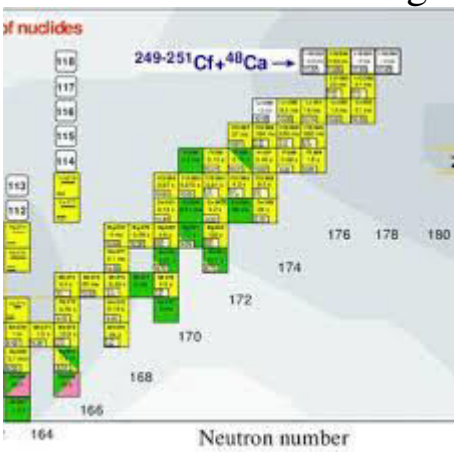
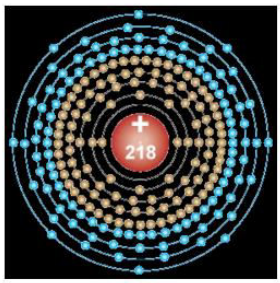
16.INFORMATIONAL ENERGY IN SUSTAINABILITY AND METABOLISM

The informational energy is given by the structure of semantic concatenations between the information units. These can be simple, or higher-level feedback. We observe this phenomenon also in classical physics or in Mendeleev's table on the islands of stability of the elements that neither lose nor gain protons, although they have much greater atomic weights than the known radioactive elements. We also observe the phenomenon in elementary particles that have extremely short life or are stable and do not degrade over time.





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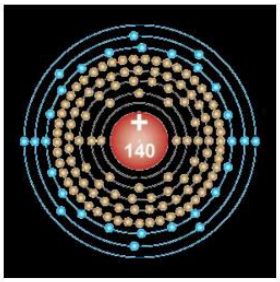

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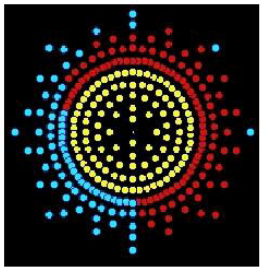

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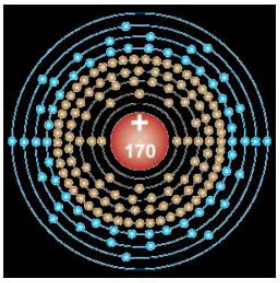

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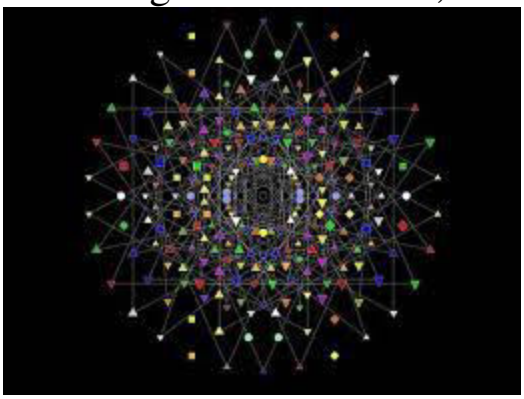
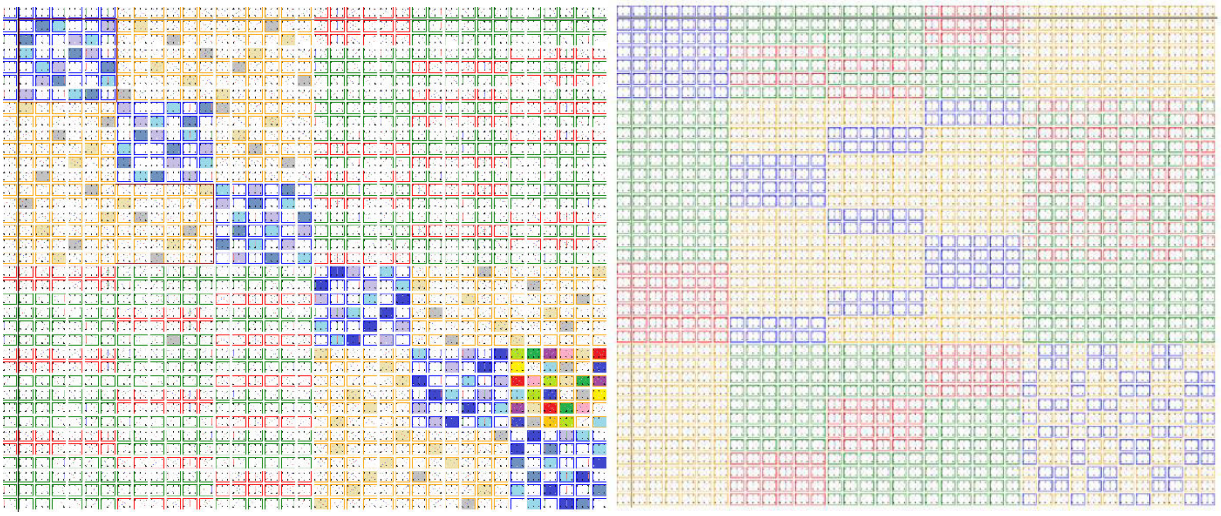
Type	Name	Symbol	Mass (MeV)	Mean lifetime
Lepton	Electron / Positron	e^- / e^+	0.511	$> 4.6 \times 10^{26}$ years
	Muon / Antimuon	μ^- / μ^+	105.7	2.2×10^{-6} seconds
	Tau lepton / Antitau	τ^- / τ^+	1777	2.9×10^{-13} seconds
Meson	Neutral Pion	π^0	135	8.4×10^{-17} seconds
	Charged Pion	π^+ / π^-	139.6	2.6×10^{-8} seconds
Baryon	Proton / Antiproton	p^+ / p^-	938.2	$> 10^{29}$ years
	Neutron / Antineutron	$n / \bar{n}$	939.6	885.7 seconds
Boson	W boson	W^+ / W^-	80400	10^{-25} seconds
	Z boson	Z^0	91000	10^{-25} seconds

The connections that create the difference in behavior of the elements or of elementary particles can be informational.The complexity of the connections between the generating components is special, according to Gareth Lissi, in a Lie E8 algebra



The existence of an informational energy generated by the way of connecting the generating components or factors becomes evident.
At the level of algebraic fractal theories this energy is directly correlated with the information links created by the information packages of different orders. For example, the difference between the following two tables is given by the way the elements are arranged:



The two tables are similar but the consistent packets of information in the left table generate properties that cannot be identified in the right table. In other words, informational packages have different levels of information energy that generate the level of coherence and stability. These energy levels generate sustainability and generate the possibility of informational metabolism.

At the level of coherent information space, sustainability and metabolism can have both the characteristics generated by the informational vectors and the coherent content of the nodes, but also the features characteristic of the information flows between different layers with the same granulation or with different granulations.

In this context, an informational pressure that can force the change of the senses of a vector will generate the shortening of the existence of a phenomenon by the creation of latice automatas. In this case, both sustainability and metabolism will be degraded, which will cause the total disintegration of the object exposed to toxic informational pressure by changing the senses of one or more vectors.