



How LOBMEYR Glass Is Made – A Magical Journey

Louise Rath – Isabella Diessl



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A Magical Journey

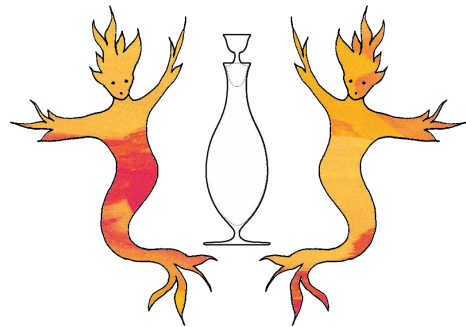


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Many, many thousands of years ago, people discovered something wonderful. Wherever intense heat had once melted stone and sand—by volcanic eruptions, for example, or lightning strikes—people found new, very different stones. Stones of glass. They were harder, easier to work with, and much prettier than regular stones. It was said that fire had created them by magic.

Many thousands of years passed before humans attempted to imitate this magic. The Romans were the first to heat quartz sand, soda, and lime, forming it into goblets. With time and great skill, magical glass items were created. Knowledge of the production methods was usually passed down through families, improved from generation to generation. This is exactly what happened with the Lobmeyr family business.

The LOBMEYR name has been associated with fine *crystal* and chandeliers for over 200 years. And in the pages of this book you will learn the story behind the glassware in the shop on Kärntner Strasse.



In 1823, Josef Lobmeyr and his wife opened a glassware shop in the centre of Vienna. Austria was still an empire. It was a time of magnificent castles and spectacular celebrations, with dazzling chandeliers, exquisite vases, sparkling candleholders, and fine crystal to drink from.

The demand for beautiful glassware was high, and Josef Lobmeyr was soon producing original glasses from his own ideas. This gift of design has been passed down in the family for six generations now.

Josef took his designs to Bohemia, still Austrian at the time and home to the most famous manufacturers and most skilled artisans—the birthplace of LOBMEYR crystal. And not much has changed in the traditional craftsmanship in all the years since; each and every glass is still made lovingly by hand.

Our journey begins where all LOBMEYR vessels come to life: the glassworks, a large workshop where glassware is made. The heart of the glassworks are the smelting kilns. And this is exactly where the two fiery little flames Luzia and Lukas live together with their whole family. They are all fired up about glass—especially LOBMEYR glass!



N ight has fallen. The glassworks have fallen silent for the evening. But for the Flames, the adventure is only just beginning. “The smelter is coming! Quick, let’s warm up before we start. One and two and ...,” Luzia calls out, stretching and bending. The smelter is already pushing a metal basin with sand, lime, soda, potash, glass shards, and some top-secret ingredients into the furnace. He monitors the Flame family all night long, making sure they are doing their job properly—because the magic transformation isn’t perfect until it reaches 1,400 degrees Celsius. The ingredients have long become liquid and melted together, but the very high temperature is needed to make sure that all the gases have evaporated and even the smallest bubbles disappear. The liquid glass looks like honey. At 5:00 the next morning, the smelter goes home, satisfied.

“Luzia, don’t fall asleep,” calls Lukas, shaking his exhausted sister awake again. She can’t miss what is going to happen now. The glassmaker troupe is ready to go. Luzia jolts wide awake again, rising up into an enthusiastic blaze. Fervent fans of glassmaking, the two already know a lot. They can see and hear everything from their home in the furnace. “Careful, Luzia,” says Lukas. “The assistant is about to dip a long metal tube into the molten glass and then roll it nicely on the flat marver over there.”

“Metal pipe? No, a blowpipe,” corrects his sister.

“You’re a blowpipe!” Lukas retorts defensively.

“Oh Luki, that’s what the long stick is called,” says Luzia, winking at him with a smile.

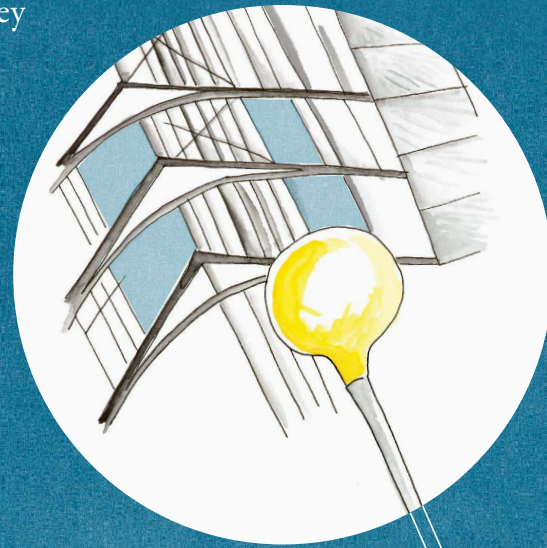
Luzia is right. The assistant blows air through the long straight tube, like blowing through a whistle. A blob of glass slowly emerges on the other side, forming into a small ball. It looks a bit like a balloon. Luzia and Lukas are very curious and keep flickering out of the furnace’s open door to see as much as they can. Luzia has an idea: “Come on, Luki, we can sneak out of the furnace. That way we can see for ourselves what makes LOBMEYR crystal so special.” Luki lights up brightly at the idea.



Nobody notices the two little Flames as they escape the furnace. Finally, they can watch how it's done from up close. The glassmakers' work is very dangerous, but also very beautiful. They create a harmonious dance with their instruments, the pipes—almost like a ballet.

First the assistant gathers a small ball on top of the first bubble, and then passes it to the blower, or gaffer. The glassmakers take turns elegantly turning the pipes with the glowing ball through the air: diagonally upwards to blow into it, then to the side, and then back down again. The direction changes depending on what the glass should look like when it's done. It's very important to never stop rotating, otherwise gravity would pull the flowing glass down and it would become thicker on one side. The glassmakers work together with great precision and skill, never getting in each other's way. They balance, turn, and blow the glass in a rhythmic dance together. With each breath the glass ball grows bigger and rounder, soon ready to be put into the mould.

Even though the glassworks are loud and hot, the work looks effortless and smooth. Brother and sister Flame are secretly cheering the glassmakers on. "Gosh, why are they dipping that beautiful ball into wooden blocks now? They just worked so hard to make it perfectly round!" asks Luzia in surprise. "I think that's how the glass gets its shape," says Lukas, pointing to a man standing a bit further back at a machine.



The turner is using long knives to carve a new glass mould out of fresh beechwood at lightning speed. His work is very precise—down to a tenth of a millimetre! He is making the mould using a paper cut-out template from the design studio in Vienna. What shape might be hiding inside this piece of wood? A stemmed glass, a rounded glass, a goblet, or maybe a flute ...? There are many possibilities!

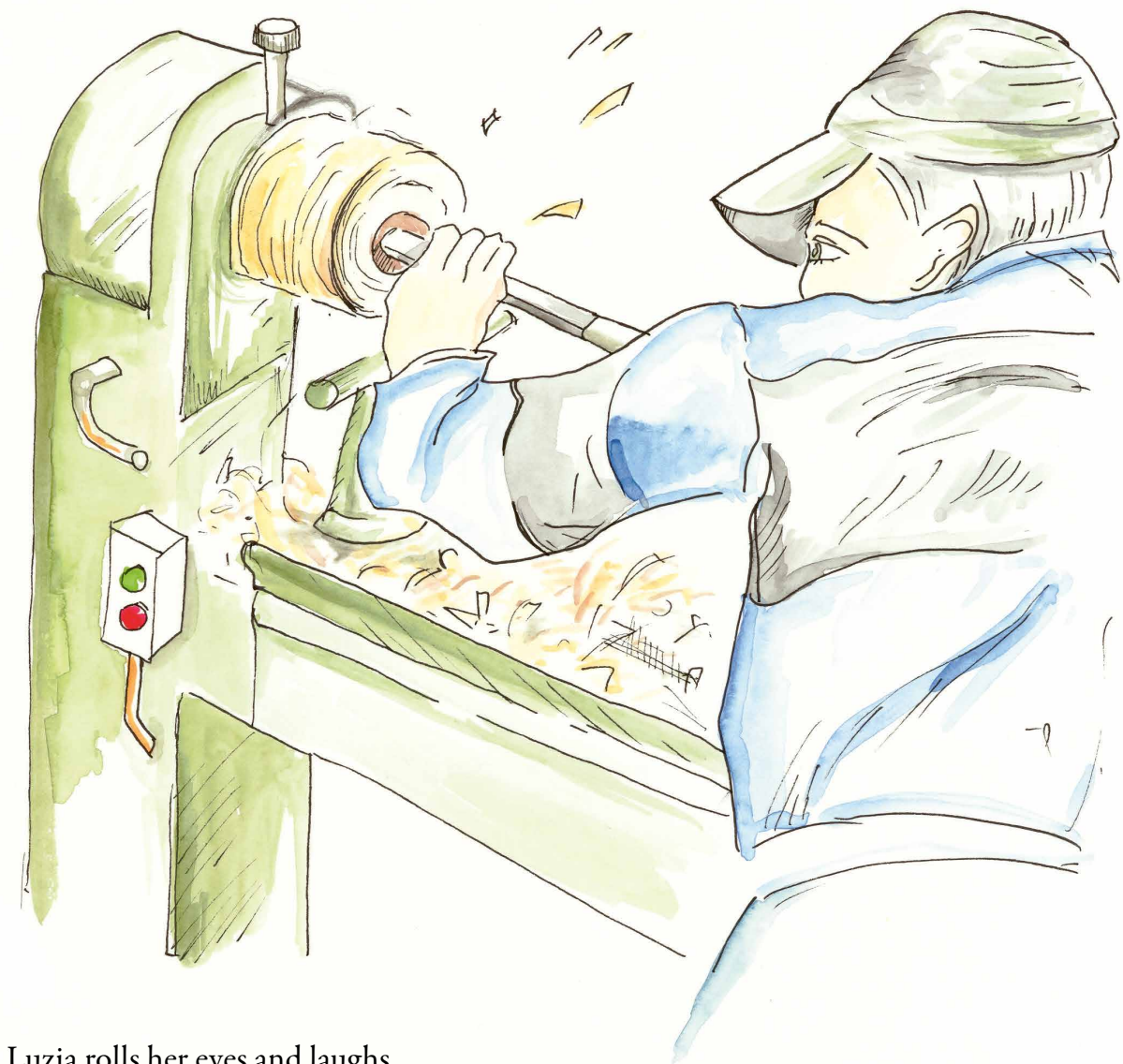
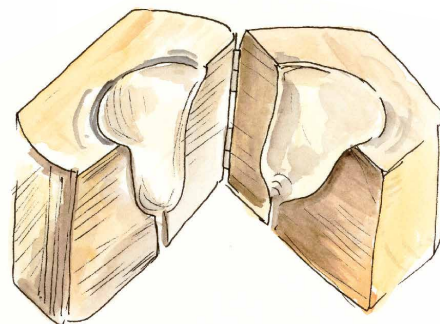
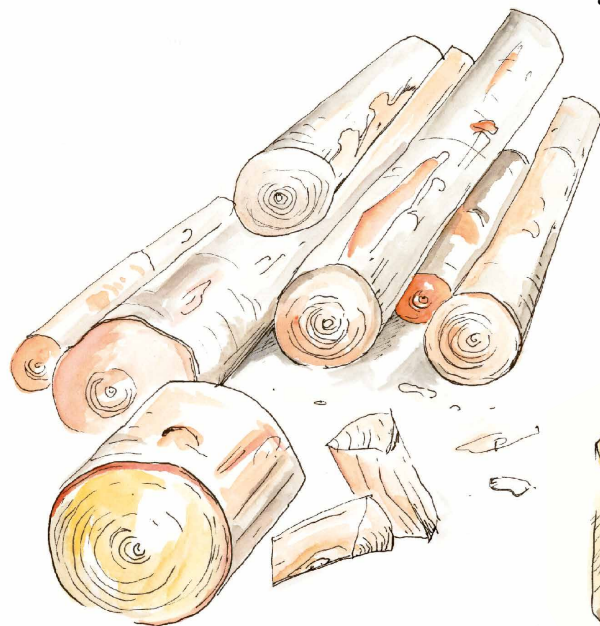


“Mmm ... the wood smells good,” think the little Flames, who are hungry. There is fresh sawdust everywhere. They must be very careful not to light something on fire. Quickly, they scurry back to the glassmakers. They arrive just in time to see the gaffer sink the molten hot ball of glass into the damp *wooden mould*, blowing hard and turning the blowpipe quickly.

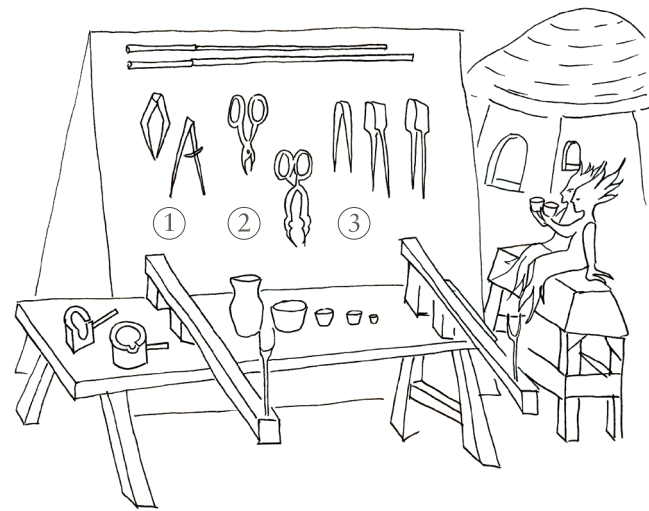
“Look at the steam! It looks like a hot iron,” Luzia giggles. “The steam probably irons the glass smooth and makes it shiny.”

The glassmaker keeps blowing into the pipe a few seconds longer. Then he pulls a finished drinking cup out of the mould.

“It’s flame-tastic! But to really have style, a glass needs a stem ... and a wafer-thin rim for when it’s filled to the brim,” Lukas says, feeling poetic.

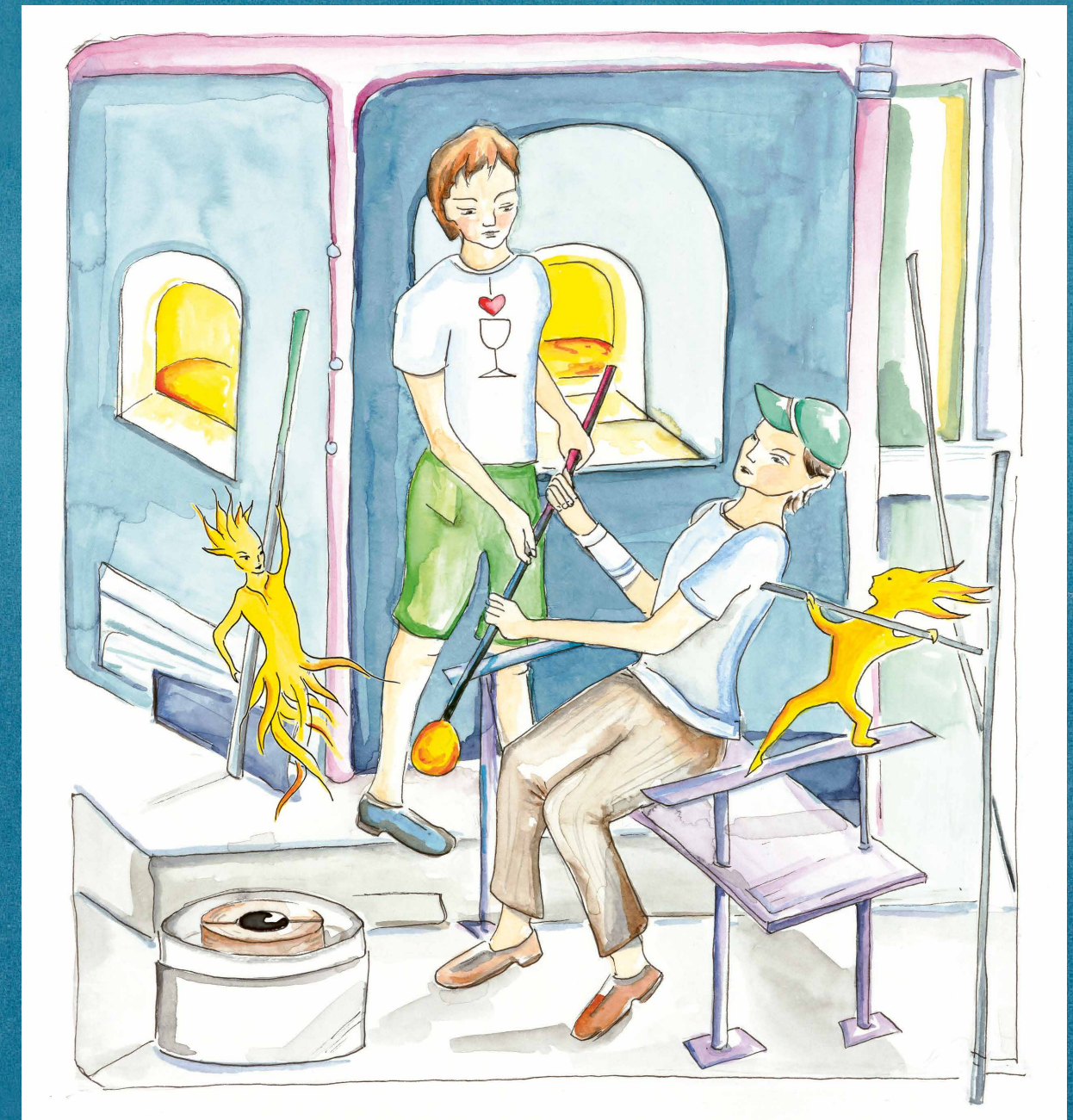


Luzia rolls her eyes and laughs. “Come on, let’s have a look at the tools over there.”



Some very special tools are used to make the stem. The small Flames marvel at the shears, jacks, and moulds on the tool bench. Lukas listens very carefully to the glassmakers talking about the tools, and soon learns some interesting facts. “These are called stem shears (1) and these are duckbill shears (2).” Luzia giggles. “Duckbill shears? And what’s that?” “Pinchers (3).” Now she can’t stop laughing, and she can’t resist pinching her brother to tickle him: “Pinch, pinch, pinch!” She can be pretty silly sometimes.

Lukas likes the old tools. He likes to imagine what they have seen over the years. Some of them are probably more than a century old. For master artisans, their tools are their greatest treasure—along with the years of training they have completed. “Come on,” calls Luzia, “it’s the master glassmaker’s turn.” Just in time, they see the glassblower handing some work on to the master, who sits on a wooden bench. He is the only one allowed to sit there, and only the masters are allowed to shape the stem and foot of the glass. It is the greatest and most difficult art to carry out, and nothing must go wrong.



The master glassmaker is given a liquid gob of glass that he fuses to the chalice. He picks up a pair of shears that look like a large pair of tweezers and carefully pulls the stem long.

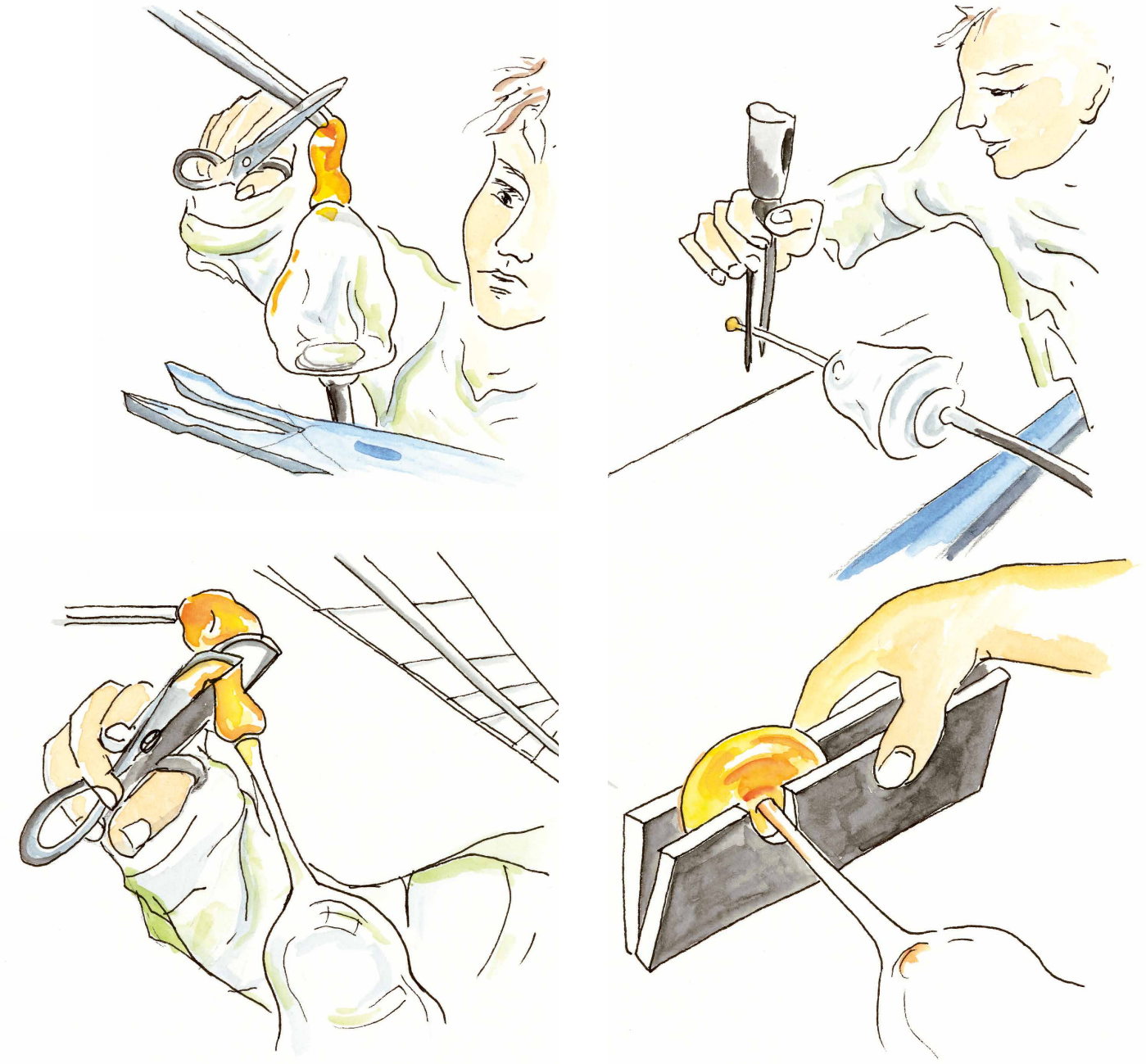
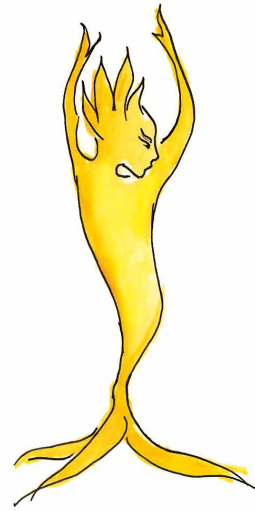
“Oh, those are the stem shears!” Luzia says excitedly.

While pulling the stem long with one hand, he continues to evenly roll the glass pipe on the bench with the other. It is important to always keep hot glass moving so that it doesn’t lose its perfect shape. The stem is still soft, and it wags back and forth like a little puppy tail. Over and over, the master catches the wagging stem with the shears, carefully pulling it longer. He finally uses a metal template to check that the length and shape are perfect. This may look easy, but it has taken years or even decades of practice.

“The foot is still missing,” say Luzia and Luki at almost the same time.

This will require another gob of glass—this time on the bottom side of the stem. The master fastens the fused glass bead into a wooden clamp, gently pressing it together to make a disc. At the end, he uses the board to create a slightly conical, sloping shape. The masterpiece is ready.

An assistant carefully knocks it off the blowpipe and takes it to the lehr, a special furnace for cooling the glass.

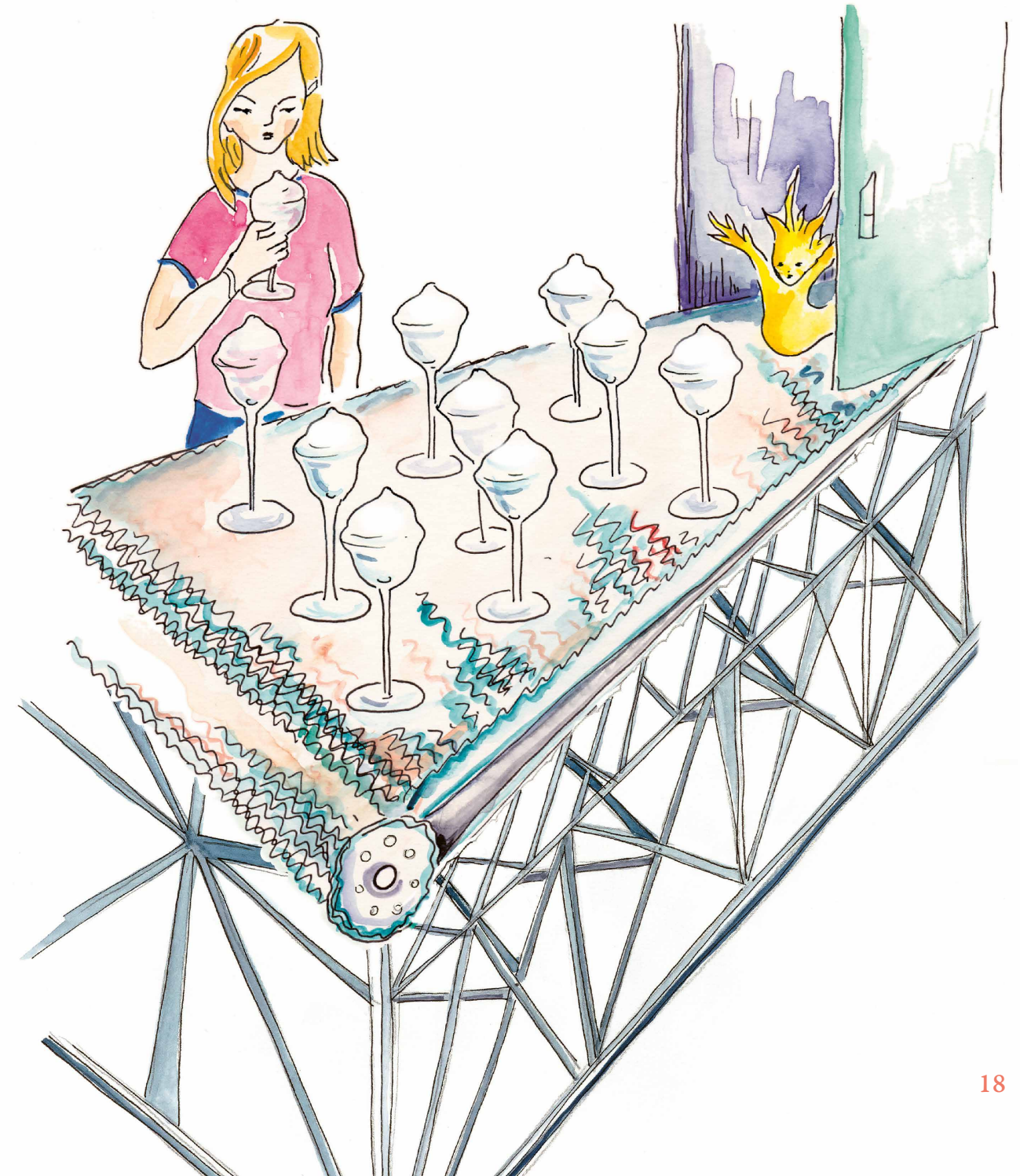


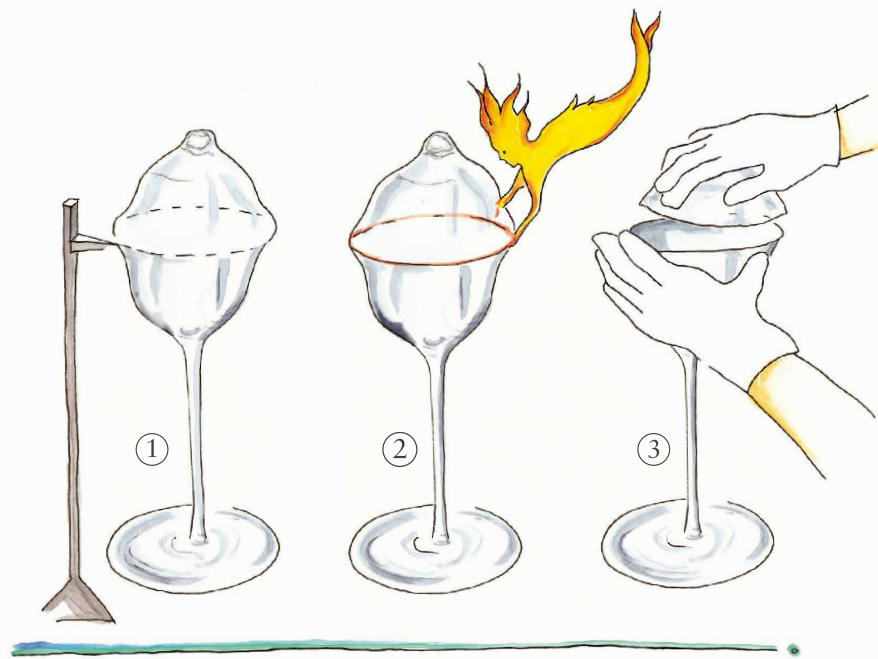
All aboard, ladies and gentlemen. The *lehr*, a cooling furnace, is waiting. A very long conveyor belt moves the glasses through a tunnel to cool them down. A furnace that cools things down? Yes, because freshly blown glass is still an unbelievably hot 800 degrees Celsius. If it were shocked by cold it would shatter, so the glasses are cooled down very slowly and carefully.

This takes about two hours. At the end of the cooling journey, each individual glass is checked carefully and rejected if necessary. Only the very best glasses are given the LOBMEYR name. For any others: It's back to the starting line.

Luzia has spied the glass recycling container. She leaps up onto the mountain of glass and peers at what has been rejected. Here a mis-blown goblet, there a stem that's too thick, or a glass with a big air bubble in it. These will surely become perfect LOBMEYR glasses the next time around.

To do this, they are gathered, crushed, and then returned to the furnace to melt. Nothing is wasted. This keeps the environment happy, and Luzia, too. "Goodbye, dear glasses. I'll see you again in the furnace," she says, smiling as she waves at them.





Mom always says I'm really bright. And I think something is wrong here. That's not a glass. It looks more like an ice cream cone. How are you supposed to drink out of it?"

Luzia's right. The cap has to be taken off. This is done with a hot flame. A flame? The brother and sister are burning with curiosity now!

"I'll let you go first, Luki. I'm getting a bit dizzy," Luzia says quietly as she watches the glasses dance along the turning wheel. Lukas nods and beams. The exact height where the cap will be cut off is first scratched into the glasses with a steel needle (1). They take their place on the turning wheel and begin to slowly rotate. One, two, three ... one, two, three. While the glasses waltz along, Lukas blasts the cap off at the etched line with a well-aimed jet of flame (2). Plink. The heat makes the cap pop off and it is put in with the waste glass for recycling (3).

"Brother dear, you are flamingly fantastic at this!" The praise makes Lukas's cheeks glow ... and he flares up again. The rim, still sharp from removing the cap, is gently sanded down, carefully melted again by flame master Luki, and then polished to perfection. Phew! After so much hard work, everybody deserves an extra round around the lehr. It's refreshing. But something is still missing.



What!? Another inspection? Are we ever going to be done?” Luzia wails. “Soon,” Lukas assures her. “Quality takes time and quite a few control checks. Real LOBMEYR glasses are all examined very carefully.”

One by one, each glass is picked up by hand and turned in the light.

“Come on, let’s help,” suggests Lukas. “That’ll make it go faster. This one’s nice, this one too ... this one ... but wait a second. The foot of this one is a little too thick. It should be melted down again.”

“This glass has a tiny bubble, but everything else is perfect. I think it should stay,” Luzia thinks out loud. She’s right. A small imperfection can sometimes be charming and a sign that the product has been made by hand.

At the very end, each glass is marked with the special *grid logo*—a sign of LOBMEYR quality. Packed with care, they are loaded into a van that is heading to Vienna.

“To Vienna? To the workshop?” asks Luzia excitedly. “I’ve always wanted to go there.” “Then hurry. We haven’t seen everything yet.”

They quickly wave goodbye to the others and are on their way.



After a long drive, the van stops in front of an old, yellow building. They have arrived at the workshops on Salesianergasse—right near Belvedere Palace. While the crates are being unloaded, Luzia slips out of her hiding place and is amazed at what she sees: “What a beautiful courtyard garden. Come on, Luki, let’s take a look around.”

“Just a second ... I need a little break first.” Lukas sits down under a tree. “Good,” says Luzia, “then tell me a story. Pretty please. Maybe something about what you were reading on the drive?” “You mean about the history of the Lobmeyr family? All right then. The founder had two sons: Josef and Ludwig. It is said that Ludwig, in particular, made quite a name for himself through his burning passion for modern forms and fine craftsmanship.” “Burning passion is so beautiful—it makes me completely melt,” sighs Luzia happily. “Yes, and these works of glass art impressed the imperial court as well, and starting in 1860 LOBMEYR became the exclusive glassware purveyor to the Imperial court. A great honour. It was a glamorous era—the time when *Vienna’s Ring Road* was built. Several world’s fairs also carried the LOBMEYR name far beyond the borders of the empire. Ludwig had no children, and his talented nephew Stefan Rath became his successor. Ever since, the name Rath has been at the heart of the LOBMEYR company. Young Stefan was soon given a very important assignment: Together with Josef Hoffmann and other artists from the famous *Wiener Werkstätte* artist group, glasses were created that were more delicate than anyone had ever seen. All the important museums put them on display and they greatly influenced the wine glass as we know it today. After the dark days of the Second World War, another member of the Rath family made the world shine again, putting wonderful chandeliers in Viennese coffeehouses, the Vienna State Opera, and even the Metropolitan Opera in New York City. Today, three cousins—all with the last name of Rath—are putting their own stamp on the LOBMEYR company.”





family is also brimming
36 drinking sets and
ones are on display in
also has a sample
you can see many
Would you like
ut glasses’?”



There is a grinding noise from the next room. Lukas and Luzia want to take a closer look. A glass is being cut, one of Lobmeyr's most famous—designed by architect Loos almost 100 years ago. Old, yet still very popular. The simple cylindrical shape is often copied, and everybody recognizes the form. But how can you tell if it's an original? By the very special cutting of its base.

“The bottom of the glass looks like it's made out of a hundred little pyramids. How do they do it?” marvels Luzia. The siblings will see the answer in just a moment.

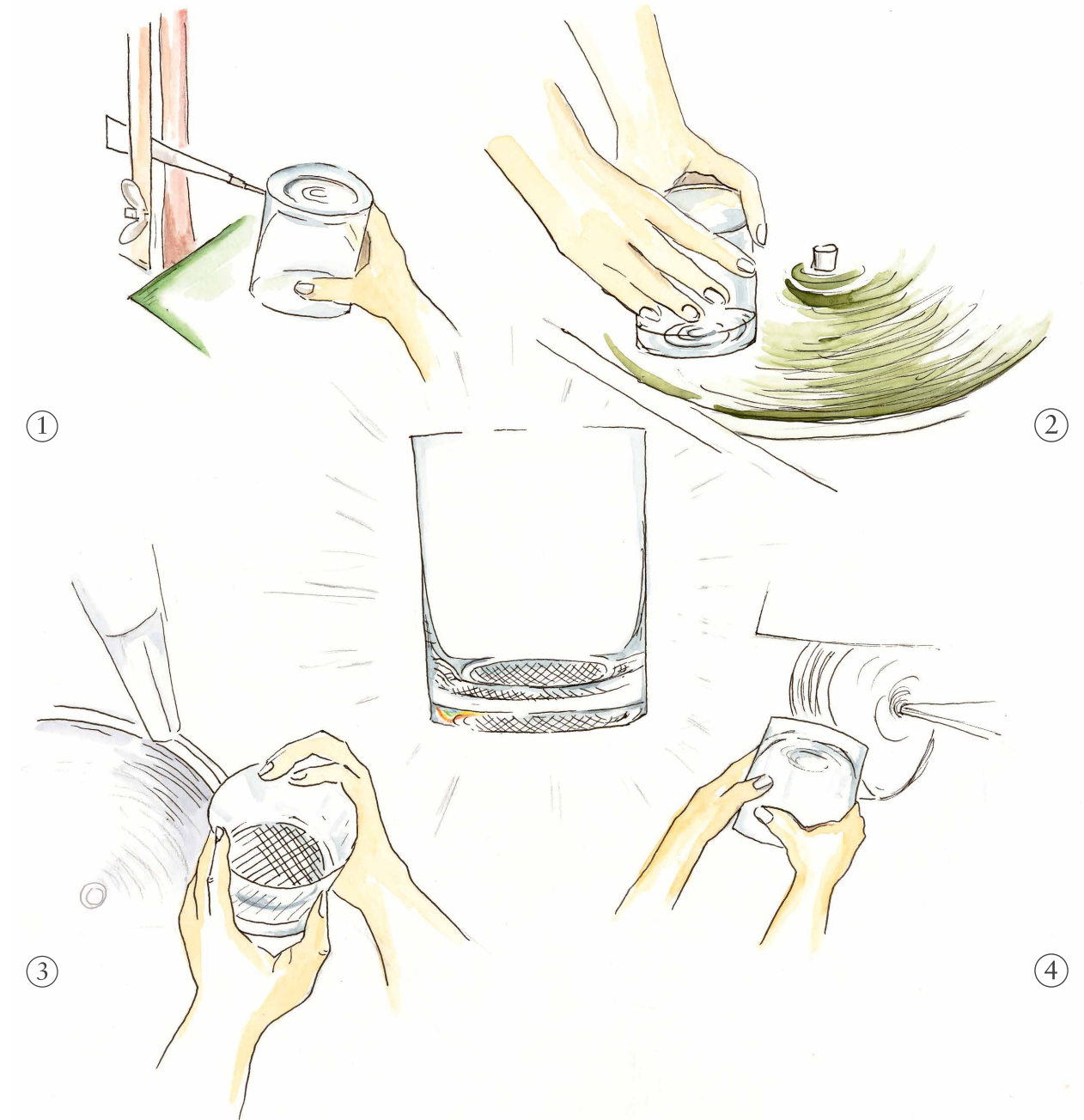
First, a mark is made on the glass to indicate how tall it should be (1). To make sure the bottom edge of the glass is nice and crisp, the glass cutter presses it gently onto a rotating disc, *grinding* it perfectly to the marked height (2).

And now for the pattern. With a steady hand and a special stone wheel, he grinds each line into the bottom of the glass, one next to the other: first from top to bottom and then crossways to form a grid. Water drips slowly down from above onto the cutting disc (3). This keeps the dust down.

After grinding, the bottom of the glass is still rough, and needs to be polished. Brushes and a special clay are used to give the tiny pyramids a beautiful silky shine (4).

“There are so many different stone wheels here,” says Lukas in astonishment.

“It must be one of the LOBMEYR specialties,” Luzia replies. “There's a special engraving disc for every single detail. Tools that don't exist yet are made or adapted by the artisans. At LOBMEYR, the words ‘can't be done’ don't exist.”



At the very end, a glass is often engraved. Luzia giggles when she sees the large number of engraving tools: “So many little wheels!”

“They make a real impression, so to speak. The artisans use these copper discs to carve pretty much anything into the glass: letters, figures, shapes. Hardly anyone knows how to use this ancient technique anymore.”

The engraver uses his fingers to apply an abrasive paste to the small rotating disc and then carefully presses the glass against it. With a great deal of finesse and skill, he conjures up the desired decoration as if using a freshly sharpened pencil.

A simple engraving usually requires up to six different wheels: large ones for straight lines, smaller ones for curved lines.

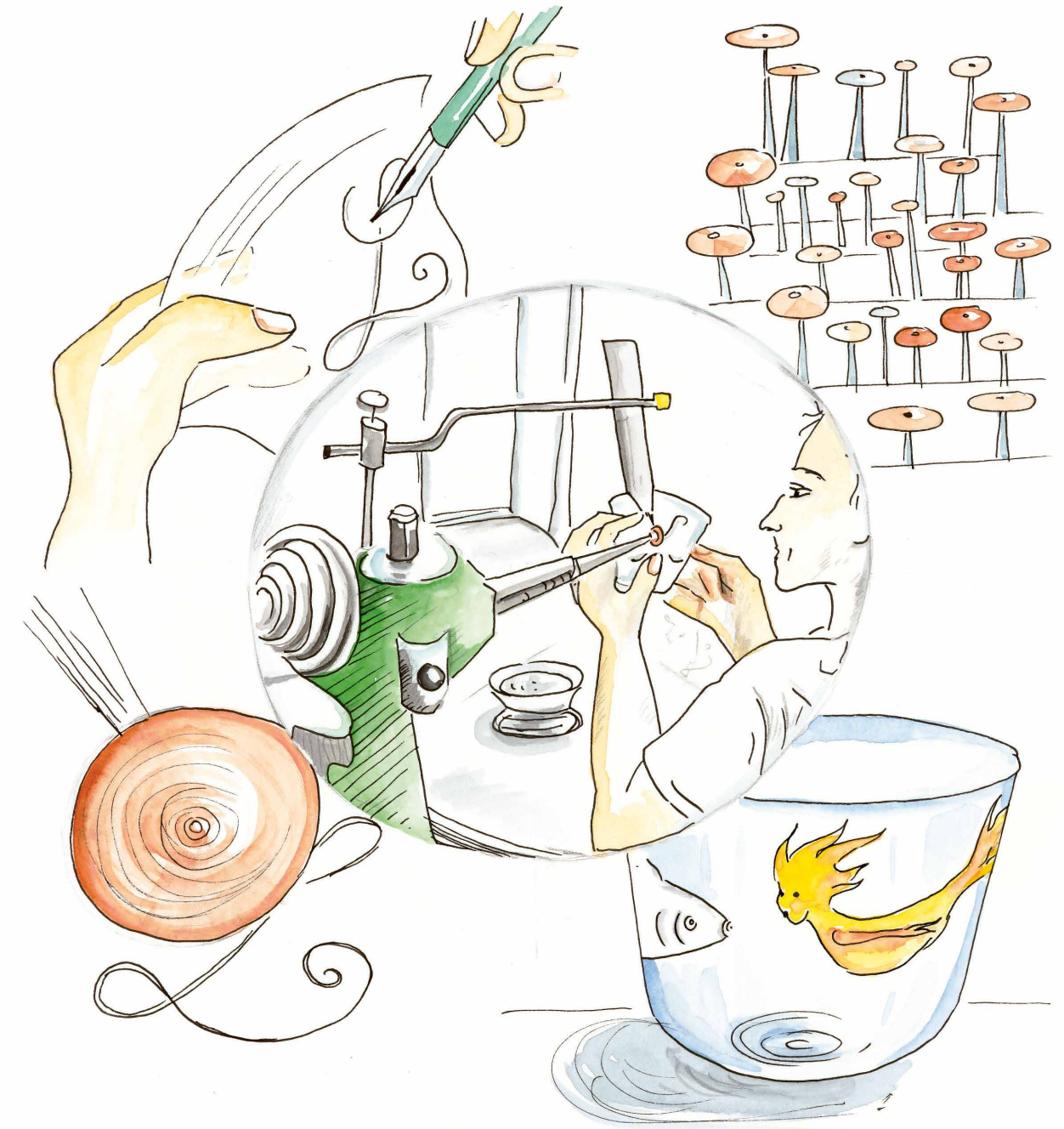
“Oh Luki, do you see that little fish?”

“Yes, so many beautiful glasses. It’s making me really thirsty.”

“Let’s grab one and drink to the many, many people who work on a LOBMEYR glass before it’s ready to hit the shelf.”

“Yes. A toast to all the artisans and artists.”

Luzia and Luki stay a little longer to celebrate with their new friends, but soon it is time to say goodbye. They have to go back to the furnace. So much work is waiting for them.





FOR THOSE WHO WANT TO KNOW EVEN MORE ABOUT GLASSMAKING ...

CRYSTAL

Glass is mostly made of quartz sand, soda and potash to lower the melting point, and lime to add strength. Quartz sand always contains a certain amount of iron, which turns the glass yellow or green. To counteract this, a purple colour (manganese oxide) was added 500 years ago in Venice, Italy. This makes the glass as clear as rock crystal, which is why glassware is also called crystal. Later, lead crystal was invented in England when lead was added to make the glass easier to cut and more brilliant. However, this also makes the glass much heavier and more brittle. LOBMEYR has always worked without adding lead.

GRINDING AND HAND POLISHING

Glass can only be blown into round shapes. In order to achieve corners and edges, it has to be ground: first rough and then fine. After grinding, the glass is a bit coarse and needs to be polished. At LOBMEYR, this is done by hand using a pumice stone and a rare earth called cerium oxide. This labour-intensive process really makes all the edges sparkle, just like a crystal. Other manufacturers simply

immerse the cut glass in an acid bath, which washes away all the corners and edges. The lead that is added makes the glass sparkle anyway.

LEHR

Glass is worked at around 800°C. At 573°C, the crystal structure changes. Cooling must be carried out very slowly so that no cracks occur. This gives the quartz crystals enough time to find their places again.

LOBMEYR GRIDMARK

The grid logo, from 1860, is one of the oldest registered trademarks in Austria. The company's full name is actually J. & L. LOBMEYR, from the two second-generation brothers: Josef and Ludwig Lobmeyr. W stands for Vienna in German—Wien—and is placed sideways across the other letters.

RING ROAD ERA (RINGSTRASSENZEIT)

On 20 December 1857, Emperor Franz Joseph ordered the city walls to be removed and a ring road to be built. This created a magnificent boulevard lined with impressive buildings and parks around Vienna's city centre, most of which can still be seen today. The Ringstrasse in Vienna was a hub of creativity, a place where many important artists worked that was also very important

to LOBMEYR. Ludwig Lobmeyr was a co-founder of the MAK museum, the Musikverein concert hall, the Künstlerhaus artists' association, and a member of parliament, all important institutions located on the Ring Road.

WIENER WERKSTÄTTE

In 1903, an architect (Josef Hoffmann), a painter (Koloman Moser), and an entrepreneur (Fritz Waerndorfer) founded a group with the goal of creating a new style. With a team of craftspeople, but also with outside companies such as LOBMEYR (for glass) and Backhausen (for fabric), they created wonderful objects that have strongly influenced modern design.

WOODEN MOULD

The mould is turned (carved) from fresh beechwood and kept moist. It is often made of two halves that can be taken apart to remove the finished glass more easily. When the glass is blown into it, the water evaporates through the fine pores of the wood and creates a layer of vapour. The glass never actually touches the wood, and it becomes especially smooth. After being used for about 300 to 1,000 glasses, a new mould is needed. Some companies use graphite or steel moulds, which last much longer but do not result in the same finish.

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(born 1970) is a copywriter and author of children's books. She lives and works in Vienna.

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(born 1973) studied tapestry at the Academy of Fine Arts in Vienna, before going on to work with various techniques of screen printing, graphic design, and painting.

Colophon

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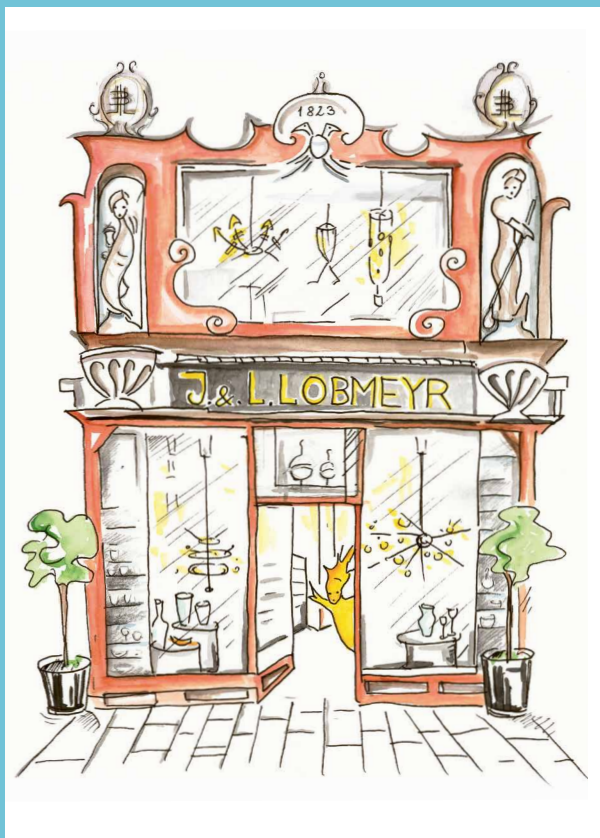
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LOBMEYR glass is very special. This book shows you what makes it so unique and gives you a peek into the secrets of traditional glassmaking, craftsmanship, and design. Two very special little members of the Flame family will accompany you on this exciting journey—Luzia and Lukas are truly fired up about LOBMEYR crystal.

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