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The systemness theory of development

T h e s e s

1. There is no foresight, no valuation of novelty without **critereion** of development: not in technology, not in science of the biological evolution, not in art, not in politics, not in fashion. How to decide: which of art or a social phenomenon is an example of progress or regress? No one calls himself a retrograde or reactionary person, everybody boasts of being modern and progressive.

2. Hackneyed identifications of development with “movement forward” (literal translation from Latin "progress"), from old to new, upwards, from lower to higher, from simple to complex, etc. -- they are empty metaphors. Where "forward"? To the south? To the east? Novelty, ascent and complication can be even regressive. For example, a disease or totalitarism.

3. **Development is** a successive formation under the conditions and on the basis of former of new systems.

4. Development **mechanisms**:

1. **Conjunction** of systems into a new system, where former systems become its elements. So atoms join into molecules and the latter into cell, the cells into organisms.

2. **Transformations** of systems by reconstruction of *ties* in them, therefore by changing *structures*.

Transformation *causes*:

A) **Inclusion** of additional elements into a system.

Such is, according to the Mendeleev's periodic law, transformation from hydrogen to helium, from helium to lithium and then to beryllium, boron, carbon, nitrogen, etc. as a result of inclusion of additional nucleons into an atom.

B) **Transformation** of some basic *subsystems* of a system.

For example, appearing of new organisms. So then, appearance of a four-chamber heart and as a result of it of warm-bloodness, finally foetus bearing of whelps transformed reptiles into mammals. In human society there are similar results of transformation of its production technology.

3. **Modification** (alteration) of a system

-- reconstruction of its structure under the influence of changing **conditions** -- in particular in the biological **evolution**. Such is appearing of a dog, a horse, a squirrel, a deer, a dolphin from a common ancestor. This, according to A.N. Severtsov, is adaptive radiation. In human society such are regional varieties of formations: civilizations, ethnic groups, etc.

5. Hence, a **mover** and **criterion** of development

is solution of *contradictions* appearing in internal and external ties of a system as a result of its conjunction, transformation and modification.

6. The result of system conjunction

is a genetic row of forms (kinds) of matter. Among the known today are: gravitating photons → leptons → protons → atoms → molecules → micelles and cells → organisms → biocenoses → societies.

The genetic row of motion forms corresponding them are:

gravitation-inertial (mechanical), electromagnetic, electrical, nuclear, chemical, biological, social. Development inside each form goes on by transformation and modification. Thus, progress in society is done by means of **substitution** of its elements and relations in production, consumption, mentality, culture and state, and growth of **effectiveness** of its criterion, that is the relation of expenses to the received goods, productional, everyday life, cognitive, artistic, moral, political.

7. Broad **supersystems**

are formed from these subsystems and its aggregates by means of unstable co-relations and thus with probability regularity metagalaxies - galaxies - nebulas - stars and planets - star and planet spheres - biosphere - civilization. Sub- and supersystems are opposite in dimensions (subsystems are small, supersystems are large), direction of spatial alteration (broadening -- narrowing), character of laws and direction of inclusion But they are common by genetic ties, mutual determination and mutual conversion.

8. Lower and higher systems exist in genetic ties the former are condition, basis and lawful fillers of the following systems; but they are **nonreductional** (→ specific character); non-additive (emergent) by properties, laws and structure - till their opposite.

Law of complicativity and emergentness of genetic systems let to overcome three one-sided **methodologies**:

1) *reductivism* (for example mechanicism in physics and psychology, chemicism in biology),

2) *hypermorphism* (e.g. anthropologism) and

3) *seductivism* (vitalism, phsycophysiological parallelism, etc.).

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