

# 3D PRINTING

*Art editions for sculptures printed in clay and sintered at high temperature*

BY DANIEL MAILLET



The model and the first stages of the sculpture

Daniel Maillet at work



This article delves into the theme epitomised by Walter Benjamin's essay *The Work of Art in the Age of Mechanical Reproduction*. The twentieth century has been par excellence the century of bidimensional reproduction. The printing technologies have reached such an advanced level of perfection, to remind to me that of the Riace Warriors\*. This liaison being not accidental, since our civilization descends in the direct line from the same mindset of those who created the copies of these amazing bronzes. Ancient Greek culture used to embody the divine perfection in a physical form of rare beauty and harmony of anatomical proportions. From here originated the principle of observation as a principal instrument towards a deep knowledge of the universe, which is typical of our civilization.

Imitation is a production activity based on a preexisting model, which human beings strive to reproduce. Mimesis is meant as a useful agere, which echoes the behaviour of nature itself. Modern scientific research mainly stems from this principle and mindset. Its long evolution has experienced a hyperbolic acceleration in these last decades and produced our hypertechnological civilization with its outreach of infinite specializations. Some other cultures could have walked the same path, but, as Claude Lévi-Strauss stated, each culture developed its own exquisite uniqueness on the basis of its natural environment, religious beliefs and self-preservation needs. Therefore none of them is inferior to western culture, although many people still insist on thinking this way.

In 1976, after finishing my studies as a graphic designer in Switzerland, I received my continuing education in wood and copper engraving. I specialized in observation drawing and painting at Milan Brera Academy. At the very dawn of the 21st century, midway along the journey of my life, I moved to Brazil, where I started modelling clay. Since the very beginning, my experiments went hand in hand with my research about updates on cutting-edge 3D technologies found on the internet. But it wasn't until 2017 that I got my first sculptures 3D-scanned. I'm thankful to Giuseppe Olmetti, the Secretary of Associazione Italiana delle Città della Ceramica, AICC, for introducing me to Massimo Moretti, the founder of the Wasp Company in Massa Lombarda, where I carried out my basic research. The ceramics mixtures were supplied by Fabio Poli, the owner of the Company Cibas in Nove. As far as I know, it was the first time ever that a real-life figurative sculpture in 1:1 format got printed in clay. It was a big success. Mechatronics is constantly evolving and in the short term, the makers will further enhance the equipment.

The first question which comes to mind is: "Is it still about works of art"? I answer, "Of course!" In fact, the final touch, the "vital breath" is imprinted by the hand

\* The Riace Warriors are two Greek bronzes from the mid fifth century BCE. They are in the Museo Nazionale della Magna Grecia in Reggio Calabria, Italy.





Scanning the fired sculpture

of the artist, who is the last to intervene in the sculpture. The 3D printer replaces the apprentice boys of the classic Bottega of the mediaeval and Renaissance guilds. The dynamics of contemporary art have made tabula rasa with the knowledge and the manual skills of classical languages. As a logical consequence of this, we use industrial equipment. Our century belongs to 3D printing and I believe that soon many of us will have our own 3D printer at home. It will be up to us to decide what, when and how we are going to print. We will choose among infinite shapes, colours, structures, textures and final desti-

nations. The market aims towards a huge transformation since everything will be individualized. It is not easy to imagine our future; *panta rhei*, as per the aphorism attributed to Heraclitus.

Under these circumstances, my goal is to be able to print art editions of sculptures, numbered and signed. 3D printing in clay is only the first step of the process; the second step, absolutely crucial, is the firing of the work of art. I built myself a large kiln, a real achievement of the *téchne*!

The main thing is to sinter the artefact; through the high temperatures the clay pellets get moulded, the sculpture

becomes stoneware: it is a techno-science as well as alchemy, which produces very hard, impermeable rocks from powders, water, air and fire.

The 3D clay print and the metamorphosis of the clays lead to a blend; it's like killing two birds with one shot: it is the dawn of a new paradigm!

<https://3dclayprinting.com/featured-story-daniel-maillet-art-editions/>

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Daniel Maillet working at the 3D printer

*fotos - Daniel Maillet*

