Forbidden City in Beijing, floor made of Lumu bricks (photo: Tan Hongyu)

Floor detail in the hall of Nourishing Heart

GOLD BRICKS FROM LUMU

"A silence full of density"

BY EVELYNE SCHOENMANN

Have you ever heard of "Gold Bricks" from Lumu in China? No? Until recently neither had I. I first encountered them visually at the members' exhibition of the IAC conference in Barcelona. Ceramist Jacques Kaufmann was showing one of his ceramic installations there that he had executed with Gold Bricks from Lumu in what he calls the "water knife" technique. Months later, I was able to experience literally at first hand the wonderful quality of the characteristically grey-black material when Jacques gave me this installation as an exhibit for the Biennale exhibition in Cheongju, Korea, in the autumn of 2017. A video produced by Professor Tan Hongyu shows the production and firing process of these rare bricks and I would like to share some of this knowledge with you.

The story of Gold Bricks and the special firing and reduction technique begins a long time ago, the rule of Yong Le during the Ming dynasty in the fifteenth century A.D. These special bricks were used mainly as flooring for imperial palaces in Beijing. The kilns of Lumu, a town near Suzhou in Jiangsu province, were awarded the title of "imperial kilns" by emperor Yong Le. This is where the highest quality in flooring tiles came from because generations of inhabitants, famed for their outstanding craftsmanship, had worked exclusively in the production of bricks and tiles and had thus acquired a vast store of knowledge and experience. Incidentally, at that time the tradition of Gold Bricks was only passed on to male descendents because men embody yang but women yin. Bricks for the im-

perial palace were required to contain the force of yang, the male principle.

During the Ming dynasty, an official named Zhang Wenzi wrote a book in which the 29 production steps were listed that had to be fastidiously observed, and which have to be in harmony with the 24 solar calendar segments in order to make imperial Gold Bricks. The original book is unfortunately lost. In recent times, a major effort has been undertaken, trawling through the chronicles of Hebei province, to republish the beautifully illustrated book under the title of "Illustrations of Gold Brick Making". The research took many years, from 2009 – 2015, until the 29 steps could be reconstructed with certainty. Even today, all of these 29 steps are executed without exception by human hand, no machines are used.

The process begins with digging the clay. It comes from the lake, the substratum of Lumu, is called "second layer", is yellow and must be loamy. The clay on the surface should not be used as cereals are grown there, and the layer below the second should also not be used as it is interspersed with sand. The clay from the second layer is wedged and beaten, then it is cut open to examine it for air pockets. This process is repeated as many as fifty times. Then the clay is pressed into wooden frames, laid out on the ground, in the original dimensions of the bricks. A worker squeezes and spreads the clay into every corner of the frames with dance-like movements, of course with his bare feet. When the frame is full to the top, the clay is covered with a cloth. With a broad mallet and then a stone roller, the clay body is compressed and then carefully smoothed.

Today, bricks are only produced in Lumu once a year as the production of such large slabs takes six months or more. Sizes vary between 53 cm and 70 cm square and a thickness of 10 cm. Special dimensions of more than one metre are only produced to special order. Even pressing the clay into the frames with the feet, and even more so, turning the slabs that are laid out to dry, is extremely heavy work. One slab can weigh as much as 100 kg! To dry the raw slabs completely, they are lined up like dominos with spacers in between them. Until they are fired, the slabs must be treated with the greatest care, "like little children", the people in Lumu say, as otherwise cracks or bumps may appear, or even large bulges. The ancient kilns with their vast chimneys still stand impressively in the landscape of Lumu. Stacking the huge kilns is once again taxing work. The smaller slabs are carried on the workers' backs as they march ceaselessly back and forth from the drying area to the kilns, and "one, two, three," they are stacked up in a special pattern. The larger slabs are carried on ropes suspended from thick bamboo poles shouldered by two workers, in the manner that is still typical in rural China today. A self-made winch above the end of the chimney helps to hoist and place the heavy load in the upper regions of the kiln. A thousand things must be considered when stacking the kiln, apart from shrinkage of the slabs, draught, and weight distribution.

The firing itself is a demanding and time-consuming procedure. Four differ-

Lumu, top of the kiln, filled with water for reduction

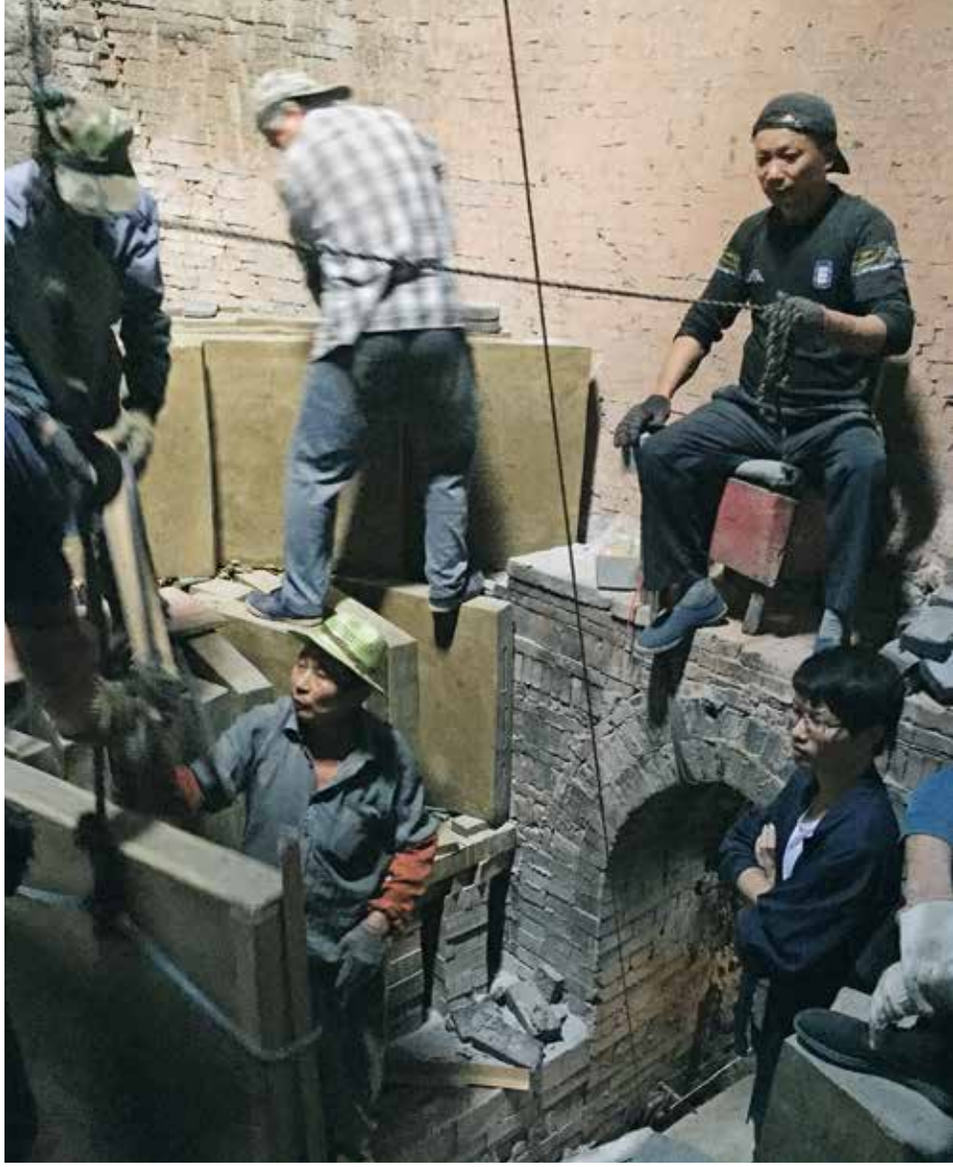
Drying process, which can take up to six months in various stages

above and right - loading the kiln; this is a heavy but delicate job

Tiles stacked in a backyard in Lumu

ent fuels are needed and the firing takes up to 130 days. In the first month, rice husks are the fuel, wood is then used in the second. It takes at least 45 days to drive out all the remaining moisture from the slabs. After that, a "big" fire can be started. In the third month, straw is used, and finally, twigs are burned in the fourth month. Even today, everything is done exactly as in historical times. The remaining ten days are reserved for reduction with water. This astounded me most. Reduction with water? Yes indeed, and only thanks to this reduction process do the bricks take on their characteristic black hue and not, for instance, a brick red!

For the reduction process proper, first of all the kiln is clammed up after all the smoke has escaped via the chimneys. From the air, the kiln resembles a volcano as the crater is



photos – Professor Tan Hongyu and Jacques Kaufmann

filled with water. This must happen very slowly and takes 9-10 days. At intervals, small holes are drilled in the kiln roof so that the water can drip into the kiln. The water evaporates immediately and a thick fog forms inside. This fog is slowly absorbed by the slabs, which gradually turn black as the temperature in the kiln sinks little by little. It can only be opened when it has cooled enough. Otherwise the fire could possibly rekindle.

To unpack the kiln when it has cooled, the workers form a long chain inside it and pass out the bricks hour after hour. When the surface of the slabs is tapped with a small hammer, a metallic sound should be heard. Only then is the high quality of the firing assured and the slab is approved. The term Gold Brick, incidentally, comes from the fact that the Bricks are "indestructible, never lose their shine and are incredibly hard-wearing, which is like gold".

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Jacques Kaufmann: **Lovers**. sandblasted on Lumu brick