Everyone feels with others

Living beings are not machines.

By Hans Boës

"Everything struggles. Everything is in competition", one could summarize the observation of nature in a one-sided interpretation of Darwin's teaching. Such a view justifies the ongoing "struggle for existence" in our man-made economy. But another, perhaps even more important ability of life forms is often overlooked: They can resonate and empathize with other beings. This has been observable for a long time in dealing with humans or animals. We can feel how they are doing, and their moods are also transferred to us.

Some time ago, I had the idea that human radiance and compassion may have a very simple physical background.

For years I have been volunteering every Wednesday in the bicycle container of the Prinzessinnengarten in Berlin-Kreuzberg. There we help others to repair their bicycles - for a donation. One day a punk came along who wanted to join us. After he had come to the open bicycle repair shop for the third time, all three of us, who were supervising the workshop that day, had "energy out" in our guts. We all had the feeling that the guy was "sucking energy".

That's when the penny dropped! Three out of three that had exactly the same feeling in their guts seemed to me statistically highly significant. There must be something to it, I thought to myself, and looked for a scientific basis on how human radiation can work. In my head I always had the sentence from Andreas Weber, whose book I had just read:

"Living beings are not machines. They are tools of longing. They are desire, which has sought a body and governs it".

Andreas Weber has written an extraordinary book some time ago. He calls for a new understanding of nature and ourselves. His book is called: "Alles fühlt" (Everything feels). He proclaims a revolution in the life sciences, in which feeling must once again be a central component: "Without taking feeling into account, the structure of a living being cannot be understood.

In his book Weber develops the foundations for a "Creative Ecology", for a new coexistence of man and nature. For indeed, the sciences have not yet found a real answer to the question of what life is. Although it is possible to decipher the genetic codes for thousands of individual biological building blocks, we still do not know how the entire interaction works. Life is still a mystery.

Up to now, life is still understood as a gigantic complex machine composed of nothing but small control circuits. In the process, the view of the whole has been lost: "Researchers have realized that only in this way, only if they understand organisms as sentient systems that interpret and evaluate their environment and do not slavishly obey stimuli, can they find an answer to the great mysteries of life."

While trying to understand the physical background of Weber's approach, I noticed something that is clearly related to it: Everyone feels with others. To this day I cannot tell you how feeling really works, but I will explain in the following how "compassion" could be explained in purely physical terms. It is perhaps quite simply an electromagnetic resonance phenomenon.

Fractals: Everything is mirrored in everything

How can this work? How can we, as compassionate beings, understand or explain ourselves technically and physically? One possibility is to understand the fractal nature of living beings.

Fractals are a discovery of modern mathematics. They arise when recursive functions are represented in the computer. Recursive functions are arithmetical operations in which the result of a calculation is influenced by the previous result. So basically as if the cat bites its tail - a mathematical feedback.

Such functions are very computationally complex, and only through computer technology has it been possible to represent such functions. Figure 1 shows as an example of a Julia set (first described by Gaston Maurice Julia and Pierre Fatou).



Figure 1: The colorful world of fractals (Solkoll/public domain)

Especially the "Mandelbrot-Set" has become quite famous among fractals and the "Mandelbrot-Set" has a common characteristic of fractals: They are self-referential or self-similar. This means that similar structures always appear again, if you look closer and closer into the structure: Everything is reflected in all parts. The following YouTube video illustrates this connection very well.

https://www.youtube.com/watch?v=nYJ2WW0i3hk

The fantastic thing about fractals is that very complex structures can be created with a very simple calculation rule. And this trick is obviously also used by nature, because we find fractal structures in almost all living things. If you take a look around in nature, you will find numerous forms that have fractal properties. Take a closer look at the leaf of a fern, for example. You will see that the individual leaves of the fern have the same structure as the whole leaf - that is, they are self-similar

or even self-referential. Figure 2 shows a mathematically constructed leaf of a fern.



Figure 2: A fern leaf - one can clearly see the self-similarity of the increasingly fine structures with the large original pattern. (DSP/CC BY-SA 3.0)

A special form of fractals are the so-called Lindenmayer systems, which also play a role in grammar. With these Lindenmayer systems, plant structures can be reproduced very well nowadays. The next figure shows as an example mathematically constructed grasses.



Figure 3: Mathematically constructed grasses (Solkoll/public domain)

Numerous structures of living beings can be imaged by means of fractal structures. Nature uses fractal operations to build very complex structures by means of very simple repeatable rules.



Figure 4: The reflex zones on the foot (Stacy Simone/CC BY-SA 3.0)

Something similar we find also in humans. Every person interested in healing and massage will know this. The reflex zones of the human foot or hand are an image of the entire body. The entire human body can be found and treated energetically in the foot, hand or ear. The iris diagnosis also assumes that the entire human being is reflected in the eye.

All so-called "holistic" methods of medicine assume that the human being is a "self-referential" system, i.e. fractally organized. I myself have had extensive experience with acupressure on numerous "patients" and am now convinced by these experiences that the human being is a self-referential system.

Everything is reflected in everything. A typical sign of self-referential structures - i.e. fractals.

Fractal Antennas

But what does it mean now, if apparently all living beings - including humans - are fractally organized? To answer this question, one has to go one step further. Because fractal structures are apparently also ideal antennas.

The finalists of the European Inventors' Prize 2014, the Spaniards Carles Puente, Carmen Borja, Jaume Anguera, Jordi Soler Castany and Edouard Rozan, discovered this back in 1995 and developed the first fractal antenna for mobile communication. On the website of the European Patent Office you can read about it:

"The name - and the powerful transmitting potential - of the antenna is derived from geometric properties: Fractals are patterns that consist of several small copies of themselves, allowing long antennas to be 'wrapped' into the small housing of mobile devices.

Conventional antennas, such as FM radio antennas, must be a certain length to transmit and receive signals at full capacity (about 1.5 meters for a standard broadcast antenna). However, thanks to the repetitive structure of fractals, the length of the fractal antenna can be arranged in a small space. Furthermore, several antennas can be connected to each other to receive signals in different frequency ranges such as Wi-Fi, GPS and Bluetooth.

Puente Baliarda's invention paved the way for the revolution of ubiquitous Internet access on highly compact mobile devices. The importance of the fractal antenna becomes apparent when comparing the size and capacity of a 20-year-old cell phone with a device of today. Early cell phones required antennas that were at least 15 centimeters long, while the size and performance of devices with fractal antennas are no longer limited by space constraints."

So because fractals are such good antennas, they are used in all modern cell phones today. But antennas are nothing more than ideal resonating bodies, because their task is precisely to capture the electromagnetic waves in space. They do this by having their structure tuned as precisely as possible to the wavelength to be received - they resonate with the wave.

Fractal structures are ideal resonating bodies for a whole range of wavelengths due to their multiple intertwined structure; this makes them so practical for use in mobile devices that must nowadays receive and transmit on a whole range of different frequency bands.

If you then take a closer look at the human being, you will discover a fractal antenna system in his nerve system and also a kind of fractal "root system" in his blood vessels - this can be seen particularly well in the preparations on display at the Body Worlds exhibition by Gunther von Hagens.

Dielectric Resonator



Figure 5: The fractal antenna structure in the human nerve and vascular system. Every root system, where larger ones branch out to ever finer and thereby self-similar patterns, is a fractal structure (Boës 2015).

Our fractal structures are dielectric resonators, a special form of antennas with similar characteristics. Giuseppe Vitiello (Vitiello 2012) shows that fractal structures are inherently coherent. That means the resonance of these dielectric resonators has laser properties. As Fritz-Albert Popp already formulated in the last century, we are driven by ultraviolet laser-light, biohotons as he called them.

Living beings - from a biophysical point of view - are probably ideal resonating bodies, which in the course of evolution have merged into ever larger and more complex units in the electromagnetic field. Popp saw living beings as a form of organization that has succeeded in using ultra-weak coherent UV radiation to form a highly organized complex that can react very flexibly to external environmental conditions (Popp 1984). He could show, that with this trick of coherent resonance, life could raise above the Boltzmann distribution. Now Jeremy England has shown that this is the fundamental property of life (England 2020).

So compassion could be explained as an electromagnetic resonance phenomenon - via ultra-weak coherent photons. A kind of laser communication in the microwave and radio wave range.

I would like to put forward the thesis that our fractal structure makes us ideal resonating bodies and that we thereby become compassionate beings, like probably all animals and plants.

Because we have very similar structures to our fellow human beings and basically also to numerous mammals, we can resonate with them, empathize their feelings particularly well - provided that this ability is not impaired by trauma and other conditioning.

This approach, that we are all constantly connected in an electromagnetic resonant holographic field, would explain above all why there are phenomena such as "radiation" from people, why people can "suck energy" from you or why you feel "like magnetic" attracted to certain people.

Sheldrake was probably right

Rupert Sheldrake already years ago formulated the thesis, that we are all surrounded by a morphogenetic field (Sheldrake 1981). He later extended the theory to several forms of morphic fields. And he has done a huge amount of experiments that show that there are some unexplained results that let us realize that our understanding of life seems to be rather limited.

Sheldrake was always looking for some other field, but it could just be the holographic nature of electromagnetic fields that explains the morphic field.

If we take into account the coherent nature of fractals and the holographic properties of the electromagnetic realm, we might be able to understand much better the things we now call paranormal. In the end we might just be the 3-dimensional interference pattern that resonates with the 4-dimensional hologram that surrounds us.

This could also give us a new understanding of healing. And build a bridge between the alternative and the conventional medicine. If we understand us as laser light and microwave beings, as extremely complex holograms, that are resonating in a concert of self resonances in a variety from UV-light to microwaves.

The music of life

Living beings are open systems that need to be constantly fed with energy. We as humans do this through food. Ultimately, we obtain energy from the photons stored in food, in other words, stored sunlight. So what we eat is a "concert" of different colors of light, an energy that is then distributed to the various organs and organelles in the body. The process is similar to that of a violin string, in which the energy is supplied by the bow at one point, but spreads over the entire string in a harmonic resonance (Dissipative Structures, see Nicolis, Prigogine 1977).

If we now come back to the fractal antennas in the body, it is reasonable to assume that our antenna structures are constantly excited - in a wide range of frequencies, from UV radiation in the nanometer to centimeter waves in the radio wave range. Perhaps this is exactly what we call feeling: The concert of excited states of our fractal structures. To feel is then to resonate in the concert of excited states. Feeling is the perception of the symphony of life.

Literature:

- Bischof, Marco: Biophotonen. Zweitausendeins 1995.
- Boës, Hans: Die Natur des Fraktalen. Vortrag am 3. 9. 2015 in der Nachbarschaftsakademie im Prinzessinnengarten, Berlin-Kreuzberg.
- England, Jeremy: Life on Fire. How thermodynamics explains the origins of living things, Basic Books 2020.
- Küppers, G. (Hrsg.): Chaos und Ordnung. Formen der Selbstorganisation in Natur und Gesellschaft, Reclam 1996
- Nicolis, G. and Prigogine, I.: Self-Organization in Nonequilibrium Systems, Wiley-Interscience, New York, 1977.
- Popp, Fritz-Albert: Biophotonen, Paul Parey 1984
- Sheldrake, Rupert: A New Science of Life, 1981, German Edition: *Das schöpferische Universum. Die Theorie des morphogenetischen Feldes.* Ullstein, Neuauflage 2009, <u>ISBN</u> 978-3-548-37259-4.
- Vitiello, Giuseppe: Coherent states, fractals and brain waves. Universita di Salerno, 2009, https://arxiv.org/pdf/0906.0564.pdf
- Weber, Andreas: Alles fühlt. Mensch, Natur und die Revolution der Lebenswissenschaften. thinkOya 2014.
- (c) Hans Boës, Berlin-Kreuzberg, Oktober 2020