

# Micro Sized Art “The Weight of Life”

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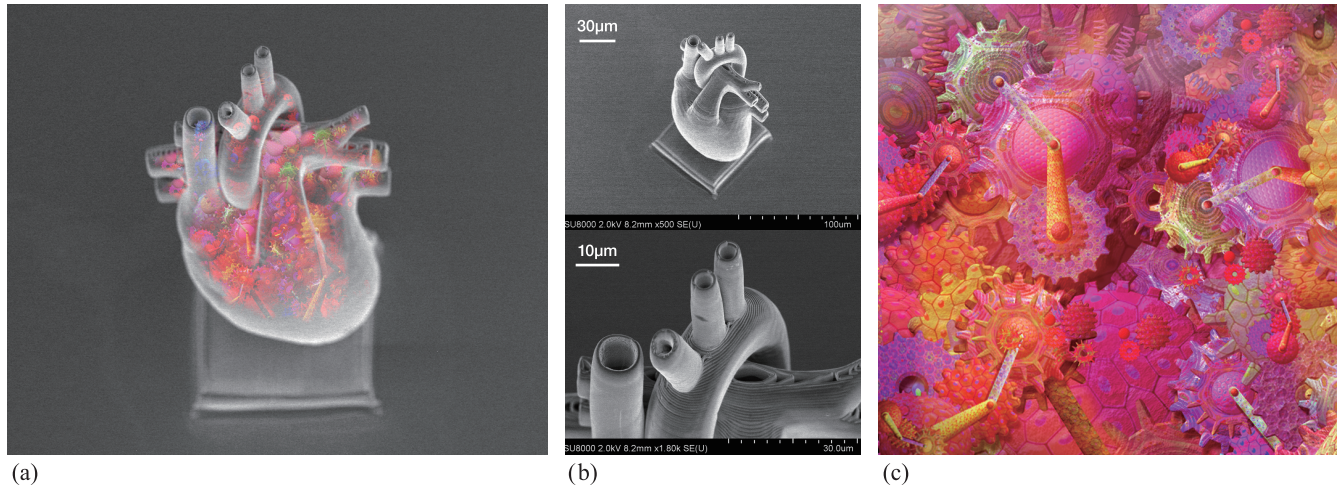


Figure 1: (a) Micro Sized Art “The Weight of Life”, (b) These two images are taken with the Scanning Electron Microscope (SEM) imaging system. The scale of the micro sized heart is 100(h) × 69.5(w) × 53.7(d) μm. (c) This image is combination with the gears and springs made with cell images. The image expresses the heartbeat.

## 1. Introduction

In some way we can see everything that exists in our surroundings, even though it is too small to see by the naked eye. What about ourselves? How can we notice our own existence?

Your existence itself is a miracle: Your father and mother met together, and you were born. I expressed a small micro-sized heart that we cannot see by the naked eye as the presence of ourselves, and the heart shape is used as the metaphor of our existence. This artwork offers a chance for us to recognize such crucial existence of our lives.

## 2. Approach

I created a micro-sized heart using leading techniques and systems in a scientific laboratory. The latest direct laser drawing system (Nanoscribe GmbH) is able to fabricate three-dimensional (3D) micro- and nano- structures by using a photosensitive polymer. The polymer is cured with a laser. I first designed a human heart model by LightWave 3D. The direct laser drawing system converted the original 3D model to sliced layers. The laser then drew and cured the polymer layer by layer. Finally, the micro-sized heart was produced.

I observed and took some images of the produced micro-sized heart by Scanning Electron Microscope (SEM) (Fig. 1b). The images taken with SEM are always monochrome. I described the heart muscle movement as dynamic system of many gears with various colors (Fig. 1c), and then composited to the original monochrome SEM image (Fig. 1a). Consequently, the micro-sized heart was changed from “static” to “dynamic”, and finally, the micro-sized heart is “alive”.

## 3. Conclusion

Even such a small object of the micro-sized heart can be considered as an object having “weight” in the microscopic world, which expresses the importance of life. Through this artwork, we notice that our destinies are given by continuous miracles happening coincidentally, and then we appreciate our birth to this world selectively. The micro-sized heart would then offer a chance for us to recognize “the weight of life”, in short “the miracle of life”.

This artwork was created by latest scientific tools and CG. In the future, I would like to fabricate micro-sized hearts with biological functions using biological materials such as living cells.

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