Rehabilitation of mind

Quantenphysik as a bridge between machanistic and non-mechanistic science

Is the mind able to control a ball? In classical physics, this is unthinkable. In classical physics, the mind is regarded as a product of tangible processes taking place mainly in the brain. Quantum physics, however, has broken this deterministic worldview.
By calculating probabilities, it can also capture observations that were previously regarded as subjective reality. From this point, it is only a small step for the Vedic physicist and philosopher Marcus Schmieke to the assumption that mind can influence physical processes and time is not linear.

By Marcus Schmieke, Schöna.

Quantum physics raises questions that go beyond the scope of conventional science, in particular the question of consciousness and its relation to matter. If you regard quantum physics not only as a physical rule for probability calculation, it gives rise to new questions concerning the nature of matter and mind. So far, these questions have rather belonged to the intellectual, philosophical, or spiritual field, but quantum physics brings them into a scientific context.
Similarly, quantum physics can also serve as a bridge in the opposite direction. By means of quantum physics,
it seems to be possible to re-integrate spiritual insights into natural science or to express spiritual experiences in a scientific language.

Schrödinger's analysis of mind and matter

In the past, some great physicist focused on the subject of consciousness. Especially Erwin Schrödinger´s considerations (1887–1961), concerning the basics of the scientific worldview, clearly express the associated problems.
In his classic book "Mind and Matter", Schrödinger considers the scientific aim to objectify all statements about the physical world.
Natural science is based on the hypothesis of a real external world, which assumes that reality may be regarded as an external world existing independently from me, the observer. In this way, the objectivity of the description guarantees that my own known subject is kept out of the picture. While my own known subject or self is now outside the reality to be described, this reality contains all other known subjects or personalities; for reasons of symmetry,
I assign a consciousness to these subjects or personalities, as well as to myself.
According to this consideration, the consciousness of the other persons is located within the real external world, while my own consciousness stays outside. Due to this, my own position would be superb and an asymmetry, that contradicts the objectivity criterion, would be caused.
Consequently, I transfer my own self into the real external world in order to recreate symmetry. The final step leads, as Schrödinger concludes, to a hell of logical contradictions.

The price of the materialist worldview

Two prices must be paid for the obtained worldview satisfying the criterion of objectivity. The first price is that the search for the interaction between matter and mind remains unsuccessful. The second price is that our scientific description must be free from all sensory qualities. The world is immediately perceived in sensory qualities, such as color,
sound, touch, smell, etc., while the scientific description only opposes quantitative correspondences lacking any quality. Concerning this, Erwin Schrödinger writes in "Mind and Matter":
"I previously discussed the fact that the physical worldview is free from all sensory qualities representing the actual composition of the subject of know-

The time accordingly lines up each state only as an order parameter.

"Real ex ternal world"
The dualistic worldview of the natural sciences
by Erwin Schrodinger.

"Subjective world"

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ledge. The model is free from colors, sounds, tangibility. Likewise, and for the same reason, the world of science lacks everything having a meaning in relation to the conscious, viewing, perceiving and sentient being; it contains none of these things. Above all, I think of the moral and aesthetic values, values of any type, everything relating to the meaning and purpose of the whole event. It is not only a fact, that all these things are lacking, it is a further fact that these things can not be organically integrated from a purely scientific point of view. If you try to integrate how a child colors its black and white coloring picture, it will not work, since everything one integrates into this world model always assumes the form of a scientific statement, whether you like it or not; but as such it is wrong. "1

The search for a non-dualistic worldview

Thus, Schrödinger urges the search for a non-dualistic worldview that does not regard the strict separation of mind and matter as a premise for natural science, but that begins with the unity of mind and matter. Furthermore, the break of symmetry between these two poles of reality must be explained.
In the following, starting from the traditional worldview of classical physics, the path to such a spiritual science can be outlined; a kind of science that is able to integrate both the consciousness and the sensory qualities in their description.

The worldview of classical physics

Classical physics regards an observer-independent existence of the external physical reality as a premise, and regards this reality as precisely describable by means of mathematical expressions. Due to this, its behavior is strictly deterministic, since the outer reality is considered to be causally completed. The primary mathematical models of classical physics are the basis for further secondary models describing the origin of the universe and life. Here, it is assumed that new things are created by random processes arising out of a field that is the root cause for everything. From this perspective, mind appears as a product of tangible processes taking place mainly in the brain. Indeed, these secondary models of reality refer to the primary ones, but are by far not as verified and exact as these.

The process of time takes place at the moment of present and selects that discrete spectrum of the factual out of the continuum of possibility.

The dominance of space

This worldview of classical physics is essentially characterized by space. Outer space is the basis of reality as an absolute being, and everything existing must have its place in it. Matter fills the space and moves according to the laws of nature under the influence of the regulatory parameter, represented by time. In this worldview, space exists
prior to all experience, while time plays the role of a passive regulatory parameter, that is not even accessible for a direct physical measurement.

Uneventful time

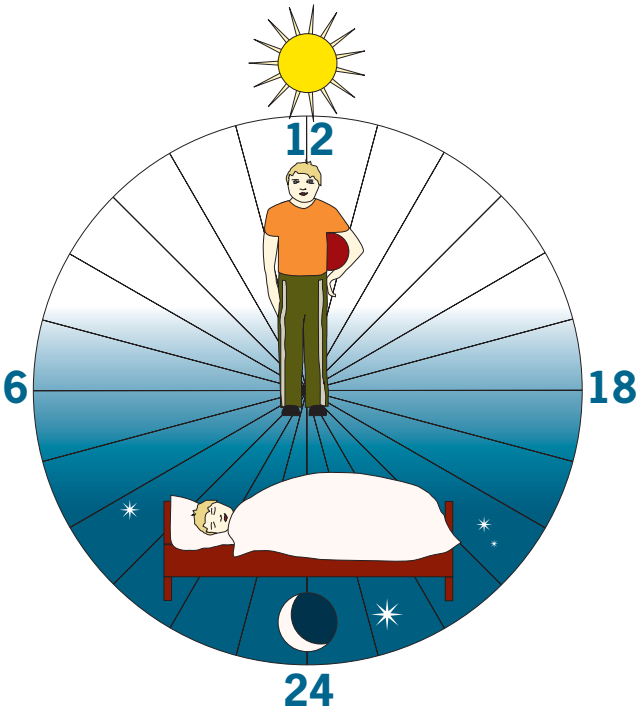
Thus, the classical worldview does not contain any elements that would correspond to the different stages or grades of time. It does not distinguish between past, present and future and in particular, it does not mark the experienced "Now". Therefore, there are no real events in classical physics. While the physical systems move with the running parameters in time, no physical events take place. Therefore, these physical explanations trigger the old philosophical question whether time actually exists in external

reality, or whether it is merely a form of intuition of our perception. Classical physics, particularly in its relativistic extension, addresses the temporal dimension like the space without being able to capture its directional and perceptual quality. Albert Einstein assumed a static four-dimensional spacetime traveling through the experiencing, conscious subject.

The paradox of time

From this point of view, the temporal conception of reality with its events would be an illusion. Future and past would be qualitatively indistinguishable from each other, but have to be merely regarded as different stages of a given course. The present would be a purely psychological phenomenon having no correspondence to an element in the physical theory. These considerations result in the paradox Ilya Prigogine refers to in his book "The End of Certainty"; because an event, namely the Big Bang, suddenly appears with immense clarity in a worldview that has no events. The creative power of a possible Big Bang suggests the possibility of acausal, spontaneous events characterizing the moment they are taking place as present. In the classical worldview, the moment something new is happening that can not be derived from the known, but implies an irreducible quality gain, suddenly appears through the back door. While the primary models do not have any events, because they exclude the temporality of the world, this necessary temporality of the secondary models, however, enforces the existence of at least one event. Here, the irreversibility of the initial event is ultimately the basis for the direction of the arrow of time, while the dynamic fundamental equations of physics are reversible. If one replaces t by -t in the fundamental equations of physics, physical processes, that correspond to the laws of nature, will arise out of this reversal. Thus, only time lines up the individual states as a regulatory parameter, without the possibility of being measured itself.

The temporality or irreversibility of real processes in thermodynamics find their expression in classical physics. If one defines the direction of time as the direction of increasing entropy, one captures the direction of the arrow of time for macroscopic systems. In the definition of entropy, however, the direction of the arrow of time is already included. In order to define entropy, a temporal conception of physical processes distinguishing between past and future, is already necessary. Therefore entropy can be defined, for example, on the concept of probability. However, this concept already implies the definition of past, present, and future and the progression of time from the past to the future.



The human in day and night rhythms
Grafik: r&z

The event and the experience of time

The concept of the event can be purely formally defined as a discontinuity in the phase space. Psychologically, an event demonstrates itself as a surprise, in other words as an event, that could not be calculated or foreseen from the already known. The conventional formalism of classical physics can not reflect the experienced temporality of reality and neither the existence of mind can be integrated into their worldview.
Prigogine described the fact that despite the reversibility of the underlying laws of nature something temporally irreversible happens as a "paradox of time"; meaning that events happen anyway. Furthermore, he described the cosmological paradox referring to the postulated cosmological primordial event, the Big Bang as follows:
"Modern cosmology ascribes a certain age to our universe. It was created by the Big Bang about fifteen million years ago. This is unmistakably an event. In the conventional formulation of the laws of nature, however, events do not occur. Trajectories and wave functions have no beginning and no end. "2
(Trajectories and wave functions are concepts of quantum mechanics. Wave functions describe reality in mathematical probability concepts. Trajectories are lines of development of a dynamic system.)
Therefore, the big bang hypothesis was a major crisis for people's and, above all, physicists' thinking.

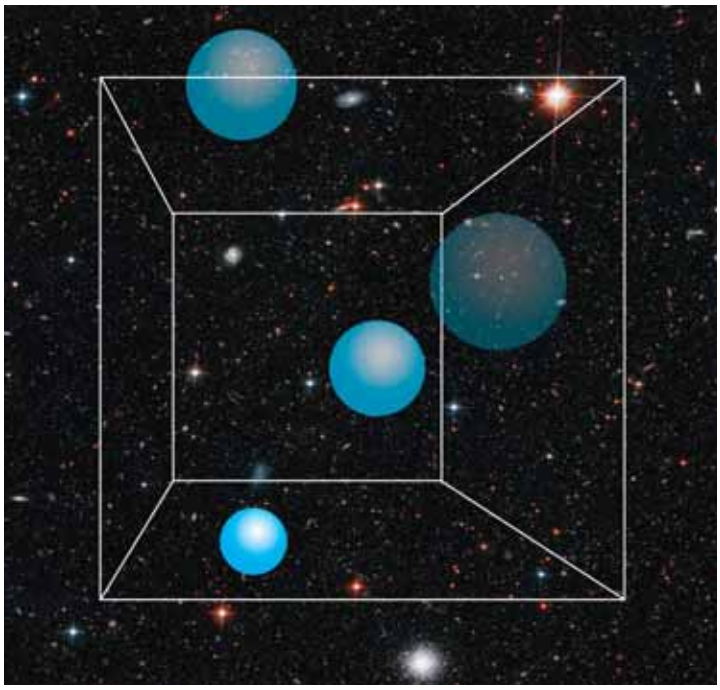
Quantum physics as logic of temporal statements

While classical physics is based on the hypothesis of the real outer space and a geometric conception of space that underlies all matter and all temporal experience, quantum physics has a different basis. Carl Friedrich von Weizsäcker tried to provide an axiomatic basis for physics, namely, to derive it from principles that leave no room for any doubt; without the possibility to put human experience itself into question. He calls these axioms "preconditions of experience". Von Weizsäkker defines quantum physics as the most common of all possible theories making statements on future events, and as such it could not be wrong. Due to this, the concept of time is the basis for it. Quantum physics makes statements regarding future events in the form of probability statements. While classical physics is of a deterministic nature, the concept of probability is the basis for quantum physics. Thus, this concept, and therefore the arrow of time, which is observed in the macroscopic world, must be additionally defined in classical physics; and due to this, temporality is integrated through the back door.

The first postulate being the basis for quantum physics according to Weizsacker's opinion is that reality
can be represented in the form of independently decidable alternatives. This principle of separability ensures, temporally seen, the existence of independent

events. The second postulate introduces the concept of probability, and thus the concept of time and the third postulate is the superposition principle. (Here it is assumed that it is possible to superimpose two wave processes and thus, to get a new one.) These three postulates can be the basis for complete physics. Interestingly, they do not postulate the existence of space. This space automatically arises as a three-dimensional space of intuition only in the further structuring course of physics out of the mathematical structure.

Thus, quantum physics is a temporal theory from the outset, since its nature is based on the flow of time from the past into the future. This process of flow of time defines the concept of the present. Future can be defined as the continuum of all possible events, while the past consists of the already factual events. This only represents a portion of the number of possible events. The process of time takes place at the moment of the present and selects the discrete spectrum of the factual from the continuum of possibility. This temporal event is consistent with our experience as a time-conscious being and represents, in my opinion, the minimal effort that is necessary, as a condition of human experience, to explain physics axiomatically.



Which way does time go?
Quantum physics can explain the subjective perception of time and space. According to it, time is not uniform and rigid, but is characterized by grades and stages.
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Randomness or choice?

The concept of choice, that corresponds to the temporal process in this case, contradicts the concept of randomness playing an important role in conventional scientific beliefs. In classical physics the lack of physical events is compensated by breaking the strict causality by the introduction of randomness.

Randomness had been regarded as an expression of ignorance about the exact causes of an event in natural science, before such great importance was ascribed to it. In the development of quantum physics, natural science adopted the concept of absolute randomness, that would actually produce information independently. This process of randomness corresponds to the temporal choice process. The juxtaposition of these two concepts, namely randomness and choice, is the point where mechanistic and non-mechanistic science clearly separate from each other. The quantum physicist Hans Primas wrote a six-theses-paper on the occasion of Erwin Schrödinger´s 100th birthday that deals with this topic. He writes:

"Randomness is the deus ex machina of molecular biology. It is unclear what scientific importance the essential randomness have. There are no intrinsic random events in classical physics, because classical mechanics is deterministic although it is not determinable. The basic probabilities of quantum mechanics are context-dependent. Here, randomness is neither a lack of cause nor a lack of knowledge, but it is enforced by the free choice of the experimenter, that is assumed to be possible, between mutually exclusive experimental arrangements."3

In the materialistic worldview all sense impressions, such as the perception of color, are lacking.

No randomness exists in classical mechanics. For a start, quantum mechanics reintroduces randomness axiomatically. It now appears, however,
as the result of neglect, namely the free choice of the experimenter between mutually exclusive experimental arrangements.

Based on these considerations, we can conclude that the mechanistic worldview identifies the physical event, and thus the constituent elements of physical reality, as randomness, while a non-mechanic conception of physics regards it as the choice process of the time that corresponds to the experienced presence. This is the cause for a fundamental philosophical decision that every person has to make at this point.

Do they want to accept randomness as the ultimate cause of all change or is this explanation unsatisfying for them, so that they try to fathom the deeper relationships. The scientific materialism stands or falls with the concept of randomness.

Time and consciousness

The temporal choice process is closely linked, in accordance with these considerations, to the concept of perception, that prioritizes the present as the moment of current perception over all other possible points of time. In Vedic philosophy, time has already been described as being closely related to consciousness. According to the Vedic conception, only time integrates the conscious mind into matter. At the same time, it identifies time as the physical reality itself, or respectively with the constituent events. This conception corresponds to Schrödinger´s postulation for a non-dualistic worldview because it identifies time, consciousness, and physical reality with each other to a high

extent. A question, that hardly anyone is able to ask in the context of mechanistic science, is associated with these remarks: Who chooses the actual realized event from the possibilities?

The measurement problem in quantum physics

This question touches the old discussion in quantum physics about the interpretation of the measurement process and it raises the old question whether the reduction of the wave function is essentially linked to the consciousness of the observer. Eugene Wigner's hypothesis is that only the consciousness of the observer reduces the wave function and thus, causes a physical event. This question of interpretation provoked a wide variety of opinions focusing on the question of what causes the quantum-mechanical choice (reduction of the wave function). Roger Penrose assumes that this question can only be solved if the theory of gravitation is combined with the quantum theory, so that the reduction of the wave function can be interpreted as a gravitational effect.

In order to solve this, the many-worlds interpretation emphasizes the same problem by introducing an infinite number of parallel universes, that realize all possible alternatives for development of the wave function at any moment. Indeed, the problem of choice is solved in this way, but only at the expense of a vast number of parallel universes. As long as no compelling experimental reason for the existence of these universes is present, one should first try to understand this one universe. Is it not rather more natural to assume that the one physical reality that we perceive can only be explained in conjunction with mind and consciousness than to make such an absurd assumption?

The influence of consciousness on physical experiments

Since the early eighties, experiments dealing with the influence of consciousness on physical processes were carried out by Robert Jahn and his colleagues at Princeton University. Robert Jahn used different types of physical random generators to produce random sequences of events, which he respectively presented to a test person. The series of events consisted of positive and negative signals which, when unobserved, Gaussian distributed themselves. (The Gaussian distribution describes the probability distribution of a continuous random variable. Graphically, it results in a bell curve.) Here, he used electronic and mechanical random generators and their random sequences were observed. The task of the observers was to try to influence the outcome in a particular direction. Some observers should wish for as many positive events as possible, while others should wish for as many negative events as possible. Actually, the results showed a clear deviation of the event sequences from the expected uniform distribution, namely generally in the direction the observer had intended.

This experiment can be carried out very vividly using the Galton-box (see figure). Small wooden balls fall through interleaved rows of pins and are then collected in adjacent boxes; in the course of this, the Gausian bell curve forms. If this mechanical random process is observed by someone, who tries to influence the direction of the falling balls to one side or the other, a corresponding minimal effect can be observed in a statistically relevant number of cases. In 1992, Robert Jahn carried out a somewhat modified variant of this experiment by choosing a radioactive decay process as a natural random generator. A detector counted the emitted alpha particles and their irregular occurrence formed a temporal random sequence. In this experiment, the events were not immediately released on a display for observation, but initially saved by means of a computer.

A range of test results was recorded and stored, without being observed, in the computer memory for about three months. Only after three months the computer was reactivated and it reproduced the saved data in their original chronological order on a screen. Again, observers, who tried to influence the different series of events through their will, were seated in front of the screen. Amazingly, exactly the same results of a proven influencing of the frequency of events arose as if the alpha decays would have been directly and simultaneously observed with its production. The famous quantum physicist Professor Henry Stapp from Berkley refers to this series of experiments in a much-noticed article in the "Physical Review" journal.5

These results suggest the hypothesis that only the observation of the experimental results can cause a collapse of the wave function of the decay process, although this process took place and was stored three months ago.

Thus, this experiment suggests the assumption that the consciousness of the observer plays a role in the reduction of the wave function on the one hand and puts the conventional concept of time into question on the other hand. If we define the future as the possible and the past as the factual in relation to any conscious observers, the future will be extended to all undecided processes or alternatives. Although the alpha decay, which took place three months ago, belongs to the past according to the conventional opinion, its results for all possible observers are still possible after three months and only become factual by the observation.

The wave function as the amount of knowledge

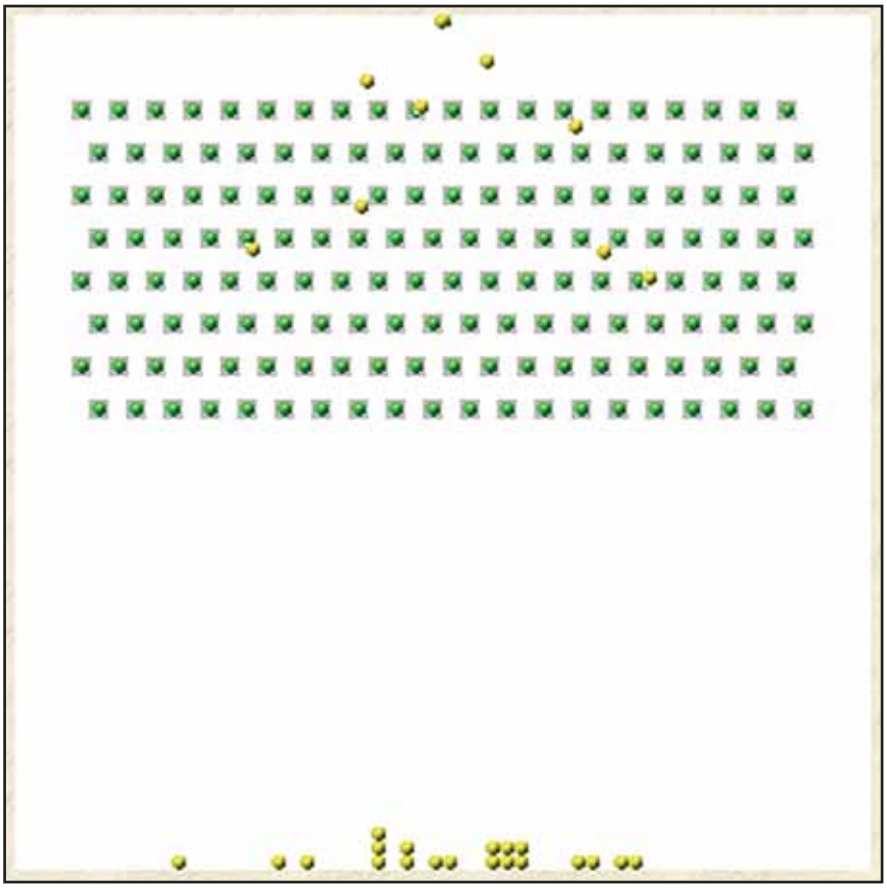
At this point, the question arises as to how the individual observations of different individuals can be coordinated. Does each individual observer bring the wave function to collapse or does this reduction take place globally for all possible observers? The wave function of quantum physics seems rather to be interpreted as an amount of knowledge, which is too closely connected to the consciousness of persons to assign a physical substance to it, which is described by it. It rather has a mental character.

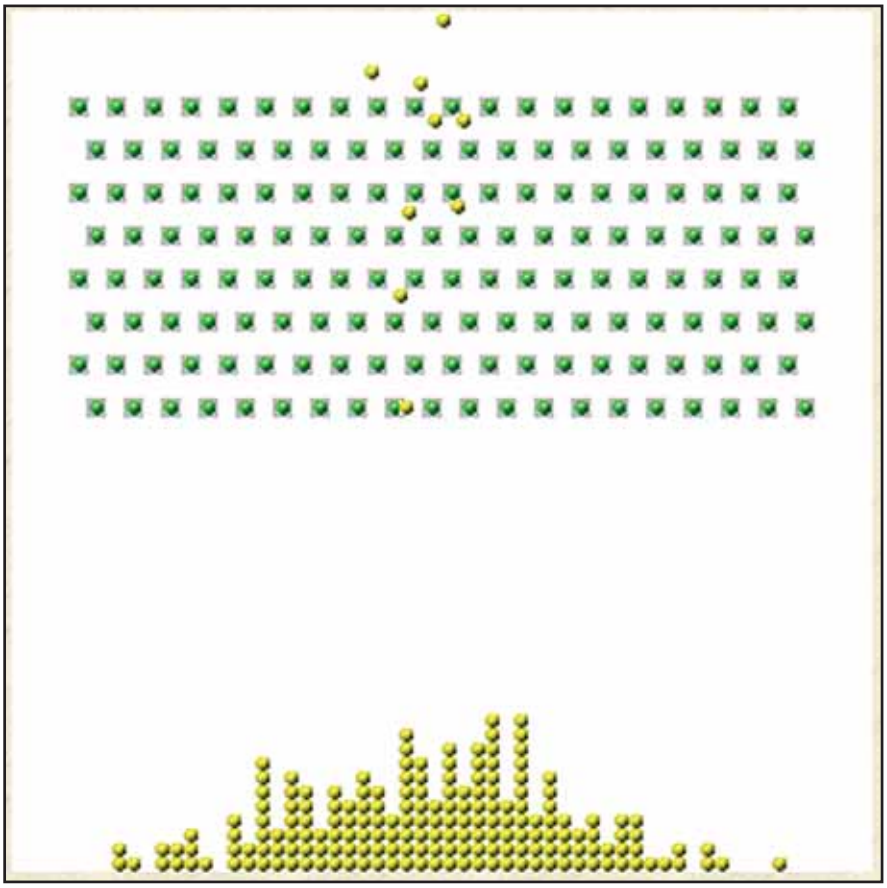
However, knowledge is a subjective term referring to a knowing person. The subjective knowledge arising from perception, memory, or thinking can only partially represent an external reality from a certain perspective. However, the knowledge of all subjects is guided by a common external and binding reality that everybody takes part in. These external conditions are binding for the inner knowledge of all perceiving and thinking persons. The wave function may correspond to this absolute amount of knowledge that globally describes the tangible reality and that is accessible to the individual persons by observation in the course of the measuring process. The subjective knowledge of the individual beings orientates towards this amount of absolute knowledge.

The personal aspect of reality

Just as my own individual knowledge characterizes my personality or my mind containing this knowledge, the absolute knowledge, that is binding for everyone, characterizes the mind or the personality of the universal consciousness or God.

On the back of a publication by the English naturalist Francis Galton (1822– 1911), is a stochastic experiment, the Galton board. It illustrates the probability of the balls falling to the left or right on the way to the plate.





Therefore, two types of consciousness can be metaphysically distinguished. The individual consciousness provides the space for the individual mind where the individual subjective knowledge is located, while the universal consciousness of God provides the space for the mind of God whose knowledge bindingly appears as the tangible reality for all living beings. Just as a virtual reality is running on a computer and is viewed by different individuals who can act in it, the mind of God is, so to say, the cosmic computer where

This experiment suggests on the one hand, that awareness of observers during reduction of the wave function plays a role, and on the other side provides the traditional concept of time in question.

the tangible reality is running as a kind of "virtual reality" and that is perceived by the individual living beings acting in this virtual reality. As tangible the cyberspace of such a virtual reality seems to be, just as virtual, and thus purely mental is its quality. In this perspective, the reduction of the wave function represents a communicational event between the absolute and the individual knowledge whereby one unit of knowledge is exchanged in each case.

Thus, such a spiritual view regards a mental reality as the basis for the tangible reality that can not be understood independently from consciousness and personality. Mechanistic science only deals with the communicational events between the different carriers of knowledge and interprets them as products of tangible processes. Non-mechanistic science understands the mental reality as causative and can describe its influence on physical reality. It regards the spatially characterized material world as a higher spiritual connection and assigns a meaning to it, based on this understanding. It could put the existing spiritual souls in a position to figure out their spiritual connections and to come into direct contact with the highest consciousness again. ■

The author

Marcus Schmieke,
born in 1966 in Oldenburg, with his many books he is the pioneer of vedic architecture in Europe and the founder of Vasati. After studying physics in Hannover and Heidelberg he undertook extended study trips to India, where he studied in monasteries after his inauguration in a vedic disciplic succession among others Vasati, Vedic astrology, Sanskrit and Vedic philosophy and metaphysics. He graduated his Vasati studies with honors from the prestigious South Indian institute Vasatividyapratisthanam. The Vedic astrology he studied with various masters of northern India.
His knowledge of both western science and the eastern traditional knowledge enabled him to represent the relationships between matter, energy and consciousness on the basis of twelve natural laws.
In 1994 he founded together with Ronald Engert magazine Tattva Viveka as a forum for science, philosophy and spiritual culture, whereupon some book-publications on science, life processes and consciousness followed ("The Last Secret" 1995 "Life field" 1997 " subtle energies in science and medicine, "1997).
With the establishment of the Vedas Academy at Schloss Weissenstein 1996 he created an institute for the integration of science and spirituality, which made a name beyond the borders of Germany. From 1998 to 2007 in the Saxon Switzerland and resident in Berlin since 2007, the Vedas Academy focused in their research and teaching mainly Vasati, Ayurveda, Sanskrit and Vedic astrology (Jyotish). Besides his work as an instructor for Vasati and Vedic astrology, author and scientist Schmieke now operates primarily as a planner Vasati houses throughout the world and also leads international consultations.

Books and Informations:
Veden-Akademie, Fritz-Werner-Str. 50h, 12107 Berlin, Tel: (+49) 030-75 56 67 50-0
Fax: 030-75 56 67 50-9, E-Mail: info@veden-akademie.de

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2) Prigogine, Hya und Stengers, lasabelle: „Das Paradoxon der Zeit“, München/Zürich 1993, S. 18

3) Hans Primas: „Biologie ist mehr als Molekularbiologie“, In: Fischer/Mainzer, „Die Frage nach dem Leben“, S. 68, München 1990 (Pieper)

4) vedic refers to the ancient Indian Sanskrit scriptures such as the Bhagavad Gita and the Upanishads

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