

## [micro]biologies II: πρωτεο / proteo Joanna Hoffmann

Exhibition runs: 24 January – 29 March 2015

Opening hours: Fri-Sun, 2-6PM and by appointment

Opening of macro/micro-biologies library: 30 Jan, 7pm

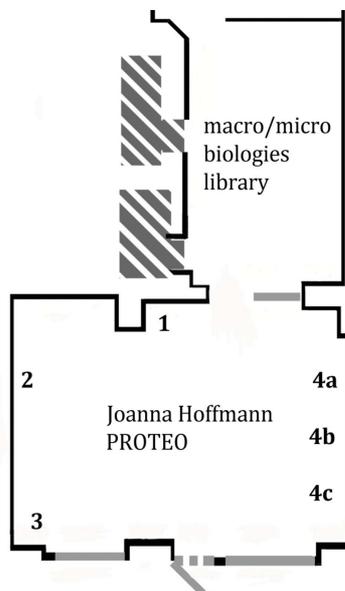
Curators' talk: 1 March 2015, 3 pm

Finissage: 29 March 2015, 3 pm

Curators: Regine Rapp & Christian de Lutz

Art Laboratory Berlin welcomes you to the exhibition *[micro]biologies II: πρωτεο / proteo* with works by Joanna Hoffmann. This fourth and final exhibition of the series *[macro]biologies & [micro]biologies* explores the minute biomolecules that form a basis for the phenomenon of life.

The renowned Berlin based Polish artist **Joanna Hoffmann** creates transdisciplinary works combining art, microbiology, physics and technology. Her use of multimedia installations, 3D stereoscopy, experimental video animation and other media explore the visualization of subatomic and molecular as well as cosmic space. Her work relates to advanced scientific research on the phenomenon of life and to the interplay between scientific and cultural, sensual and illusive, digital and biological, natural and synthetic.



The exhibition space at Art Laboratory Berlin is transformed into a multimedia installation: on a plinth across from the entrance is the work *πρωτεο/ Proteo (1)*, a 'Pepper's ghost,' or forerunner of holography, projected onto a pyramid. The work's title refers to the Greek root of the word protein (Gr. πρωτεῖος *the first, in the lead*) as well as to the philosophical tradition of searching for *arche* – the essence of the physical world (Anaximander) and the principle of knowledge (Aristotle). *Πρωτεο / Proteo* is an animation portraying a cloud of particles creating a mini-universe folded in the form of Calabi-Yau space, in which, according to superstring theory, successive dimensions of our world are "curled up" at the subatomic level. Giving birth to a convoluted protein molecule and its dynamic molecular 'dance of life', it brings to mind a question about the relations between the energy, matter and form.

The 3D projection and installation *Molecule (2)* was created especially for this exhibition. It is based on scientific data of molecular structures and transcribed by the artist into a computer animation. The work, in tandem with **Andre Bartetzki's** soundscape, relates specifically to the viewer's body. As Joanna Hoffmann describes: "According to superstring theory our universe contains extra dimensions compacted to the subatomic level and hidden from our limited perception. If so, our own bodies carry dimensions inaccessible to our perception: we are spaces comprising manifold universes. But the evolution of our universe could follow the opposite direction. According to other theories, the multidimensional world collapses into a four dimensional one and even this one can be, like a hologram, a perceptual illusion."

Another 3D work is *Anxiety of the 2<sup>nd</sup> Dimension (3)* from 2012. The globular molecule of a protein, a linear narrative of amino acids with shapes of alpha helices, presents itself as a philosophical study on space and existence. "We may wonder", says Hoffmann, "whether our own trajectories of life wriggle on a rumply two-dimensional surface like on a crumpled sheet of paper, whose crinkles assure us of the variety of experiences and provide us with multidimensional illusions."

Joanna Hoffmann's exhibition is intended as a laboratory of imagination. The works bring together a few threads of artistic research being developed within the frame of her long-term project *Hidden Topologies of Being (4, a-c)* inspired by the atomic structure of protein molecules, the "basic bricks of life". The works are based on scientific data describing protein structures. Joanna Hoffmann states: "Proteins are associated mostly with cellular robots. For me however, as an 'assembly of proteins' (using David Deamer's term), a protein molecule became a key to explore relations between micro and macro scales of my existence." The video works incorporate excerpts of poems by Rabindranath Tagore and by the artist herself.

In these works Joanna Hoffmann seeks to visualise the implications of theoretical physics. As the artist notes: "If the scientific hypothesis about the multi-dimensional nature of the world is true, then these hidden spaces are everywhere, in each 'point' of the space outside as well as inside us. What does it mean for us to live in a multidimensional universe, or even multiverse? What kind of tools do we have to apprehend the

invisible? [...] One day, maybe, our brain will be able to perceive how we exist in the multidimensional universe. For the time being, we have only our imagination in command and an enormous diversity of protein globules, each of them suggesting, in another scale, a blister of some world."

By mining technologies as diverse as computer modelling and animation, Pepper's ghost and 3D video, Hoffmann's work presents the viewer with a set of structures for scientific, philosophical, and aesthetic wonder and analysis. Merging interpretations of scientific data, image, sound and poetry, *πρωτεο/ Proteo* poses questions about the challenges and boundaries of our cognition, creating an emotional bridge between our daily experiences and the abstractness of contemporary science.

For this exhibition Joanna Hoffmann has worked in collaboration with sound artist and composer **Andre Bartetzki**. He has composed a multiple soundscape, mirroring aspects of Hoffmann's video works: abstract forms and real environmental sounds, surface textures, subsonic noise and extreme treble.

Regine Rapp & Christian de Lutz

**For more information about Joanna Hoffmann, her works and the theoretical background please have a closer look into the "source book" in the back room.**

Press: Olga Shmakova

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