

LIFE
EXPERIENCE
(knowledge,
attitudes,
skills)

for LIFE (cognition, consideration, behaviour) **University of Latvia**

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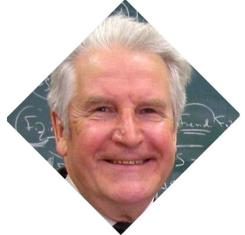
Philosophical and psychological basis of Natural Sciences

1. Let us start with thinking about our thinking!

Square of Great Thoughts

WORLD - set of manifold phenomena





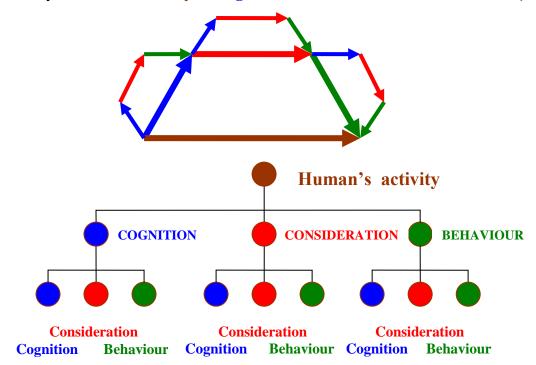
set
of manifold
humans

LIFE - set of manifold human's activities

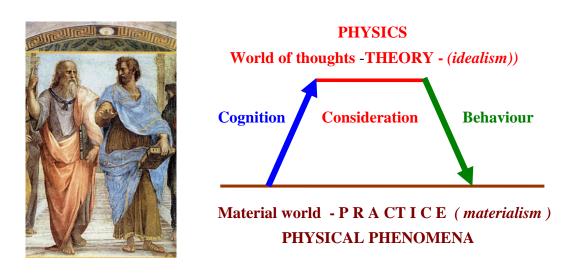
People aware world by parts (analyses), comparing and connecting them (synthesis). It means systems thinking.

Universal hierarchical structure of human's life activities

(Visualization of three level structure what contains general parts of every **human's activity**: "cognition - consideration - behaviour")



2. What does it mean and why do we need Physics?

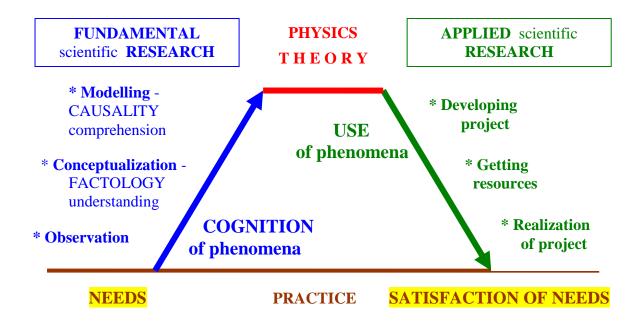


PHYSICS – fundamental scientific <u>theory</u> as scientific reflection of physical phenomena <u>in human's consciousness</u>

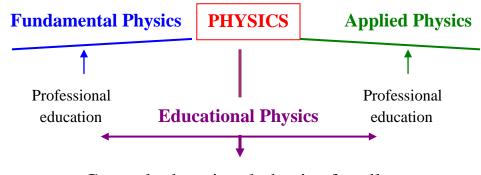
PHYSICS - it is awareness of physical phenomena as the result of fundamental scientific research of these phenomena for applied scientific research to prepare reasonable use of them to satisfy corresponding our practical life needs

3. There are fundamental, applied and educational Physics!

PHYSICS - scientific theory from practice for practice



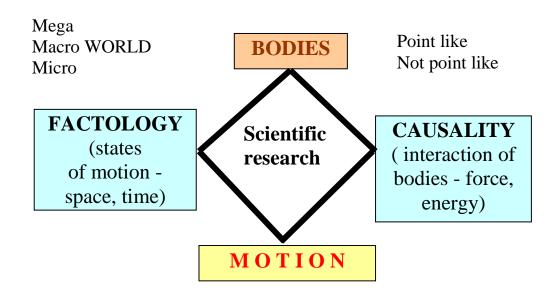
Educational Physics - general and professional education



General educational physics for all

4. Now let us discuss principal content of Physics!

Square of PHYSICS principal concepts and general classification of motions



1. Motion of bodies within surraunding/outer medium

4. Motion of bodies' interactions

- **2.** Motion of inner medium within bodies
- **3.** Motion of bodies' inner and/or outer medium through bodies' surface

Experimental and Mathematical Physics

PHYSICS - theory Mathematical modelling (mathematical physics) Cognition of physical phenomena Use of physical phenomena Experimental measurement of physical quantities (experimental physics)

PRACTICE - physical phenomena