Concentric Archetype and Liesegang Rings

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Concentric Archetype and Liesegang Rings

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2016

Abstract:
The concentric rings is one of the most common archetypal structures are to be monitored at macro / microcosmic full diversity of natural structures of concentric rings similarities, connections, analogies, putting together physical phenomena of segregation, standing waves and osmotic ring diffusion periodic precipitation process phenomena Liesegang type.

One of the most complex and intriguing archetypes are the circles, respectively the concentric spheres. These elementary formations, which are found frequently at macro, mezzo and microcosmic level, are bound to the relationship centre – periphery. Essentially, the concentric structures, talking from a spatial point of view, are conical shapes intrinsically related to the laws of perspective. (e.g. In a series of spheres of identical diameter disposed at even distances, due to a perspectival illusion, the one closer to the viewer will appear bigger, while the remote ones smaller, tending to seem punctiform.)

Thus following the structure of the galactic disk, one remarks the concentric distribution of the stellar matter, then the solar system with the planetary orbits and their circular structure. Each planet, of course, has a discontinuous structure, disposed from periphery to centre in a manner that is segregated concentrically, as seen in the atmosphere, hydrosphere, biosphere, anthroposphere, lithosphere, etc. Therefore, the concomitant structures of the atomic orbitals certify at a quantic scale the same immutable archetype described above.

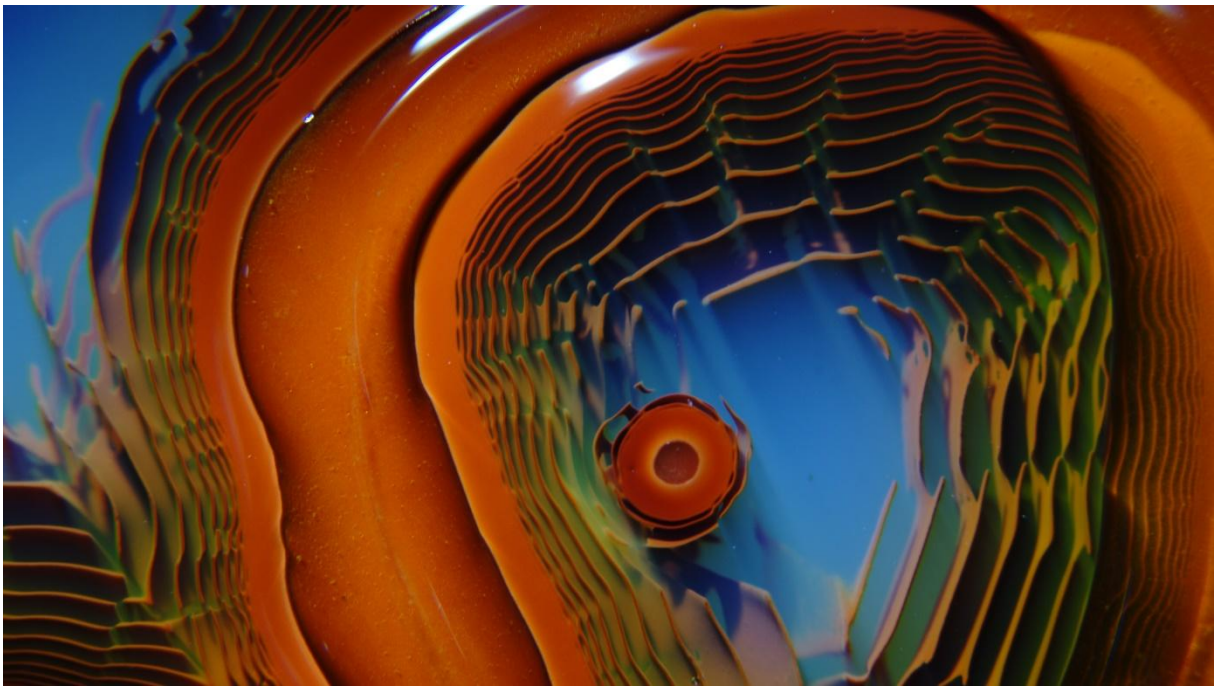

Fig.1 Concentric chemical rings. By Gabriel Kelemen 2016

Concentric concretions appear at a mezzo-cosmic level. Some are cemented sandstones (i.e. trovants), cave-pearls or other geological formations of big dimensions like craters, eroded volcanoes – which have left behind the gigantic alternant rings known as *Richart Structure* or *The Eye of Sahara* reminding of the legendary Atlantis described by Plato in the **Timaeus and Critias** dialogues -, volcano islands, or the familiar raindrops drawing circular waves.

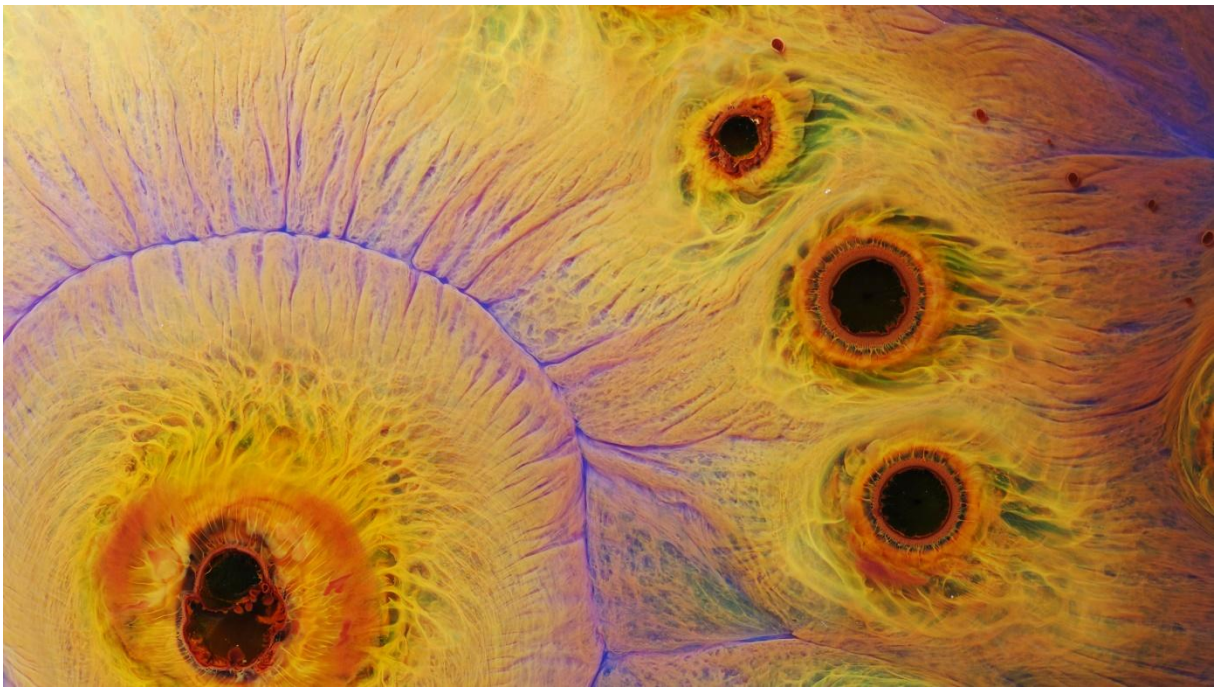

Fig. 2 Concentric chemical rings cell. By Gabriel Kelemen 2016

Looking at the biosphere, the living world abounds in globular concentric formations. Let us look for instance at the living cell, the basic unit of life, which is composed coincidentally similarly to a planet or to the atom, repeating the same archetype, this succession from nucleus to cytoplasm and towards the miraculous interface that is the cell's membrane.

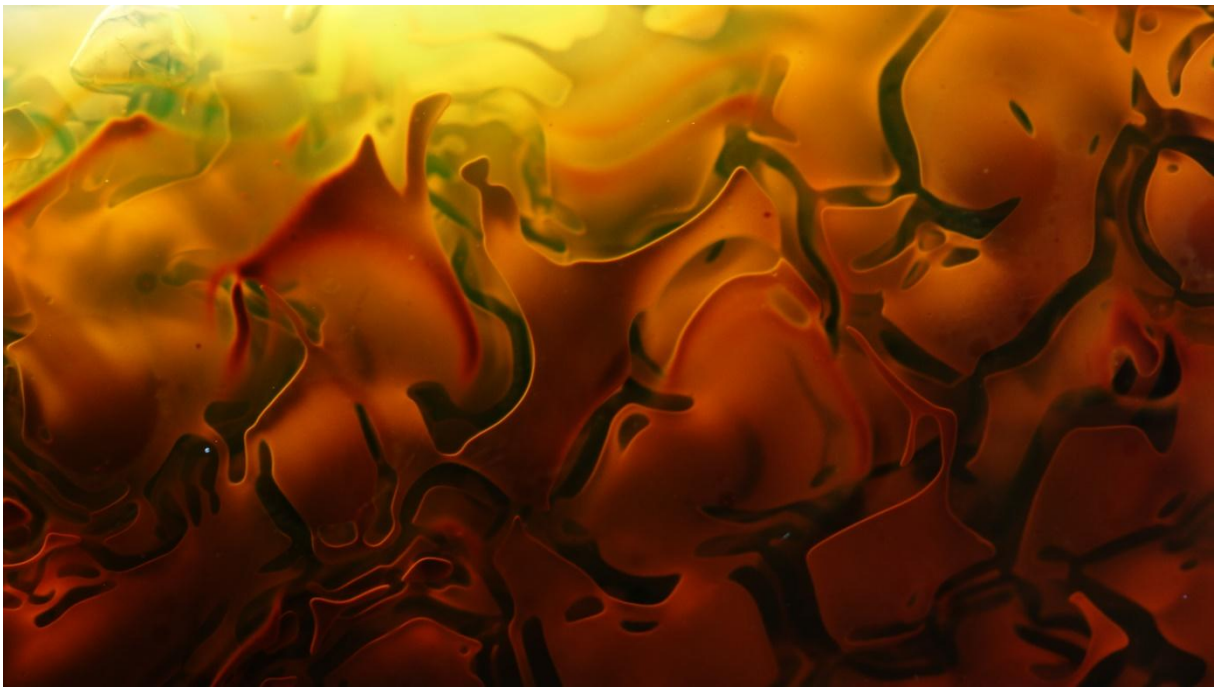

Fig. 3 Concentric chemical rings,(silver nitrate/potassium dichromate) simulated Golgi aparatus. By Gabriel Kelemen 2016

The stem cell, the circular disposition of the bacteria colonies, the diversity of the ocular typologies in the animal world – the crystalline itself -, the nacre pearls in the core of the shell, the kidney stones or the bladder, all these round off the diversity, apparently simplistic, of the archetypal concentricity. The archetype appears also in the structures built by animals or in human artefacts, for instance the circular honeycombs, the clay mounds raised by the Indian termites, the spider webs or the carefully laboured bird nests. The anthropic element is remarked ever since the beginning of time. In ancient cultures series of circles and circular representations appeared scribbled in smooth rocks, as can be observed in the megalithic art from Gavrinis, Brittany, circular cities of concentric distribution crossed, naturally, by radial paths.

Fig. 4 Concentric chemical rings. By Gabriel Kelemen 2016

Here's a quick review from macro to microcosm of the encounters with the concentric archetype, recurrently found on the surface of the observable morphologic realm, constructing the premises and the analogies which followed the process of experimentation with stationary waves in fluids and the chemical waves, circular and osmotic, which carry the name of the late 19th century German scholar, Liesegang.

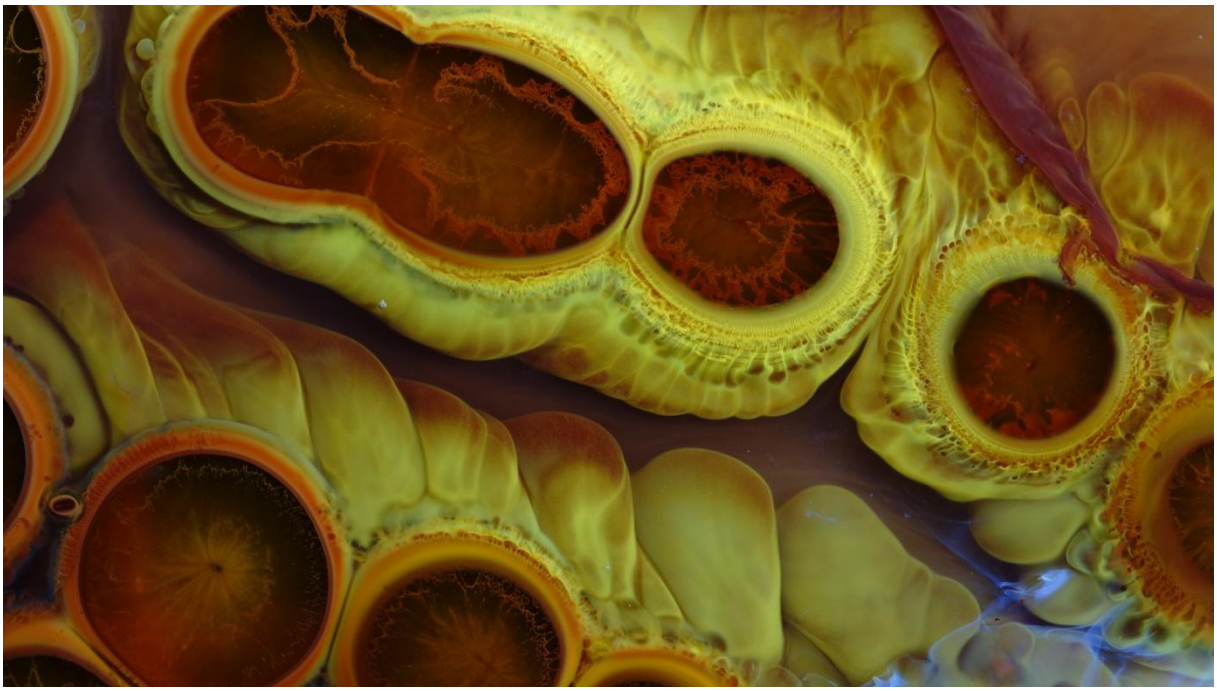

Fig. 5 Concentric chemical rings. By Gabriel Kelemen 2016

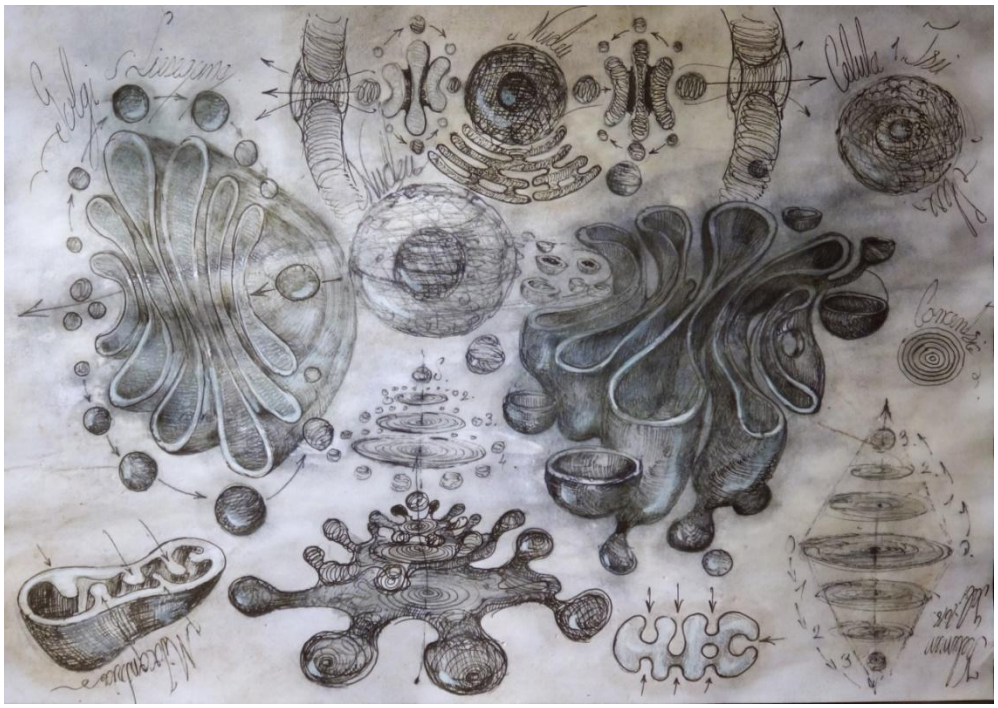

Fig. 6 Golgi apparatus archetype, stationary chemical waves. By Gabriel Kelemen 2016

Looking over at these intriguing yet fascinating chemical phenomena that involve the osmotic rhythmical diffusion on collagen basis, the tandem potassium bichromate / silver nitrate, one remarks the morphologic coincidence with the Golgi apparatus, as well as the endoplasmic reticule, both found at micro level in the cellular cytoplasm. Is it possible that in the midst of any eukaryote cell lays the same archetypal mechanism that characterises stationary waves?

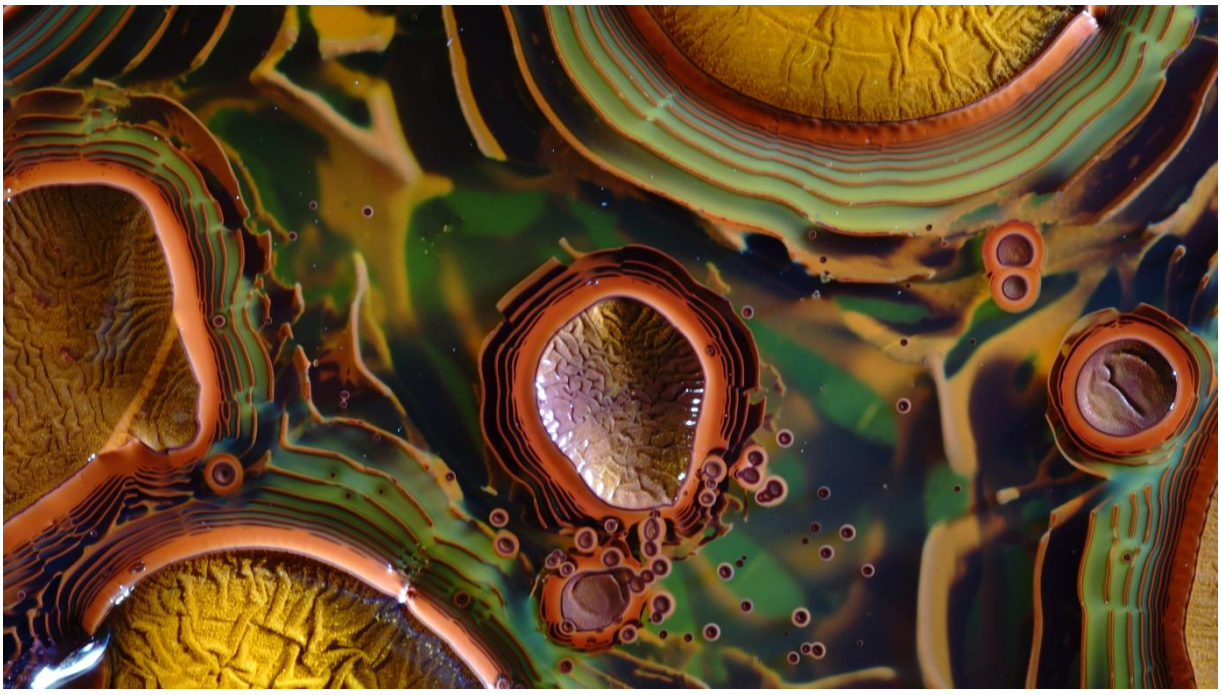

Fig. 7 Concentric chemical rings interference. By Gabriel Kelemen 2016

Possibly, biochemical reactions take place in the cytoplasm on colloidal support (much more complex, of course), but fundamentally similar to Liesegang's osmotic diffusion.

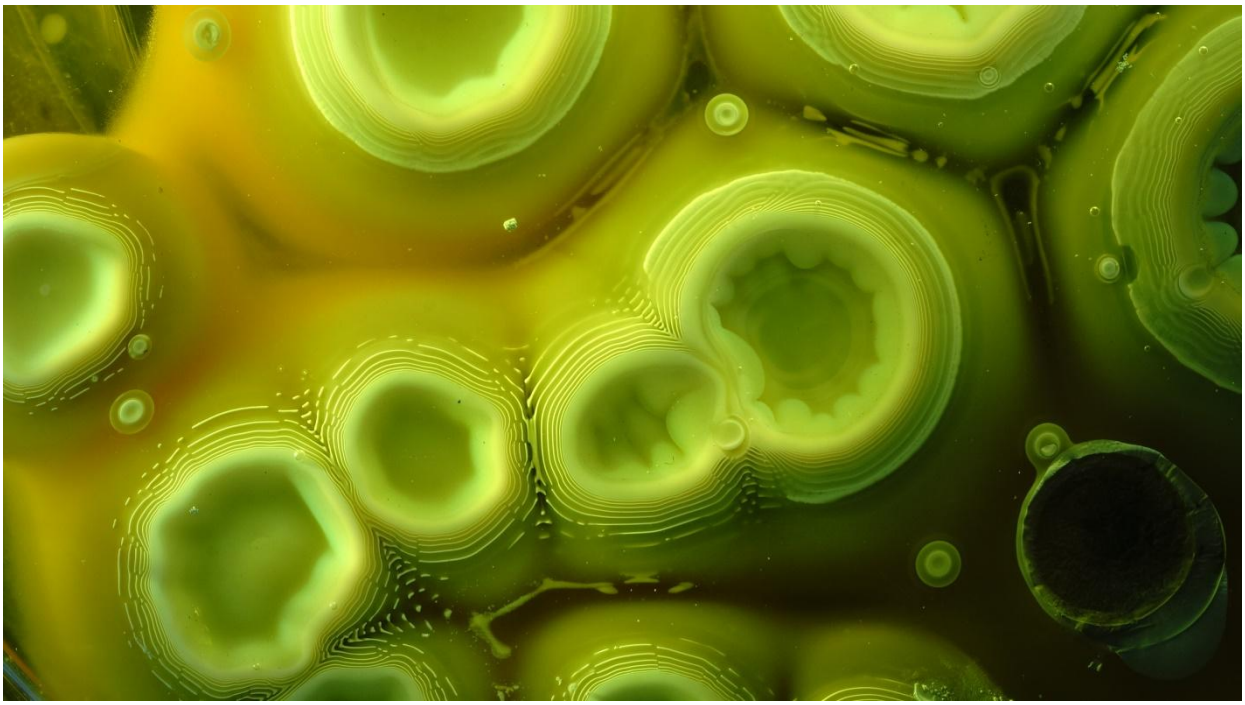

Fig. 8 Concentric chemical rings interference. By Gabriel Kelemen 2016

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