My Contribution to the International Year of Glass 2022

Assembled and translated by Rebeka Erdő

ABOUT THE WORK

I unite my body of work in "My Kunstkammer," which connects the future with the past by posing three significant questions:

1) What is matter, both corporeal and incorporeal matter (elementary particles such as electrons, photons, etc.)?
2) The zero (nothingness or the ellipse).
3) The relationship between the picture and image.

These three themes are closely interconnected and gain increasing significance through the use of electronic and quantum-based instruments in the so-called "PROSTHESIS WORLD" (microscopes, telescopes, computers, smartphones, etc.).

Roll of glass in my art

I have been working with glass for a long time. Between 1974 and 1977, I researched silicates at the Research Institute for Glass and Fine Ceramics in Bucharest and explored the topic of photosensitive glass. Here, for the first time, I had the opportunity to elaborate on the depths of the structure of matter through the electron microscope. Later, in Vienna, I restored glass objects for the Glass Gallery Michael Kovacek (also for Mr. Rudolf von Strasser).

I linked cultural-historical interest with new experiments, simultaneously enriching my artistic work through continued collaboration with scientists in the fields of atomic research and astrophysics.

In the process of numerous experiments, silicon becomes an indispensable actor! Silicon performs a whole range of services at the forefront of scientific developments, ranging from materials science to data processing. CERN is globally known as the largest research center for particle physics.[1] The World Wide Web was invented here to facilitate communication among physicists worldwide.

For me, it is a necessity in our rapidly changing communication era, where soon everything will disappear, to decelerate and put the important actors of communication, such as the light particle, the photon in connection with silicon in the form of glass or grains of sand, as well as with carbon, graphite, and diamonds, at eye level and let them take effect.

[1] At CERN, answers to fundamental questions of the universe are sought. (What is it made of? How did it evolve? etc.)

The Image (2006)

The Image / 0,8 mm diamond-engraved float glass / 200 x 400 cm / 2006.

The notion of space-time is inseparable from the activity of matter. Our understanding of matter has changed; it is no longer that of a whole consisting of classical particles (tangible). Matter has become something complex. In my works, some materials (silicates) are important, participating in the development of the concept of space-time. They are both subject and predicate. Here, on the light-transmissive glass plate*, the representation of a moving particle (proton) is staged in the central perspective. Drawing-scratching on the float glass surface is done here, in place of graphite, with diamond. "The image" (doubled by the shadow) poses the question: HOW is the image created and WHERE – and, of course, the crucial question of materiality-immateriality.

*Glass itself is a (silicon) distillate of the Earth's crust. In its composition, we recognize the mystery of the age of the universe and the evolution of stars.

Source: Magda Csutak: Das Bild, in: ZEITRAUMZEIT, ed. Pamperl, Brigitte, Künstlerhaus, Folio Verlag, 2008. (German)

This image, originally from a proton-neutron collision, was recorded by the ATLAS detector at CERN. For the recording, involving many silicon plates, and for the data transmission to processing, the semiconductor silicon is responsible. The entire process is an INPUT-OUTPUT.

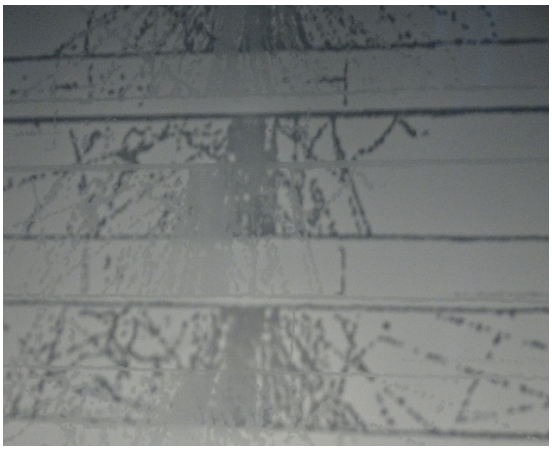
Source: Jiffy Chat, Künstlerhaus 1.10.2015 / „Null und etwas“ / Magda Csutak, Duration of Presentation: 4´ (German)

Diffusion I. / Diffusion II. (2006)

Diffusion I.

© Courtesy of Magda Csutak

Diffusion II.



© Courtesy of Magda Csutak

Diffusion I. and Diffusion II. / diamond-engraved float glass / je 200 × 90 × 0,8 cm / 2006.

Today, in the era of quantum theory and the quantum world, we evoke the events of 400 years ago, in the "Century of Change," and remember Rembrandt, the great visionary. It is a good occasion to recall the many questions posed by painters, mathematicians, scientists, philosophers, and composers (Rembrandt, Pascal, Newton, Spinoza, Leibniz, Bach) to explore the world. Above all, Rembrandt introduces us, the observers, to the world of

mysteries. Through painting, he invites us to gain insight into his unknown world. In fact, he invites us to meet with the creative power of our observations. His questions have not lost their relevance over the centuries.

On the contrary, it is worthwhile to contemplate them repeatedly. As usual, certain materials play a special role in my work, as well as for the anniversary. They are present in the image construction as subject and predicate and carry secret messages. Specifically, silicon in the form of float glass forms an image here. Upon closer inspection, we can discover the entire universe in the glass; the glass is the distillate of the Earth's crust, and in its composition, we can recognize the age, the mysteries of the universe, and the development of stars.

The diamond-engraved float glass titled *Diffusion I* represents a capture of the collision reaction of particles, which are not perceptible to the eyes, the neutrinos, recorded in the bubble chamber at CERN. In the glass panel *Diffusion II*, an image from the cloud chamber created by cosmic particle radiation is visible. Both images have emerged from complicated scientific work investigating the nature of light. From this perspective, I attempt to consider the questions posed by Rembrandt 400 years ago: how to come closer to unity through duality. The genius painter has, regarding the laws of motion, thus preceded the most important questions of the scientific investigations of his time.

Source: Magda Csutak, in: Re:mbrandt 400, Contemporary Hungarian Artists Respond, Kat. (Szépművészeti Múzeum, Budapest 6. Juli – 8. Oktober 2005), Budapest, 2005.

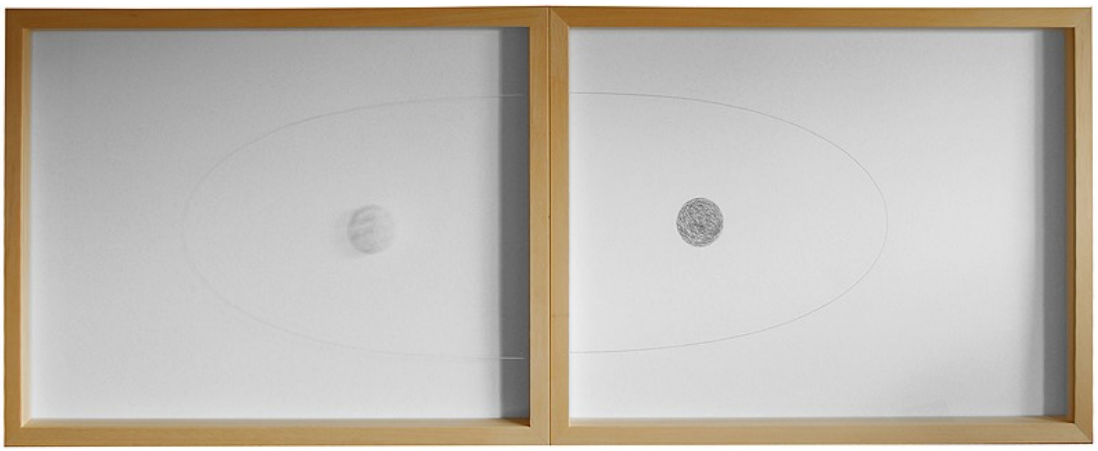
Sum Zero (2010)

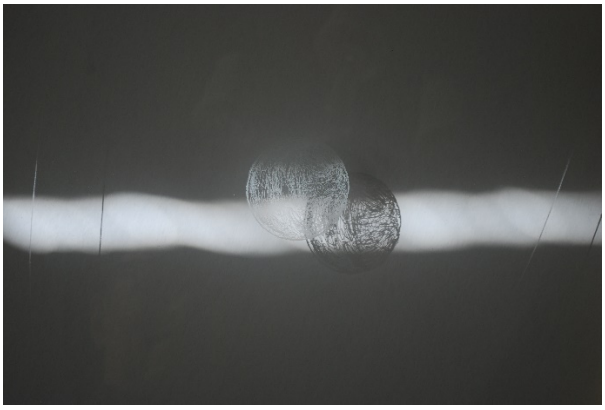
Sum Zero / colored glass, graphite, paper, wood / 84,5 x 64,5 cm / 2010.

The painting consists of four game pieces used in the 19th century in Belgium for the game of hopscotch. The two blue glasses represent the ellipse's foci, while the colorless and red glasses are the encircling, quasi-celestial bodies and planets. The four glasses together form a square. Here, the two contrasting forms merge: the Cartesian, rectangle, providing safety, and the dynamically moving ellipse.

I generally advocate against the hierarchy between these two forms in our IMAGES-SHAPES-WORLD.

One and the same (2012)





One and the same / graphite, cardboard, diamond-engraved float glass, wood /
two pieces / each 65 x 85 x 4,5 cm / 2012.

On the Trail of the Pencil Tip

As materials are carriers of cultural memories, I choose carbon to leave traces in its two contrasting forms graphite and diamond. The vital carbon, determined differently by its lattice structure, appears as dark, soft, and opaque graphite, and hard and transparent as diamond. I let both act in their distinct drawing capabilities.

I am aware that "calculating with the pencil stroke" is no longer an utopia. Silicon electronics with graphene* (graphite flakes that are only one atomic layer thick) could drive miniaturization down to atomic dimensions. This material, graphite, known since ancient times for its atomic lattice structure, the stacked "hexagons," will soon become a functional reality for quantum computers. Our atomic clock ticks unnoticed. Soon, my drawings may indeed become TRACES (if they remain at all).

**Physicists Andre Geim and Konstantin Novoselov were honored with the Nobel Prize in Physics in 2010 for the production and analysis of graphene.*

5, 3, 2, 1, 0 (2014)

5, 3, 2, 1, 0 / wood, glass, anti-reflective glass, diamond-engraved float glass, graphite dust / je 100 x 100 x 5,5 cm/ 2014.

The wall object consists of five different images, which, on one hand, possess individual characteristics as parts of a whole, and on the other hand, form a unity through their uniform shape, identical frames, and juxtaposition. I portray prime numbers as if they were a family, including zero.

The first image is empty, directing the focus onto the glass itself and its anti-reflective quality. The second image is filled with graphite powder, and on its glass surface, a detail from a CERN capture has been scribed with diamonds. The third image is a diamond-scribed float glass with a detailed capture of the proton-neutron collision at CERN. The fourth element of the wall object is again empty and consists of float glass. The final component is a Taoist diagram of changes, representing the flow and transformation in the physical world. As the different glasses interact with light in various ways, they play with the viewer's perception.