but he wasn't happy with the stretching of the pattern, which was meticulously planned out and applied. I suggested the use of wood dies and he said he hadn't thought of that.

I am in love with this process of combining many different patterns without it seeming to be too forced. The results were eye-catching, and I wondered how come no one had tried this yet, it was so easy!

Well, someone else was apparently starting and trying it around the same time as I was, in another country, specifically, Germany. As I've said before, all inventions come about at around the same time. Was I upset/angry/disappointed? No, I surprised even myself here. I was ecstatic that someone else was thinking along the same lines as I was. The same is to be said about my book, which was turned in for publishing in 2014, and published in 2017. Another book by a colleague of mine was also published in 2017 and had almost the same thoughts as my own, and again, I was in awe to see that the thought process was eerily similar.

### **The Future: Materials**

I've noticed different types of materials for the last three to four years being experimented with. From wood, acrylic, and exotic metals to bone, enamel, and Corian, guilloché is not only changing by way of process, but also the acceptable materials. Before this century, guilloché was applied to precious metals, brass, steel and sometimes horn and not much else. I've experimented with acrylic and it cuts fantastically. Although it needs a polish at the end, I see many interesting projects in my future with this including double sided with spaces

between the patterns. I have plans to apply guilloché to linoleum to try to make printmaking blocks, and I am working with a paper casting artist to guilloché into some super thick, handmade paper. While African Blackwood has been primarily used in the 3-D form of Ornamental Turning it would make an excellent candidate for guilloché as a surface embellishment due to its ability to become work polished. As I write these suggestions, all which reside on my own to-do list already, my own excitement begins to mount. There are contemporary artists such as Peter W. Gilroy and G. Phil Poirier and probably more, extending their knowledge to new metals such as Niobium and Titanium, an interesting selection of metals that can be spot anodized. Figure 3 shows the colours achieved through the anodizing process. This is a great alternative to enameling and plating and can be used to emphasize only portions of guilloché. Peter uses anodizing on titanium much like a painter uses a brush to selectively add color. His guilloché is not background or prominent but rather in harmony and seems natural with all of the elements.



Figure 3, Peter W. Gilroy's Bolo Ties, anodized titanium with gold inlay.

### **The Future: Finishing**

Not only are new forming techniques and materials being used, but we must not discount the types of finishing as well. Guilloché is not only being covered with enamel or left bare, but being gold plated, anodized, and dyed. There is guilloché that is highly polished or completely matte. There are also combinations of all of the above methods being used in harmony. A highly polished piece is then decorated, select parts become mattified with the use of abrasives or etching compounds, and some areas have selective color applied, all together in one piece.

With so many different combinations the possibilities are expanding on how guilloché may look for the future. Guilloché does not need to be showcased per se, but may be used as an accent, or be covered with other materials, including lighted displays. In the 1800s and early 1900s, all watch companies were notorious for covering guilloché with opalescent enamels and students were being taught the tools of the trade; so, using materials modern for now seems a logical next step.

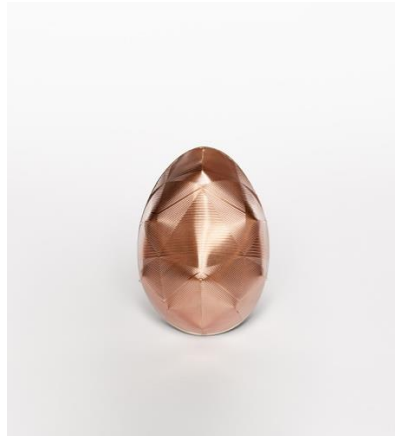


Figure 4, Frieda Dörfer, Egg Brooch, Rose Gold Plated

Frieda Dörfer is a German jewelry artist whom I happened to meet at an art gallery opening in Lausanne, Switzerland in December 2014. I had no idea that someone who used guilloché would be showing there but was pleasantly surprised. Frieda sculpts her work after creating a large sheet of guilloché. Figure 4 shows how precisely she measures and lays out a pattern to cut and fold into various forms, and then solders from behind.

What is the most interesting about these pieces is the planning for the final shape, the alignment of the pattern beforehand, and the cuts made, because in the end, everything lines up well. Frieda makes extremely precise geometric shapes that showcase not only guilloché but also the form. Now she has moved on to making geometric egg form brooches; which are light, and easy to wear. These eggs tend to keep the eye moving not only because of the guilloché, but also because of the form.

### **Conclusion**

Will guilloché gain in popularity? I think that with the advent and now almost obsessive use of social media, the answer is yes! I believe that there is now a platform to get our work out there and not only garner appreciation for the process with in-process shots and videos, but also to inform people of what exactly guilloché is, as well as how time intensive it is to create. This method did leave me skeptical at first, but after posting a few guilloché pieces on my personal Instagram, I found that people were really responding well, so I created an account for my atelier and not only is it a great way to disseminate information, but also to get feedback on how well some of the creations are liked, which ones are “bombing” and much more. It is almost like a weekly critique, which everyone needs. The more people who like an Instagram post, the more it is shared, so the future also, and maybe most importantly, lies in social media and self-promotion. This is how guilloché is being presented to the ‘masses’ if you will. After some research and more technological tools and applications, any work can be seen in a professional type setting by simply using text over photo, composition creators and more. With a little effort and thought, guilloché can now be presented in beautiful formats and entice the audience to interact and be curious and most importantly, research.

With the new introduction of CNC machines to the playing field, which are becoming better and better, will the craft of guilloché still continue to slowly rise, or will it die out yet again to be reborn little by little, thus by completing the cycle of centuries? CNC does have its applications and a place in the decoration using guilloché, but it still isn’t close to the real thing when it comes to the cutting quality and refraction of light.

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## **Bibliography**

1. Calina C. Shevlin, *Guilloché: A History and Practical Manual*, (Atglen: Schiffer Publishing Ltd., 2017).
2. Calina Shevlin, “*Guilloché: From Watch Dials to Fantastic Creations*,” *The Santa Fe Symposium on Jewelry Manufacturing Technology 2018*, ed. Eddie Bell (Albuquerque: Met-Chem Research, 2018).
3. Andreas Gut and Frieda Dörfer, *Embossing, Punching, Guilloché Engraving Contemporary Artisanal Jewelry Production*. (Stuttgart: Arnoldsche Art Publishers, 2017).