39.ECOSYSTEMIC FRACTALIZATION FROM THE CELL TO PLANETARY MECHANISMS

Algebraic fractalization on semantic space can be done using the structural isomorphism theorem. This theorem states that certain generating relationships are preserved even if the generated and generating objects change when they move to a higher level of fractalization.

Funct.	F1	F2	F3	F4	F5	F6	m	I I	I •	• I	⋉	⋉	✕	letter
F1	F1	F2	F3	F4	F5	F6	I I	I I	I •	• I	⋉	⋉	✕	AN ej
F2	F2	F1	F4	F3	F6	F5	I •	I •	I I	⋉	• I	✕	⋉	BM dk
F3	F3	F5	F1	F6	F2	F4	• I	• I	⋉	I I	✕	I •	⋉	FL co
F4	F4	F6	F2	F5	F1	F3	⋉	⋉	✕	I •	⋉	I I	• I	DK bm
F5	F5	F3	F6	F1	F4	F2	⋉	⋉	• I	✕	I I	⋉	I •	*CO fl*
F6	F6	F4	F5	F2	F3	F1	✕	✕	⋉	⋉	I •	• I	I I	**EJ an**
								AN ej	BM dk	FL co	DK bm	*CO fl*	**EJ an**	

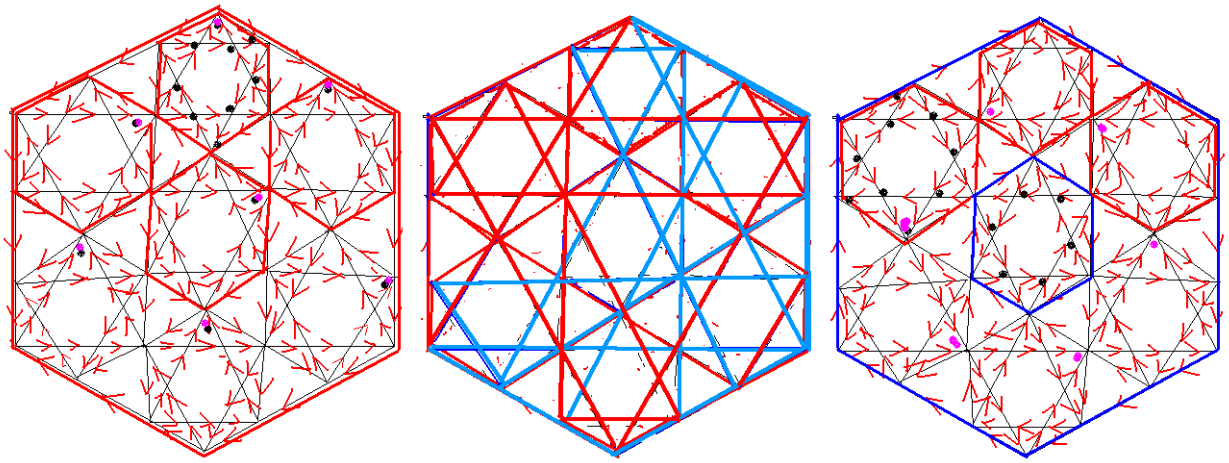
This property is repeated at a later level of complex information packing, which allows us to identify similar mechanisms that have emerged in different contexts.

Sustainable development is therefore a repeatable feature in various contexts, but the consequences of certain schematic assemblies

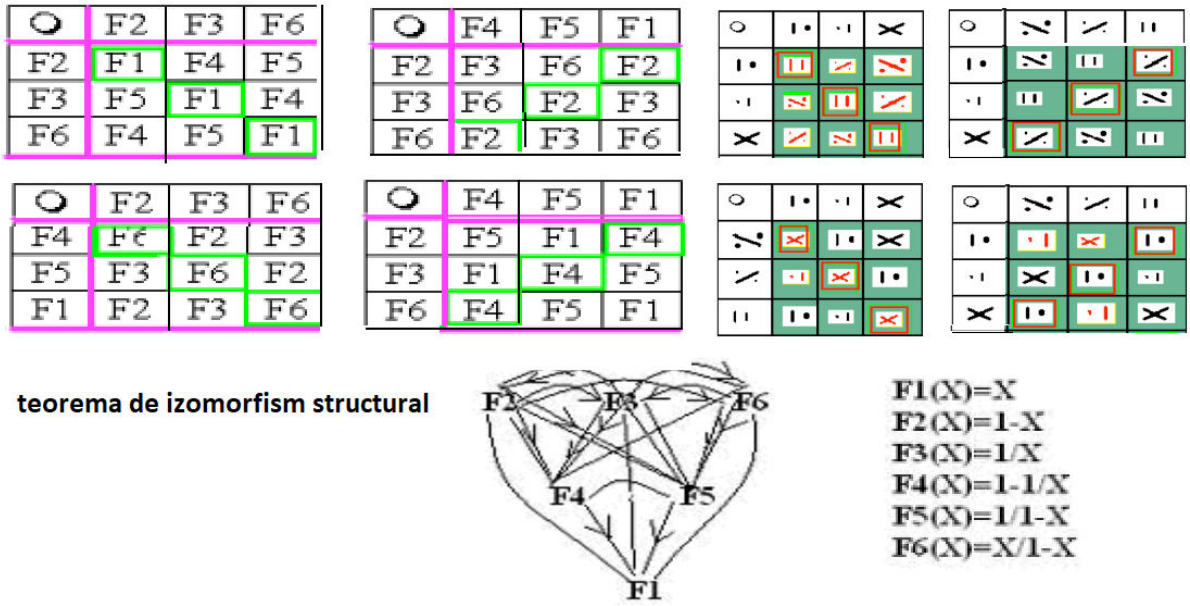
are different. In the scheme below we have for example the case of quasi-sustainability, which represents a model of rapid development centralized with the depletion of existing resources, but with the sustainability of the subassemblies. This model cannot undergo a fractal type development at a second iteration, due to the appearance of two large cycles, one external, the other internal, which travel in the same direction and which are offset by a single central cycle that runs in the opposite direction. This example corresponds to the work schedule of many countries or companies that have led to environmental degradation and degeneration, only for profit and unsustainable development.

fractalizarea modelului de sustenabilitate

fractalizarea modelului de quasi-sustenabilitate



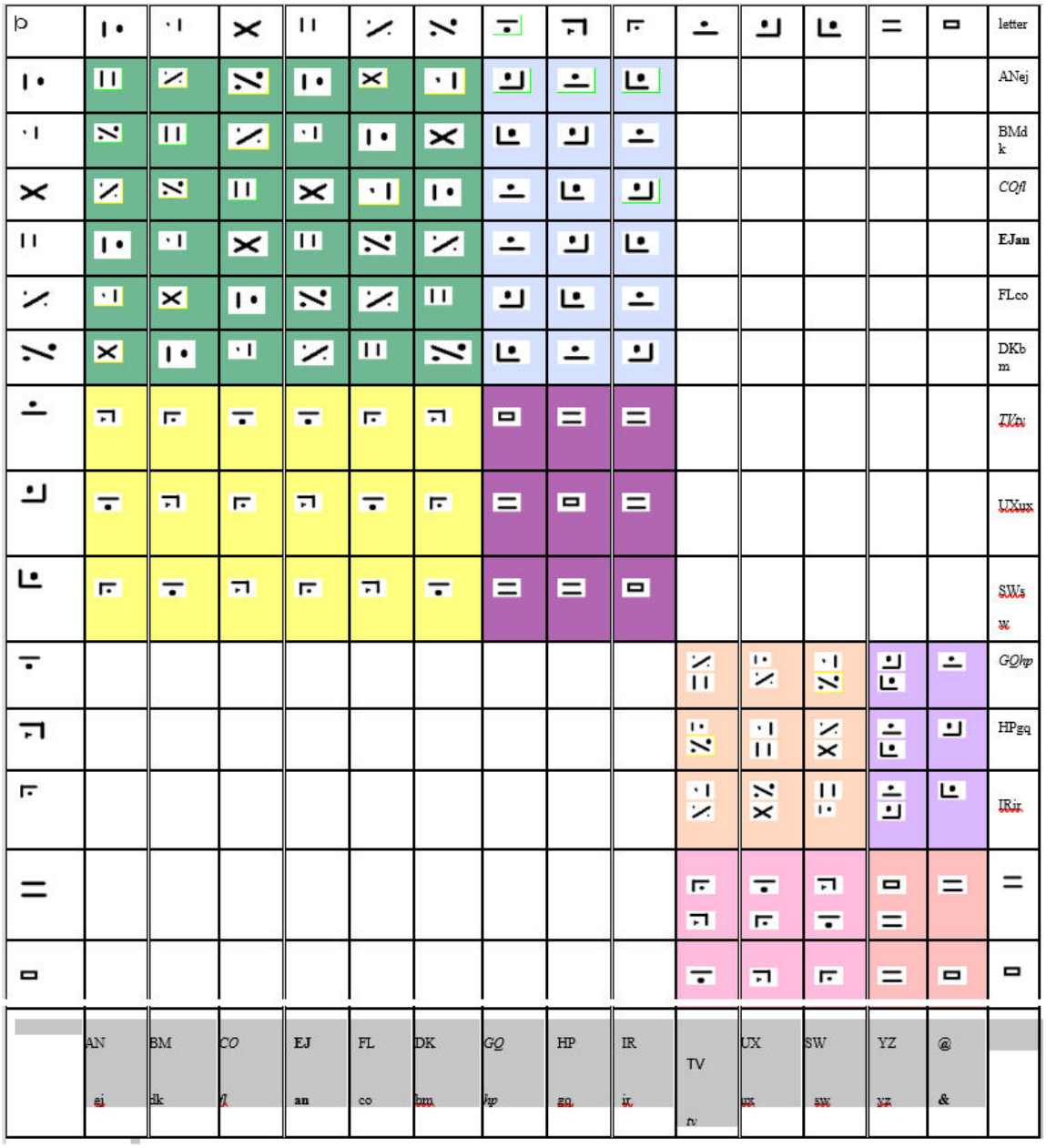
The transition from one level of complexity to another level of complexity will preserve certain components that can be found on different levels, but will also develop other mechanisms that will be different, an example is given by the colored fields, in which the pictographic signs are composed between them giving a coherent structure of the same pictographic signs.



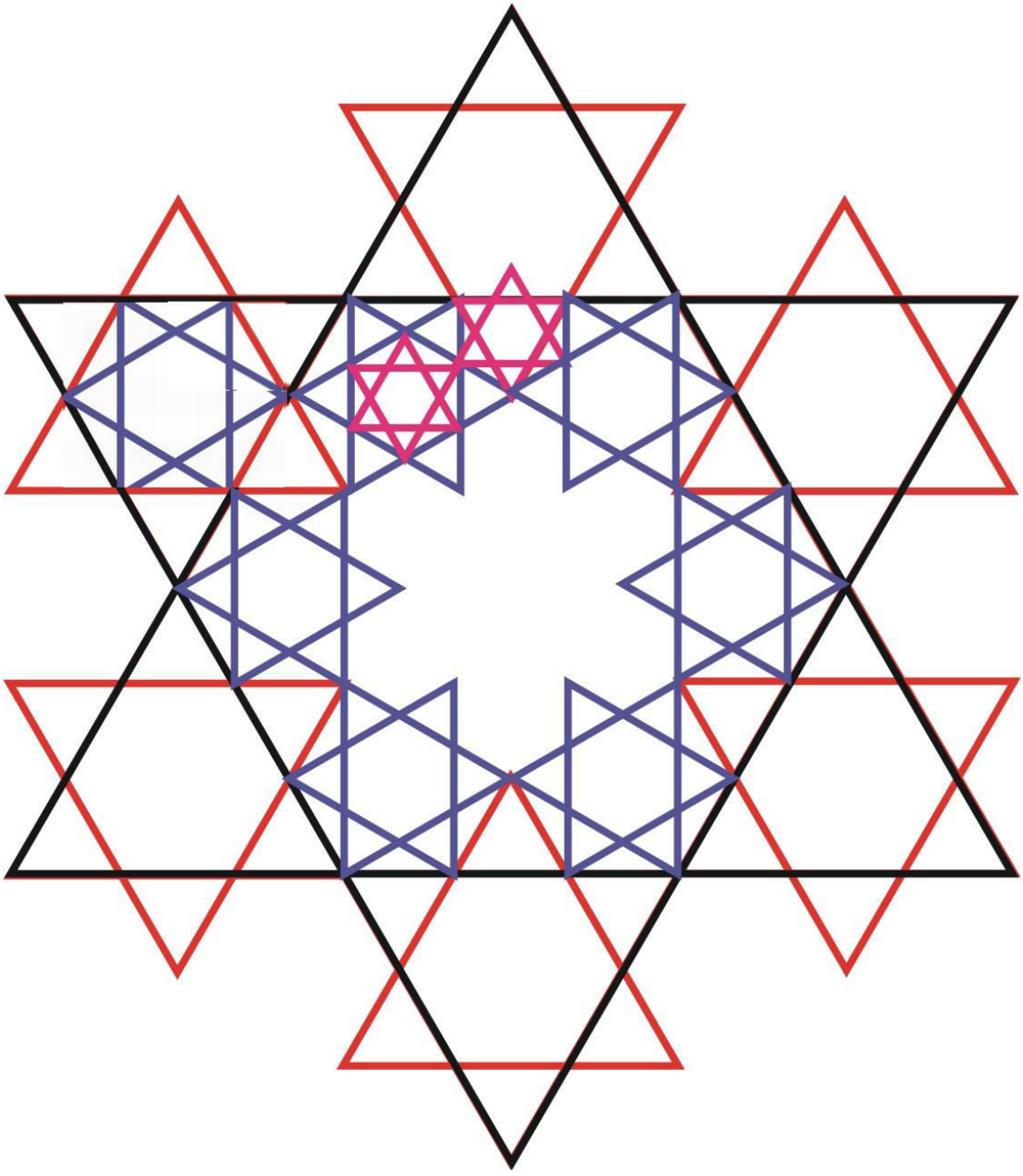
The substructures formed, however, repeat certain patterns generated in the previous stages, and the other colored fields generate behaviors characteristic to the level of algebraic fractal development of the universe. In turn, these behaviors may or may not be associated with later developmental stages. For example, the time Cheiros (denoted by a rectangle) and Cronos (noted by two horizontal parallel segments) can be said to derive from the higher level fractalization of f4 and f5 that are found in our universe on the last column of simple feedback.

In turn, the time with the two components can be said to be at the root comparable to f1 which is a neutral element in the automorphisms group of the projective line.

Changing the level of complexity, however, leaves a continuity of the initial functionalities, although the form and mode of operation are completely changed.



This property allows us to carefully estimate the structural properties of the different levels of complexity. Schematically speaking, we obtain a certain kind of holography that is generated between the levels of fractalization, of the following type at the level of forms and functionalities.



When we apply on complex systems such as the cell or the universe we will also discover similar systemic characteristics, but we will not be able to easily decipher the mechanisms due to the modification of the reference dimensions. The instrument of analysis in this case remains the coherent space of information and semantic processing.

The development of the coherent information space starts from the sustainable fractolons connected on the tips. At these structures, specializations of organic type for different fractolons are observed for the first time.

Organic specialization is also found in modeling the functionalities of living beings.