The frame of The Reality

As we see from our experience – in the beginning of thinking about subjects around us - there is a randomness. See the fig. 1. At the first view no expressible relations among subjects. After some time of our experience (which is always painful) in exploration of subjects we are able to see and express some differences among subjects. E.g. to define species in biology or to express basic laws of hydrodynamics or thermodynamics etc. These laws are very simple and elegant. If we go deeply in our exploration then these basic laws become more complicated. The equations which were in the beginning so simple and elegant suddenly are very complicated. If we want to describe some special moment in hydrodynamics we must make a lot of experiments and to solve a lot of equations either. In the end of our exploration, when we go deeply as the Reality allows us to go, then we see pure randomnes either. The behavior of molecules – see the Brown´motion in biology or vacuum fluctuations in physics.

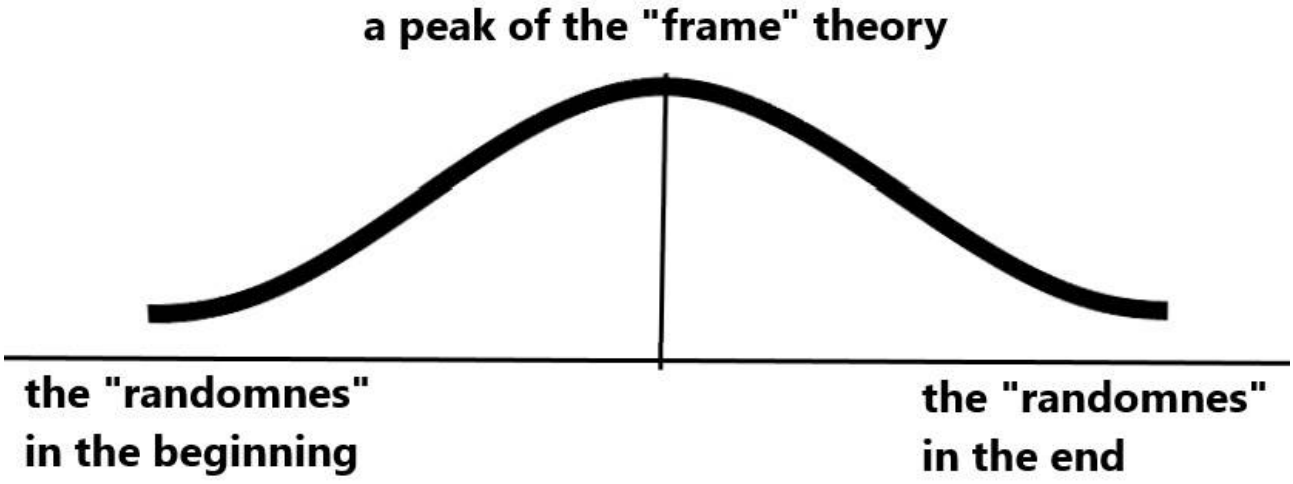

Fig. 1 – the shape of the curve of the knowledge with the „frame" theory

What does it mean? We only have a „frame" theory. Not exactly determined equations but only probabilistic equations – see the Schrödinger equation in quantum mechanics (the distribution of electron orbits around the nucleus) or the distribution of species in biology. Every species has own distribution of probability. Every entity in such distribution is different to each other through the world history – remember the snowflake.

It´s the best to give an example from a fractal theory. In the fractal theory we distinguish mathematical and natural fractals. The mathematicial fractals are easy to construct – they are pure self-similar, with using of complex numbers. But natural fractals have random structure at any kind and it´s not possible to estimate their precisely structure in the time with using of models with mathematical fractals.

It is impossible to estimate the progress of random values. We only know the probability in some range. This range is our known „frame" law. See the differences among the knowledge of pears and apples and anything else in the universe.

What is the purpose of this? The „frame" laws are given for the wittness. It´s no good to satisfy them precisely, because it is not possible. It´s no good to ignore them either. The only way is to respect them as a way to increase our experience and understanding of specific knowledge of them and of the universe.

The more complicated the formula the more precise the scope of its validity. The simpler formula the more general – wide range of validity.

To see thermodynamics laws – to describe one molecule of the air is impossible - pure randomnes) – but plenty molecules have the behavior with the following formulas (don´t mind about variables – see at the complexity)

(**Boyle, Mariott, Gay, Lussac, Pascal, Torriceli**, ...)

$$p = \frac{RT}{V}$$

very familiar formula in thermodynamics for ideal gases

van der Waals

$$p = \frac{RT}{V-b} - \frac{a}{V^2}$$

more complicated formula for real gases

rovnice BWR (Benedict, Webb a Rubin)

$$p = \rho RT + \left(B_0 RT - A - \frac{C}{T}\right)\rho^2 + \left(bRT - a\right)\rho^3 + \alpha a\rho^6 + \frac{c\rho^3}{T^2}\left(1+\gamma\rho^2\right)\exp\left(-\gamma\rho^2\right)$$

very complicated formula for special cases of gases

to be continued