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The Second Law of Thermodynamics:

"There is No Free Lunch !"

M.C. Escher

Water flows downwards spontaneously.
However, their flow to the top of the waterfall
is impossible without a pump

Vincent Van Gogh

Heat flows spontaneously from sun to earth.
However, the opposite is impossible without work

Prof. Abraham Tamir
Art & Science
Ben-Gurion University
Beer-Sheva

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DNA – Deoxyribonucleic Acid

Salvador Dali

DNA – long thread-like molecules found in chromosomes and some viruses, consists of two interwound helical chains of polynucleotides. The structure of a DNA molecules has been linked to a twisted rope-ladder, the sides of which consist of sugar-phosphate chains. DNA determines all the inherited characteristics of the organism

DNA Molecule

Prof. Abraham Tamir
Art & Science
Ben-Gurion University
Beer-Sheva

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Smashing Wave

Katsushika Hokusai

This is a dramatic picture of a water smashing wave, one of a collection of 36 pictures painted during the years 1823-1830, entitled "View Over Fuji Mountain", also seen in the picture

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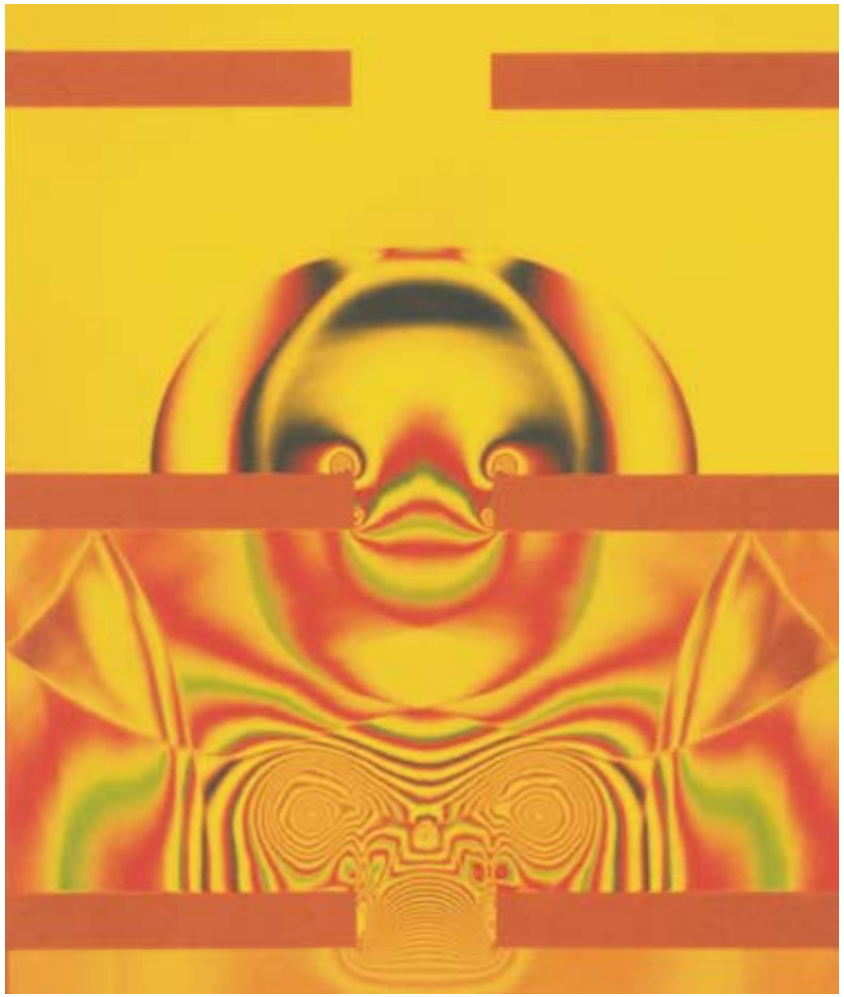
Motion of a Shock Wave



Heintz Reicherback

The colored picture demonstrates interference of a shock wave passing through a set of partitions in a two-dimensional flow in a shock tunnel. In the picture the portrait of a woman is revealed where her breast are, practically, vortices. In its passage through the partitions, the plane shock wave is transformed to cylinder creating the face. The eyes are, again, vortices where the mouth is equal density lines

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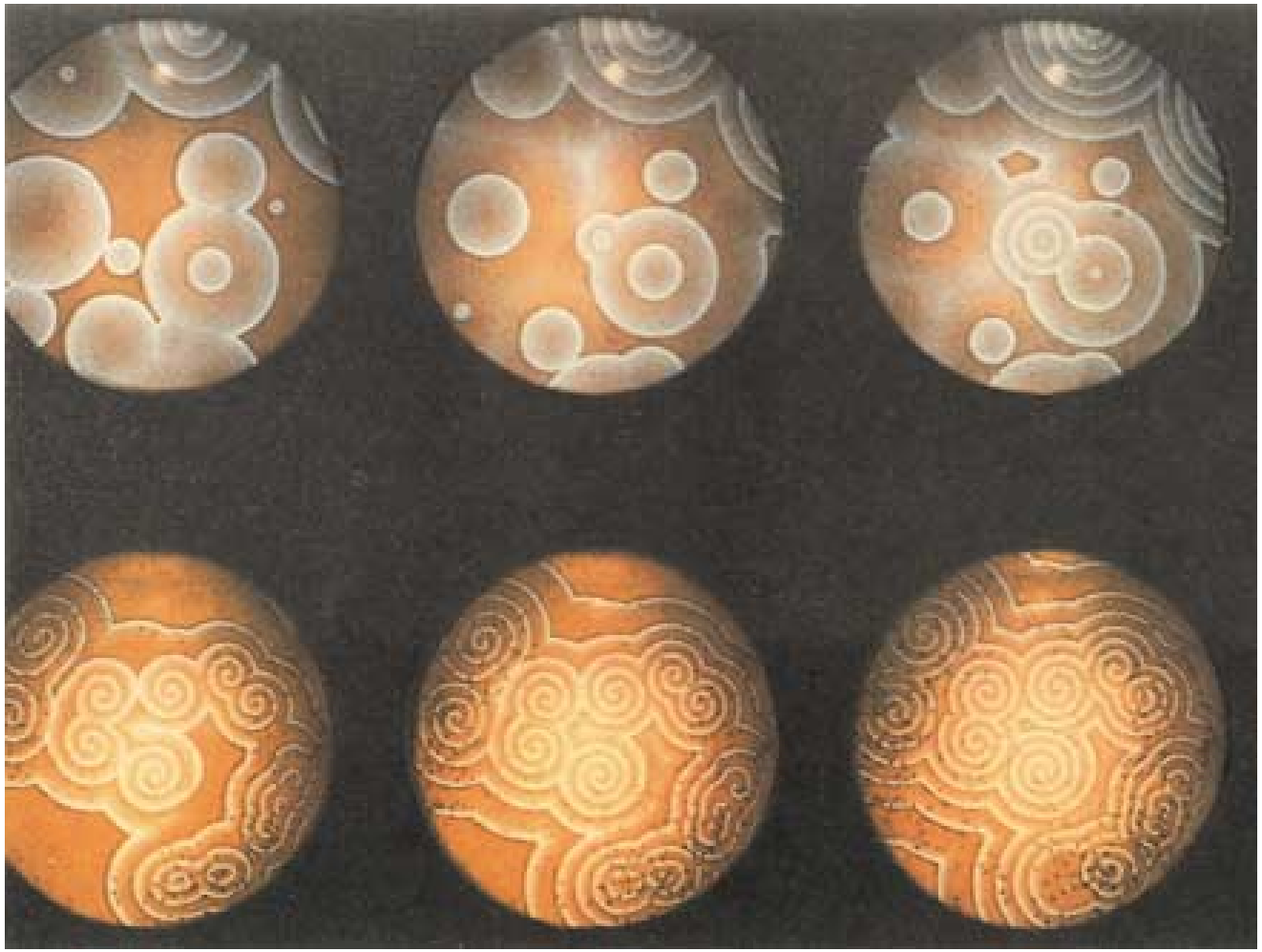
The Belousov-Zhabotinskii Periodic Reaction



Top views at different times of a vessel in which the periodic reaction takes place

Prof. Abraham Tamir
Art & Science
Ben-Gurion University
Beer-Sheva

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Biotechnology

Jacek Yerka

Biotechnology is the combination between Biology and Technology for the industrial Implementation of the achievements of these sciences. The artwork of the Polish artist Yerka demonstrates this combination

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Impinging-Stream Processes

M.C.Escher

The essence of the method of impinging streams is the flow of two streams towards one another along the same axis.
In the impingement plane the required process takes place.
Escher's artwork demonstrates a mixing process of two different particles flowing one towards the other to obtain their homogeneous solution as result of penetration of the streams one into the other

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Combustion Processes

Jacek Yerka

Combustion, a widespread processes in industry, is a fast chemical reaction between reactants generating heat and light in a form of a flame. In most cases, one of the reactants is oxygen. The heat is utilized, for example, for production of electricity in power plants

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Diffusion Processes

Walter Wick

Diffusion is a random motion of molecules, which creates a net motion of matter from a high to a low concentration. In the picture, a blue colored droplet is introduced into pure water. The molecules of the color undergo a diffusion process, causing, after some time, a solution of uniform color

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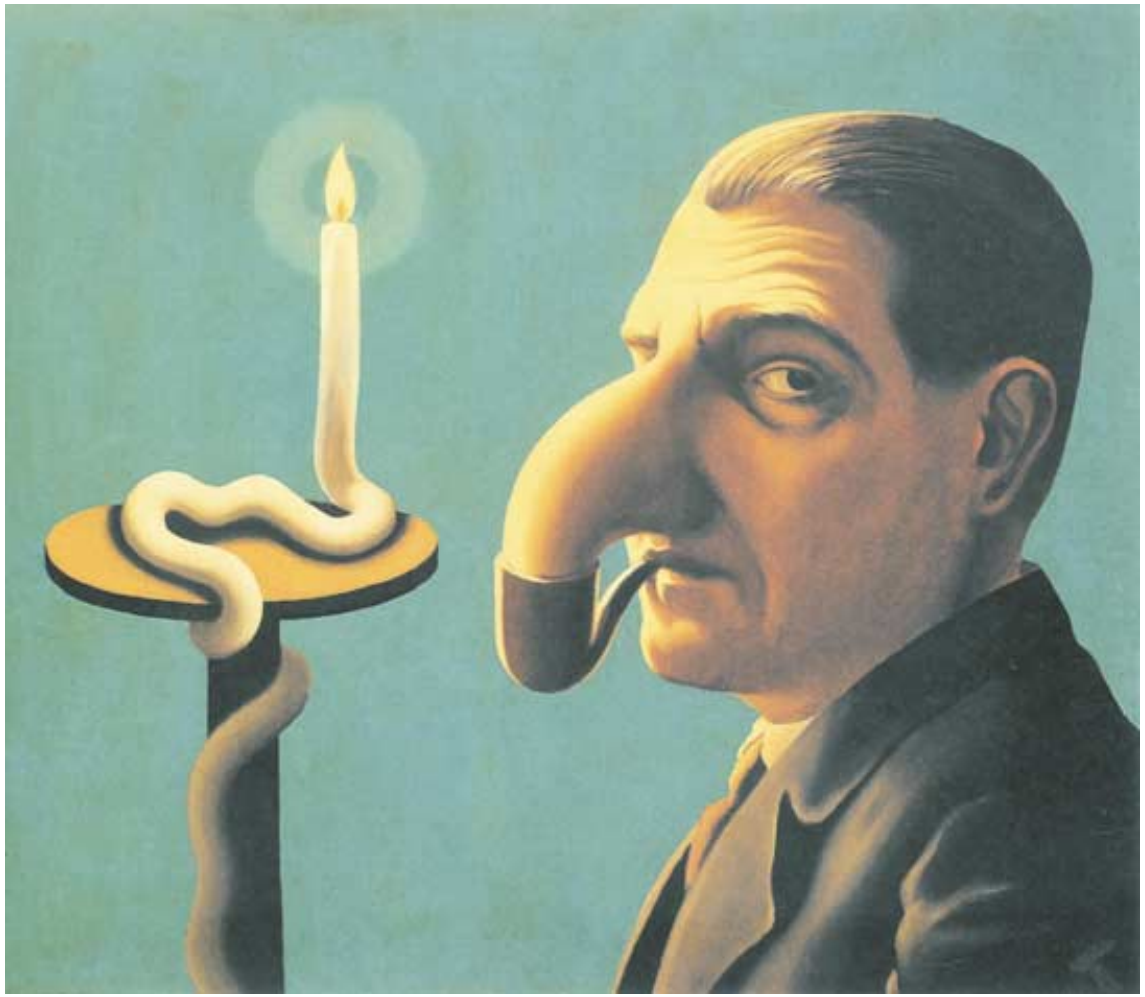
Cyclic Processes



Rene Magritte

A cyclic thermodynamic process is a combination of processes in which the initial and final states are identical.
The most famous cyclic process is the Carnot cycle in which the efficiency of transformation of heat into work between two given temperatures is the maximum

Prof. Abraham Tamir
Art & Science
Ben-Gurion University
Beer-Sheva