The Biological Basis of Physics and the Role of Homeopathy

Michael Hartmann, Germany

Introduction

At international meetings we can see that certain cultures, markedly the Indian and some African[1] seem to have less difficulties in accepting homeopathy as a healing method than does the occidental culture of European origin.

Our Western culture distinguishes itself by its success in handling the physical world, the base of which is a unique natural philosophy, formed since the Middle Ages. During the last decades we intensified our efforts to understand how the principles of homeopathy could be integrated into this system of natural sciences. Though we were able to realise phenomena at the junction between the two, we are still far from a general theory, which would explain homeopathy within the framework of science. This is so because we are still far from a thorough understanding of the base of natural sciences.

All natural sciences are based on physics or in other words, all natural sciences are derived from principles, which we find based in physics. The means which we use for this purpose is mathematics; the junction between the two was first described by *Johannes Keppler* as "natural law". Natural laws are mathematical descriptions, which allow to predict and to influence nature. Though they were first spotted in physics, we now find them in all sciences. We deal with this fact, we work with it and we found it is an excellent method to influence and to handle the world around us. However the base of our sciences is not yet understood, though we pretend or wished we had a firm ground in physics and in the relation of physics and mathematics. This fact led philosophers like *Immanuel Kant* to believe that the basic principles of the world around us like time, space or logic could not be explained, they were just there, they were *a priori* given. The same would be true for mathematics [1] as *Carl Friedrich von Weizsäcker* assumed: "it is an experience of the mathematician, that his knowledge is *a priori*" [2]. Here homeopathy comes into play, because it is a nonmathematical art, and also as it is based on knowledge and can give predictable results, a nonmathematical science. Only if we understand the very base of mathematics and physics and the relation of both, can we localise the position of homeopathy relative to this framework. This article is an examination of the foundations of physics and mathematics in order to open a space for homeopathy.

The Unreasonable Effectiveness of Mathematics

On a close-up view of physics we come to realise that there are questions which are ignored in everyday discussions [3] and which encourage us to doubt that the base of physics should be *a priori*. These are questions which resemble the ones that *Isaac Newton* had left over and had to leave over in his time because they could not be answered, and later led to the development of the new physics of the 20th century. Today's unanswered questions relate to the nature of time, to the three-dimensionality of space, to the double nature (particle and wave) of light. But the main issue in the centre of all this remains: why does mathematics, obviously related to our mind, describe nature? It is the astonishing "unreasonable effectiveness of mathematics in natural sciences" [4] which should lead us to a better understanding of nature, the world around us.

Stephen Hawking tells the story of the search for the general field equation, the theory of everything, which should explain the processes within the elementary particles as well as in astrophysics. It would explain everything in physics and consequently in all natural sciences. Philosophy was no longer necessary. Various observations however nurture our scepticism. First of all the fact that during the last 80 years the greatest physicists dedicated their life's work to the search of the theory of everything, like *Albert Einstein*, and did not succeed. Second, that theories of everything, the closed systems, never worked in other fields and turned out to be only fantasies nurtured by our psychological drive to form units, causal relations. This is true for mathematics itself. *Bertrand Russell* and *Alfred N. Whitehead* published a huge work on mathematics as a closed system just before the great discoveries in physics and named it "*Principia Mathematica*" alluding to Isaac Newton's "*Philosophiae Naturalis Principia Mathematica*", a closed system itself. And as Newton's physics was overruled by the new physics, *Kurt Gödel* expelled the idea

SUMMARY

Efforts have been made to integrate homeopathy into the system of natural sciences. In this article an alternative approach is offered. The very base of physics and mathematics, on which natural sciences are grounded are time, space and number. Since *Immanuel Kant* they are believed to be *a priori* given. Alternatively they can be explained as a consequence of life, such that the outside world in the form, as we perceive it, should no longer be considered independent from us as living beings. Having understood the base of physics, homeopathy does not have to be integrated into an existing system of natural sciences, but can be allowed to be more closely connected to the proper origin of physics, which is life itself.

KEYWORDS Natural philosophy, Physics, Time, Space, Reality

[1] A Ghanaian participant of the 2009 Amersfoort conference on homeopathy in developing countries called homeopathy "European voodoo"

of wholeness in mathematics: Mathematics is principally open, can never form a closed system.

Now we propose, that physics has to be open as well, as this would allow for homeopathy outside of what today is considered to be mathematics and physics. A phrase of the physicist *Wolfgang Pauli* encourages us: "Maybe the world is nonmathematical and non compliant to our thinking" [5]. The fact that Hawking refuses philosophy in such a strict way encourages us too [6]. We should have a closer look at what philosophers might say about the base of physics.

Philosophy of Subjectivity versus Objectivity

Hawking does not seem to be aware of the centenary dialogue between the physicist *Werner Heisenberg* and the philosopher *Martin Heidegger*. By analysing their conversation we come to understand that it was not that Heidegger would not have been aware of the novel thoughts of quantum mechanics, but that it was the great Heisenberg who would not allow himself to enter into deeper philosophical thoughts and consequently accept that physics might not form a closed system, but might be based on something else. To illustrate the reason for this attitude we should quote Einstein: "only the theory of everything would give guarantees for the distinction of waking and dream, between imagination and a generally valid objective reality" [7]. Physicists insist on an objective world, which must be independent from us. Consequently Heisenberg withdrew from philosophy and left that role to his disciple Carl Friedrich von Weizsäcker, who, however, did not take up the dialogue with Heidegger. So what did Heidegger say? "The new theories did not change the parameter character of time and space. (…) If they could, the whole framework of the modern technical natural sciences would collapse." [8]. He insisted, that physics is based on something else, that even modern natural sciences may well form a framework, but this framework would not be securely grounded. In his opinion it is not closed and never will be. The closeness is a circular reasoning. More consistent and more vigorously this had been revealed by *Arthur Schopenhauer*, who has to be quoted at this state of our deliberations. His thinking is still modern and up-to-date; we only have to substitute "materialism" by "physicalism":

"Of all systems of philosophy which start from the object, the most consistent, and that which may be carried furthest, is simple materialism. It regards matter, and with it time and space, as existing absolutely, and ignores the relation to the subject in which alone all this really exists. It then lays hold of the law of causality as a guiding principle or clue, regarding it as a self-existent order (or arrangement) of things, *Veritas aeterna*[2], and so fails to take account of the understanding, in which and for which alone causality is. It seeks the primary and most simple state of matter, and then tries to develop all the others from it – ascending from mere mechanism, to chemism, to polarity, to the vegetable and to the animal kingdom. And if we suppose this to have been done, the last link in the chain would be animal sensibility – that is knowledge – which would consequently now appear as a mere modification or state of matter produced by causality. Now if we had followed materialism thus far with clear ideas, when we reached its highest point we would suddenly be seized with a fit of the inextinguishable laughter of the Olympians. As if waking from a dream, we would all at once become aware that its final result – knowledge, which it reached so laboriously, was presupposed as the indispensable condition of its very starting-point, mere matter; and when we imagined that we thought matter, we really thought only the subject that perceives matter, the eye that sees it, the hand that feels it, the understanding that knows it. Thus the tremendous *petitio principii*[3] reveals itself unexpectedly; for suddenly the last link is seen to be the starting-point, the chain a circle, and the materialist is like *Baron Munchausen* who, when swimming in water on horseback, drew the horse into the air with his legs, and himself also by his own hair [9]."

Schopenhauer assumed that the world around us could never by explained by our focusing on the objective, on the objects, which we perceive, but only by analysing our subjectivity. Thus his main work: "the world as will and idea", both being derived by us as subjects. This proposal is well supported by modern neurosciences.

George Berkeley has to be mentioned as a predecessor. He stated that all things including number, time and space should be a product of our mind [10], which in turn was the consequence of God's spirit.

Schopenhauer points to the role of the perceiving subject, a role that quantum physics acknowledged in the investigator problem. However, like Berkeley, Schopenhauer was not able to investigate the investigator, to investigate the subject, which observes all this, because his knowledge of biology was not advanced enough. We shall.

[2] Eternal truth.

[3] Begging the question, a circular reasoning.

The Observer as a Biological Subject

At this point we have to investigate the very base of physics and look if we see any connection to a subject, which is embedded in an evolutionary process. We have to tackle the problem by exploring the connection between physics and mathematics, which is made up by the categories time, space, number and logic.

The reasons why we assume that Berkeley and Schopenhauer and Heidegger are right and why Kant and Weizsäcker are not, why we doubt that time, space, number and mathematics should be *a priori* given are

- that even physicists assumed that time could be an illusion [11];
- that there is evidence that physics could never form a closed system, this seems to depend on something else;
- that we as physicians know about the human subjectivity and narrowness and thus have to doubt that we should ever be able to come close to perceive a base of something that might be considered an absolute reality;
- that we as homeopaths experience something beyond physics every day.

This is our philosophical advantage.

Thus we believe that we are well prepared to investigate the base of physics, which shows itself in the relationship to mathematics. We have to ask: what is time, what is space, what is number?

Number

All numbers are derived from the natural numbers by a system of extension and reversion, which led the mathematician *Leopold Kronecker* to the dictum: "The natural numbers are from God, everything else is man-made." The natural numbers are a consequence of counting, which is adding ones in time. If we examine the one, we must conclude that there is no single object in our world with clear cut and strict boundaries. The number one in the outside world is a consequence of our projection of oneness. The subjective oneness is how we perceive ourselves, as an independently moving unit, an entity. Perceiving ourselves as one is a functional necessity, as it is the only way we can possibly act in the world, though our boundaries are not clear, just as they are not clear in the objects. The perception of oneness in ourselves is a consequence of our mind, of our individual, thus a non-divisible, conscious mind: a personalisation. It is an active process as we can see by the fact that in a disturbed mind depersonalisation, the loss of oneness may occur.

In consequence all numbers are a result of time and individual consciousness. Individual consciousness, however, is a direct consequence of an evolutionary biological development.

Time

If *Carlo Rovelli* denotes time to be an illusion he seems to be on the right track, however as illusions like hallucinations are a product of the brain, he emphasises the human mind, the brain as a possible source not only of colouring of what we perceive as time but also as a source of physical time itself. This would neglect that animals and plants live in time as well. Their perception of time as that, for instance, depends on their being poikilo- or homothermic (cold blooded or warm blooded), is obviously very different. However, here we don't want to examine the perception of time, but physical time itself, the objective time that we perceive with our instruments.

Trying to understand the physical nature of time, we note that the nucleus of time is irreversibility. All physical laws are reversible except one. Only the second law of thermodynamics (SLT) connotes irreversibility. Arguing on this fact, the young Weizsäcker stated that the main content of the SLT, the steady growth of entropy, a measure of disorganisation, is actually time [12]. The physicist *Ludwig Boltzmann,* discoverer of the SLT, already noted the fact that life seems to contradict the SLT, as it forms systems in which, contrary to the SLT, entropy decreases: the level of organisation in living systems increases relatively to the surroundings. Boltzmann concluded that "then there must be little areas in the thermically equal, thus dead universe, which differ from the general thermic equilibrium (let us call it singular worlds) (…) Then a living being of a certain time phase of such a singular world would measure a direction of time against the improbable state" [13]. Without going too much into detail, we may say that Boltzmann and Weizsäcker both realised time to be the difference between an increase of entropy in the outside world and a tendency of a lower entropy, that is a higher organisation, in living beings. However, both adhere to the idea of an objective outside world, in which time should be *a priori* given. They don't draw the overt conclusion that what we perceive as time is a direct consequence of life, as *Reinhard Eichelbeck* does: "The organisms alter the structure of the substance and increase as a result its state of order. They produce negative entropy – this also is a special feature of the quality of the living. But what makes an organism capable of swimming against the tide of entropy? Obviously it's their liveliness" [14]. We only have to make a little further step: It is not only liveliness, that makes us able to swim against the tide of entropy, it is being alive that creates this tide. The gradient of entropy, which we collectively perceive as a current, is a direct sequel of life. There is no time without living beings. Thus time is not *a priori* given and not an illusion, but what we as living beings as a collective group, distinct from the dead outside world, perceive together relative to our collective internal organisation. Time is like the current, which we perceive when collectively rowing on a lake.

Space

Aristotle favoured the idea of an *a priori* given empty space, which later fills with objects, a space that can be described with coordinates. It is the space of Newton and Kant. Aristotle's disciple *Theophrastus* on the contrary declared that space was only the relation between things. So did *Gottfried Wilhelm Leibniz*: "Spatium est ordo coexistendi"[4]. Though Newton's perception of space was extremely useful, in the physics of the 20th century the former idea turned up again. Space is what is between the things. But the things are a consequence of time and consciousness, both derived from life.

The way space reveals itself, three-dimensionality is a direct result of life, because the main principles of life, which are reproduction and movement, need a minimum of three dimensions; four dimensions would be an over-determination.

Conclusion

We come to the conclusion that mathematics and physics are a sequel of life. What we perceive in an outside world is a projection not only of our mind, but also of life itself. It is not an individual projection, but a projection that we share with other living beings. We share some of the aspects of reality with only a few other humans, like the understanding of art, with most hu-

[4] Space is the order of what coexists.

mans and some species we share the ability to perceive music or colours. Still broader aspects of what we perceive as reality are common to us and other animal species: firmness, light and sound. With all species we share the aspects of time, space and separateness, oneness. Thus reality is a collective subjective autosuggestion across species. Its outside reality functions on mathematical rules, because mathematics and physics share the common ground, which is time, space and number as a continuation of oneness in time, all sequels of life.

Homeopathy however does not. It does not, because it has a direct connection to life without the detour across outside physics.

References

[1] Dehaene S. Der Zahlensinn oder warum wir rechnen können. Basel, Bonn, Boston, Berlin: Birkhäusler Verlag; 1999: 277

[2] Weizsäcker CF. Zeit und Wissen. München, Wien: Hanser Verlag; 1992: 155

[3] Rothman T. Die Physik – ein baufälliger Turm von Babel. Spektrum der Wissenschaft 2012; 42: 61–65

[4] Wigner E. In: von Franz M-L, Hrsg. Zahl und Zeit. Psychologische Überlegungen zu einer Annäherung von Tiefenpsychologie und Physik. Stuttgart: Suhrkamp Taschenbuch; 1980: 268

[5] Pauli W. cited in Miller AI. 137. Jung, Pauli and the Pursuit of a scientific Obsession. New York: WW Norton; 2010: 313

[6] Hawking S, Mlodinow L. The Grand Design. New York: Bantam Books; 2010

[7] Pauli W. Aufsätze und Vorträge über Physik und Erkenntnistheorie. Braunschweig: Vieweg und Sohn; 1961: 97

[8] Heidegger M. Unterwegs zur Sprache. Stuttgart: Verlag Günter Neske; 1959: 209

[9] Schopenhauer A. The World as Will and Idea. London: Trübner & Company; 1883: 1st book § 7

[10] Berkeley G. A Treatise Concerning the Principles of Human Knowledge. Dover Philosophical Classics. Mineola, NY: Dover Publications; 2003

[11] Rovelli C. What is Time? What is Space? Rom: Di Renzo Editore; 2006

[12] Weizsäcker CF. Der zweite Hauptsatz und der Unterschied von Vergangenheit und Zukunft. Annalen der Physik 1939; 36: 275–283, 279

[13] Weizsäcker CF. Die Einheit der Natur. München, Wien: Hanser Verlag; 1971: 179

[14] Eichelbeck R. All Colours of the Rainbow in a Worm or: What is Life? In: Dürr H-P, Popp F-A, Schommers W, eds. What is Life? Scientific Approaches and Philosophical Positions. New Jersey, London, Singapore, Hong Kong: World Scientific; 2002: 3

Michael Hartmann, M.D.
Child and Adolescent Psychiatrist,
Homeopathic Physician
Ziegelofenweg 36
67346 Speyer
Germany
E-mail: dr.m.hartmann@hotmail.de