

Guy Van Leemput

The beauty of numbers

YNA VAN DER MEULEN

He is a maths teacher by profession and just loves the Fibonacci sequence. But his second passion has always been ceramics. And now – after years – all the pieces of the puzzle have come together...

Guy Van Leemput (1967, Herentals, Belgium) is known worldwide for his fragile, paper-thin porcelain bowls, formed with endless patience by applying small pieces of porcelain clay around an inflated balloon. An intuitive and meditative process. "My work grows from within me, from my belly, not by thinking. Each piece is a journey inwards." Nevertheless, after his second artist-in-residency in Sanbao, Jingdezhen, in 2017,

mathematics seeped into his work. He started doing mathematical research and – after sketching on paper – drawing complicated patterns on the balloons: grids and circles. Thus *Windows on the World* and *Circles of Mind* (both 2017) were born, the beginning of several new series. "The mathematics that I used to push away when working as a ceramist has finally taken its place. I'm much less 'cleaved' into two pieces now."



Big Mind Circles, 2020
 Ø 25.5-26.5 x 16.5 cm
 photo - Dirk Theys

Fascination with patterns

Van Leemput started studying mathematics and ceramics more or less simultaneously. The summer before he started studying mathematics at university, he asked a local ceramist if he could come and work there, not for payment but to learn. And he continued to do so at weekends during his studies. His work as a maths teacher and having a young family pushed the making of ceramics a little to the background, but after the death of his best friend, Guy realised that he wanted to take it more seriously. For eight years he attended the academy in Herentals and took several master classes. About ten years ago, he established his own studio. For years, he made robust works, wood-fired stoneware. He became widely known when he switched to wafer-thin porcelain – also wood-fired.

Van Leemput became fascinated by patterns at an early age: "Especially by patterns in nature, such as the arrangement of seeds on a sunflower, the seed scales on a large pine cone or the spines on a cactus. They come from solutions that nature has found for complicated problems. Later, I understood that you can use mathematics to investigate how these patterns originate. I learned how our eye sees two opposing sets of spirals in each sunflower. If you count them, the numbers always turn out to be two consecutive numbers in the Fibonacci sequence. A little later, I discovered that it is the golden ratio that is the basis for the Fibonacci numbers and all those beautiful patterns. And that our brain (and certainly mine) wants to order, structure and catalogue everything. Our eye always wants to see patterns; that is probably evolutionary in nature.

"When I was introduced to the work of Escher, I found it very interesting, particularly his infinity approaches, but also how he transformed tiles into fascinating animals that fit together. It motivated me to do extensive research into tiles myself. Also inspiring was the Penrose tiling. And of course the Mandelbrot set, fractals..." Guy gradually developed a "toolkit" to start working with tiles himself.

And then everything comes together...

"I don't want to imitate nature but to understand it. To recognise patterns and vary on them. It's in fact not about the end result but about the quest: I want to know how a certain structure originates. You can find those patterns through mathematics. Escher's last work is about snakes. Cells that change in size, from small to large and then back to small again. The snakes are Escher's solution for linking two things together without anyone noticing that they do not actually fit together. I tried to elaborate on that but it didn't work for me.

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Detail **You are My Quarantine**
2020, Ø 25-30 x 20 cm
photo - Dirk Theys



Windows on the World, 2017, Ø 27 x 19 cm photo - Dirk Theys

I let go and went back to the Fibonacci sequence. I did all kinds of mathematical research and looked for (and found) how I could enlarge and reduce the underlying 'regular' grid in certain places. And now I want to let go of that too and be completely free: with everything I know in the back of my

mind, just create and watch as an observer into what it will develop. I am now – especially during the last year – looking for my freedom within those rigid patterns."

Van Leemput is not looking for mathematical perfection anyway: "Very rhythmic patterns are not that interesting for me. My bowls are never one hundred percent symmetrical. Perfect circles, right angles and straight lines are boring. My bowls must be as exciting as real life is. Coincidence must also be allowed to play a role. For example, I always draw free hand, even lines. Moreover, a bowl starts to move a little when drying and this is even more the case in the (wood) kiln, an essential part of the creation process for me. The bowls are fired at a temperature of 1260 °C, upside down on a "mushroom" that is shrinking proportionally. At sintering temperature, the porcelain clay softens and, due to gravity and small irregularities, the bowls deform.

"Above the door in my studio three dried beech leaves are hanging, tied together by a piece of wire. The veins of the leaf determine how it will deform when it dries. In the same way, the bowl seeks its own form, which is determined by the structure of the patterns I have made with my modelling tool. This can be clearly seen in *You are My Quarantine*, made in 2020.

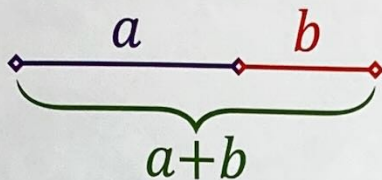
"And then there is the light. In the *Illusions*, for example, you see something different every time, also depending on the light. Maybe that's where I want to go, with simple patterns – like the Penrose tiling – to engage the brain. Every bowl should be different at any time of the day, making you wonder..."

You are My Illusion, 2020, Ø 26.5-27 x 18.5 cm photo - Dirk Theys



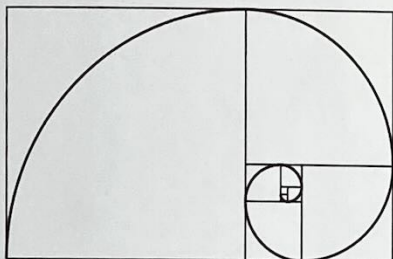
A bit of maths...

The golden ratio is about "ideal proportions" and is – consciously or unconsciously – widely used in art and architecture. Not only a line, but also a circle can be divided according to the golden ratio, resulting in an angle that is common in nature, such as in the arrangement of flower petals and seeds, making optimal use of the sun's rays.



The golden ratio: a is to b as $a+b$ is to a

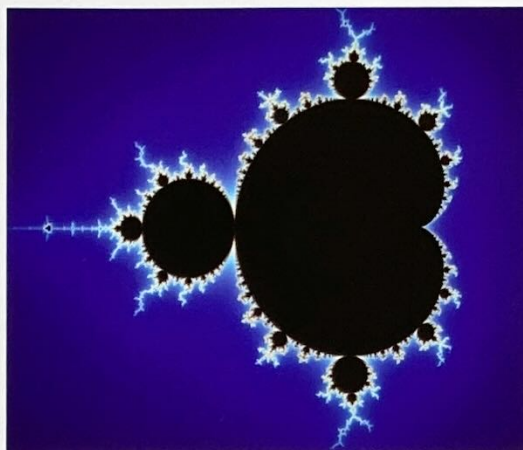
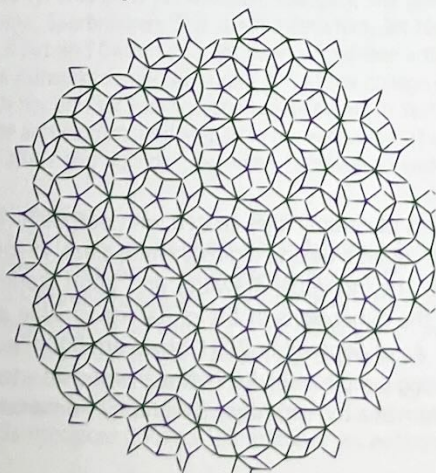
The Fibonacci numbers form a sequence, such that each number is the sum of the two preceding ones, starting from 0 and 1. The ratio of two consecutive numbers tends to the golden ratio, as n increases. The sequence is named after the Italian mathematician Leonardo of Pisa, later known as Fibonacci (c. 1170–1250), who was the first in the West to use this insight in describing the growth of a rabbit or bee population. But the sequence was already mentioned in a Sanskrit scripture a few centuries before our era.



The Fibonacci spiral, based on the Fibonacci sequence

The British mathematician and physicist Roger Penrose (1931) (re)discovered that a plane can be "tiled" in an infinite number of ways with just two "tiles", without overlaps and gaps. This design also makes use of the golden ratio. But this principle had already been used five centuries earlier in Islamic architecture.

Example of a Penrose tiling



The Mandelbrot set

A fractal is made up of elements that have more or less the same shape as the figure itself. The term was introduced in 1975 by the Polish-French mathematician Benoît Mandelbrot. One of the best known fractals is the Mandelbrot set, which plays an important role in chaos theory, but is also known for its aesthetic properties.

YNA VAN DER MEULEN

*is a ceramist, photographer, writer, editor, and curator.
More information: www.hetsteenenhoofd.nl*

Guy Van Leemput (1967, Herentals, Belgium) studied mathematics and ceramics. He has been invited several times for an artist-in-residency at the Sanbao Ceramic Art Institute, Jingdezhen, China. His work has been selected for competitions and group exhibitions in his own country and in other European countries, as well as in Japan, China and Australia. At the MINO International Ceramics Competition 2014, his work *Big Anas* won the Bronze Award, it is now in the collection of the Museum of Modern Ceramic Art, Gifu, Japan. Guy was chosen as one of the Ceramics Monthly Emerging Artists 2020. In 2021 he was "recommended" by the Michelangelo Foundation, as "Master Artisan".

More information on: www.guyvanleemput.be
Guy Van Leemput, Watervoor 78, 2200 Herentals, Belgium

A film about Guy Van Leemput, made by Mels Boom, can be seen on youtube at the channel of Mels Boom. He also teaches workshops.

