

Biodynamics, anthroposophy and science

To integrate holism into research

With his is Book "Anthroposophy and Science" comprehensive Heussera shows today's science for all Areas of life succeeded and at the same time that Natural science and, therefore, supplemented contrast to you stand.

presentation of the Basics Anthroposophy, which he

Cornelius Sträßer,
Software AG – Foundation,
Am Eichwäldchen 6,
64297 Darmstadt,
eMail: c.straesser@sagst.de



The problem: doubting the scientificity of Biodynamic and Limitation of today's natural Science

In agricultural sciences, the scientific nature of the biodynamic approach, and even its ability to be scientifically researched, is often still rejected. At the same time, today's natural sciences have not yet developed the terms and methods that enable research into central concepts of biodynamic agriculture, such as: B. "agricultural individuality" or "vitalization of the soil" make possible. The current work of the doctor and university professor Peter Heusser, with its thorough introduction to the scientific foundations of anthroposophy, now offers the opportunity for well-founded answers.

knowledge of reality

Following on from the main scientific works of Rudolf Steiner shows Heusser that both in the external world we perceive and in that which is captured by our consciousness Laws objective content is: Reality and it

The mental forces that cause this can be grasped with consciousness. However, it is necessary that the reader really engages in self-observation of his own thinking, i.e. both the thinking activity and the thought content. Because the last one The epistemological justification used here necessarily only gains persuasive power through one's own experience. Only through self-observation comes unconditional access to reality and truth.

As a worldview, this results in an empirical ontological one Idealism:

- Idealism because the intellectual laws and ideas are considered realities are experienced;
- empirical, because everything is based on experience ment is constructed (experience of the senses and! of thinking);
- ontological, because the forces associated with ideas are recognized as the effective causes of all phenomena, including the sensory and material world.

Emergent areas of being

There are four major areas in the world and in people: body

per, life, soul and spirit. All are connected to one another, but each area has its own laws that cannot be explained or predicted from the laws of the others and which are therefore referred to as emergent (self-producing, ed.). The properties and laws of each of these areas are equivalent for the knowledge and creation of reality. In order to appear, the "higher" realms need the presence of the "lower" ones as a condition: a living being needs a body, a soul appears in a living being and spiritual things work in an animated living being with a body. However, the subordinate is not the cause of the higher, but rather the condition and material for the appearance of the higher. Scientific methods must take into account the laws of each of the areas involved in the phenomenon to be researched and be suitable for this.

body (matter), life, Soul ghost

Peter Heusser gives a comprehensive overview of the special laws of each

Peter Heusser:
anthroposophy and science.
An introduction .
Publishing house at the Goetheanum,
CH-Dornach 2016

Areas of being, especially from the fields of physics, chemistry, genetics, biology, neurobiology, psychology and philosophy. In it he draws on a variety of modern scientific research results and shows that and how these are in accordance with empirical ontological idealism, in this respect

only the content of the research results is looked at and not the associated theories and interpretations of reality.

Some highlights of the individual areas are listed:

Only the *appearance* of material substances is sensible. Your *essence* is ideal or spiritual. Substances are therefore created and governed by the laws that operate within them. In this respect, the widespread materialistic reductionism can be overcome through epistemological penetration of physics and chemistry.

A living organism is an entire system that is realized in complex, coordinated process cascades from "above" (i.e. from its ideal laws) when the conditions for it come from "below" (i.e. from the material side). given are.

This self-actualizing idea of the organism corresponds to the type in Goethe. In this way, biology can be taken scientifically beyond simply reducing it to material processes.

The psychological phenomena in consciousness are completely different from the organic-material phenomena in the brain. The psychological is not done by the brain



or caused by the nervous system, but only needs this as a condition.

The conscious psychological processes are linked to organic degradation processes, between which regeneration must take place (during sleep). The psychological or spiritual element is also involved – unconsciously – in these building processes, see e.g. B. activity-dependent neuroplasticity. The degrading and the constructive mental elements together form what Steiner calls spiritual or astral.

The spiritual goes beyond the mental with questions of meaning and intellectual access to objective world laws and ultimately leads to the possibility of free action in which I have fully consciously thought through my motive for action and recognized it as correct and act accordingly.

anthroposophy and Science

For our sensory experiences and our everyday consciousness, which are viewed as the only powers of knowledge in normal science and psychology, only the effects and abstract ideas are accessible, but not

the active *forces* themselves. This initially presents itself as a limit to knowledge.

Based on the experience of one's own thinking activity in pure thinking, it is possible to strengthen the thinking activity, which can lead to forces that do not have a sensory effect being empirically experienced and their laws being recognized.

Anthroposophy as a training path shows a way to get there. The epistemological principle of the sciences is maintained in this way: concepts (ideas) are formed in consciousness and tested empirically against reality. Only when the concept connects completely with the observed reality does knowledge arise.

Concept formation and empirical testing are the two steps of scientific work that must be processed using different methods but with the same clarity and care.

When it comes to statements from anthroposophical spiritual science, the difficulty for most people is that they cannot (yet) make the associated supernatural observations themselves. Accordingly, must

Biodynamic science also includes physical and chemical causes

the level of the living, as well as, if necessary, the effects of the mental and spiritual that go beyond this: just - how do you research the?

ur research

Statements from the humanities are initially taken as hypotheses and thought through logically. Then it can be developed from them where corresponding soul-spiritual or etheric processes come to expression in the sensually perceptible world.

And there the spiritual scientific statements must be indirectly proven by their predicted effects in the senses. However, developing and testing such predictions is by no means easy.

Research in anthroposophical medicine

In anthroposophical medicine, the understanding of the four areas of being body, life, soul and spirit is used to develop how health and illness come about through the harmonious or disturbed interaction of forces from all four areas of being and how through medication and therapy Measures promote the regenerative powers of the living, mental and spiritual.

Today's scientific medicine has very commendably developed evidence-based medicine, which preferably uses randomized double-blind studies to test whether, on average, there is actually a difference in the health of many people.

Disease characteristics occur between people treated differently "with the same disease". This method is very useful for questions in which there are only small degrees of freedom in the individual reaction to the treatment (e.g. strong material influence on the organism where the physical and bio-chemical levels are predominantly addressed).

In the progression of body, life, soul and spirit, the degrees of freedom for individual reactions continue to increase. And since anthroposophical medicine often aims at effects in the spiritual, mental and living, a system is created consisting of patient, doctor/therapist and therapeutic measure in which there is a high degree of freedom for the patient's individual reaction to the entire system . The higher the degrees of freedom, the greater the risk that the individual differences between patients in a randomized study will overshadow the effects of the different treatments, so that statistically verifiable effects no longer occur.

Not to mention that in such studies there is no room for the doctor to treat the patient individually (even if only through the different type of approach/empathy) and that in randomized studies the patient has fewer options to support recovery through an inner, emotionally conscious approach to the treatment (he doesn't know which treatment group he ended up in by chance).

Therefore, in treatment situations with higher degrees of freedom for an individual reaction, observational studies (single-arm non-randomized studies) and individual case studies must be used.

Both types of studies can be carried out with full scientific authorization, which is also provided by the Medicine is now recognized, a "cognition-based medicine" can be developed, in which an overview of a wide range of individual ual reactions and understanding of many individual cases can be developed. Aspects of the patient's quality of life also play a major role here. Medical research that helps people

If we want to do justice comprehensively (body, life, soul, spirit), we need a variety of methods and a strong epistemological penetration of these methods in order to be able to judge which method is effective for which question and what the scope is of the results achieved.

This clarity will also contribute greatly to understanding between conventional and anthroposophically expanded or complementary medicine.

This also includes further expanding the empirical processing of humanities-scientific references to medicine; In other words, phenomena can be predicted from spiritual scientific knowledge that can be tested in the world that can be experienced with the senses. Many steps have been taken to achieve this in the last two decades, but many more are necessary - and possible!

outlook

Due to the reference to numerous modern research results and the comprehensive literature section, the book "Anthroposophy and Science" seems to me to have all the prerequisites for a real basic work of modern science. I am very grateful to Peter Heusser for his comprehensive presentation, which shows that a comprehensive connection of anthroposophy to existing science is possible and sensible, based on observation instead of mere theory formation. The concept of knowledge and reality are the consistent elements that make it possible to distinguish between matter, life, soul and spirit on the one hand and, on the other hand, in a unified way

to bring together an overall scientific understanding.

I see the continuation of this approach and the development of other areas such as biodynamic agriculture, nutrition, pedagogy, etc. as a very worthwhile and fruitful task for the future. This will require the collaboration of many people from different disciplines.

Importance for the Biodynamic agriculture

Biodynamic farming also includes the four areas of being body (matter), life, soul and spirit, especially when the aspect of "agriculture as a kind of individuality" is included. Accordingly, there are farm-specific degrees of freedom in agriculture, i.e. differences in the reaction to a certain measure or event. And that is why randomized exact trials are only a useful research method if the tested measures have such a strong effect that the effect always occurs regardless of the individual farm characteristics. However, in order to record finer effects that can lead to farm-specific consequences, methods are needed with which the researcher can recognize the regular connection between the multitude of different phenomena.

Such methods are e.g. B. Case studies in which all conditions, peculiarities and observations are compiled into a comprehensive picture according to scientific standards (such as those developed for medicine), and so-called single-arm observation studies, where the same measure is applied on many farms, so that the



Differences in effect can be discovered.

If the understanding of the effective factors and the formation of concepts in individual cases - in interaction with the intellectual penetration of ideas that come from anthroposophical spiritual science - has progressed far enough, verifiable predictions can be made as to where in certain phenomena must occur in the world that can be perceived by the senses.

Example: researching the Soil fertility

At the 2017 agricultural conference, an impressive variety of phenomena and terminology regarding aspects of soil fertility became clear. But it seemed to me that the understanding is not yet sufficiently developed to be able to classify and explain the individual phenomena from a comprehensive overview.

I believe it is necessary to create and think through a large number of case studies in the sense presented above. This includes appropriate examinations

to apply parameters that can only be mentioned here in keywords: Modern analytics (spectroscopy, omics methods at the molecular biological level) as an approach to matter makes sense, but leads to enormous complexity that has not yet been sufficiently penetrated into the phenomena of living things seems to be. It is therefore important to look for summary parameters: image-creating methods; morphological studies on plants (leaf shapes, shades of green), etc. Parameters such as development, health and behavior of animals or the well-being and health of people would also be conceivable.

In addition, direct super-sensory observation can play a role: in any case in the development of ideas for understanding the phenomena that can be perceived by the senses. The development of appropriate research projects on soil fertility seems to me to be "in the air". I would be happy to receive suggestions and contributions from practitioners and scientists. |

Agriculture as Organism. The term escapes our direct control perception and yet it works like this: Challenge for research.