

## *Laws of development*

**I**n the table of interrelation of «classical» of instruments TRIZ laws of development are near to vepol models – at the uppermost level. Actually it is special «instruments for creation of instruments».

Revealing laws of development is traced since the very first works about TRIZ. These laws were entered into a training course in 1976, and then published in G.S.Altshuller's book «**Creativity as the exact science**».

For technical systems there are laws of viability (G.S.Altshuller named their laws of «statics») and actually laws of development (laws of «kinematics» and «dynamics»).

### **Laws of viability:**

#### **1. The law of completeness of parts of system.**

The Necessary condition of basic viability of technical system is presence and the minimal serviceability of the basic parts of system.

#### **2. The law of «power conductivity» systems.**

The Necessary condition of basic viability of technical system is through pass of energy by all parts of system.

The Important value has consequence from this law:

That the part of technical system was controlled, it is necessary to provide power conductivity between this part and controls.

**3. The law of the coordination of rhythmicity of parts of system**

The Necessary condition of basic viability of technical system is the coordination of rhythmicity (frequency of fluctuations, periodicity) all parts of system.

**Laws of development of systems:****4. The law of increase of a degree of ideality of system**

Development of all systems goes in a direction of increase of a degree of ideality.

All elements of system are superseded to a subsystem, and functions – to supersystem.

It is the main law of development of systems. Other laws «provide» its action.

**5. The law of non-uniformity of development of parts of system**

Development of parts of system goes non-uniformly; the more difficultly system, the more non-uniformly development of its parts.

**6. The law of transition to supersystem**

Having exhausted opportunities of development, the system is included to supersystem as one of parts; thus the further development goes already at a level of supersystem.

**7. The law of transition from a macrolevel to a microlevel**

Development of working bodies of system goes to macrolevel, and then at a microlevel.

**8. The law of increase a degree of vepoling**

Development of technical systems goes in a direction of increase of a degree of vepoling.

Non-vepol systems aspire to become as vepol.

In a vepol systems development goes in such directions:

Mechanical fields pass to electromagnetic;

The degree of dispersiveness of substances is increased;

The number of connections between elements is increased;

«Responsiveness» between elements is increased.

Researches show, that practically all laws of development of technical systems are feasible also for other systems. Only it is necessary to take into account specificity of systems in one of items of the law 8. Instead of «Mechanical fields pass to electromagnetic» (that typically for technical systems) is allowable to specify – «the degree of controllability fields is increased».

In different time numbering of laws of development was various. The version underlining special value of the law of aspiration to ideality here is used.

Graphic lines of development, and also interrelation of lines of development with other parameters of systems (quantity of inventions, levels of inventions, cost of realization) – these questions are considered in more detailed rates.

Laws of development, vepol models and information funds form uniform system by which it is constructed TRIZ.

