

# THINK GLOBAL — ACT PROBLEMORIENTED AND LOCAL: CAN AN EXTENDED VIEW INCREASE THE POWER FOR INTERDISCIPLINARITY<sup>1</sup>

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## Мыслить глобально — действовать проблемно-ориентированно и локально: потенциал междисциплинарного подхода

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The year of ecology in Russia is an opportunity to reflect the global environmental problems and to integrate the related conclusions and the demands of inhabitants and tourists on the geographical and related ecological characteristics for health-oriented recreation into the concepts for natural management. This would be a strategy for a comprehensive sustainable development. But not all fundamentals for such a concept are available. There is a special lack in the relevance of subjectively attributed aspects: «Some know the price of all but the value of nothing». So it is relevant to integrate perceiving, beauty, esthetics etc. into the characterization of ecological and manmade geographical units — thanks to an Extended View as well on the person as on the environment.

*Key words: Interdisciplinarity, theory of science, evolution, predictability, in-determination, individuality, creativity, arts, health, wellbeing*

Год экологии в России — 2017 отражает возможность заострить наличие глобальных экологических проблем и интегрировать соответствующие выводы и требования населения страны и туристов относительно экологических характеристик регионов для здоровья, ориентированных на отдых в концепции для управления природными ресурсами и рекреационными территориями. Эти меры должны стать стратегией для всестороннего устойчивого развития страны. Однако не все аспекты природоохранительной деятельности и здоровьесбережения населения приняты во внимание в сформулированной инициативе. В частности, существуют определенные ограничения в субъективных аспектах, которые могут быть отражены в высказывании: «Кто-то может оценить конкретные вещи, но ценность всеобщего не может быть выражена в какой-либо валюте». Следовательно, очень важно интегрировать такие характеристики как красота, восприятие, эстетика в характеристике экологических и техногенных географических регионов — с учетом основных положений теории «Расширенного взгляда на человека, а на человека и окружающую среду».

*Ключевые слова: междисциплинарность, теория науки, эволюция, предвидение, детерминация, индивидуальность, творчество, искусство, здоровье, благополучие*

## THINK GLOBAL — ACT LOCAL

The year of ecology is a contribution of Russia to realize the UN Millennium goals. This conference offers a chance to geographers, ecologists and their partners to bring in puzzle stones within this endeavor.

**Table 1: UNITED NATIONS MILLENNIUM DEVELOPMENT GOALS**

GOAL 1:	ERADICATE EXTREME POVERTY & HUNGER
GOAL 2:	ACHIEVE UNIVERSAL PRIMARY EDUCATION
GOAL 3:	PROMOTE GENDER EQUALITY AND EMPOWER WOMEN
GOAL 4:	REDUCE CHILD MORTALITY
GOAL 5:	IMPROVE MATERNAL HEALTH
GOAL 6:	COMBAT HIV/AIDS, MALARIA AND OTHER DISEASES
GOAL 7:	ENSURE ENVIRONMENTAL SUSTAINABILITY
GOAL 8:	DEVELOP A GLOBAL PARTNERSHIP FOR DEVELOPMENT

Only goal 7 is just obviously related to the auditorium. But sufficient knowledge about the demands and options of possible partners (Goal 8) would change this assumption: There are many links more or less directly to any goal. This will be obvious if you remember a central measure for the efficiency of the complex strategy: UN expressed (e.g. in WHO Strategy 21) that the «comprehensive effect of politics can be measured on the level of Health» and let me add the new consents: of health and wellbeing.

What types of sciences are relevant to understand health and wellbeing, to be able to

**THINK FUNDAMENTAL and comprehensive — ACT on a SCIENTIFIC BASIS and problem-based**

The evolutionary oldest entity which can influence health e.g. thanks to its influence for the production of Vitamin D is light — and therefore the photon or the quanta. Culture, science and ecosocial relations are the youngest influences. (Graph 1). So all related natural and

<sup>1</sup> Therefore: This contribution is dedicated for a Russia according to the visions of Stanislav N. Glazachev

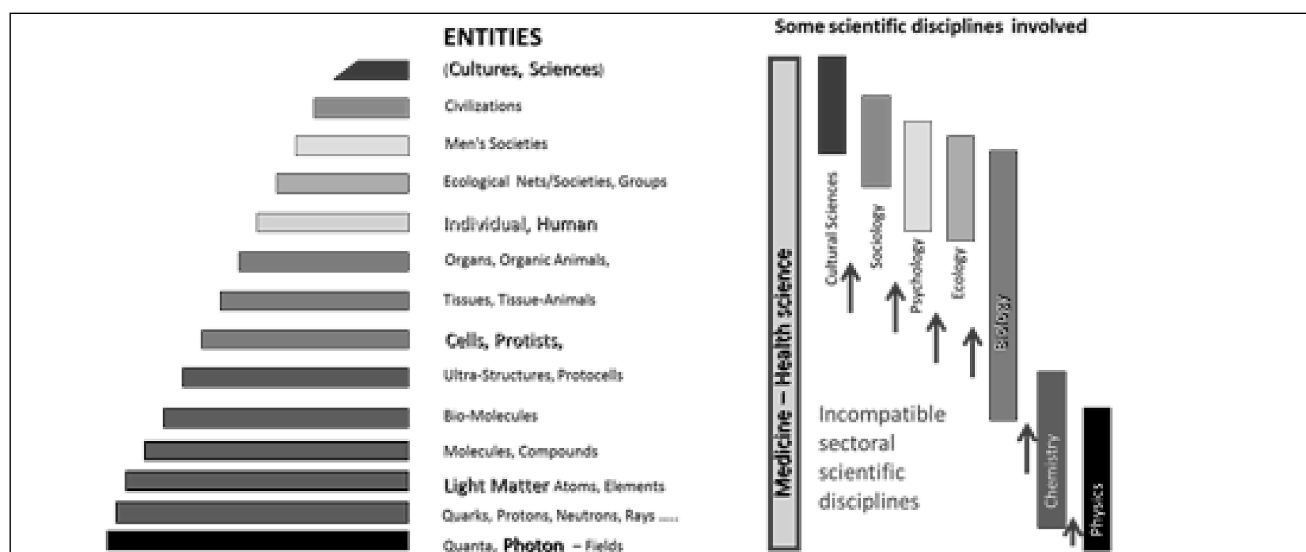


Fig. 1. From Quanta to man-made structures and related scientific disciplines

non-natural sciences contribute to the direct and indirect influences on health. But it is a pity: The different disciplines cannot be linked on a causal level. But we would need such a linkage for the ONE output: The level of health. [1]This caused the first challenge:

**Challenge 1: How to link actually incompatible but indispensable theories?**

I used the technique which was introduced by A. Einstein to bridge the gap between the former logically incompatible theories of electromagnetism and mechanics thanks to the Relativity Theories. What caused the incompatibility?

A scientific correct statement about movement in mechanics must be based on the integration of the position and the speed of the observer. But a correct statement about electromagnetic movement does not need the integration of the position and the speed of the observer. Therefore both statements exclude each other according to the Third Sentence of the Aristotelean logic: Only one position can be correct, the other one must be excluded.

**Answer 1a: Terms are free inventions of the human mind**

Einstein's solution was: Not the natural processes are in contradiction. The contents of the identical wording / of the term («movement») are in contradiction. And this with scientific reasons: Any term is just a free invention of a human person to communicate as simple as possible. Therefore Newton skipped out everything that was not relevant for the understanding of movement in mechanics. Maxwell did the same, but skipped out everything that was not relevant for electromagnetism. So it is not a surprise that both skipped out different aspects from the general term «movement». This caused incompatibility!

**Answer 1b: The use of more basic contents for theories of principles**

Einstein proposed to invent a new content for the term with identical wording but different contents so that the old contents can be understood as subsets of a new ground set. In this way the former theories are not falsified: All the former used applications remain correct but additional ones are given. He called such models: «Theories of principles».

He had to invent a definition for movement which is «beyond» mechanical and electromagnetic movement. Therefore he had to SPECULATE so long modifications of the content of «movement» in mechanics and in electromagnetism and to adjust the related formula until then all the phenomena which could be predicted with the formulas of Newton AND with the formulas of Maxwell could be predicted with the newly invented formulas of Relativity Theory. Therefore Einstein expressed clearly: Not only is any scientific term a free invention of the human mind but also any formula, any natural law and constant.

There was a prerequisite for the invention of the RT: Einstein invented the content of movement for a physical entity which is «beyond» — in my understanding «evolutionary older» — the solid bodies of mechanics and the electromagnetic fields: the energetical fields.

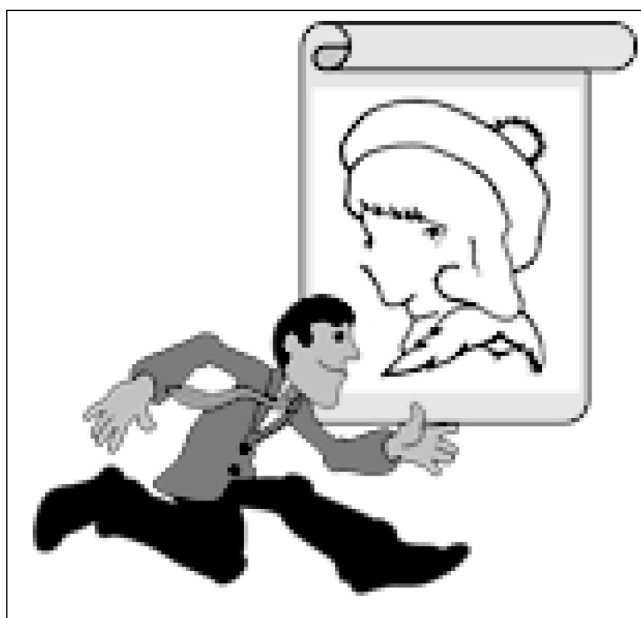
**Consequence 1: The invention of the Extended View**

I adjusted this technique for a theory of principles for health and comprehensive sustainability («Extended View»). I used not «movement» but «evolution» as a term which is generally accepted in any health-relevant discipline, but has also different contents. So the former incompatible natural and non-natural sciences can be linked but further applied as usually. But the door is now

open for additional applications: This is because of the fact that the Extended View is a Theory of Principles.

**Challenge 2: The restrictions of a historic social dogma**

We are used to explain the phenomena of movement (the shift of the position of unchanged matter within a grid of time and Euclid space) with an unobservable ability («energy») of an entity. Therefore we distinct between the movement as a process and the position as its result. But why do you handle learning different? E.g. to learn to attribute different information to an unchanged matter (we call picture) within a grid of time and meaning? In the case of this picture to shift the meaning from «daughter» to «mother» or «father»?



**Fig. 2. The shift of the position of unchanged matter in a grid of time and space vs. the shift of its position in a grid of time and meanings**

Natural sciences use only the result of the process of attributing of meaning and call this result «information». Why do we not attribute abilities to the entity? There is no need to use «vitalism» for the explanation of such processes. There is no scientific argument to insist in the dogma of the scientific community just to accept forms of energy! We can invent a term for this ability and attribute characteristics for empirical proving. This I have done successfully.

**Answer 2a: Proposal of an «ability to deal with information» in complementarity to (physical-chemical) energy**

The link of matter and information depends on:

- self-orientation: experiences, expectations influence the attribution of information. Jung men see usually first the young lady and much less the old lady

- consent-orientation: words help!

You try to follow my argumentation if I tell to you that the moustache of the father is the fur of the mother

- environmental orientation: colors help!
- The ability must be limited: just one figure can be seen at the same moment

**Answer 2b: The need of experimental proving of invented assumptions**

You remember: Einstein teaches us: There is no other way than to invent assumptions about aspects in our nature: But such inventions have to be in agreement with the observations. Therefore we have to prove them on the phenomena:

When this is a fact, that also the capacity of the proposed ability it restricted, then effects have to be observe if the capacity of this ability is exhausted. These effects need not be to cope with additional energy. This could confirm (and was recognized with the Th. Kuhn Hope for the Future for a Sustainable World Award 2002).

Any student made this experience and any good teacher knows and respects it.

**Consequence 2:**

The interdependence between these two abilities of only one entity must be matter of evolutionary processes. Therefore we have to integrate energetical and information-related aspects to understand the occurrence of emergence. And this deals not only on the self-creation of more complex entities even starting with not living ones but also of more complex intentions which can be reached thanks to more complex processes. This position seems to me in good agreement to overseen positions of Darwin: He accepted evolution as a general principle even of the whole inanimate universe. He published about the evolution of emotion not only of humans but also e.g. of the earthworm.

Such an increase of the orientation from just purpose oriented intention — e.g. to get food — to value orientation ones — e.g. to be loved — allows not only the understanding of the occurrence of animal behavior. It opens the door to rationality up to the level of science. So my proposal fits to the position of Nobel-Laureate and late Honorary president of IAS Konrad Lorenz. He pointed out: «Evolution is a knowledge gaining process»

**Let me repeat:**

1) We are able to link former incompatible but health relevant disciplines thanks to the technique for «theories of principles». This increases the scientific power for applications.

2) We can apply the biological principle of evolution

- on the evolution from Big Bang to Big Mac
- to understand the self-creation of more complex entities,
- of more complex processes and

- of intentions from purpose orientation to values and to rationality

thanks to the integration of an ability to deal with information.

So the Extended View allows to link former incompatible disciplines which are able to make scientific predictions. Each individual case in mechanics can be predicted exactly — but our prognoses e.g. for the behavior of higher living beings are valid just for greater numbers of individuals. But applied science and politics have to deal with individual cases. How can we handle this problem, which is well known since Voltaire's position?

### *Challenge 3: Individuality, creativity and the «crazy world» of Voltaire*

Voltaire pointed out: «It would be a crazy joke, if one part of the processes were predetermined in our world, the other part were not; if one part of that what happens, has to happen, the other part does not have to happen.» The comment of Ilya Prigogine, a former president of IAS, was: «But we are living strangely in the crazy world which Voltaire describes.»

Do not all of us know such situations, in which we know exactly what has to take place, but with aspects we can speculate what will happen, but cannot know it? Such situations are common when we play.

### *Answer 3: The example «chess»: The principle of inhibition and enforcement.*

There are theoretically unlimited options for playing fields, figures and their movements. But the field for chess is 8 to 8 with just black and white squares. Just eight farmers! And each chess-player can predict what kind of movements the queen will do. These agreements are not logically to deduce. They are «free inventions» of the ancient creators of the play. The inventions survived the death of the creator because of the individual win of the chess players, which had to be shared with others: The predictability is the consequence of the fact, that any chess player accept voluntarily the rules because of this individual win: The unpredictability is the consequence of the new type of freedom to move individually and creative thanks to the sub-unit constituting consent between the chess players. (Again set-theory — as in the case of Relativity Theory!)

There are professional chess-players. They play to survive. But much more chess players play just for fun, to relax and to train their creativity. And sometimes the father let win the son — against the basic principles of the game! But his higher goal is to motivate the son to learn chess as a source for self-fulfillment! [18:40]

### *Consequence 3: the dominant relevance of individuality*

It is relevant to extend the reasons for the evolutionary progress in human persons:

- Survival is a reason for the creation of emergent but not the only one.

- To play, to have fun, to spend resources in luxury for not needed aspects is a widely underestimated cause for emergent progress.

- Emergent new ideas survive their creators if the personal win is to reach only thanks sharing the win with others who are willing to sharing the subset-constituting consents.

- Therefore these consents can be predicted, the individual use of the so won new types of options cannot be predicted by an outside observer.

## APPLICATIONS

All our life takes place within an environment. Therefore ecological aspects are to expect relevant for the whole range: for the mandatory up to the wished and creative interpreted. Therefore «nature» can be a prerequisite for health and wellbeing, but also a helpful offer for that. Geographers produce e.g. maps as tools for the adequate problem-oriented decisions.

### *Application 1: Mandatory effects: e.g. Nature deficit syndrome*

Mandatory influences can be well known — as the influence of environmental pollutants. But they can be also quite hidden and act e.g. via epigenetics. I present just one underestimated influence: The relevance of contact with nature in the early childhood. The consequences seem to be very complex: Children without early contact with «nature» can show (R. Louv) a Nature Deficit Syndrome. This is often associated with missing social competence, drug abuse, asocial behavior, hyper-aggression (in schools...), lack of emotions, frigidity, Hyperactivity Syndrome etc.

This demonstrates the relevance to offer such contacts to the youngsters.

### *Application 2: Geographical space — ecosystems and the demands for the recreation of «body», of «body and soul» and of «the person as a social being»*

Recreation is situated within the continuum of health to disease and illness. We have to expect demands which are mandatory and predictable for any person, such as quantitative and qualitative sufficient nutrition, a balanced body load and sleep, light, clean air and water, adequate technical and physical-chemical environment. We can summarize this with demands for the «body». But we have to expect also demands which are mandatory — but the way to fulfill them can vary individually e.g. depending on the cultural heritage, level of education, etc.

This is typical for the demands for recreation of «body and soul»: The demands of recreation of a person as social being are also mandatory, but can be overseen easily: e.g. the need for autonomy of decision, but also the experience to be member within a companionship and

Table 2: Thought-provoking impulse for the characterization of elements of landscapes with influence on the satisfaction of objective needs of psycho-mental recreation (simplified)

SELECTED NEEDS	landscape		colours e.g.		natural lightness				stimulation by nature			diversity e.g.		natural	natural	manmade influences		
	high mountain	low hilly	green blue	yellow brown	sky	comp. fire	mult. shade	half-light	harm. sound	wild. food, grain...	plants	farming	optical boundaries	water in landscape	acoustic stimuli	body-feeling	wind, rain...	cultural art
feeling of security	-	+	+	-								+	+	+	+	+/-	+	
need for movement	+	+/-	-	+					-	+	+		+	+		+/-	+	-
increase of creativity	+	+	+		+	+	+		+				+	+	+		+	-
motivation for exploration	+	-		+	+		-		-	+	+	-	+		+		+	-
self-esteem	+					+			+	+	+		+		+		+	-
inner peace	-	+	+	-	+	+	+	+	+	+	+		+		+		+	-

+ The aspects can cause positive effects on psycho-mental recreation  
 - The aspects let expect no or negative influences on psycho-mental recreation

community, to be needed, to be able to answer the questions about the finality of life etc. These are demands for the recreation of the «person as a social being». Geographical space and ecosystems can only offer options to support the intention of the person for these two types of generalizable demands of any person. Therefore the following list of characteristics of natural and manmade structures should be seen more as an invitation to remember options for the individual use than a list of quantitative interrelationships.

**Application 3: Support for a fulfilled life — forest and arts in agreement with BMAFUF, DI Dr.**

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**Johannes SCHIMA and the Viennese Symphony Orchestra**

Visual sensations e.g. of forests and music have to be perceived by any human person. Jointly presented they can increase the subjective impression. Such experiences cannot be expressed neither with the energetic characteristic of the stimuli nor with the prize of the «entrance fees». But they can be a contribution for a fulfilled life — outside of prize and generalized values. Such experiences are in principle on the level of individual valuation. Any theory for health and wellbeing must be open for such options for health, recreation and self-realization.

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