

# Protrude, Flow

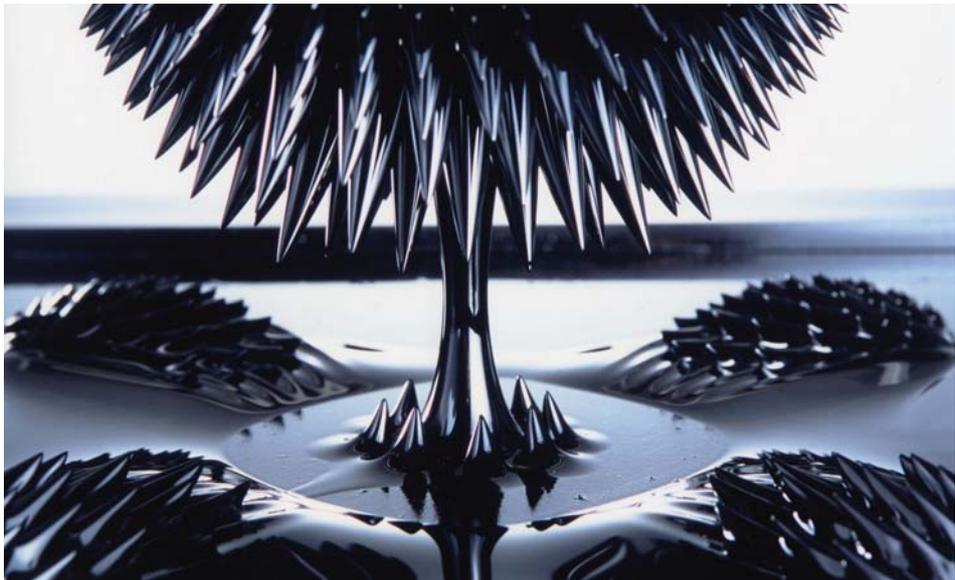
Sachiko Kodama / Minako Takeno

We are attempting to create interactive installations to express our primitive feelings. The dynamic, organic shape and movement of the black lustrous fluid (magnetic fluid) is placed in some parts of the installation to express desire (passion) for life. The phenomenon of fluid rising against gravity reminds us of something living. Fluid moves according to the synchronous sound. These installations are not like machines, they remind us of the energy of pulsating fluid in the body of life.

## Protrude, Flow

Modeling physical material more freely and making it move more flexibly is a dream long sought after by human beings, and many artists have created surreal illusions in pictures or moving images. But those were imaginary. Can we obtain a real object that transforms as we designed it? *Protrude, flow* is an interactive installation which expresses the dynamics of fluid motion of physical material, the dynamics of organic, wild shapes and movements of liquid by means of digital computer control.

*Protrude, flow* uses magnetic fluid, sound, and moving images. Affected by the sounds and spectators' voices where the exhibition is held, the three-dimensional patterns of magnetic fluid transform in various ways, and simultaneously its flowing movement and dynamic transformations are projected on the wide screen.



"Protrude, Flow" 2001 Photo: Yozo Takada

The magnetic fluid appears black. It is made by dissolving ferro-magnetic micro-powder in a solvent such as water or oil, and it remains strongly magnetic even in the fluid condition. Therefore it is more flexibly transformable than iron sand and so it is possible to create more complicated three-dimensional organic patterns. These appear occasionally as pointed mountains or pliable organic shapes, sometimes as flowing particle streams. The transformation of magnetic fluid is caused by the interaction with environmental sound. The sounds of the exhibition (sounds created by artists, and the voices of spectators) are caught by a microphone hanging from the ceiling, and then a computer converts the sound volume to electromagnetic voltage which determines the strength of the magnetic field. At the same time, the magnetic fluid changes its three-dimensional patterns sequentially. Each pattern appears synchronized to the environmental sound and the points of the shapes move correspondingly. As a result, magnetic fluid pulsates according to the sound. A digital video camera captures images of the moving magnetic fluid, and projects them onto the screen.

## Pulsate 2002

In *Protrude, flow*, we attempted to present the dynamic movement and shape of magnetic fluid. The art formed organic abstract shapes that move smoothly.

In *Pulsate*, we put fluid in a familiar place where you can find things that have ordinary meanings. Here, fluid will become a place where peoples' thoughts mingle together.

The stage of *Pulsate* is a table. Eating is the most essential activity for human beings. Black fluid in a white dish develops waves on its surface when conversation between people around a table starts, and its movement stimulates their communication. The floor is covered with white sand. Fluorescent lamps are hung from the ceiling, and then the exhibition room is filled with white light. You can see a white table and several white chairs around it. At the center of the table, there is a large white dish holding black fluid. When people gather, the fluid pulsates calmly in sync with the sounds round about (spectators' voices, the sound of footsteps etc.). The louder the sound becomes, the more violently the waves pulsate, until at last they splash in the air.

*Pulsate* is an interactive installation that reflects, in the movement of fluid in a dish, our desire to communicate with other people.

Software: Shotaro Yamada, Photography: Yozo Takada, Sound: Ippei Ogata

This work was supported by Denshijiki Industry Co., Ltd.

"Pulsate" in Zone Exhibit (Tokyo) Photo: Yozo Takada

