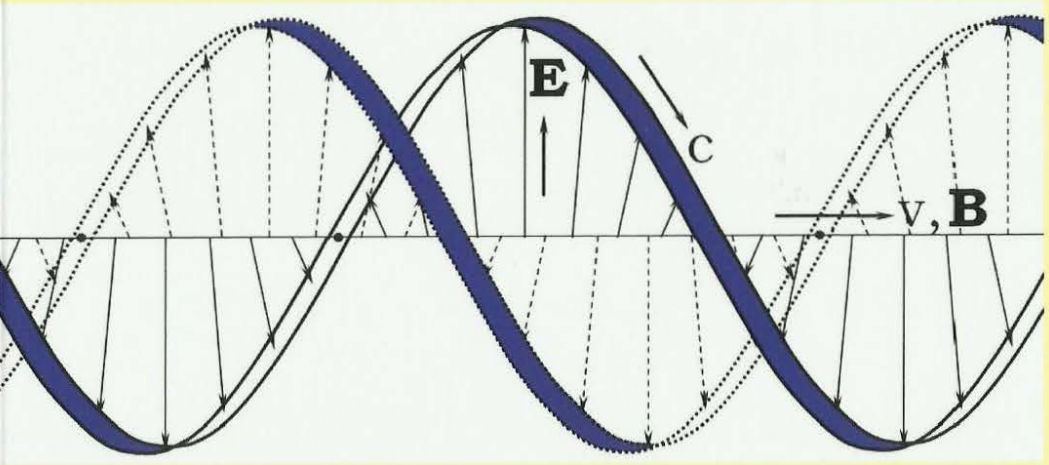
Konstantin Meyl

DNA and Cell Resonance



Cellular communication
as explained by field physics
including magnetic scalar waves

DNA and Cell Resonance

by

Prof. Dr. Konstantin Meyl

In the water resonance DNA sends a longitudinal wave which propagates within the magnetic field vector. Computed frequencies from DNA structure agree with bio photon radiation frequencies as predicted. Optimization of efficiency is done by minimizing the conduction losses which leads to the double helix structure of DNA.

The Meyl vortex model of the magnetic scalar waves not only covers the many observed structures within the nucleus but also introduces the reader to the hyperboloid channels in the matrix as two cells are then found to communicate with each other.

Physical results were revealed in1990 which form the theoretical basis of the essential component of a potential vortex scalar wave. An extended field theory approach has been known since 2009 following the discovery of magnetic monopoles. For the first time magnetic scalar wave theory best explains the physical basis of life not only from the biological discipline of science understanding only. And for the first time this interdisciplinary theory and provides a new understanding of cellular functions that are explained such theory depicting the complex relationships of nature.

**Cellular communication
as explained by field physics
including magnetic scalar waves**

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DNA and Cell Resonance
Cellular communication as explained by field physics including scalar waves

Professor Dr.-Ing. Konstantin Meyl

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Preface

Since discovering the DNA double helix structure the question is how reading and writing of the stored genetic information works from a Scientific point of view. The answer can be derived from field physics, but deducible from Maxwell's equations only electromagnetic waves are known, unable to interact with the DNA as totally different antenna structures would be needed.
Conventional textbooks and interested scientists are urgently calling for an extended field theory.

A possible answer to our question was found, but remained unnoticed, when "Science" reported in the October, 2009 issue the discovery of magnetic monopoles [1].
This is the needed discovery, as the 3rd Maxwell-equation can explain by definition, what a magnetic monopole is. The accepted discovery says, that the divergence of magnetic flux density would no longer be zero but a duality to electric charge carriers appearing as magnetic monopoles.

Take well-known eddy currents as an example tending to expand as demonstrated by the well understood skin effect. Now the dual anti vortex with opposite sign appears showing the contracting effect of potential vortexes that possess a structure-forming characteristic.

Both, the expanding current vortex from inside and the (new) contracting potential vortex from outside are forming a ring-like field vortex propagating through space as a longitudinal wave, a so called "scalar wave", comparably analogical with an acoustic wave.

Complex modulated field vortices are able to store the complete information of a picture (see parallel imaging by action potentials in nerves), or they capture the whole genetic information by passing the DNA helix. The presented vortex model of DNA reading and writing and the derivation in mathematics is done without any postulate [2].

With the publication in "Science" [1] for Scientists the gate to a new world in physics has been opened, even if this implication has not been instantly recognized by all.

Preface (about this book):

In 1990 I published my vortex approach in the book potential vortex [3] and have presented since then in numerous presentations the findings. In my collection of material "Scalar waves" [4 and 5] in 2000, I have presented my work in greater detail with several chapters, which remained largely in the world of science ignored probably due to people not having access to the publications. Today I am pleased to say that my work is slowly reaching important colleagues, otherwise I would not be invited to be the Chairman of the 2nd DNA World Congress (WDD-2011) in Dalian, China. This international event was the opportunity to sit down at the desk and write this book. I am thankfull to the organizers for setting this important milestone and bringing this long overdue publication into reality.

Konstantin Meyl www.meyl.eu

Radolfzell, Germany, December 2010

The English translation (2011) with help

of Peter Wright, President of www.eracnet.org

and Dr. Markus Lenger, CEO at: www.hydrologix.com

Table of Content

1. The Question of Life

This book is not a question of inheritance or cell division. It is a more general question, namely that of life.

We can speak of the beginning of life was when two organic conglomerates, such as cells, communicated with each other by transmitting the read information from one cell to another cell. Specifically, the question is how does the read and write process work, and how is genetic information transported from cell to cell physically from a technical point of view.

Hydrogen bonds, from our modest knowledge in biology class hold together through Coulomb forces electrically polarized with base pairs in a DNA strand. To gain access to this polarization, the hydrogen bonds must be separated, and this requires even higher, radial outward electric field lines. I speak in this case of a vortex field.

Since the magnetic field is perpendicular to the electric vertical field, this has an axial direction to the DNA strand. The motion of the vortex field is in the direction of the magnetic field so a longitudinal wave results in a so-called magnetic scalar wave.

The superbly researched biochemistry of the cell nuclei describes the direction that must be investigated. But apart from my writings no publications may be found on magnetic scalar waves with the required and described properties.

A long list of questions arise for anyone who looks for an in depth view:

- What drives the biochemistry of a cell to execute an observed process?
- Where does the energy go?
- How does the information get to the right cell?
- How is data corruption through noise prevented?
- What drives the scalar wave through the DNA strand?
- How is the magnetic wave navigated?
- Why does nature use such a complicated mechanism?

To our knowledge, all life comes from water. And biological structures consist predominantly of water. So it would be obvious for nature to take advantage of the natural resonance of water (at 22.235 GHz) for communication purposes, or the maximum of the wave absorption of colloidal cell water (at 2.45 GHz, see microwave oven), or even better yet, both frequencies. Here is published a lot of work, which will surprise the reader to the depth of what is already known.

Now the specifications have been clarified, the next step will be to evaluate the available publications to date.
The next chapter will give you a short overview as well as reference numerous Standard publications as well as internet references.
If you are familiar with such publications you may want to skip the second chapter and continue with chapter three.

2. A Brief Review

"The way for the exploration of DNA is paved by the work of many scientists. In 1868, almost a century before the Nobel Prize was awarded to Watson, Crick and Wilkins, a young Swiss physician named Friedrich Miescher, isolated something from the nuclei of cells no one had ever seen before. He called the compound "nuclein." This is today called nucleic acid, the "NA" in DNA (deoxyribo-nucleic-acid) and RNA (ribo-nucleic-acid) [6].

The members of the scientific community were in the late 1940's aware that DNA was most likely the molecule of life, even though many were sceptical since it was so "simple." They also knew that DNA included different amounts of the four bases adenine, thymine, guanine and cytosine (A, T, G and C), but nobody had the slightest idea of what the molecule might look like.

In order to solve the elusive structure of DNA, a couple of distinct pieces of information needed to be put together. One was that the phosphate backbone was on the outside with bases on the inside; another that the molecule was a double helix. It was also important to figure out that the two strands run in opposite directions and that the molecule had a specific base pairing.

As in the solving of other complex problems, the work of many people was needed to establish the full picture.

2.1 The DNA Model

The scientist Linus Pauling was eager to solve the mystery of the shape of DNA. In 1954 he became a Nobel Laureate in Chemistry for his ground-breaking work on chemical bonds and the structure of molecules and crystals. In early 1953 he had published a paper where he proposed a triple-helical structure for DNA.

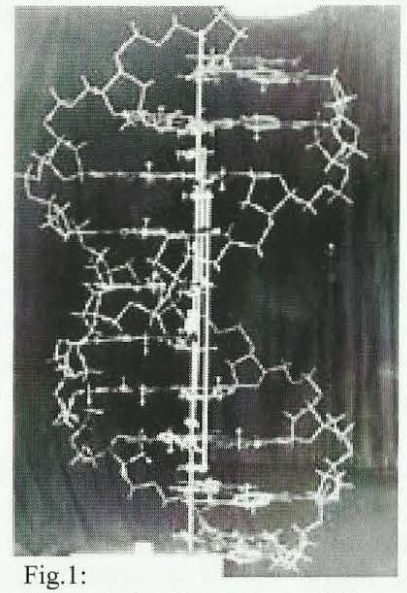


Fig.1:
The original DNA model by Watson and Crick. Photo: Cold Spring Harbor Laboratory Archives [6]

Watson and Crick had also previously worked out a three-helical model, in 1951. But their theory was wrong.

It was the famous "photograph 51", taken by Rosalind Franklin, that finally revealed the helical structure of DNA to Watson and Crick in 1953. This picture of DNA that had been crystallized under moist conditions shows a fuzzy X in the middle of the molecule, a pattern indicating a helical structure.

"It has not escaped our notice that the specific pairing we have postulated immediately suggests a possible copying mechanism for the genetic material" wrote Watson and Crick in the

scientific paper that was published in Nature in 1953 [7].

This was indeed a breakthrough in the study of how genetic material passes from generation to generation.

The specific base pairing underlies the perfect copying of the molecule, which is essential for heredity. During cell division, the DNA molecule is able to "unzip" into two pieces. One new molecule is formed from each half-ladder, and due to the specific pairing this gives rise to two identical daughter copies from each parent molecule.

2.2 Molecular Biology

DNA is a winning formula for packaging genetic material. Therefore almost all organisms – bacteria, plants, yeast and animals – carry genetic information encapsulated as DNA. One exception is some viruses that use RNA instead and nobody knows why.

Different species need different amounts of DNA. Therefore the copying of the DNA that precedes cell division differs between organisms. For example, the DNA in E. coli bacteria is made up of 4 million base pairs and the whole genome is thus one millimeter long. The single-cell bacterium can copy its genome and divide into two cells once every 20 minutes.

The DNA of humans, on the other hand, is composed of approximately 3 billion base pairs, making up a total of almost a meter-long stretch of DNA in every cell in our bodies.

In order to fit, the DNA must be packaged in a very compact form. In E. coli the single circular DNA molecule is curled up in a condensed fashion, whereas the human DNA is packaged in 23 distinct chromosome pairs. Here the genetic material is tightly rolled up on structures of proteins called histones, about 10 nm in Diameter.

This knowledge of how genetic material is stored and copied has given rise to a new way of looking at and manipulating biological processes, called molecular biology. With the help of so-called restriction enzymes, molecules that cut the DNA at particular stretches, pieces of DNA can be cut out or inserted at different places. Such molecular reactions may be postulated or observed with no plan available about the forces moving and controlling such complex processes.

In basic science, where you want to understand the role of all the different genes in humans and animals, new techniques have been developed. For one thing, it is now possible to make mice that are genetically modified and lack particular genes. By studying these animals scientists try to figure out what that gene may be used for in normal mice. This is called the knockout technique, since stretches of DNA have been taken away, or knocked out.

Scientists have also been able to insert new bits of DNA into cells that lack particular pieces of genes or whole genes. With this new DNA, the cell becomes capable of producing gene products it could not make before. The hope is that, in the future, diseases that arise due to the lack of a particular protein could be treated by this kind of gene therapy.

2.3 The DNA-Double Helix

The two strands of the double helix are anti-parallel, which means that they run in opposite directions.

The sugar-phosphate backbone is on the outside of the helix, and the bases are on the inside. The negative charged backbone can be thought of as the sides of a ladder, whereas the bases in the middle form the rungs of the ladder.

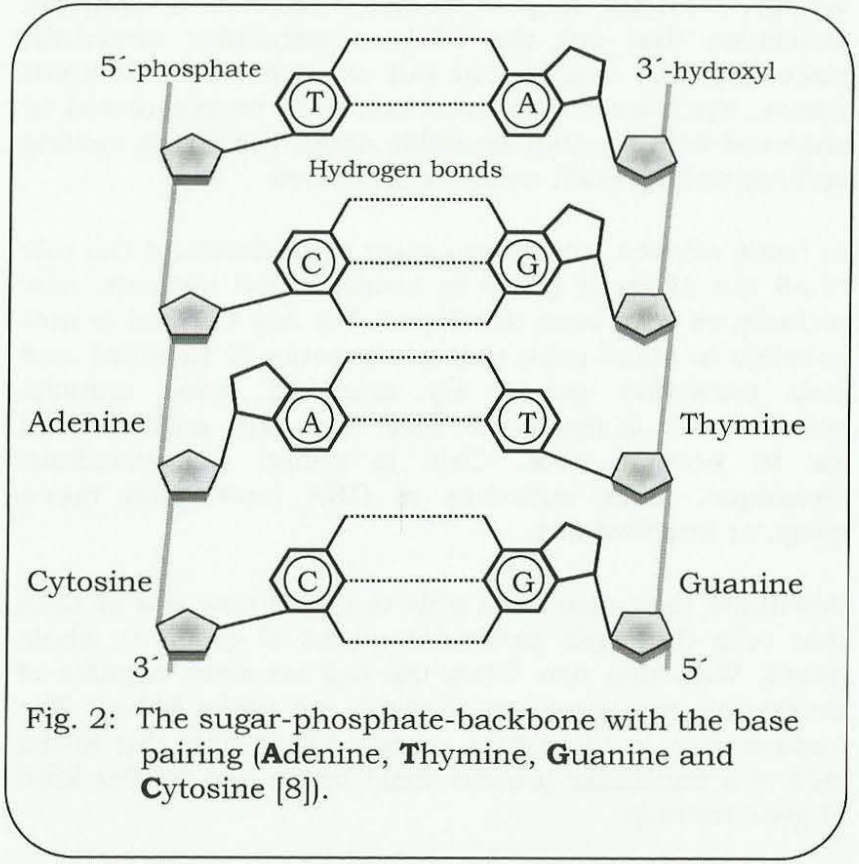


Fig. 2: The sugar-phosphate-backbone with the base pairing (**A**denine, **T**hymine, **G**uanine and **C**ytosine [8]).

Each rung is composed of a base pair. Either an adenine-thymine pair that form a two-hydrogen bond together or a cytosine-guanine pair that form a three-hydrogen bond. The base pairing is thus restricted.

This restriction is essential when the DNA is being copied: the DNA-helix is first "unzipped" in two long stretches of sugar-phosphate backbone with a line of free bases sticking up from it, like the teeth of a comb. Each half will then be the template for a new, complementary strand. Unknown biological machines inside the cell put the corresponding free bases onto the split molecule and also "proof-read" the result to find and correct any mistakes. After the doubling, this gives rise to two exact copies of the original DNA molecule.

The coding regions in the DNA strand, the genes, make up only a fraction of the total amount of DNA. The stretches that flank the coding regions are called "introns", and consist of non-coding DNA. Introns were looked upon as junk in the early days. Today, biologists and geneticists believe that this non-coding DNA may be essential in order to expose the coding regions and to regulate how the genes are expressed" [6].

Further research will reveal other important functions pertaining to introns.

3. The Level of Knowledge Today

Molecular genetics is one of the key technologies today. The number of researchers and publications are increasing daily. The topology of DNA has been studied from a biochemical perspective in every detail and yet we have only half understood the whole story. We see as much as we reveal with modern imaging instruments and with every day such instruments get better.

3.1 Who is Driving Whom?

The state of knowledge is perhaps comparable to an archaeologist who digs up as a hypothetical example of a television from a different era, photographed and X-rayed. If he sees nothing, he will describe structures, including transistors and attach the bright colored rings of the resistors with particularly important. The actual sequence of operations will remain however a complete and utter mystery, as long as no one knows where the parts of the device derive energy and how the information is processed so that at the end an image is displayed on the screen. And if the archaeologist will dig up another television set of the same type, then a principle of "generation" behind it, his will fill in his final conclusion.

In the case of a biological cell perspective today the question is still, what drives the biochemical processes and how is this communicated. It can be assumed that electric or magnetic fields at this point play an important role. But why can physics not help when this approach is so desperately required? Are the laws of physics unusable, or not enough to explain what is happening in the nucleus?

There is available upon closer inspection, only two causal possibilities: either the chemistry drives the electric and magnetic fields, or vice versa. A student is not content to have to memorize what you see under the microscope. They want to know why! With this question of the cause they have been annoying biology teachers now for decades.

Perhaps this helps explain the issue further of beginning of all life. What came first? Water and a broad spectrum of electromagnetic radiation or what?

If for example the resonant frequency of water was involved, which is located at 22.2 GHz as every Radio Astronomer knows when he looks at the Celestial Frequency Spectrum that comes through the atmosphere, then this as a first input of energy would be a feasible conclusion. When all the liquid crystals formed from colloidal water, then the resonant frequency, however, drops to 2.45 GHz. If later material structures infiltrate this also modulates thus the carrier or resonant frequency is a function of such infiltration so to say memorized in the cell itself, because electromagnetic waves are not restricted to a single cell but also its neighborhood, thus we have a first case for communication between the cells.

Electromagnetism would be here an explanation. Perhaps it is even more important, what are the odds of evolution by chance forming a creature by only chemical information transfer, and how much better are the odds of success when electromagnetic waves make their contribution of organizing and triggering chemical processes.
This chapter starts with the presently known facts of physics which are yet adequately explained.

3.2 Microwave Exposure (an example)

Numerous experiments have been made to manipulate living cells and measured emitted signals have been detected and analyzed.

In other experiments cells have been deliberately stimulated and the reactions of the cells has been recorded, in one interesting experiment with E. coli bacteria the results may be seen in [9].

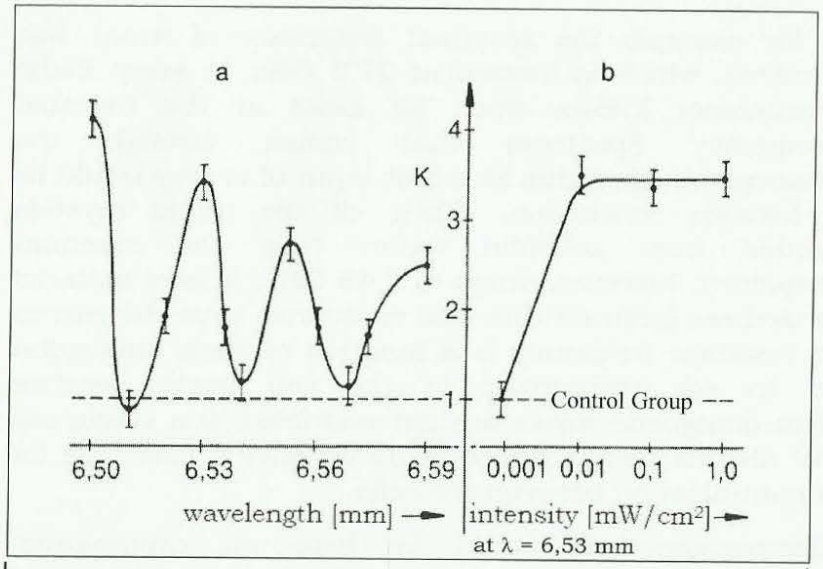


Fig. 3: Measured increase in the production (K) of colicin by E.coli-bacteria as a microwave effect [9]

a) as a function of the wavelength, and

b) as a function of the microwave intensity.

Thermal effects in experiments are avoided by working with extremely low stimulations. The example after fig. 4 shows the measured increase in the production (K) of colicin by E. coli bacteria at only 0.01 mW/cm² microwave power [9].

In addition the example provides the interesting information that obviously only a certain wavelength and it's harmonic waves increase the production, others on the other hand remain inactive. Because only minimal field strengths are used it more likely concerns an information-technical as an energetic effect (curve a).

This statement is supported by the observation that an increase of the intensity not at all necessarily as a consequence also increases the production (curve b). What the E. coli bacteria need is obviously neither energy nor heat but only a certain wavelength that stimulates the colicin production or the growth.

Should it really be confirmed that biological effects of electric and magnetic fields can be produced by certain frequencies and can't happen by an energy transition so the discussions about limits must seem ample meaningless.

3.3 The Noise in Cells

There is a very simple method to detect the radiation of living cells and whole organisms. For that you need to tune a radio receiver (AM) to a weak and noisy station and move yourself or some objects around, then one is able to directly study the influences from the manipulation of the receiving signal.

High-frequency radio technology has taught us that radio waves can only be received if the signal strength is greater than the ambient noise level. Conversely, man is thus able, with his aura or natural radiation to contribute to the overall noise, until the radio signal of a weak station goes down completely.

Those who like to listen in the car to amplitude modulated transmitters the medium wave band perhaps know the typical effect when driving through an avenue of poplars. Certain trees have such a strong aura, or maybe we better speak of their noise field that occurs in the pass each time to a reception loss. The trees can be counted without even looking. This simple experiment suggests that living creatures and plants radiate in a mixture of frequencies in the form of a noise signal, which is commonly known as an aura, further investigation sees a distinct rise in overall noise level which can not be linked to any gain effects caused by the trees passively concentrating the field of the distant transmitter.

With noise we understood a mixture of frequencies. If, however, no clear frequency is responsible for a biological effect, then it is understandable why the experiment with E. coli bacteria is instead given wavelength. Living cells have not just on induction productivity and capacity as the technical resonant circuit in the RF receiver of a radio. But they are about the size and wavelength of the oscillations and a position whereby they can produce a variable wavelength modulation.

The propagation velocity of a wave that results from the product of wavelength and frequency is proven in numerous recent examples.

3.4 Bio-Photons

Prof. A. Popp calls the detectable radiation of living organisms as *bio-photons* and he could measure them in a technical way [10].

He considers the phenomenon at the speed of light and lands at light frequencies, even then if nothing is glowing visibly! The question is asked: Does it concern the frequency of the light or only the corresponding wavelength or actually both, thus light, as is expressed in the name bio-photons?

The photomultiplier, which Prof. Popp uses as a light amplifier, however can only be tuned to certain wavelengths and not to frequencies. Even if the detected bio-photons have the wavelength of the light, then nevertheless nothing will glow if the velocity of propagation and as a result also the frequency differs from that of the light for several powers of ten. In the case of the immense number of cells also the number of photons should correspondingly sum up and the body as a whole should start to glow, which is not the case.

The wave guides in the extra cellular matrix serving the cell communication, which Prof. H. Heine observes microscopically, have wavelengths between 10 and 300 nanometer, which corresponds to the range of the ultraviolet radiation [11]. But if the propagation is slower than the light for 6 powers of ten, then also the frequency will only amount to one millionth and be situated into the range of the *microwaves*. Here a biological window seems to be present, to which we should turn our attention.

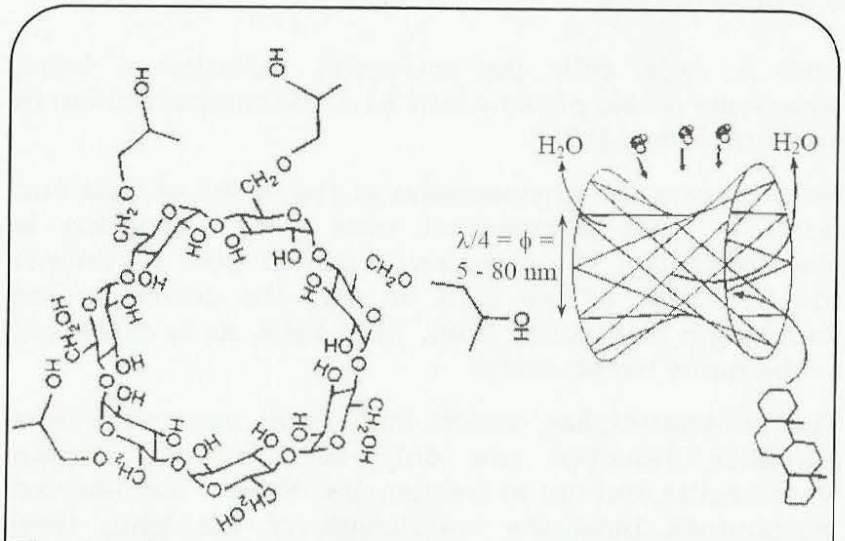


Fig. 4: Information channels in the extracellular matrix. (Tunnel structure of the basic substance, taken from the textbook of Hartmut Heine [11]).

Life is beginning, if two cells are communicating with each other. Professor Heine has found out that the cells for the purpose of communication build up channels for instance in the connective tissue, which after having conducted the information again collapse. Interestingly the channels have a hyperboloid structure, for which no conclusive explanation exists.

We still ask, how does this structure happen and why do we measure the signal of noise? The only possible answer will come from antenna engineering.

4. The Field Model of Waves and Vortices

High-frequency technology is distinguished between the near-field and the far-field. Both have fundamentally other properties.

4.1 The Far Field (electromagnetic wave acc. to Hertz)

Heinrich Hertz did experiments in the short wave range at wavelengths of meters. From today's viewpoint his work would rather be assigned the far-field. As a professor in Karlsruhe (1888) he had shown that his electromagnetic wave propagates like a light wave and can be refracted and reflected in the same way.
It is a transverse wave for which the field pointers of the electric and the magnetic field oscillate perpendicular to each other and both again perpendicular to the direction of propagation. Besides the propagation with the speed of light, it also is characteristic that there occurs *no phase shift* between **E**-field and **H**-field.

Heinrich Hertz: **electromagnetic wave** (transverse)

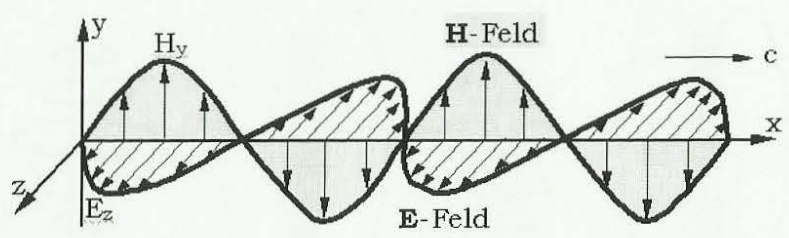


Fig. 5: The planar electromagnetic wave in the far zone.

4.2 The Near Field (Scalar wave according to Tesla)

In the proximity it looks completely different. The proximity concerns distances to the transmitter of less than the wavelength divided by 2π. Nikola Tesla has broadcasted in the range of long waves, around 100 Kilohertz, in which case the wavelength already is several kilometres. For the experiments concerning the resonance of the earth he has operated his transmitter in Colorado Springs at frequencies down to 6 Hertz. Doing so, the whole earth moves into the proximity of his transmitter. We probably have to proceed from assumption that the Tesla radiation primarily concerns the proximity, which also is called the radiant range of the transmitting antenna.
For the approach of swirling and closed-loop field structures (Fig. 7) derivations for the near-field are known [12]. The calculation provides the result that in the proximity of the emitting antenna a phase shift exists between the pointers of the **E**- and the **H**-field. The antenna current and the **H**-field coupled with it lag the **E**-field of the oscillating dipole charges for 90°.

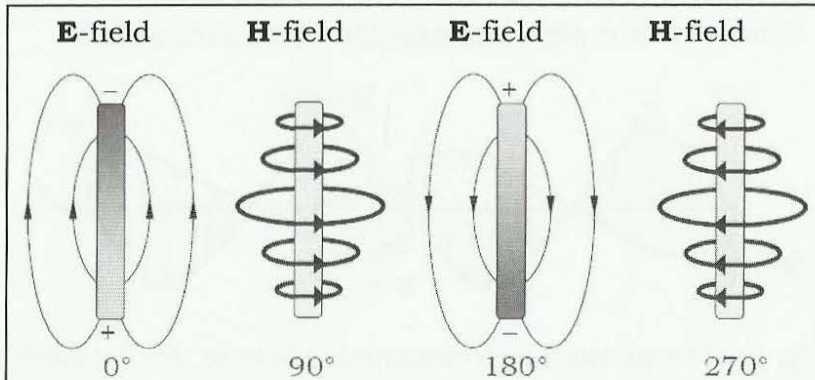


Fig. 6: The fields of the oscillating dipole antenna

4.3 The Near Field as a Vortex Field

In the text books one finds the detachment of a wave from the dipole accordingly explained.

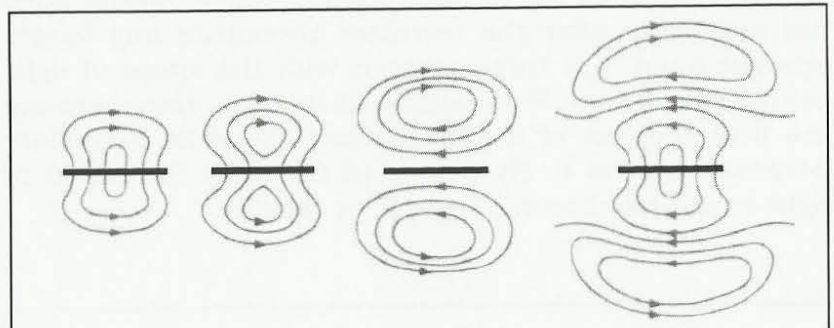


Fig. 7: The coming off of the electric field lines from a dipole.

If we regard the structure of the outgoing fields, then we see field vortices, which run around one point, which we can call the vortex centre. We continue to recognize in the picture how the generated field structures establish a shock wave as one vortex knocks against the next.

Thus a Hertzian dipole doesn't emit Hertzian waves! An antenna as near-field without exception emits vortices, which only at the transition to the far-field unwind to create electromagnetic waves.

At the receiver the conditions are reversed. Here the electromagnetic wave is rolling up to a vortex, which usually is called and conceived as a *"standing wave"*. Only this field vortex causes an antenna current in the rod which the receiver afterwards amplifies and utilizes.

4.4 The Vortex Model of the Scalar Waves

What would a useful vortex-model for the rolling up of waves to vortices look like?

We proceed from an electromagnetic wave, which does not propagate after the retractor procedure any longer straight-lined, but turns instead with the speed of light in circular motion. Furthermore it is transverse, because the field pointers of the **E**-field and the **H**-field oscillate perpendicular to **c**. By means of the orbit the speed of light **c** now has become the vortex velocity.

Nikola Tesla: **electric scalar wave** (longitudinal):

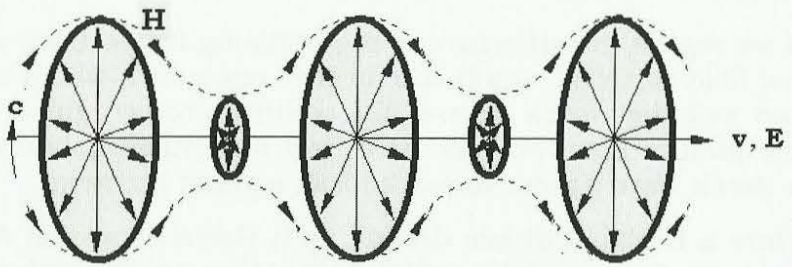


Fig. 8: Magnetic ring-vortices form an electric scalar wave.

Wave and *vortex* turn out to be *two* possible and *stable field configurations*. For the transition from one into the other no energy is used; it only is a question of *structure*.

It is the circumstance that the vortex direction of the ring-like vortex is determined and the field pointers are standing perpendicular to it, as well as perpendicular to each other. This results in two theoretical formation forms for the scalar wave.
In the first case (fig. 8) the vector of the **H**-field points into the direction of the vortex centre and that of the **E**-field axially to the outside. The vortex however will propagate in this direction in space and appear as a scalar wave, so that the propagation of the wave takes place in the direction of the electric field. It may be called an *electric wave*.

4.5 Magnetic Scalar Waves (according to Meyl)

In the second case the field vectors exchange their place. The characteristic of the *magnetic wave* is that the direction of propagation coincides with the oscillating magnetic field pointer (fig.10), while the electric field pointer rolls up.

The vortex picture of the rolled up wave already fits very well, because the propagation of a wave in the direction of its field pointer characterizes a longitudinal wave. Also, because all measurement results are perfectly covered by the vortex model.

new (Meyl): **magnetic scalar wave** (longitudinal):

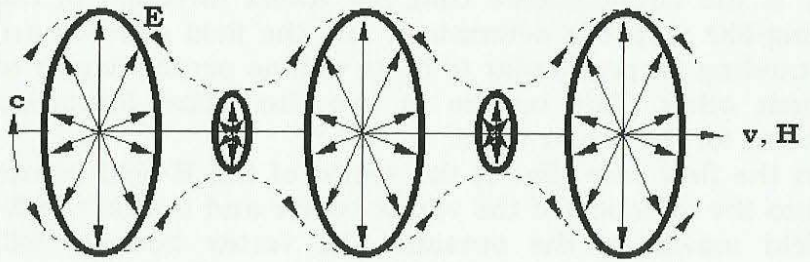


Fig.9: electric ring-vortices form a magnetic scalar wave.

Nature is using exactly this magnetic wave, discovered and described at first by the author - in critics of GWUP* it is called a *scalar wave of Meyl ("Meyliana", "Meyl's wave"* or *"Meyl stone", ...).*
A scalar wave in principle is directionally spreading in the direction of a field pointer. Scalar (i.e. undirected) only the vortex field itself is (such as the charged particles of a plasma wave). The field of the wave always is vectorial (fig.10) !

** Note: The members of the GWUP call themselves skeptics. They postulate a directional wave of a scalar field, known to have no direction in order then to prove mathematically that the non existing wave does calculate to zero ("skeptics"-wave).*

4.6 Antenna Noise

It is well known, that longitudinal waves have no firm propagation speed. Since they run toward an oscillating field pointer, also that the speed vector **v** will oscillate. At so-called relativistic speeds within the range of the speed of light the field vortices underlie the *Lorentz contraction.* This means, the faster the oscillating vortex is on its way, the smaller it becomes. The *vortex constantly changes its diameter* as an impulse-carrying mediator of a scalar wave (fig. 9 and fig. 7, showing the change as well).

Concerning that vortices are rolled up waves, the vortex speed will still be **c**, with which the wave runs now around the vortex centre in circular motion. Hence it follows that with decreasing diameter the wave-length of the vortex likewise decreases, while the natural frequency of the vortex increases accordingly.

If the vortex oscillates in the next instant back, the frequency decreases again. The *vortex works as a frequency converter!* The mixture of high frequency signals developed in this way distributed over a broad frequency band is called *noise.*

Antenna losses concern the portion of radiated field vortices, which did not unroll themselves as waves, which are measured with the help of wide-band receivers as *antenna noise* and in the case of the vortex decay are responsible for heat development.

We have to do this with the field vertebrae of a scalar wave, when a noise signal is measured by an antenna or a plant or human, the modulated information carrying field vortex beyond the scalar and far beyond what is

usually a current RF noise can be proven by measurement of the composite signal.
As shown in Figure 9 also an explanation for the hyperbolic structure is found, as seen in cell communication in the matrix [11].

And finally we're there, if we succeed, the magnetic shaft without additional postulates on the structure of DNA applied to which the reader is already on the cover of the book promised to redeem Embassy.

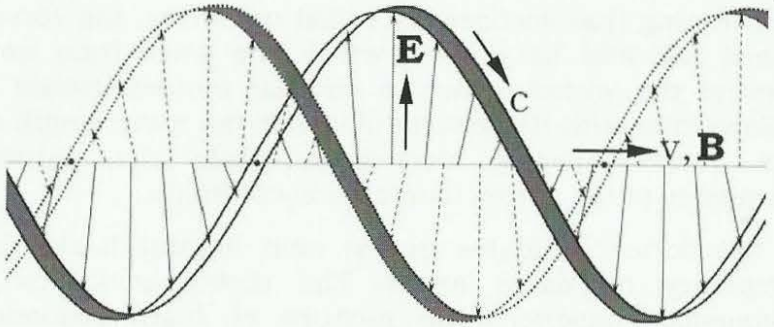


Fig. 10: The distribution of the electric field (**E**) and of the magnetic flux density (**B**) in the double helix
v = speed of the DNA wave (140,000 km/s)
c = speed of light (= speed of the vortex = 300,000 km/s)

5. Derivation of the DNA-Wave

As we know, the DNA is wound into a double helix with a right-handed rotation (type A or B). The two polynucleotide strands are of opposite polarity. Between the bases hydrogen-bonds are formed, whereas adenine always pairs with thymine and guanine always pairs with cytosine (Fig. 2). These represent the code or character set of the genetic information. With outstanding models the complex code even can be understood; but this is not the issue here.

5. 1 The Electric Field of the Four Bases

A chemist distinguishes the four bases on the basis of their structure; however, a physicist on the basis of different charges. Although the electric charges are very low, the electric field strengths, measured in volts per meter, may be very high at such small distances.

While inactive the hydrogen-bonds follow the field strength and neutralize the electric charges of the base pairs. The DNA behaves outwardly neutral and conversely is not interfered with by external electric fields.

Only during the writing process are the hydrogen-bonds temporarily removed and the base pairs separated, allowing the sequence of exposed charges to be read. This process requires a higher electric field strength. The magnetic scalar wave (Fig. 9) can, for example, provide the required voltage. Incidentally, this is the only type of wave in which the field vector of the electric field points radially outward as a prerequisite for

interaction with the electric charge of the bases. As a result, a modulation occurs, which is carried by the wave.

5.2 The Circularly Polarized Double Helix

The referenced longitudinal wave propagate in the direction of the magnetic field vector. Magnetic forces are formed between the field vortices and are responsible for the emergence of wave nodes and also are responsible for the propagation of the wave.

Because of the helical structure of the vortex field, the field lines are open and not closed. They wind the screw forward compared to a circularly polarized wave.

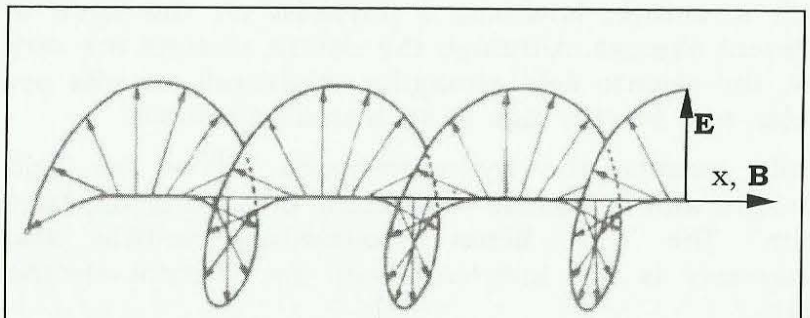


Fig. 11: Left-circularly polarized wave

The vortex velocity, which is at the speed of light c, screws along the outer line in a forward direction. Because the resulting path is more than twice as long, the propagation of this field formation in the x-axis

direction and results in a longitudinal wave propagating at 140,000 km/s. This is a result of the geometric dimensions on the one hand and the diameter of the helix of 2 nm on the other as well as the path length of 3.4 nm measured in x-axis direction over a full helical turn (Fig. 12).

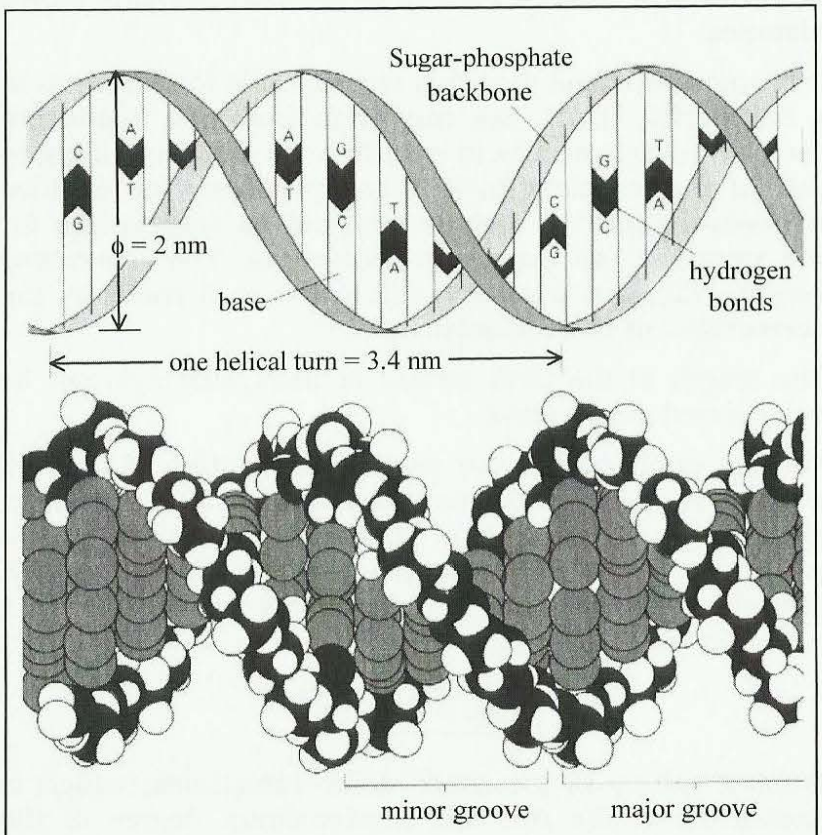


Fig. 12: The size of the DNA-double helix (acc. to [13], p.109 and [8], p.503).

5.3 The Wavelength of the DNA-Wave

The next step is to determine the frequency and wavelength in the current direction of the magnetic field vectors and with it the modulated wave. Valuable information can be observed by the tendency of the helix to form a coil with two turns of globular proteins called histones.

It becomes obvious that this corresponds to two turns of a half-period. Thus, the transition from one histone to the next always occurs in a wave node, corresponding to half of the wavelength. If a coil produces the positive half-wave, then the neighboring coil is responsible for the negative half-wave and vice versa. The *alternating winding direction* from one coil to the next confirms the correctness of this assumption!

The length of the DNA strand of both windings can be determined in two ways.

For the nucleosome core particle, consisting of the coil body (histones) and the wrapped around DNA molecule, an average coil diameter of 10 nm is established [8]. The molecular length of one turn in the middle of the DNA strand is therefore ($\pi \cdot 10$) nm and the wavelength at 4 turns distributed to 2 histones is:

$$\boxed{\lambda_{DNA} = 126 \text{ nm}}.$$

Quoted values in literature differ sometimes, which is explained by the relevant condensation degree of the molecule. An error analysis would help narrow down the possible fluctuation range.

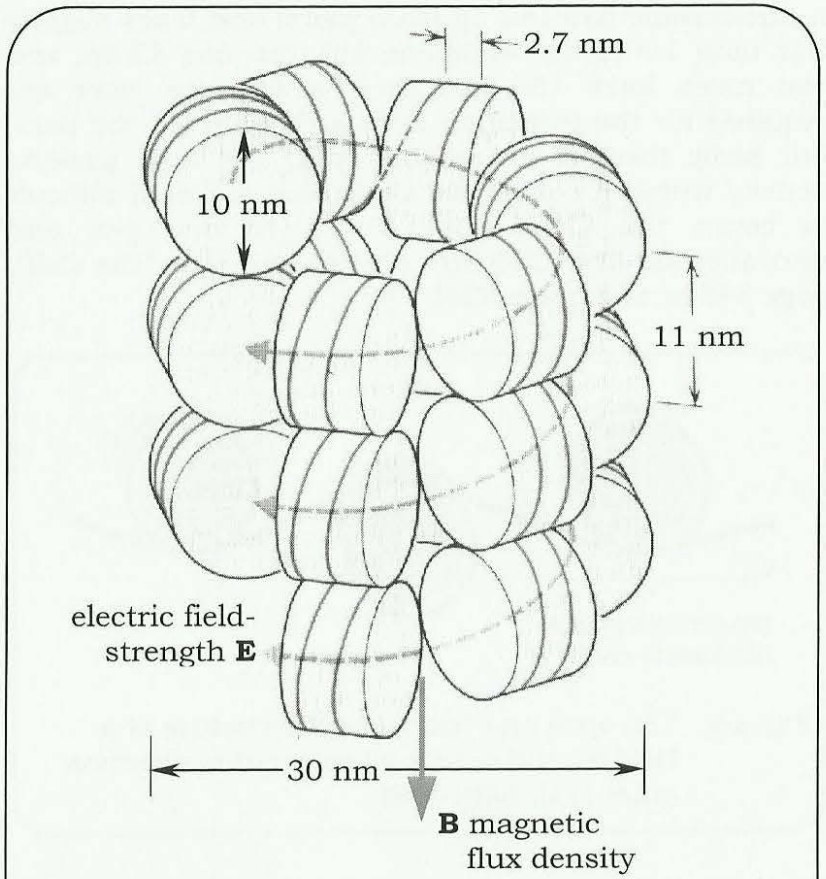


Fig. 13: A possible arrangement of the DNA strand wounded up to "coils" organized radially in a 30nm fiber. (after [16], page 421).

Using published data and observations using x-ray structure analysis valuable information can be obtained to estimate the range of the tolerance band. In the second calculation method the base pairs are simply counted.

A nucleosome has 146 bp (base pairs) and takes slightly less than 1.8 turns, while one full turn has 83 bp, and two turns have 166 bp. Even more base pairs are required for the transition from a "bobbin" to the next, but sadly there is no reliable data. The high packing density within a condensed chromatin makes it difficult to count the fibers (Fig. 13).). In an open and uncondensed fiber 200 bp's are counted [14: "The Cell", page 345 or at 8, Page 620].

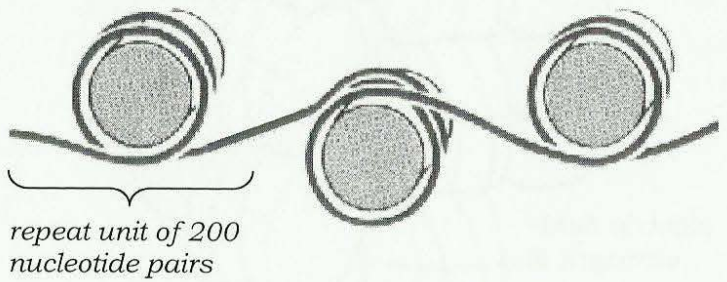


Fig. 14: The open and "unpacked" structure of a DNA-strand with a given winding direction (after [14], page 343).

The assent of the helix along its central axis is 0.332 nm per base pair [15]. Multiplied by the number of base pairs, which depend on the degree of condensation a maximum and minimum wavelength is obtained:

$$\lambda_{DNA}(max) = 200\ bp \cdot 2 \cdot 0.332 = 132.8\ nm$$

$$\lambda_{DNA}(min) = 180\ bp \cdot 2 \cdot 0.332 = 119.5\ nm$$

or referencing as a range:

$$\lambda_{DNA} = 126\ nm \pm 6\ nm$$

Propagation speed v_{DNA} and wavelength λ_{DNA} in turn determines the frequency of the DNA-wave:

$$f_{DNA} = v_{DNA}/\lambda_{DNA} = 140 \cdot 10^6 / 126 \cdot 10^{-9}$$

I. $f_{DNA} = (1.11 \pm 0.06) \cdot 10^{15}$ Hz *(= UV-radiation)*

at $c/2.14 = 140 \cdot 10^6$ *m/s*

as the average speed of the DNA-wave

at the speed of sound in body tissue: 1470 m/s:

II. $f_{body\ wave} = 1470/126 \cdot 10^{-9} = 11.7 \pm 0.6$ GHz

$2 \cdot f_{body\ wave} = 25$ to 22.2 GHz
(Water resonance = 22.2 GHz *!)*

at the speed of sound in air at 343 m/s:

$f_{speed\ of\ sound} = 343/126 \cdot 10^{-9} = 2.72 \pm 0.14$ GHz

III. $f_{speed\ of\ sound} = 2.58$ to 2.86 GHz

(= genetic response ⇒ care:
Microwave heating at 2.45 GHz !)

In Figure 13 is a height of 11 nm in the B-field direction Corresponding to the way in E-field direction by the DNA-molecule of $3 \cdot \lambda_{DNA} = 378$ nm ⇒ 34-fold way

$v_{Histone} = v_{DNA} / 34$ *(speed of the shaft)*

IV: $v_{Histone} = 140 \cdot 10^6/34 = 4.1 \cdot 10^6$ *m/s*

the frequency of Histone-carrier wave is:

$f_{Histone} = v_{Histone}/\lambda_{DNA} = 4.1 \cdot 10^6 / 126 \cdot 10^{-9}$

V: $f_{Histone} = (32 \pm 1.6) \cdot 10^{12}$ Hz *(= IR-radiation)*

5.4 Evaluation

The values determined here are primarily for the B-DNA. An especially important result in accordance with the metrological experience is shown in the table above (I). It describes the DNA-wave at frequencies around 10^{15} Hz of UV radiation as is therefore a UV radiation (q.e.d.).

Prof. Popp speaks of bio-photons and demonstrates, using highly sensitive photo-multiplier tubes that cells do emit measurable extremely weak UV light [10]. Prof. Heine has measured tunnel structures inside the basic substance of the extracellular matrix and his results correlate with the above-calculated wavelength [11].

Both scientists' similar results are in agreement but are argued differently. Popp has moved the cell radiation at 126 nm into the area of the speed of light, while Heine is showing that propagation velocity is equal to the sound wave. The latter view is probably closer to reality, and is in the nature of the magnetic scalar wave.

Longitudinal waves know no fixed propagation speed and consequently no fixed frequency. To characterize them we must also incorporate their wavelength. This wavelength does not change when the wave is slowed down to lower speeds.

The propagation speed depends on the properties of the medium that carries the longitudinal wave. In the above table two calculations are shown as examples.

II. If the DNA wave travels through biological material made from plant or animal cells, it is decelerated to a speed of about 1470 m/s. Based on the wavelength of the DNA wave, this gives a frequency of about 11.7 GHz in the microwave band.

This result could gain from the perspective of evolution a deeper meaning. If at the beginning of life, only water and plenty of radiation from space were provided, then a great-DNA molecule placed in response to the water may be a double turn. A "string of beads-chromatin" would be asking too much. Therefore, the half a wavelength, at likely double the frequency may have been the midwife to the life itself and the result is quite well known in the field of water resonance at 22.235 GHz (II).

III. If the DNA wave is measured, it is usually not in the matrix, but in free space. Here, the speed of sound is only 343 m/s. Divided by the wavelength of 126 nm is measured from the outside have an average frequency that must strike us as the radiation from microwave ovens. They usually operate at 2.45 GHz, a frequency that ensures a relative maximum microwave absorption in animal or plant cells. The absorbed energy of the wave in turn heats the cells, and not only the pure water, but water colloids, liquid crystals, i.e. with a corresponding resonance frequency.

We have here, in the range of 2.45 GHz, found an important biological frequency window that nature uses in cell communication. Only a half-knowing and believing technology company would allow the sale of devices (such as WLAN, Bluetooth or UMTS), that produce sparks in nature in the midst of perhaps the most important biological window for humanity.

5.5 Carrier Waves by Histones

The DNA strand is located in the nucleus in a highly condensed form, which can be observed by using wide spectrum structures with importance to high-frequency technology.

In Figure 13 a proposed star-shaped, concentrated structure is shown. There are six histones which appear to coils wound around strings of DNA strands in series. When the vortex field of a magnetic scalar wave runs through this arrangement, it has a full rotation for the journey back down to 11 nm.

IV. The DNA waves have to rotate at the same time around six histones [16, 17], corresponding to a path length of three times the wavelength (378 nm). The distance is thus 34.4 times as long.

V. So that this Histonen wave does not run away the DNA-wave, can only move at $4.1 \cdot 10^6$ m/s forward. We are therefore dealing with an infrared heat radiation in the range of $32 \cdot 10^{12}$ Hz.

This suggests that from such a given structure infrared light beams out, but also the reverse, that structures may be produced by received heat corresponding to the frequency. It could be the characteristic property for scalar wave resonance that is no longer clearly distinguishable and no one will know who is the sender and who is the recipient.

An information exchange is possible because the information-carrying wave is super-imposing the DNA-histone-wave. In fact, the electric fields are overlapping that are in both waves directed radially outward (fig. 9, 10 and 11).

This process of modulation can be illustrated with a picture. You carry forward a clock, the hour hand is to represent the direction of the electric field of the carrier wave. At the top of the hour hand if a swift second hand is mounted, the length of the beat of the DNA information would vary. The tip of the second hand now runs through the superposition of the pointer movement is a complex trajectory in space, in which all information is contained on the hour, the second and the corresponding amplitude.

5.6 Chromosomes as a Carrier Wave

During cell division the reading process would disrupt the modulated DNA information. The cell nucleus thereby is avoiding that by condensing its structures higher. The Dodge in a free and biologically otherwise the frequency range used is an obvious problem-solving technique.

Figure 15 shows graphically how nature brought about a true wrap artist to a meter long DNA double helix to be accommodated in a chromosome. From a high-frequency point of view the always connected antenna structures appear, which seem to generate suitable standing waves.

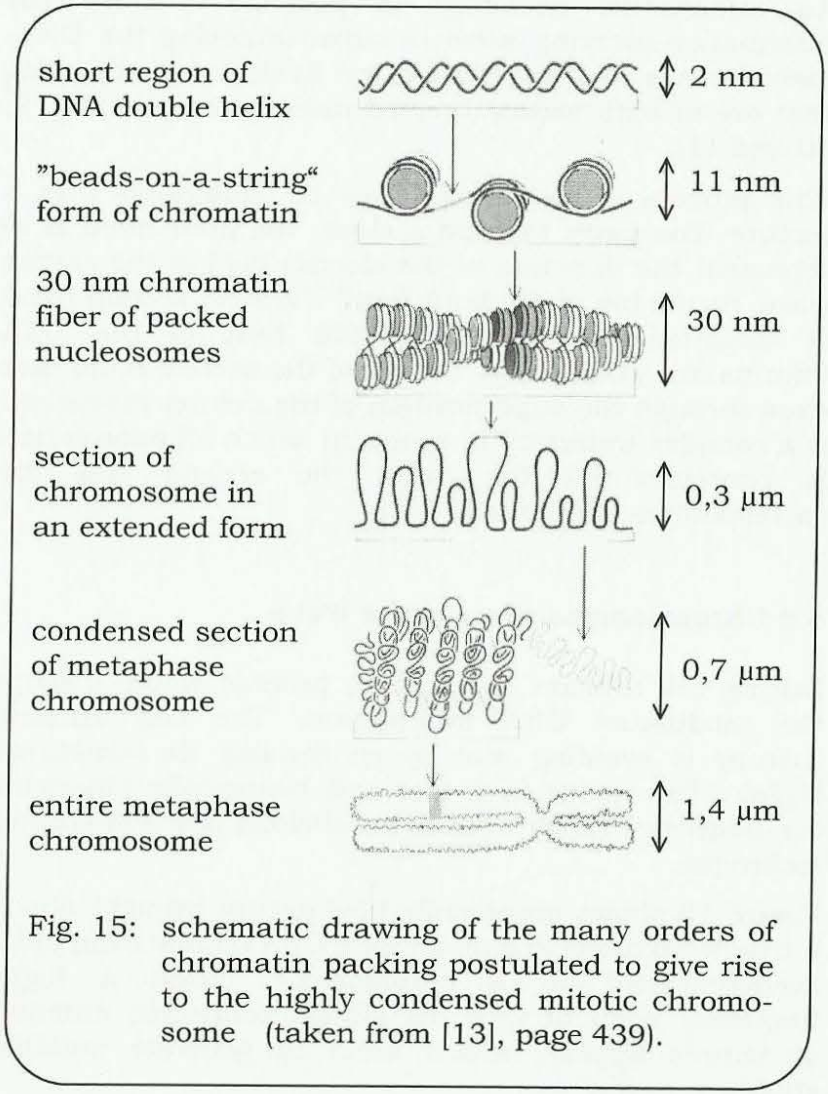


Fig. 15: schematic drawing of the many orders of chromatin packing postulated to give rise to the highly condensed mitotic chromosome (taken from [13], page 439).

It starts in the nanometer range at each helix turn and the distances from groove to groove (fig. 12) and ends at chromosome in the micrometer range. Namely where standing waves can form resonance with external sources is also conceivable, as vice versa, when a chromosome is itself a source.

A chromosome is, however, only suitable as a carrier wave, when the speed synchronized to the information-bearing DNA wave. The path through the helix is significantly longer and in many turns and loops down, but if a carrier wave is to take the DNA-wave, then, both at the same time and always be in the same place, only then is given the required synchronism.

It is quite possible that a carrier wave is modulated by the genetic code again charged to another carrier. By varying the carrier waves passing an assignment to the correct address is possible, so that only the one appropriate structure depends on what is intended.

Perhaps the chromosomes have therefore distinguishable customisable lengths for standing waves with a characteristic constriction. Finally, it's not always required for each query, the entire genetic information.

6. Aspects of the DNA-Wave

6.1 Frequency Diagram of Scalar Waves

The position of the biological frequency window is visible when the results are derived in a frequency-mentioned chart. In fig. 16 the frequency f [Hz] is shown against the velocity of propagation v [m/s] with the wavelength λ [m] as parameter. The broad line at $3 \cdot 10^8$ [m/s] represents the speed of light c. Here the frequency band of the transverse waves can be found again in the well-known one-dimensional representation.
Differing from c, somewhat unusual, the longitudinal waves run. These start at the left at localized noise, run over the sound as it propagates in air or in a body, over a large, still unexplored, range of bio-photons and the heat vortices and end on the other side of the speed of light at the neutrinos.

Between that the special case is settled that the particles, or said better vortices, propagating as a scalar wave have exactly the speed of light. In this case light can appear either as a wave or as photon radiation.

If we assume that for the transverse wave over all frequencies a dozen of specialized gauges is necessary, each of them also can be switched over in range several times

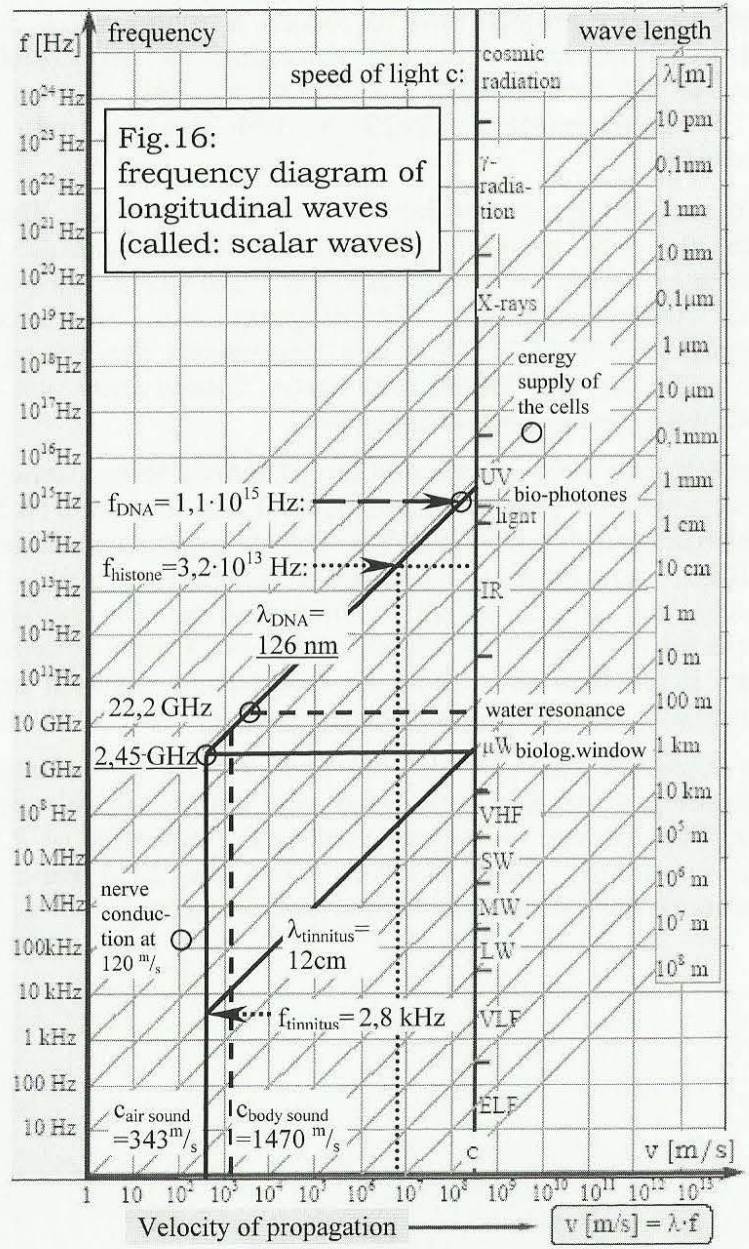


Fig.16:
frequency diagram of longitudinal waves (called: scalar waves)

Then we can project that to record a scalar wave of a certain frequency over all velocities of propagation likewise 12 devices and for the whole field shown in fig.16 approximately 12x12 = 144 devices will be necessary.

Of these 144 gauges today just 12 are available. There thus still are missing 132 pieces, which should be developed. With these gauges, so I am convinced, the many white spots in the diagram can be tapped scientifically little by little if a systematic procedure is used. The extended field and vortex theory thus will be attached a central importance [4].

Interestingly, only uses a cell as a DNA-wave frequencies above and as a Histone-wave below than that of light for communication purposes. The visible spectrum is thus omitted. In case of technical problems must be anticipated strand breaks in DNA and genetic changes. So perhaps it is advantageous if the cell communication takes place in a yet unknown and largely unused area technically. But that will not stay permanently so.

The intensive use of technical ends where no electronic components are available, and now extends to about 6 GHz. The lowest, biologically relevant frequency of 2.45 GHz is already fully affected. Here, the DNA wave is coming to the point of technical interference.

6.2 Tinnitus and cellular mobile telephones

An EMC laboratory (for electromagnetic compatibility), however, only the light emitted by technical devices transverse portions of the electromagnetic waves are measured and controlled. For the biologically relevant frequency at 2.5 GHz this results in the speed of light has a wavelength of 12 cm.

But does this correspond to which frequency at the speed of sound? The frequency is 6 powers of ten smaller and now lies at 2.8 kHz, in the center of the audible range. To that are added the numerous harmonic waves, which form a noise signal, and which occupy a broad spectrum of frequencies in particular for pulsed operation in digital nets. With that these signals are completely situated in the audible range, there where our ears are most sensitive!

This cause we probably owe the disease of modern civilization *"tinnitus"*. Every charged particle will follow this electromagnetic oscillation and produce sound corresponding oscillations, which can hear not "sick", but on the contrary completely "healthy" people, who as a result possibly get sick.

The objection, therefore, in this cosmic radiation range for instance from the planets is present, is legitimate. It should however be considered so that planets are going away from the earth again and in addition is present a fluctuation according to the time of day due to the rotation of the earth, while the mobile telephone masts in our vicinity radiate in continuous operation.

6.3 The Task of the Introns

In contrast to technical devices biological systems are using an "auto-focus" function; or in other words, in the presence of scalar waves cells show a tendency to go into resonance with each other. In this way, they draw energy and information from other cells and from the environment. Synchronization with external or internal biological stimulators occurs.

It has not escaped my attention that this model can also help to explain observations of Epigenetics. In physics and engineering the phenomenon of resonance is known in the art of vibratory systems. If we excite such a system and label it as a transmitter, then a different system acting as a recipient of the oscillation becomes the receiver when (i) the same frequency, (ii) the opposite algebraic sign or the reversed phasing and (iii) the same waveform, i.e. identical modulations are present.

If transmitter and receiver are in resonance as a coupled vibration system, the receiver and transmitter stations are no longer distinguishable, as both are free to change their places and tasks. At the end energy and information are balanced.

Another very important property is present, derivable from physical laws. During the oscillation between two cells there is an attraction in the form of magnetic or electric interaction! This partially answers the question as to what force drives the DNA wave, provided that the three resonance conditions are satisfied.

In the case that the third condition (iii) is not fulfilled, because the information of the genome radiated from the transmitting cell does not find a receiving cell to go into resonance with, it could be reasoned that the receiving

cell has the wrong, or no information. Writing of the DNA code would not be possible.
To prevent this from happening neutral resonators are required on both sides which are not encrypted and do not have to transport information.

These include the so-called "introns", which are in far superior numbers in the DNA strand compared to the information bearing "exons". The uncoded sections possibly provide the resonance condition, that is to say between two identical sections of two cells a standing wave can be formed.

On the one hand this leads to a balanced energy state on both sides. Conversely if the information was initially different the genetic code as a whole will also be pulled from the sender to the receiver, which would have interfered with the build up of a resonance. Because of the resonance of the introns at the end identical information is present on both sides.

This clearly demonstrates that no evolution could have happened without introns.

Metabolism controlled by the genes is only possible if both energy and information are introduced. From a technical view, a scalar wave is actually capable to do just that because in contrast to the electro magnetic wave it transports also energy in addition to the information.

A DNA wave travelling through the twisted helix must be supplied with sufficient energy to not only advance through the helix, facilitating transport over a certain distance, but will also ensure the desired production of proteins at the site of the recipient. So where lies the motor pushing the DNA-wave?

6.4 Benzene Rings

Scalar waves propagating in the direction of the magnetic field vector are clearly driven by magnetic fields, and are formed, for example by *rotating electrical charges*. Such field vortexes must be searched for; as such a motor would be capable to drive the biological processes and chemical reactions.

To construct such a motor a ring structure with enclosed freely movable and non-localized electrons are required. The most prominent chemical structure possessing these properties is the *benzene ring*.

The current orbital model depicts six carbon atoms forming a ring, allowing an electron cloud to move freely. A known fact, for example is that magnetic fields in a nuclear spin resonance spectrometer induce ring currents.

Provides another clue to the presence of benzene, the possible too in high dilution with a spectroscopy under UV range, with typical absorptions measured for the 200nm. This value is very close to the wavelength of the DNA wave.

The four bases of the double helix also use such a ring structure, except that two carbon atoms are replaced with nitrogen atoms. One of these nitrogen atoms forms the hydrogen-bond to his partner on the other side of the helix (Fig.17).

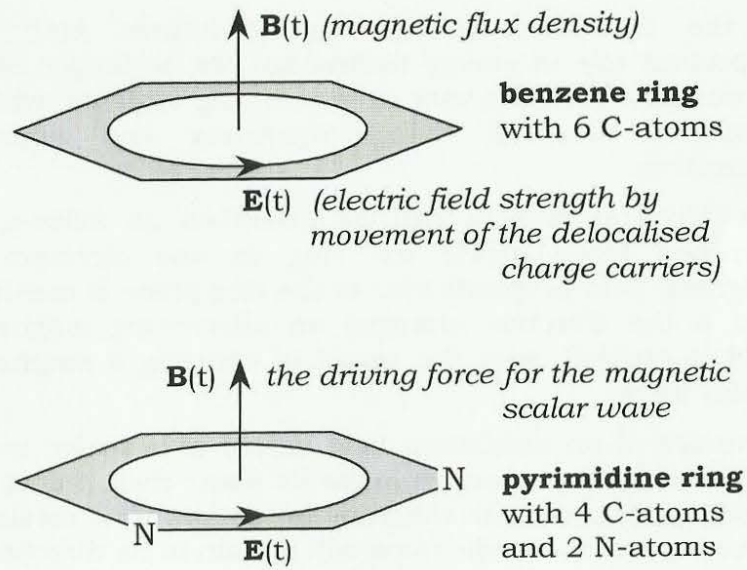


Fig 17: **Ring systems**, driving **organic chemistry**

These pyrimidine building blocks of nucleic acid consist of a six-membered ring with free-moving electrons, which are not localized in the ring structure. Due to the correlation of the vertical magnetic field vector emanating from the ring and the magnetic field propagating as the DNA-wave an interaction is the likely consequence. The magnetic scalar wave is thus either drawn or pushed through the DNA strand resembling the exact mechanism I was looking for.

6.5 The DNA-Wave Generator

If the carbon-containing ring structures play an important role in energy technology, we no longer need to wonder about the vast variety of ring systems, which dominate over all living organisms and organic chemistry.

The physical process can be described as follows: If electrons move inside the ring in one direction a magnetic field perpendicular to the ring plane is created, and if the direction changes an alternating magnetic field is created, with the result of emitting a magnetic scalar wave.

Reversely if an oscillating field vortex of a scalar wave impacts a ring perpendicular to its plane then it acts as a generator to put the electrons in motion. If no external force is present the electrons will remain in its direction.

The ring thus assumes the duties of the energy source, the energy sink, and the storage of field energy. These are precisely the prerequisites required for the wireless reading, writing and storing of genetic information, as well as supplying the energy for the biochemical processes.

It did not escape my attention that the ring plane of the bases of a DNA helix are approximately at right angles to the longitudinal axis of the molecule and are stacked on top of each other, resulting in the magnetic-field pointer always propagating in the direction of the DNA-wave and therefore fully available as the driving force.

If the pyrimidine rings of the bases play such a central role, why are they not recognized in UV spectroscopy?

The DNA-wavelength is measured along the centre line of the double helix, while the rings of the bases are located on the outside and therefore approximately 2.14 times longer distance needs to be considered.

So 2.14 times the DNA-wavelength:

$\lambda_{DNA} = 126 \pm 5$ nm allowing for the extended path results in an extended wavelength of the bases:

$\lambda_{bases} = 260$ to 280 nm

For the rings of the bases to work synchronously with the DNA wave, an increased velocity (approximately at the speed of light) and a wavelength increased by the same factor have to be able to go in resonance. This is achieved at the highest level of condensation (with maximum purity?) at 260 nm and increases up to 280 nm, in accordance with the chosen spread, which is minimally restricted.

In fact, the result is congruent with the measured absorption spectrum of the four DNA nucleotides [8, page 508]! Meaning that the absorption at 260 nm is commonly used to determine DNA concentrations, whereas in "impurities" the maximum shifts towards 280 nm.

This conformity is remarkable.
Furthermore measurements of the DNA molecule as a total show a maximum absorption at 260 nm. Obviously a resonance is present.

6.6 Nuclear Spin or Magnetic Resonance?

All *results of the evolution* in the biosphere that have arisen between the "capacitor plates" of the earth itself and its ionosphere can be regarded as *structured capacitor losses*, which also apply to humans. Since they are dielectric losses of electric fields, it becomes obvious that even low electrical voltages or currents can be fatal to humans.

Magnetic fields are quite different. In a MRI scanner patients are exposed to a magnetic field 30,000 times stronger than the earth's natural field, without leading to an immediate death. This does not destroy the magnetic scalar waves in the body, but an additional and perhaps even desirable energy input from the outside.

In this imaging method, a strong field of a super-conducting magnets initially align the cell nuclei and ring molecules. Then a high frequency alternating field is superimposed and the resulting emanating response to the magnetic scalar waves is measured, allowing the creation of the three-dimensional image of the body.

The achievable signal strength when tipping a spinning proton should be vanishingly small and irrelevant compared to the magnetic resonance of DNA. Radiologists who credit the charged and turning core particles, responsible for the resulting measured voltage induced in the coils as means for explanation, are ignoring physical reality.

MRI scanners are only capable of imaging organic compounds but not of inorganic matter.

7. Importance of Potential Vortex

Previous efforts to describe the DNA-wave Maxwell's equations fail to do, had to. This extension of field theory is required.

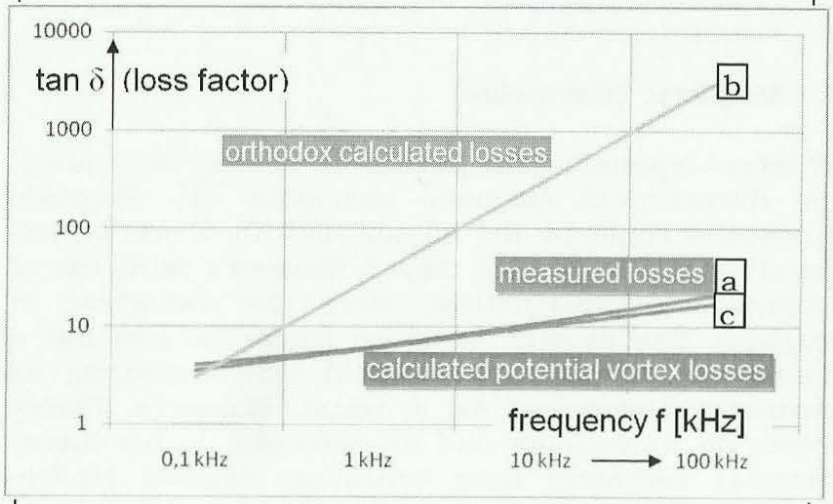
7.1 Magnetic Monopoles

"Science" reported in the issue from October 2009 about the discovery of magnetic monopoles [1]. Magnetic monopoles could be the missing link in a new understanding and explaining James Maxwell's third law of classical electromagnetism, since the divergence of magnetic flux density would no longer be zero but a duality to charge carriers would exist appearing as magnetic monopoles. As a result Maxwell's Theory losses its universality and an extension to his theory becomes necessary thus impacting classical electrodynamics [2].

Take well-known eddy currents as an example tending to expanse as demonstrated by the skin effect. Now the dual anti vortex with opposite sign appears showing the contracting effect of the potential vortices. They possess a structure-forming characteristic with which the formation of closed field vortices in the air can be explained.

Since these field eddies carry energy and as a longitudinal wave are propagating, comparably with an acoustic wave, the wireless transmission of energy is physically conceivable and mathematically derivable as a possible application, just as used in nature by the communication of the cells.

Prof. Dr. Konstantin Meyl, Summer Term 2010,
Supervisor of the student Timm Treskatis at the
University of Konstanz, Germany



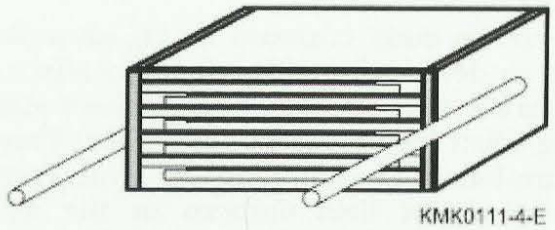


Fig. 18: Experimental prove of calculated losses (qualitative comparison) with a MKT capacitor [18] (Siemens-Matsushita)

a: measured dielectric losses of the MKT-capacitor

b: standard calculation according to Lorentz-model

c: calculation as vortex-losses acc. to Meyl-model

7.2 Problems of Electrodynamics

With the publication in "Science" for scientists, as well as for users, the gate to a new world in physics has been opened [1], even if this has not been noticed by all.

There have been numerous unsuccessful attempts to expand the Maxwell-equations. For example the Proca equations named after Romanian physicist Alexandru Proca (1897-1955) to which the vector potential backwards in the field equations are installed.

Another example, the Alpha Institute for Advanced Study (AIAS) group of Dr. Myron Evans suggestion that a postulated enlargement of the vector potential could be helpful.

But all these attempts fail in the end to the calculations of dielectric losses of capacitors (fig. 18), of insulators as noted in the example of the microwave oven. With a complex Epsilon alternatively losses by the imaginary part are calculated. This implies that all these assumptions violate against the foundations of physics.

By definition the permittivity Epsilon ($\varepsilon \cdot \mu = 1/c^2$) depends on the speed of light c. A complex size of the speed of light is inconceivable and unacceptable as well.

If sometimes mathematically correct results were achieved, so it's just a harmlessly wrong model description.

In the race to a physically consistent solution, avoiding postulates, Germany's largest scientific organization the Helmholtz Association rushed to help.

the magnetic field	the electric field
Ampère's law:	law of induction:
curl **H** = **j** + ∂**D**/∂t) (1)	− curl **E** = **b** + ∂**B**/∂t) (2)
(1st Maxwell-equation)	(2nd Maxwell-equation)
acc. to the rules of vector analysis:	extended by the *potential density* **b** [V/m²] (Meyl 1990)
div curl **H** = 0 (3)	− div curl **E** = 0 (4)
1st equation of continuity:	2nd equation of continuity:
0 = div **j** + ∂/∂t (div **D**) (5)	0 = div **b** + ∂/∂t (div **B**) (6)
whereas div **D** = ρ_{el} (7)	whereas div **B** = ρ_{magn} (8)
(4th Maxwell-equation)	(3rd Maxwell-equation acc. to special case: div **B** = 0)
with the electric charge density ρ_{el} , resp. electric monopoles (electrons, ions, ...)	with the magnetic charge density ρ_{magn} , resp. ***magnetic monopoles***
and with the current density **j** [A/m²]:	and with the potential density **b** [V/m²]:
j = − **v**·ρ_{el} (9)	**b** = − **v**·ρ_{magn} (10)
j = **D**/τ_1 (11)	**b** = **B**/τ_2 (12)
τ_1 = time constant of eddy currents (relaxation time)	τ_2 = time constant of the **new** developed ***potential vortex***!

Fig. 19: The dual Field (new: Potential density **b**)

7.3 Duality in the Field Description

With the discovery of magnetic monopoles in duality to the well-known electric monopoles a symmetry of the field equations is reached and a completion to Maxwell's Theory (Fig. 19).

So if in textbooks, with the help of the equation of continuity a current density in the law of Ampère results in electrical charge carriers and are defined with eddy currents as a consequence then with the discovery of magnetic monopoles charge carriers follow in the same way in duality as a potential density in the law of induction thus appearing as potential vortices.

This "potential density" in literature sometimes is called "magnetic current density" but nothing is flowing at all. Also, the dimension in volts per square meter suggest a potential density, supported by the duality to the current density measured in Ampère per square meter.

If dielectric losses being calculated as vortex losses, if the emergence of heat in an insulator will be declared as decaying potential vortices, this leads to consistent electrodynamics, with permittivity and speed of light remain fundamental constant [2].

As a result eddy currents occur in the conductor, whereas its counterpart, the potential vortex, forms in the bad-conducting medium, with preference in the dielectric.
The duality of both vortices is expressed by the fact that the electric conductivity of the medium decides whether current eddies or potential vortices can form and how fast they decay, i.e. convert their energy into heat.

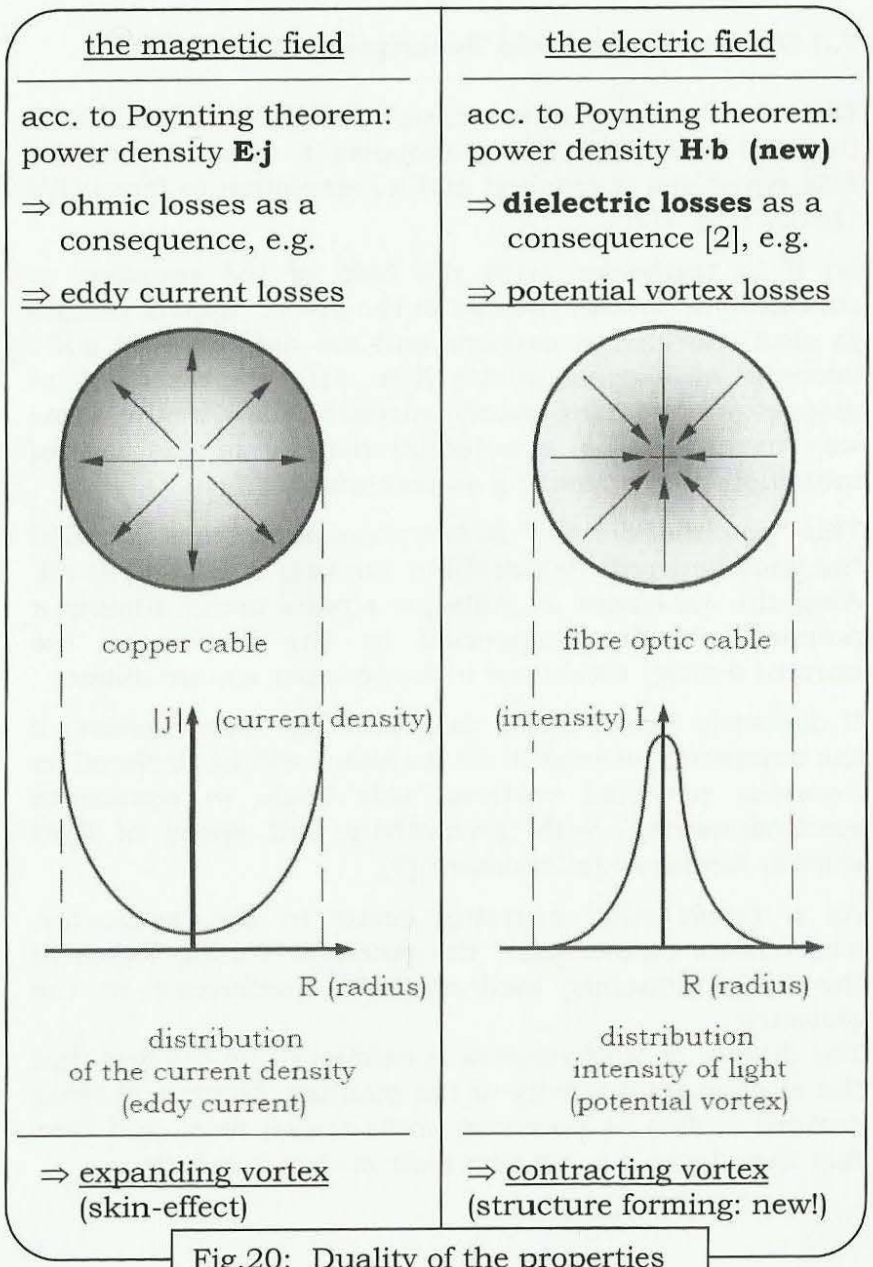


Fig.20: Duality of the properties

7.4 Duality of the Vortex Properties

Fig. 20 shows that vortex and dual anti-vortex mutually cause each other. In *high tension transmission lines* we find a striking example for the combination of current eddy and potential vortex. Within the conductor current eddies are formed. Thus the current density increases towards the surface of the conductor (skin effect). Outside of the conductor, in the air, the alternating fields find a very bad conducting medium. If one follows the text book opinion, then the field outside the conductor should be an irrotational gradient field! But this statement causes unsolvable problems.

When *vortices* occur *inside the conductor*, then for reasons of a detachment of the vortices without jumps at the interface to the dielectric, also the fields in the air surrounding the conductor must have the form and the properties of vortices. Nothing would be more obvious as to also mathematically describe and interpret these so-called gradient fields as *vortex fields*. When looking exact this argument even is mandatory!

The as laws of field refraction known *boundary conditions* [19] in addition demand *steadiness* at the interface of the conductor to the dielectric and don't leave us any other choice. If there is a vortex field on one side, then also the field on the other side is a vortex field, otherwise we offend against the law! Here an obvious *failure of the Maxwell theory* is present.

the magnetic field	the electric field
⇒ eddy current losses (e.g. copper cable)	⇒ potential vortex losses (e.g. fibre optic cable)
⇒ expanding vortex (skin-effect)	⇒ contracting vortex (structure forming: **new**!)
⇒ decays ad infinity (or at conductor edge)	⇒ decays in the vortex center (i.e. DNA wave)
⇒ with time constant τ_1	⇒ with the time constant τ_2
⇒ gets more stable with increasing conductivity (ideal case: superconductor)	⇒ gets more stable with decreasing conductivity (ideal case: vacuum)
⇒ is proportional to the permeability μ	⇒ is proportional to the dielectric constant ε
magnetic field strength **H**	electric field strength **E**

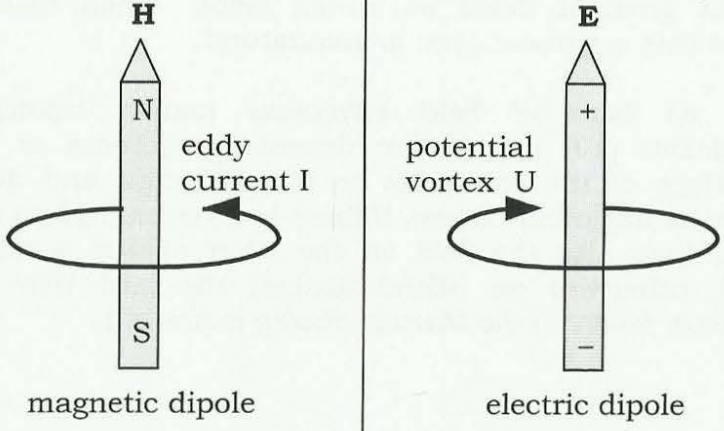


Fig. 21: The dipole forming vortices

7.5 Concentration Effect of the Potential Vortex

Outside the conductor, in the air, where the alternating fields find a very bad conducting medium the potential vortex not only exists theoretical; it even shows itself. Dependent among others on the frequency and the composition of the surface of the conductor, the potential vortices form around the conductor.
When the thereby induced potentials exceed the initial voltage, then impact ionisation takes place and the well-known *corona discharge* is produced. Everyone of us can hear this as crackling and see the sparkling skin with which high tension transmission lines cover themselves.
In accordance with the text books also a gradient field increases towards the surface of the conductor, but an even shining would be expected and not a crackling. Without potential vortices the observable structure of the corona would remain an unsolved phenomenon of physics.

By means of a *Kirlian photograph* the structure-shaping property of the potential vortices can be shown, as the corona consists of structured separate discharges.

Another example for a technical application is the transmission of optical light signals over fibre optic cable. Compared to a transmission of energy impulses over a copper cable fibre optic cables show a considerable better degree of effectiveness. If we cut through a fibre optic cable and look at the distribution of a light impulse over the cross-section, then we observe a concentration in the centre of the conductor (fig. 20, right side).
The measurable distribution of the light intensity in a fibre optic cable may confirm the concentration effect, the orientation of the potential vortex on the vortex centre.

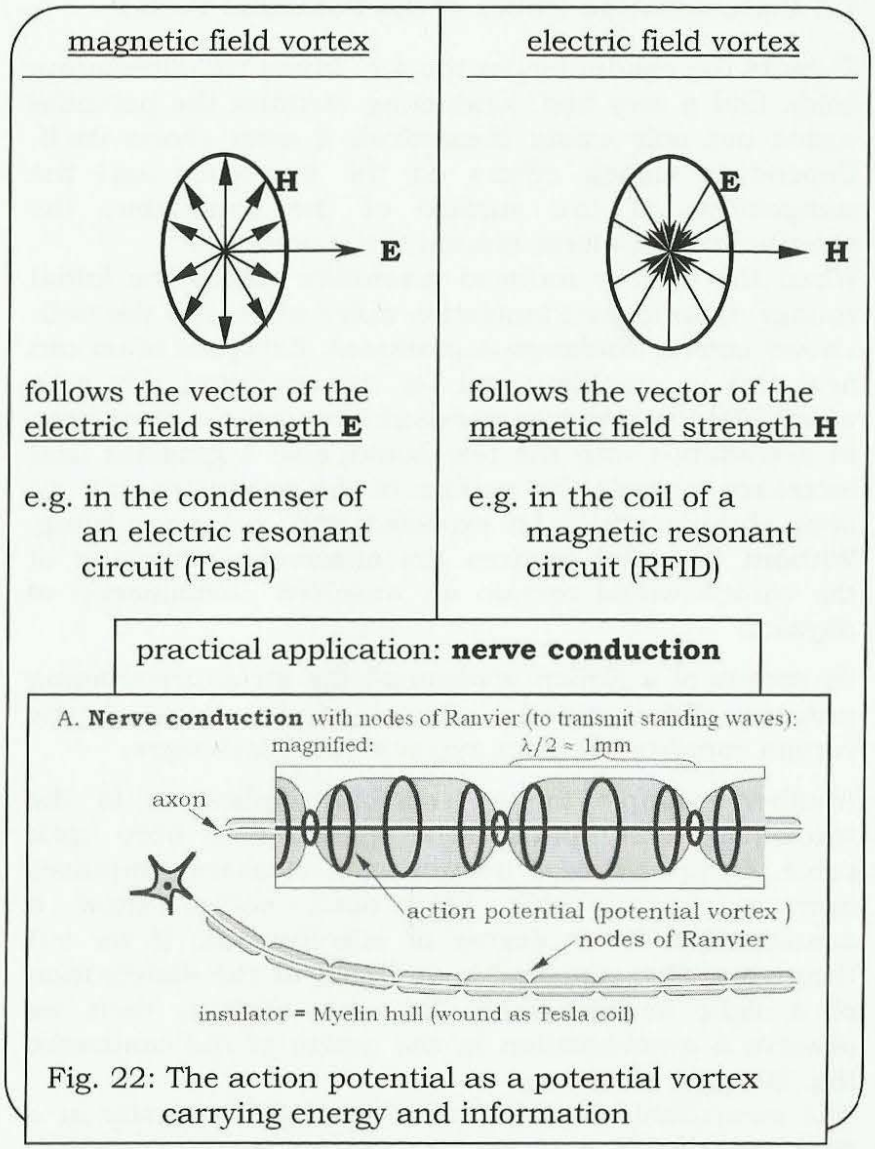


Fig. 22: The action potential as a potential vortex carrying energy and information

The formal mathematical reason for the concentration effect provides the reverse sign in Ampère's law (equation 1 in fig. 19) compared to Faraday's law of induction (equation 2).

In Fig. 21 another property of vortices is shown. On the left side a plane eddy current is indicated. Since the discovery of Ampère's law it is well-known to us that such a circular current (I) forms a *magnetic dipole* standing perpendicular to the vortex plane.

On the right hand side the dual phenomenon is sketched. Here charges are piled up circularly to a planar potential vortex (U). Thereby an *electric dipole* forms, standing perpendicular to the vortex plane. This relation directly follows from the equations of the field-theoretical approach.

Whereas circular currents and *current eddies* produce *magnetic dipoles*, the *potential vortices* will form *electric dipoles*.

7.6 Nerve conduction

For collecting potential vortices and extracting the carried information we have fine hairs in the sense cells, as in the nose for example, that obviously play a central role. They are connected more or less directly with the end of a nerve and pass on the information without a large transformation. Even in the organs of equilibrium sense hairs work.

From comparing the technique developed by Nikola Tesla it can be shown that the nerve conduction concerns a *single-wire transmission*, as a kind of

waveguide, for which the transport of the excitation information takes place in the insulation layer and not in the conductor itself. As proof the thickness of the insulation determines the velocity of propagation, as it is well-known the nerve conductors with thick fat layer pass on their action potentials faster than those with thin insulation.

Particularly interesting is the observation, of how the fat layer is constricted in fixed intervals, like for Wiener sausages (fig. 22). These *nodes of Ranvier* prove that only longitudinal waves are being transported, which are standing waves with nodes and antinodes, if the distance from node to node is the same. This shows that nature with the use of the potential vortices is far ahead of our power engineering. The nerve-cables determine with their structure, which signal (with the correct wavelength) will be transported and which will not!

- **Single-wire transmission** according to Nikola Tesla

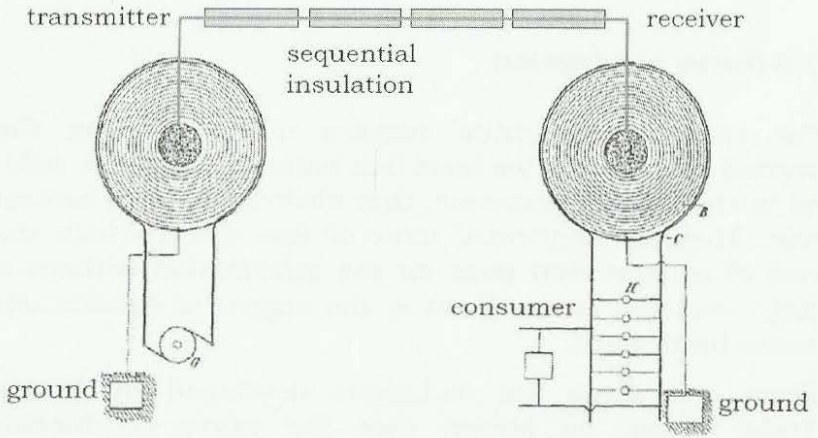


Fig. 23: Selective scalar wave signal transmission

The technical cables on the other hand conduct everything, including the useful signal and any arbitrary interference signal.

Even nerve fibers that are cut can partly regenerate again, even without the cut through nerve regrowing together with its disconnected end. The nerve conductors are so intelligent, that only the matching information arrives at the end by passing on information from one fiber to the next with the same node interval.

Nerves represent an intelligent and at the same time interference safe wiring, which is superior to any technical solution by far, unlike trying to acupuncture a cable cord of your computer, which would result in little pleasure.

Nikola Tesla also in this regard was ahead of his time. He experimented with a single conductor technology, in which the insulation layer was constructed like for a nerve fiber (fig. 23).

7.7 The Brain, a Scalar Wave Computer

The brain cells (neurons) are the same kind of cells as the nerve cells and can be operated without a signal transformer in transmitting information directly from the nerves to the brain for further processing. This proves that the brain also without exception works with potential vortices. There are several reasons for this hypothesis:

1. The *lacking of a signal transformer.*
2. The *high performance density* of the think apparatus.

(As a result of the concentration effect of the potential vortices the efficiency of the human brain is highly concentrated when compared to the much more space using computers functioning on the basis of currents).

3. the *brain activity* measurable from the outside with the *EEG*.
4. *spark formation and corona discharges* when opening the top of the skull. (Brain surgeons report such observations).
5. the *insulation defect* occurring in the case of *epileptics*. (During a fit unstable potential oscillations of the nerve cells occur, which lead to strong electric blows).

With the „exciting" and the „inhibiting" synapses as separation points between the neurons both a „high-active" and a „low-active" method of operation is possible and with that a redundant, particularly interference safe signal transmission.

Safety from interference is very important in nature. In the operating instructions of a PC can be read: „operate only at room temperature, keep dry, don't throw or shock, take care for sufficiently cooling the air, ground apparatus, pay attention to mains voltage, etc". When comparing with the range of operation of man it is very crude.

Nevertheless the consequences, if errors occur, are quite similar: a garage door, which opens if a mobile is switched on, can be compared with a light phenomenon, which we perceive after a blow on the eye at the biological level.

7.8 Concerning Signal Engineering

By doing a technical analysis of biological relations completely new interpretations result also for the occurring of a disease. We are permanently surrounded by noise signals, but as a rule they can't harm us, because the body has developed perfect strategies for defence.

The nodes of Ranvier on the nerve bundles are just as helpful as the diode effect of the synapses. By means of the salt content and the skin resistance the body in addition controls the uptake of potential vortices from its surroundings, and by using that the vortex decay is determined by the conductivity.

The specialties of the human used signal technology comes to light clearly when compared with the cable technology used in the technical world. The body is worked with only one wire instead of with supply and return cable, are mediated with potential vortices instead of charge carriers, and the transmission take place in the insulator without losses and not in an electric conductor, which as a result gets hot and produces current heat losses.

Nerves, thanks to their ability of selection, represent an intelligent form of signal transmission, by helping to filter the asked information from the noise. This surely is necessary since with cables, which indiscriminately transmit every signal, without regard to the use of scalar waves hasn't yet succeeded. We should try to learn of nature!

A special challenge is the protection against error signals. A passive shielding by a metal case however is not possible, because scalar waves can't be shielded in

principle, so precaution should be taken actively by means of the conductivity. That's why we sweat salt if we strain physically, whereby the vortex decay is determined by the conductivity, which depends on the salt content of the body liquids. In the case of a sweating activity the body reduces its conductivity, so that the needed potential vortex energy will reach the cells.

If the body sometime isn't able to defend itself against interference signals, then malfunctions or pathological reactions are a possible result. During a bath for instance a muscle cramp can occur, if the body doesn't defend itself fast enough or sufficiently against the high potential vortex activity in the water. Now vortices can be picked up in the nerves, which are the same kind as the ones emitted by the brain, only that both muscles, biceps and triceps at the same time get the signal to contract. The result is a cramping of both muscles.

Thus the brain has developed intelligent strategies to protect itself from interspersed misinformation. It weighs the incoming signals and forgets all unimportant ones quickly. We speak of the ability to learn and that means that signals rise in the valuation scale and with that are stored longer, the more frequently repeated our brain receives them.

This strategy assumes that interference signals only occur sporadic, for which reason they are rated unimportant and are quickly forgotten.

A PC on the other hand doesn't have such a property. It notices everything indiscriminately and sometime will crash from overload, if the user does not constantly monitor it and control the available memory. A PC is and stays stupid.

7.9 Repair Mechanisms

The interference signals present in our natural environment as a rule are distributed stochastic, but not so artificial interference signals like for instance transmitters emit.

If in the case of mobile telephony there occur time and again identical signal patterns and if a person perceives these, then because of the continual repetitions a high importance is given and precious storage space in the brain is allocated. This to a special extent applies to the permanent stand-by signals, which are emitted by mobiles and cordless phones even, if we don't phone at all. Such misdevelopments thereby would be technically avoidable just like that!

Let us throw a short glance at the set of difficulties of wear and tear. Most technical devices find the way into the workshop only, if they already are defective. Some aren't repaired anymore in principle and immediately sent to the rubbish, because they are worn-out and a repair isn't worth the effort anymore one says, whereas other, mostly expensive systems are being serviced by exchanging all wearing parts.

Nature has brought to perfection the last principle. It allows the body a permanent maintenance; by permanently producing new cells and replacing consumed ones. It with that obtains a considerably longer operating time and even is capable to heal wounds.

Just imagine dents in our cars would disappear from alone after a few weeks and the bodywork would look like new. Such an optimal maintenance is costly and it has its price.

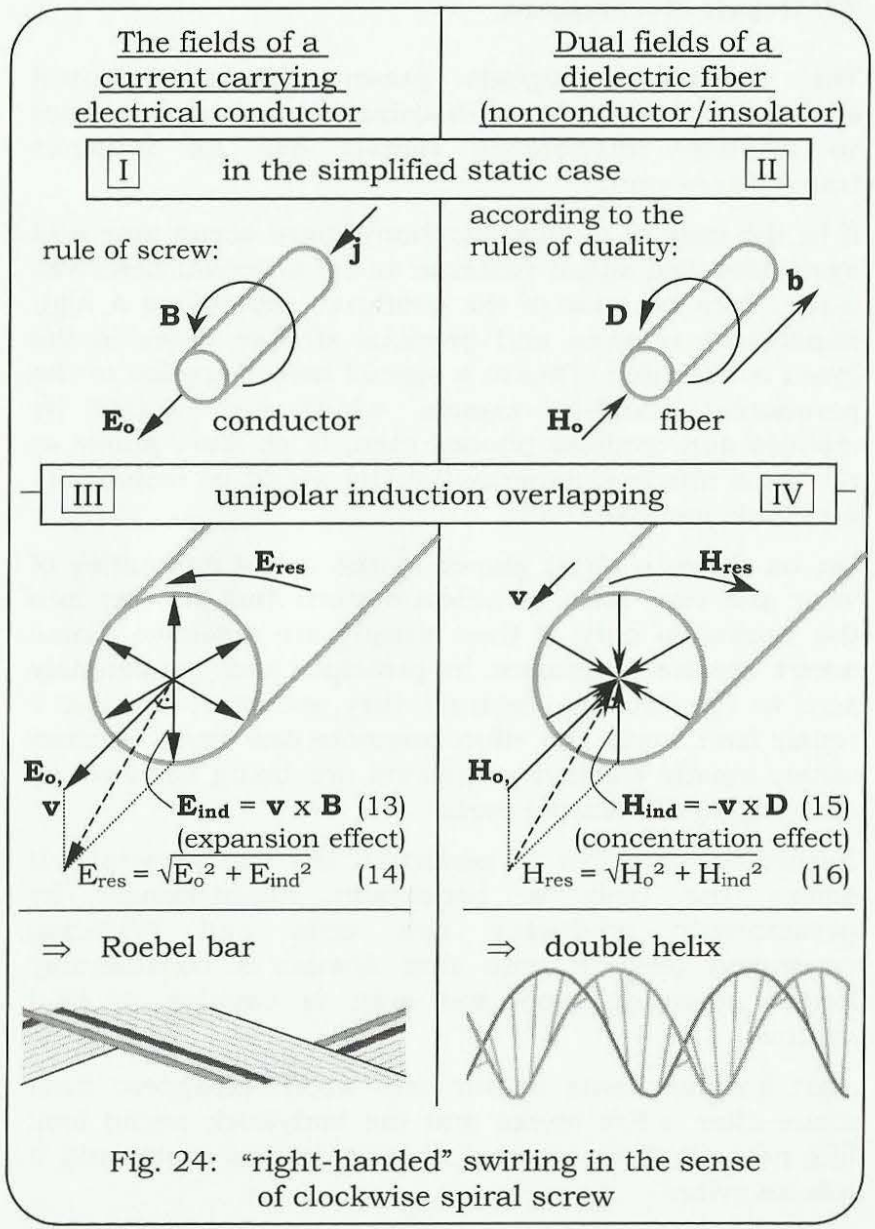


Fig. 24: "right-handed" swirling in the sense of clockwise spiral screw

7.10 The Right Handed Swirling

By means of the cell division the building plan for the spare parts is copied. The task on the other hand is transmitted to the new cells "by radio" by means of wave guide channels, as proves the matching structure of scalar wave (Fig. 9) and wave guide (Fig. 4).
The cells hence have a kind of "decentralized intelligence", which technical matter lacks completely.

The comparison with the technology we will continue to answer the question of why the DNA is a double helix. Fig. 23 shows an electrical conductor (I) and right next to the dual case of a non-conductor (II).

As taught in school books prepared (I), is wound around the magnetic field **B** pointer to the head caused by the current density **j**. In reality, admitted the physics teacher, it is negatively charged electrons, which flow in the opposite direction through the metal grid and the development of numerous collision processes are exposed.

But this statement, to determine the ohmic resistance is only half the truth. In addition, a current displacement effect is taken into account (drawing III in fig. 24).

The cross product of the velocity v of the carriers and the magnetic induction **B** is as a result of unipolar induction (Eq. 13) has a radially outward $\mathbf{E}_{ind}$ the conductor surface directed toward electric field strength. This component of the induced E field is perpendicular to the axially oriented and causal field $\mathbf{E}_o$, that the conductor current drives.

The overlap of both field components occurs. But it doesn't abide by this one overlap. In the case of vortex fields the effect overlaps the cause and itself becomes the cause for a new effect. The overlapped cause produces a further effect, which for its part is overlapping.
Thus vortices arise, if overlaps for their part are overlapping and theoretically that reaches to infinity. I was able to eddy processes on theoretical way as limiting angle 45° constructed [20, page 39].

In consequence of the field superposition turn all the field pointer j, E and B out of the originally intended direction and swirl. Which lies between 0° and 45° rotation of the vortex fields is dependent on frequency.

The generator construction is the so-called "Roebel-rod" a practical use of this effect known.

7.11 The Derivation of the DNA Double Helix

Consider now the dual relations on the right in figure 24 In the dielectric all charge carriers each type of movement is impossible.

In the static case (representation II) drives the magnetic field strength $\mathbf{H_o}$, the potential density of **b**, so that pile up in the longitudinal direction of electric charge, comparable to many series-connected batteries. Perpendicular to this arrangement, the pointer wraps around the dielectric displacement **D** to the non-conductive fiber.

In the transient case overlap potential vortex, which run in the form of a scalar wave not by the dielectric fiber, but around it lengthwise. Due to the propagation velocity **v** is also seen in the present case to a dual process of induction, as required by the convection equation (15).

The induced components of the magnetic field strength $\mathbf{H_{ind}}$ point towards the centre line of fiber and are thus perpendicular to the original pointer $\mathbf{H_o}$. This time it comes to the superposition of both field hands and turbulence.

This in turn would lead to eddy losses and a warming. Ultimately, would the spread slowed processing speed v, because that is the cause of the turbulence.

Precisely for this reason, in order to minimize associated with the eddy-current displacement continuous losses, the German inventor Ludwig Roebel (1878-1934) has proposed to distort the individual copper fibers at an angle. Without these measures, it would not give me the current limit power generators.

The DNA double helix nature of this principle has been put into practice and optimized! Each helix exactly follows the turbulent field direction, and thus avoids unnecessary eddy losses. Only this and in addition to the true rotation is important.

The fact that the base pairing to double-helix structure is required, however trivial and has to do with the rotation in itself nothing.

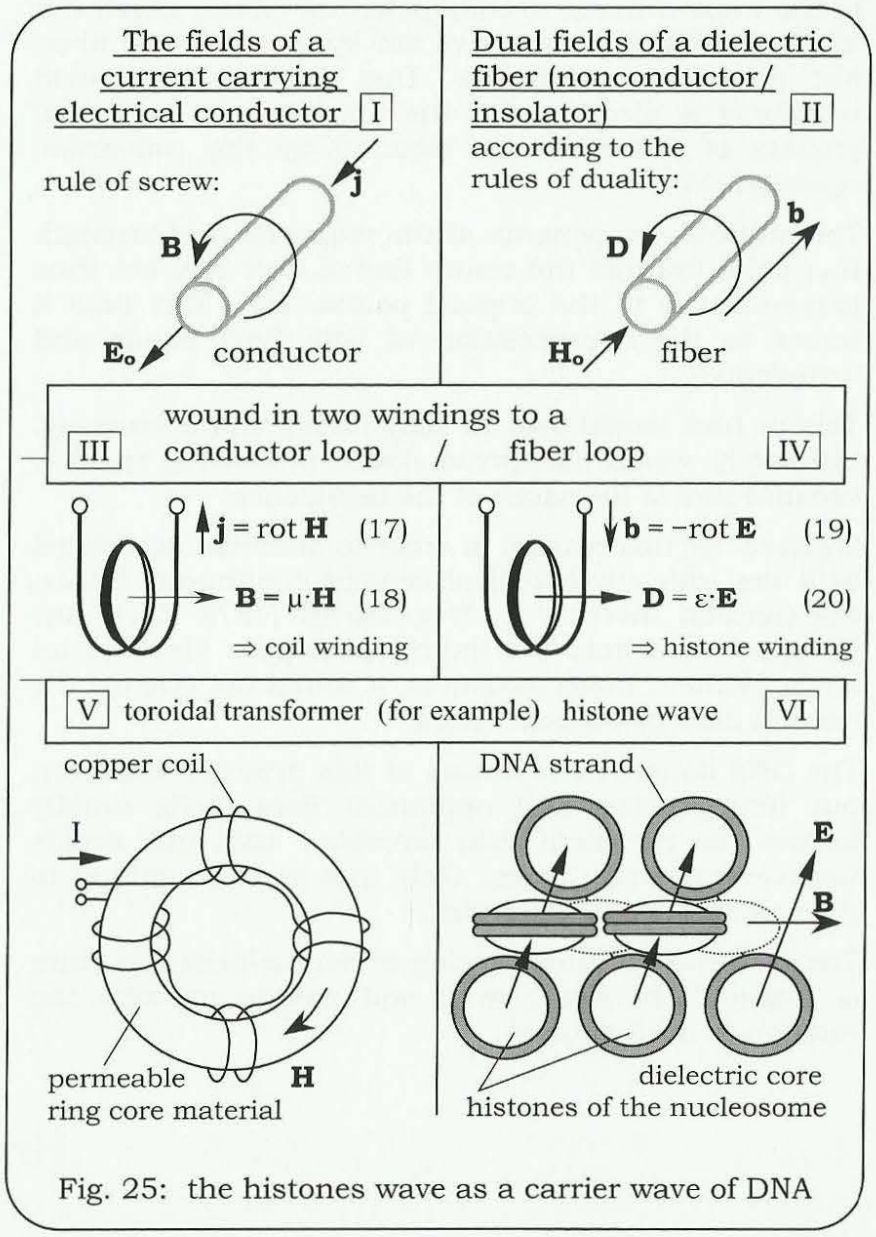


Fig. 25: the histones wave as a carrier wave of DNA

7.12 A Carrier Wave of the DNA

The twist in the sense of a right-handed screw of the single electrical conductor when Roebel-rod, just as in the DNA strand, wound to the helix, is a fine structure, resulting in average for a longer section, again the original images I and II in Figure 24 .

Therefore, we use these illustrations in Figure 25 again, make it a current loop (III) or a fiber loop (IV) and finally one of several loops constructed structures.

The representation (V) shows the example of a toroidal transformer where an applied electric field is driving a current through the copper coil. This drives inside the ring core, which usually consists of highly permeable material, a magnetic field in a circle, effecting perpenticular to itself an electric field by induction.

The dual conditions are shown by the presentation (VI). Now the field pointers of the electric and magnetic field are replacing each other.

A magnetic field causes the potential density b and drives the potential vortex through the DNA strand that has rolled up to fiber loops. These wrap around the core histones, consisting of dielectric proteins.

Depending on the arrangement of the fiber loops, where the electric field pointer is screwing through, can be formed the so called *histones wave* as a carrier wave of DNA information spreading as a scalar wave in the direction of the magnetic field vector.

8. Wave or Radiation?

The DNA implicated in a magnetic scalar wave means a directed and longitudinal wave-like propagation of closed vortex fields. Such a vortex regarded from outside appears as a scalar magnetic charge carrier.

8.1 Measuring the Standing Wave

A practical scalar wave transmitter would, for example, be a flat, spirally winded Tesla coil, whose outer end is grounded and inner end is connected to a spherical antenna. It is stimulated by *self resonance.*

The emitted scalar waves exhibit distinct standing wave behaviour.

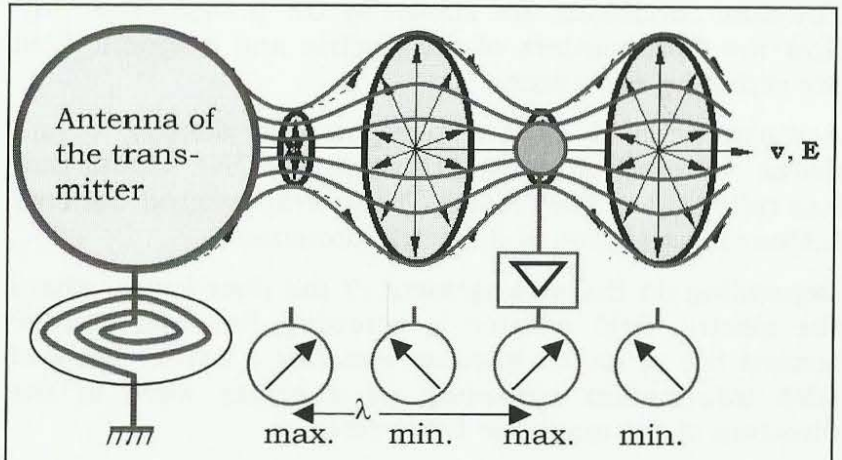


Fig 26. Scanning the standing wave properties

8.2 Optimization of range

From the distance of one measured peak to another, one can determine the wavelength. Multiplying the wavelength with the operational frequency yields the *velocity of propagation*, which usually differs from that of light. Upon this velocity depend both the *stability of field-vortices* and therefore the *range* of a line of transmission.

With the experimental assembly patented by Tesla it can be easily proven that using a larger spherical electrode as the emitting antenna increase amplitude oscillation of vortices, greater velocity of propagation, more stable vortices, and an overall greater range can be attained.

The same results can be reached by utilizing a higher operational voltage which provide the vortices with greater *acceleration voltage*, thereby increasing range.

Tesla didn't rely on high voltage without reason, and earning him the reputation as the *"master of lightining"*. With his system he transmitted energy over enormous distances, far beyond an emitter's near field [21].

It may seem surprising at first the existence of high field strengths in the small nucleus of a cell. This is because even low voltages in the millivolt range, based on distances in the nanometer range, are leading to extremely high electric field strengths measured in V / m.

Therefore the experimental results are well transferable on the processes of nature.

8.3 The Field of Radiation

A receiver for energy is pretty much the opposite of a receiver for measurements. While measurement of a field calls for the diversion of as little power as possible in order not to distort the data, an energy converter, as utilized within a transponder, alters the field totally by attracting it.
This is also called *"the field of radiation of the antenna"*.

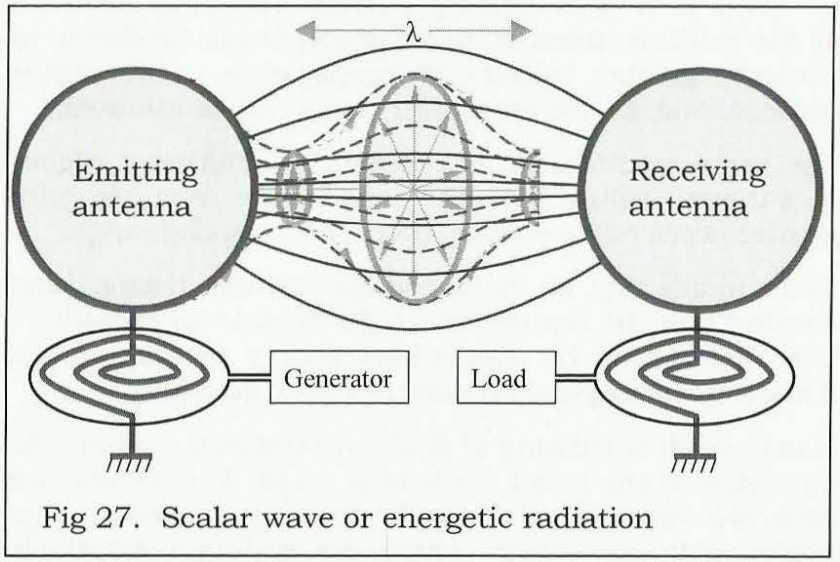


Fig 27. Scalar wave or energetic radiation

Let's examine the borderline case, which constitutes the energetic optimum: All flux lines emitted end at the receiving antenna.
Thereby, *all wave properties vanish*, wavelength is no longer determinable, and consequently no velocity of propagation definable.

8.4 Resonance of an Oscillating Circuit

Strictly speaking, one can no longer distinguish emitter and receiver. Both are tightly connected by the field. They form an *oscillating circuit* operated at *self-resonance.*

The necessary conditions for *resonance* pertain to:

(i) *Identical frequency,*
(ii) *Opposite phase shift (180°) and*
(iii) *Identical wave shape, respectively modulation*

Technical Transponders usually utilize sinusoidal-shaped signals for transmitting energy, so that only frequency (i) and phase (ii) are relevant. Ideally, when no scatter fields are emitted, no field will be measurable at all during operation, and therefore, as a further benefit, there will be no biological effectiveness.

The disadvantage of resonant coupling is the characteristic *hysteresis*: Upon increasing the distance, the oscillation breaks off eventually, only to be restored by closing the gap.
If there is more than one receiver within range, they will both resonate and draw the necessary power from the emitter. If, however, the emitter is fully loaded already, the receiver located farthest away from it will be the first to terminate resonance.

Apart from these particularities, the *"law of distance squared" doesn't apply* - field strength does not decrease with increasing distance from the emitter.

8.5 Overview of Scalar Waves

In case of resonance, the radiation field resembles that of a *capacitor* with the flux lines running oriented longitudinally from one electrode to the other. As long as no flux line gets lost and none is scattered in from the outside the transmission line's efficiency amounts to exactly 100 percent.

During practical operation however, this special condition is hardly attainable from a technical point of view. Some flux lines coil into vortices and form a scalar wave, maintaining their longitudinal orientation. Some of these vortices in turn disintegrate and generate heat.

Capacitors turn hot when operated at high frequencies as well. One speaks of *dielectric losses* and usually faults the isolating materials [19].

However, it is to assume that within a capacitor, disintegrating field vortices generate lost heat in the same way [2].

Nor does a resonant circuit with infinite performance will be constructed. The two discussed couplings of the pure radiation on one hand and the longitudinal scalar wave of propagating field vortices on the other hand, represent more of theoretical special cases.

In technical practice, however, there is a mixture of both. Usually it is the radiation and some at the same time produced field votices in addition. In the case of vortex decay producing heat considered as losses. The mixing ratio is given by the efficiency as the relation of received to emitted power.

Similarly the antenna efficiency is given. Again, the decaying vortex fields are responsible for the antenna losses. Figure 28 is to help us in classifying the scalar waves.

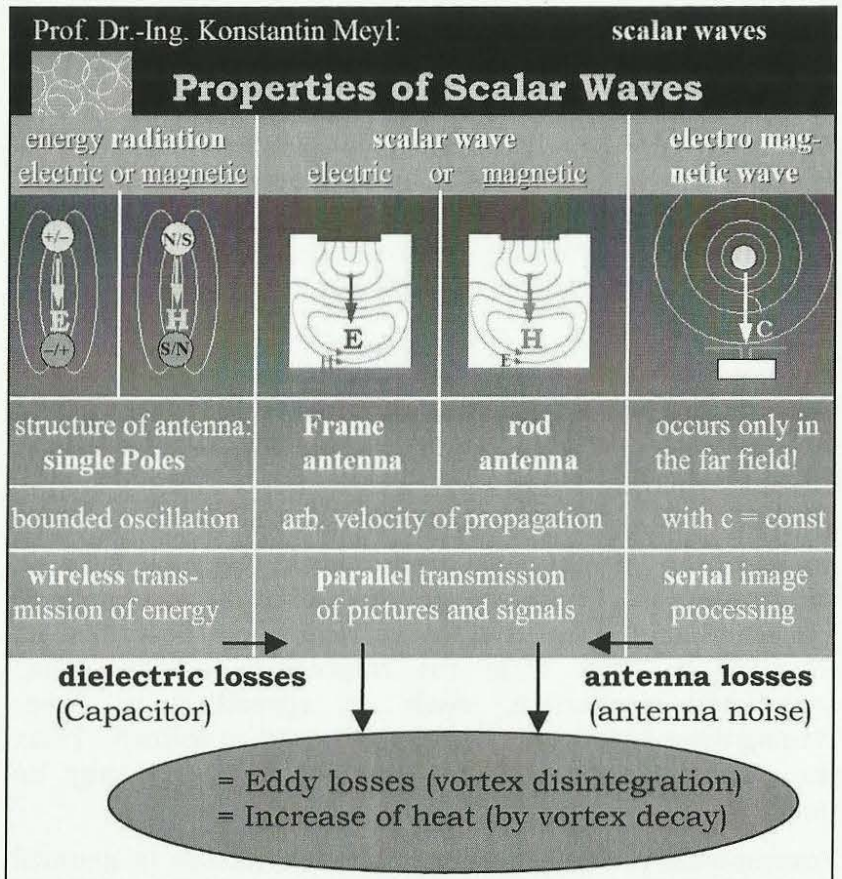


Fig 28: Overview of the attribution of scalar waves

If both *noise signals inside a capacitor* as well as *antenna noise* represent scalar waves, and *dielectric losses* as well as *antenna losses* represent vortex losses, it now becomes clear what both of these extreme cases have in common: On the one hand *the radiation field of an antenna* (Tesla radiation, Fig 28 left) and on the other hand *the electromagnetic wave* (or Hertz'ian wave, Fig 28 right). It is the scalar wave eliminated from Maxwell's equations which is always involved (Fig 28 center).

Where the discovered scalar wave answers questions to physical processes, there is a vast gap in all common textbooks. Those losses responsible for heat generation are considered as waste, with the orthodox science has been involved any further. This could prove to be a big mistake.

The potential that lies in the scalar wave should not be underestimated. It is getting clear, if the loss term is not minimized as before, but is maximized, as nature is doing for a long time.

Without a matching antenna structure nature can not do anything with the electromagnetic wave as little as with radiation. In Figure 28 the radiation of energy is explained as a coupled vibration and is not described as a wave. It lacks from the important, a wave characterizing properties, such as spreading in time. Propagation speed and wavelength tend to infinity. Thus the pure radiation only for transfer of energy may be used.

Transmission of information, however, nature in general and DNA in particular are calling, is possible only by the scalar wave part emitted as well.
The pure radiation would be useless and possibly even harmful for individual cells.

8.6 Parallel instead of Serial Image Transmission

In the transition to scalar waves the discussed properties of resonance, explained by an oscillating circuit (i-iii) remain valid as well as the referred hysteresis effect according to the distance. The condition of identical modulation in the case of the wave is gaining an additional meaning.

The number of possible recipients depends on the kind, and particularly on the complexity of the modulation. If the number is small, then even the most distant receiver can still go into resonance. Thus the specific modulation is winning an influence on the range.

For the Hertzian wave the velocity of propagation is constant. With the frequency therefore at the same time also the wavelength is being modulated. But that strongly limits the information transmission. An image for instance must be transmitted serially point after point and line after line. The serial image transmission takes place very slowly, for which reason the velocity of the PCs permanently must be increased, so that the amount of data can be managed.

With the clock frequency on the other hand also the losses increase, so that in the end the CPU-cooler limits the efficiency of modern PCs. Something our engineers obviously do wrong, as a comparison with the human brain clarifies.

Our brain works without a fan. For it a clock frequency of 10 Hertz is sufficient. It needs neither Megahertz nor Gigahertz frequencies and despite that is considerably more efficient.

Nature only works with the best technology. The second best technology, as it is put to use in our machines, in the evolution wouldn't have had the slightest chance of surviving.

Nature works with scalar waves and their velocity of propagation is arbitrary. Wavelength and frequency now can be modulated and information can be recorded separately. In this manner a whole *dimension* is gained *to modulate*, the image transmission can take place in parallel, which means considerably faster, safer and more reliable.

As anyone of us knows by own experience, assembling the image takes place all at once, the memory of past images takes place ad hoc. Nature is indescribable more efficient than technology with the scalar wave technique. And we owe this ultimately to the high specific and multi-dimensional modulation of the field vortex as carrier and part of the scalar wave.

If we are to learn from nature, then we should, where possible, replicate the experiment, because only then we can claim to have understood it.

By the way through the model of *disintegrating vortices*, scalar wave theory additionally provides us with a valuable model concerning the question, how *temperature* occurs [4].

9. Summary

9.1 Utilization in Biology

At a close look at the DNA wave shows a mixture of wave and radiation. The mixing ratio is not constant and is determined by technical requirements.

The basis is that a resonance must build up first, which is not possible without a field. Therefore, any exchange of information between cells begins with the emission of a scatter field. The source of the scatter field can be both the transmitter and the receiver, as means of requesting information.

The scatter fields of each living organism manifests as an "aura"-appearance. The sum of all effects and frequencies are measured as a noise field. Similar to the near field of an antenna, the field strength is decreasing rapidly with the distance from the source.
Naturopath speak of a "reaction distance", allowing to draw conclusions about vitality and health status of a person.

A cell needs energy to radiate scatter signals. Therefore field strength and range are a useful measure for the available energy to the cells.

If another cell picks up the scatter field and goes into resonance, then the field characteristics change dramatically. Between the transmitter and receiver exists now an *exclusive coupling* in the form of a closed resonant circuit. "Closed" in this context means that no measurable scatter fields occur, no transmission losses occur, and that the transmitter and receiver exchange energy and information among each other until an *equilibrium* is reached.

9.2 Free Resonance

We should distinguish between a *forced resonance* and a *free resonance*. In the former case the range is coupled to that of the scatter signal, whereas in free resonance the range is theoretically unlimited. This answers many open questions of *telepathy*. Since effective scalar waves in resonance not only transmit information but also energy, even a suitable model for the phenomenon of *telekinesis* is found.

Just as the DNA-wave is radiating from a nucleus, a cell assembly, or even from a human body, suitable waves can radiate in, i.e. a person can absorb energy and information of people in whose aura he is, or by thinking of someone, capable of working even over long distances, or by tapping the morphogenetic field postulated and proven by Rupert Sheldrake [22+23].

From a technical standpoint it is a process in which the receiver generates and radiates a very similar structured field vortex, patterned after the desire. This is done by utilizing a magnetic scalar wave. The direction of the magnetic field lines eminating while in resonance from the transmitter to the receiver and the resulting interactions create an *attractive force* between the two.

This provides every person and every cell energy and information from our environment, utilizing the numerous existing noise vortices.

Because of the complex modulation every field vortex is able to carry thoughts, pictures and even the soul, the operating system of human beings with it. Understanding the model of scalar waves will find

answers on many questions of genetics to incarnation that are essential for the central question of life itself.

Resonance excludes all technical measurability, since all field lines are closed and none are available that could be attached to measuring equipment. For this reason, the most prominent interpersonal resonance will never be measurable:

Love !

oOo·oOo·oOo·oOo·oOo·oOo·oOo·oOo·oOo·oOo·oOo·oOo·oOo

9.3 Conclusion

The DNA generates a longitudinal wave which propagates within the magnetic field vector. Computed frequencies from DNA structure agree with bio photon radiation frequencies as predicted. Optimization of efficiency is done by minimizing the conduction losses which leads to the double helix structure of DNA.
The vortex model of the magnetic scalar wave not only covers the many observed structures within the nucleus but also introduces the reader to the hyperboloid channels in the matrix as two cells are then found to communicate with each other.

Physical results were revealed in 1990 which form the theoretical basis of the essential component of a potential vortex scalar wave [3]. An extended field theory approach has been known since 2009 following the discovery of magnetic monopoles [1]. For the first time

magnetic scalar wave theory best explains the physical basis of life not only from the biological discipline of science understanding only. And for the first time this interdisciplinary theory and provides a new understanding of cellular functions that are explained such theory depicting the complex relationships of nature.

The characteristics of the potential vortex are decisive. Now using the concentration effect, my theory provides a cellular miniaturization view down to a few nanometers. This theory for the first time allows a better understanding of the outrageously high information density in the nucleus.

Magnetic scalar wave theory explains how the dual base pair-stored information of the genetic code is formed. The process of converting electrical modulation into "piggyback" information that transfers or is send from the cell nucleus to another cell is a revolutionary theory. Information transferred at the receiving end during the reverse process takes place involving a change in the physical and chemical cellular structure. The energy required to power the chemical process, is now understood by the extended field theory to come from the magnetic scalar wave itself.

10. Index of Abbreviations

Electric field			Magnetic field		
E	V/m	Electric field strength	**H**	A/m	Magnetic field str.
D	As/m^2	Electric displacement	**B**	Vs/m^2	flux density
U	V	Tension voltage	I	A	Current
b	V/m^2	potential density	**j**	A/m^2	Current density
ε	As/Vm	Dielectricity	μ	Vs/Am	Permeability
τ_2	s	Relaxation time constant of the potential-vortices	τ_1	s	Relaxation time constant of the eddy currents

Other Symbols and Definitions:

Specific electric conductivity	σ	Vm/A
Electric space charge density	ρ_{el}	As/m^3
Permittivity (Dielectricity)	$\varepsilon = \varepsilon_r \cdot \varepsilon_o$	As/Vm
Permeability	$\mu = \mu_r \cdot \mu_o$	Vs/Am
Speed of light	$c = 1/\sqrt{\varepsilon \cdot \mu}$	m/s
Speed of light in a vacuum	$c_o = 1/\sqrt{\varepsilon_o \cdot \mu_o}$	m/s
Time constant of eddy currents	$\tau_1 = \varepsilon/\sigma$	s

Concerning Vector Analysis:

Bold print = field pointer (vector) : $\mathbf{A} = \mathbf{e}_x \cdot A_x + \mathbf{e}_y \cdot A_y + \mathbf{e}_z \cdot A_z$

Laplace operator: $\Delta \mathbf{A} = \delta^2\mathbf{A}/\delta x^2 + \delta^2\mathbf{A}/\delta y^2 + \delta^2\mathbf{A}/\delta z^2$

$\Delta \mathbf{A} = \text{grad div } \mathbf{A} - \text{curl curl } \mathbf{A}$

calculation rule: $\text{div curl } \mathbf{A} = 0$

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12. Appendix

GZM-**presentation,** 13th of May **2001**, AVZ Logenhaus, Berlin

- published (in German):

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- and:

GZM-Praxis und Wissenschaft, ISSN 1430-4554, 7.Jahrg. 1/2002, S. 50-55

Theme : **Scalar Wave Radiation, Tesla-Waves for Energy and Information Transmission between Cells in Medical Science**

Skalarwellenstrahlung

Tesla-Wellen zur zellulären Energie- und Informationsübermittlung in der Medizin

von

Prof. Dr.-Ing. Konstantin Meyl

Alle technischen Errungenschaften und Erkenntnisse reichen nicht aus, um zu erklären, wie die Biologie und der Mensch ihre **energie- und informationstechnischen Aufgaben** lösen. Sie erledigen dies offenbar erfolgreicher und besser als unsere Technik.

Wenn biologische Systeme **gegen den Energieerhaltungssatz** verstoßen, was bei **Zugvögeln** beobachtet wird, die riesige Strecken zurücklegen, ohne dabei entsprechend der aufgewendeten Energie an Gewicht zu verlieren, oder bei **Fischen**, die ständig gegen die Strömung schwimmen, oder auch bei der **Photosynthese**, für die bis zum heutigen Tag noch kein technischer Nachbau gelungen ist, dann deutet doch alles darauf hin, dass hier die Energie aus der Umgebung abgezogen wird, z.B. aus der überall vorhandenen und alles durchdringenden Neutrinostrahlung. Dies hat mich veranlasst unter dem Titel „Neutrinopower" ein Buch zu verfassen [a].

Genauso wenig haben wir von der **biologischen Informationstechnik** verstanden. Die funktioniert schlicht anders, als es uns die Nachrichtentechnik und Physik lehrt. Die **Aktionspotentiale einer Nervenleitung** sind zweifellos elektrische Signale. Das wird an den Nervenenden gemessen. Ein elektrischer Stromfluss aber findet nicht statt, dazu fehlt allein schon der Rückleiter. Für eine **elektromagnetische Welle** mangelt es an den entsprechenden Antennenstrukturen. Zudem schwingt sie bekanntlich **transversal als Querwelle**, während die Ranvierschen Schnürringe darauf hindeuten, dass hier eine **longitudinale Längswelle** unterwegs ist.

In der Akustik werden entsprechende **Stehwellen** als Kundtsche Staubfiguren dargestellt. So wie der Abstand von Knoten zu Knoten der Schwingung bei den Musikinstrumenten einen ganz bestimmten Ton erzeugt, wird auch über eine Nervenbahn nur eine elektrische Longitudinalwelle laufen mit der passenden Wellenlänge (Bild 1).

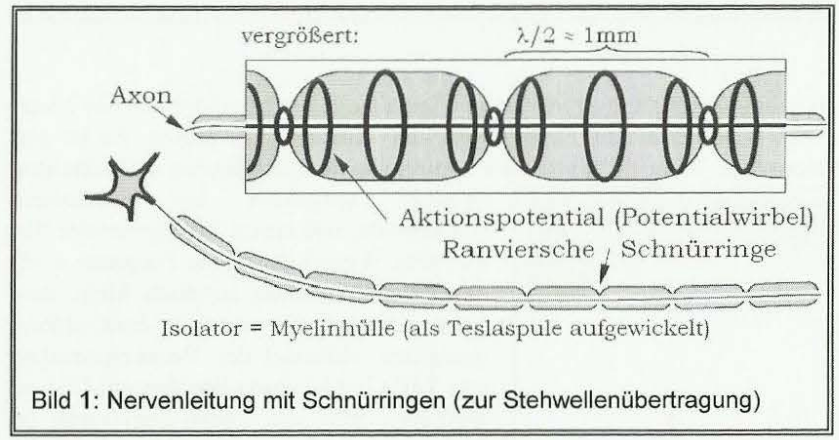

Bild 1: Nervenleitung mit Schnürringen (zur Stehwellenübertragung)

Vor 100 Jahren hatte schon der berühmte Experimentalphysiker **Nikola Tesla** eine entsprechende **schaltungstechnische Analogie** aufgebaut und messtechnisch untersucht, von der heute kaum noch etwas bekannt ist. Die Pläne sind im Teslamuseum in Belgrad ausgestellt (Bild 2). In meinen Augen war Tesla der Lösung des Rätsels um die Informationstechnik der Natur so nah wie kein anderer vor oder nach ihm. Es sollte sich lohnen, den alten Plänen nachzugehen.

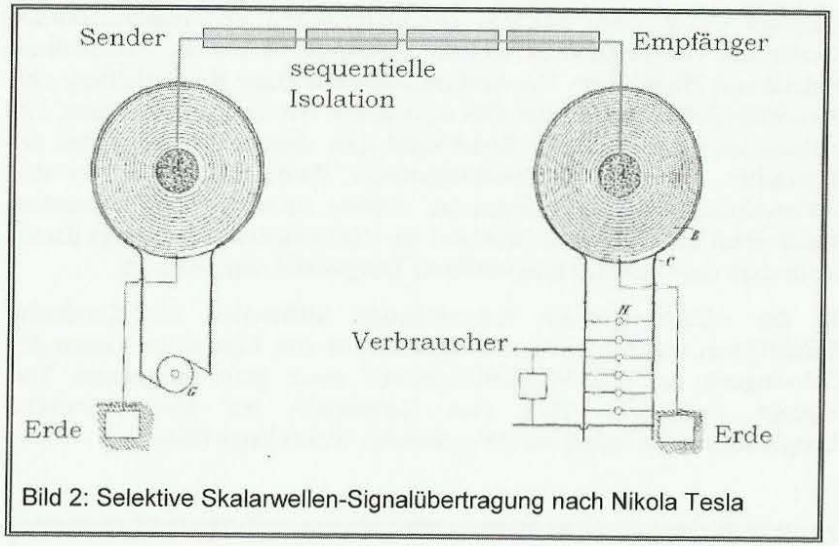

Bild 2: Selektive Skalarwellen-Signalübertragung nach Nikola Tesla

Ich habe die Schaltungstechnik von Tesla eingehend studiert und bin heute in der Lage, in einem Experiment seine Aussagen zu prüfen. Es ist ein historischer Versuch zur **Übertragung von longitudinalen elektrischen Wellen**, aufgebaut mit modernen Hilfsmitteln, wie einem Sinusgenerator für 20 MHz. Wegen der hohen Frequenz wird der aktuelle Aufbau handlich klein und passt in einen Koffer. Auch ist er bezahlbar geworden, während der **Versuchssender** von Tesla in **Colorado Springs** ein Unikat geblieben war, das keine Universität je nachgebaut und messtechnisch untersucht hat.

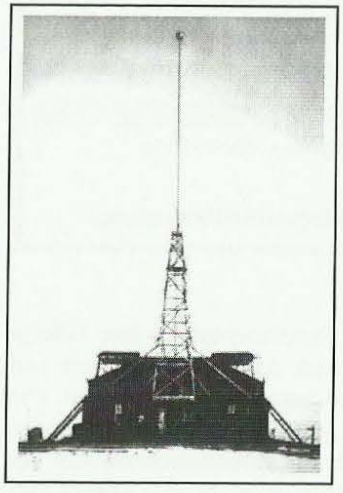

Bild 3: Teslas Experimentiersender (10 kW Sendeleistung) in Colorado Springs (1899)

Ich hingegen möchte eine möglichst häufige **Reproduzierbarkeit** erreichen und habe mich daher entschlossen, das Experiment an Interessierte zu verkaufen. Auf diese Weise messen mittlerweile über 50 Universitäten auf der ganzen Welt an meinem Koffer herum, von Edinburg bis Wien und von der Stanford University bis zur TU Peking und täglich kommen neue dazu.
Am besten gehen wir die Aussagen von Tesla [b] zur Skalarwelle, wie er sie nennt, der Reihe nach durch und ich führe parallel dazu das entsprechende Experiment vor [c]:

Das Experiment

1. Versuch. Es handelt sich um eine **drahtlose Energie-Übertragung**, sagt Tesla. Tatsächlich können wir die Lämpchen beim Empfänger zum Leuchten bringen und das auch noch bei einer Entfernung, die dem 10-fachen des sog. Nahbereichs der Sendeantenne entspricht.

2. Versuch. Der **Empfänger wirkt auf den Sender zurück**, sagt Tesla. Der Sender weiß sozusagen, ob der Empfänger eingeschaltet ist oder nicht, ein Phänomen, das aus der Rundfunktechnik völlig unbekannt ist. Lediglich im Bereich der Psychologie sind derartige Rückkopplungen zwischen einzelnen Personen bekannt: wenn jemand spürt, dass er von hinten angestarrt wird und sogar der andere spürt, dass er es spürt!
Demonstrieren lässt sich das sehr schön, indem durch Unterbrechen der Erdung der Empfänger abgeklemmt wird. Die Erdung ist nach Tesla unverzichtbar als Bezugspotential. Hochfrequenztechnisch lässt sich die Verbindung über die Erde als Wellenleiter interpretieren. Gehen beim Empfänger jetzt die Lampen aus, dann gehen sie beim Sender an, womit auch diese Aussage überprüft wäre.

3. Versuch. Schaltungstechnisch gesehen, bilden Sender und Empfänger einen **Schwingkreis**, bestehend aus einer Induktivität und einer Kapazität mit offenem Dielektrikum (Bild 4).
Die Induktivität besteht aus zwei spiralförmig gewickelten Teslaspulen, die über die Erdung miteinander verbunden sind. Ergänzt um je eine Koppelspule, wird das beim Sender eingespeiste Signal herauftransformiert, um als Feld übertragen und beim identisch aufgebauten Empfänger wieder heruntertransformiert zu werden. Danach sollte die ausgekoppelte Spannung in allen Fällen deutlich kleiner als die eingekoppelte Spannung sein – sie ist aber sehr viel größer! Die beiden Leuchtdioden, die gegeneinander gerichtet an die jeweilige Koppelspule angeschlossen sind, detektieren die Spannung. Wenn die Vorführung zeigt, wie die Leuchtdioden beim Sender ausgehen,

sobald die beim Empfänger angehen, dann liegt die eingespeiste Spannung erheblich unter der ausgekoppelten Spannung. Wie ist das möglich?

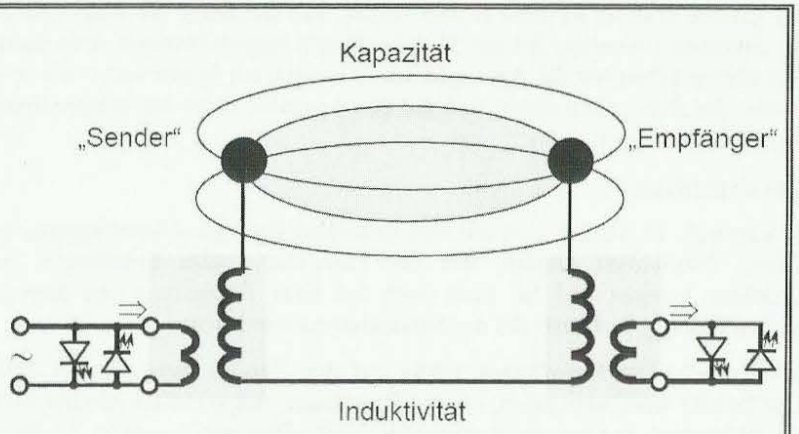

Bild 4: Offener Schwingkreis zur Übertragung longitudinaler elektrischer Wellen

Bleiben wir bei den Tesla-Aussagen. Er hatte vor 100 Jahren bereits einen Leistungszugewinn ermittelt und bezeichnete seinen Sender als **„Magnifying Transmitter"**, als Verstärkungssender. HF-Leistungsmessungen an meinem Experiment haben in der Tat in Abhängigkeit von dem Aufbau, von der Messumgebung, von der Wahl der Erdung, von der Tageszeit und sogar von der Resonanzfähigkeit der Zuschauer Wirkungsgrade bis zu 500 Prozent ergeben. In Einzelfällen hat der **Zuwachs an Energie** sogar mehr als das fünffache betragen.

Tesla war der Auffassung, die zusätzliche Energie stamme aus dem Kosmos. Ein anderes mal spricht er von **Solarenergie**, die er allerdings auch nachts nachweist, wenn gar keine Sonne scheint! Nach Tesla durchläuft diese Solarstrahlung die Erde nahezu ungehindert. Aus heutiger Sicht ist dazu nur die Neutrinostrahlung in der Lage, so dass davon auszugehen ist, dass die **Teslastrahlung mit der Neutrinostrahlung gleichzusetzen** ist.

Bei der ständig wachsenden Zahl an technischen Störquellen können wir heute allerdings nicht mehr ausschließen, dass zusätzlich auch irdische Felder mit angezapft werden.

4. Versuch. Eine elektromagnetische Welle, die mit Lichtgeschwindigkeit um die Erde läuft, hat bei 7,8 Hz eine Eigenresonanz, die als **Schumann-Resonanz** bezeichnet wird. Die von Tesla künstlich erzeugte **Neutrinostrahlung** hingegen erzeugt eine Resonanz bei 12 Hz. Aus dem Verhältnis errechnet Tesla für seine Welle die (12/7,8 =) **1,5-fache Lichtgeschwindigkeit** [b].

Drehen wir bei dem Experiment die Frequenz von 7 MHz, wo sich die Teslawelle gezeigt hat, herunter auf 4,6 MHz, dann leuchten die Empfänger-Lämpchen nochmals auf, aber weniger hell, ohne Rückwirkung auf den Sender und leicht abschirmbar [c]. Das Verhalten ist uns von der Rundfunkwelle bekannt. Auch bei diesem Experiment ergibt sich aus dem Frequenzverhältnis eine (7/4,6 =) **1,5-fache Überlichtgeschwindigkeit!**

Schließlich wurde die Wellenlänge nicht verändert, so dass die Frequenz in Proportionalität zur Ausbreitungsgeschwindigkeit steht. Das Ergebnis macht Sinn, denn die Neutrinostrahlung muss wesentlich schneller als das Licht sein, sonst hätte sie keine Chance, einem **schwarzen Loch** zu entkommen, das bekanntlich die **stärkste Neutrinoquelle** im All ist.

Frequenzdiagramm

Nur Transversalwellen, bei denen die Feldzeiger senkrecht zur Ausbreitung und von ihr entkoppelt schwingen, können eine konstante Geschwindigkeit besitzen. Longitudinalwellen hingegen, die sich in Richtung eines schwingenden Feldzeigers ausbreiten, ändern ständig ihre Geschwindigkeit. Es kann daher wie beim Schall nur eine **mittlere Ausbreitungsgeschwindigkeit** angegeben werden, die kleiner, aber auch größer sein kann als die des Lichts! Die lineare Darstellung in einem Frequenzband, wie sie allgemein üblich ist, reicht jetzt nicht mehr aus. Zwischen Frequenz und Ausbreitungsgeschwindigkeit spannt sich ein Feld mit der Wellenlänge als Parameter (Bild 5).

Für Longitudinalwellen ist die Ausbreitung mit Lichtgeschwindigkeit ein Spezialfall. Da es eine **Stoßwelle** ist, muss es sich um eine **korpuskulare Strahlung** handeln, bei der ein Teilchen das nächste anstößt und ein Impuls weitergereicht wird, wie beim Schall, wo sich einzelne Luftteilchen stoßen. Daher sind Experimente möglich, in denen sich das Licht als Welle zeigt und andere, die ein Photon offenbaren.

Die Graphik beantwortet aber nicht nur die Frage nach der Doppelnatur des Lichts. Sie erklärt auch, warum die Biologie und der Mensch nur mit longitudinalen und nicht mit transversalen Wellen arbeiten: Wenn Frequenz und Wellenlänge nicht mehr über die Konstanz der Lichtgeschwindigkeit

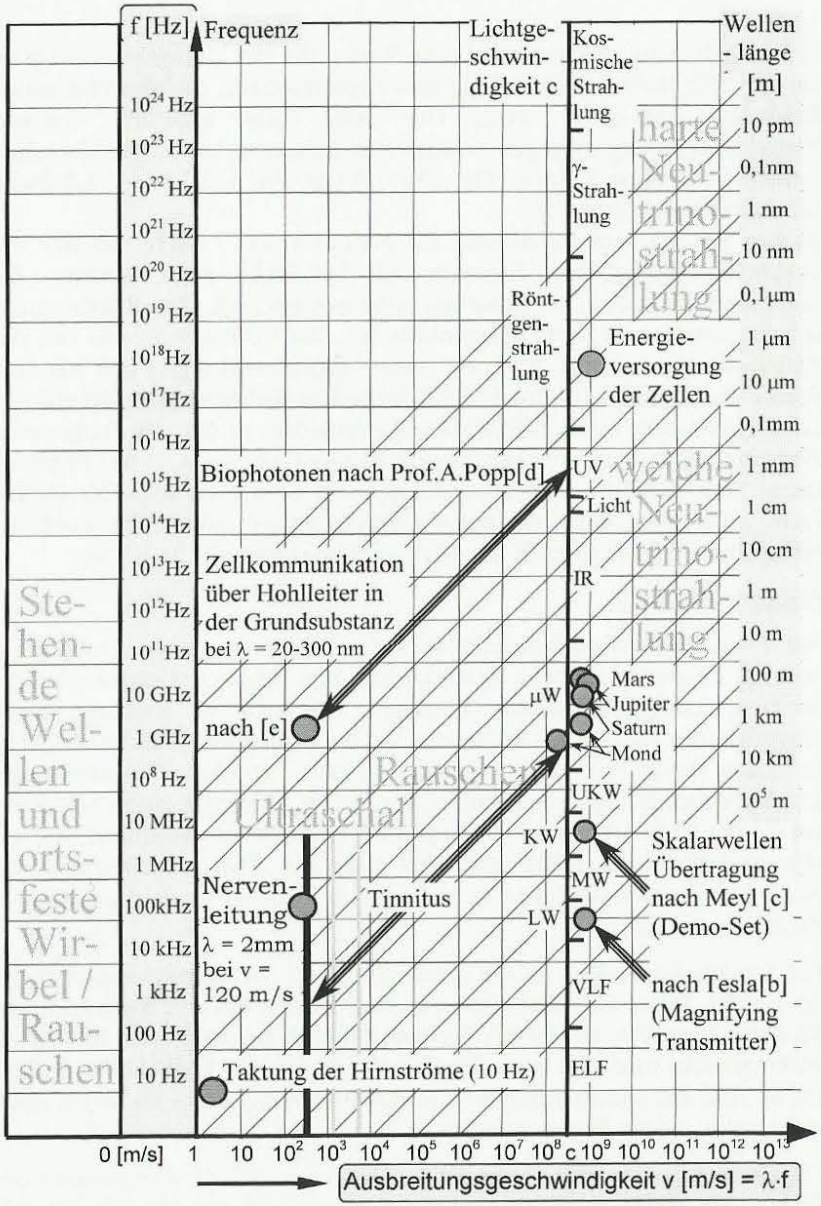

Bild 5: Frequenzdiagramm mit Angabe biologisch relevanter Bereiche.

fest verkoppelt sind, dann können sie auch getrennt voneinander mit Information beschickt, bzw. moduliert werden, wie es in der Technik heißt, dann wird eine ganze **Dimension an Modulierbarkeit** hinzugewonnen, dann ist eine schnelle und **parallele Bildübertragung** möglich, wo technische Bildübertragung seriell, d.h. extrem langsam Bildpunkt für Bildpunkt und Zeile für Zeile erfolgt. Und das bei einer Taktfrequenz unseres Gehirns von 10 Hz, wo Computer mit weniger Rechenleistung schon im GHz-Bereich takten müssen. Kurzum, die Natur verwendet die überlegene Technik. Schließlich optimiert sie ihre „Geräte" schon sehr viel länger. Lebewesen mit einem Antennenwald auf dem Kopf hätten sicher nicht überlebt.

Was an dieser Stelle besonders interessiert, ist die Zuordnung und Eintragung medizinischer und biologischer Skalarwellen in das Diagramm (Bild 5). Das setzt allerdings voraus, dass mindestens zwei von den drei Größen Frequenz f, Wellenlänge λ und Ausbreitungsgeschwindigkeit v bekannt sind. Die dritte Größe lässt sich noch nachträglich über die Beziehung $\mathbf{v = \lambda \cdot f}$ berechnen. Nehmen wir einen Nervenleiter mit einem Schnürringabstand von 1 mm (=λ/2) und einer gemessenen Signalgeschwindigkeit von 120 m/s, so errechnet sich die Frequenz zu 60 kHz und das Ergebnis lässt sich in das Diagramm eintragen.

An dieser Stelle werden aber auch derzeit in den Forschungslabors fatale Fehler gemacht. Die **Forscher verlassen sich auf die Konstanz der Lichtgeschwindigkeit**, so wie es ihnen beigebracht wurde und messen in der Regel nur die Frequenz. Da die Natur aber nicht mit den Hertzschen Wellen arbeitet, sind die Laborexperimente nicht auswertbar, vieldeutig und müssen komplett wiederholt werden.

Zellstrahlung und Zellkommunikation

Nehmen wir als Beispiel die von Prof. Popp entdeckten **Biophotonen** [d]. Die medizinische Bedeutung der Biophotonenforschung steht außer Frage. Wenn aber diese Teilchenstrahlung, die von den Zellen ausgeht, in das Diagramm eingezeichnet werden soll, stellt sich die Frage: Handelt es sich um die Frequenz des Lichts oder nur um die entsprechende Wellenlänge oder tatsächlich um beides, also um Licht, wie in der Bezeichnung Biophotonen zum Ausdruck kommt? Andere Autoren schreiben, die an Körperzellen gemessene Aussendung elektromagnetischer Signale erfolge in longitudinaler Weise mit **Schallgeschwindigkeit** [e]. Das Phänomen fällt danach in den Bereich der **Mikrowellen**.

Nehmen wir einmal an, es handelt sich um die gleichen Signale. Die Photomultipier, die Prof. Popp als **„Lichtverstärker"** verwendet, lassen sich aber nur auf bestimmte Wellenlängen und nicht auf Frequenzen einstellen. Auch wenn die nachgewiesenen Biophotonen die Wellenlänge des Lichts haben, dann wird trotzdem nichts leuchten, wenn die Ausbreitungsgeschwindigkeit und als Folge auch die Frequenz von der des Lichts um mehrere Zehnerpotenzen abweichen. Bei der enormen Zahl an Zellen müsste sich auch die Zahl der Photonen entsprechend addieren und der Körper anfangen zu leuchten, was nicht der Fall ist.

Die der **Zellkommunikation** dienenden Hohlleiter in der interzellulären Matrix, die Prof. H. Heine mikroskopisch beobachtet, haben Wellenlängen zwischen 20 und 300 Nanometern, was dem Bereich der ultravioletten Strahlung entspricht [f]. Wenn aber die Ausbreitung um 6 Zehnerpotenzen langsamer ist als das Licht, dann wird auch die Frequenz nur ein Millionstel betragen und in den Bereich der ***Mikrowellen*** fallen. Hier scheint ein biologisches Fenster vorhanden zu sein, auf das wir aus Gründen der elektromagnetischen Umweltverträglichkeit unser Augenmerk richten sollten!

Die thermische Strahlung, die von der Sonne und den Planeten die Erde erreicht, liegt in dem Mikrowellenbereich zwischen 2 und 20 cm. Wenn uns die Sonne gut tut, wenn wir die Strahlung brauchen, dann könnte das an der identischen Frequenz liegen. Das bedeutet aber auch, dass die Sonne und die Planeten in der Lage sind, auf die Zellkommunikation einzuwirken, dass sie beispielsweise als Taktgeber für das Herz fungieren können.

Tinnitus und der Mobilfunk

In diesen biologisch sensiblen Bereich fallen obendrein die Mobiltelefone und deren Oberwellen, die besonders beim gepulsten Betrieb in digitalen Netzen ein breites Spektrum einnehmen. Das D-Netz beispielsweise hat eine Wellenlänge von 32 cm, das E-Netz liegt bei der Hälfte. Doch welcher Frequenz entspricht dies bei Schallgeschwindigkeit? Nun, die Frequenz ist 6 Zehnerpotenzen kleiner und liegt jetzt bei 1 kHz bzw. 2 kHz. Hinzu kommen die zahlreichen Oberwellen, die ein Rauschsignal bilden und oberhalb davon liegen. Damit fallen diese Signale vollständig in den Hörbereich, dort, wo unsere Ohren am empfindlichsten sind!

Dieser Ursache verdanken wir wahrscheinlich die moderne Zivilisationskrankheit ***„Tinnitus"***. Jedes geladene Teilchen wird dieser elektromagnetischen Schwingung folgen und entsprechende Schallschwingungen

erzeugen, die nicht etwa „Kranke", sondern ganz im Gegenteil „gesunde" Menschen hören können, die daraufhin möglicherweise krank werden. Der Einwand, in diesem Bereich sei auch kosmische Strahlung beispielsweise von den Planeten vorhanden, ist berechtigt, doch ist zu bedenken, dass sich Planeten auch wieder von der Erde entfernen und durch die Erddrehung zudem eine tageszeitliche Schwankung vorliegt, während die Mobilfunkmasten in unserer Nachbarschaft im Dauerbetrieb strahlen.

In diesem Fenster erfolgt bei 10 Hz zudem die Taktung der Hirnströme. Meine Empfehlung wäre, den akustisch relevanten Bereich zwischen 2 cm (16 kHz) und 3 m Wellenlänge (100 Hz) für jegliche technische Nutzung zu sperren. Jeder Betrieb eines Senders in einem biologischen Fenster schadet allen Menschen und ist von keiner Institution zu verantworten.

Es ist weiter zu berücksichtigen, dass die biologischen Fenster der Pflanzen und Tiere in der Regel mit denen des Menschen übereinstimmen, aber manchmal erheblich nach oben oder unten in der Wellenlänge verschoben sind. Es steht uns nicht zu, die Natur zu richten. Das Immunsystem der Tiere hat jetzt offenbar die Grenze der Belastbarkeit erreicht und auch das des Menschen scheint nicht mehr das zu sein, das es ursprünglich einmal war.
Wir müssen davon ausgehen, dass viele Krankheiten einerseits und Therapieverfahren andererseits teils unmittelbar oder teils indirekt etwas mit Skalarwellen zu tun haben. Nehmen wir als nächstes Beispiel das Krebsgeschehen.

Krebs als Energiemangelkrankheit

Die Energiezentralen in unseren Zellen sind die **Mitochondrien**, die auf Grund ihrer Struktur in der Lage sind, Neutrinos einzufangen und zu materialisieren. Damit die entstandenen Ladungsträger nicht wahllos in ihrer Eigenart als **freie Radikale** irgendwelche Moleküle oder sonstige Teile der Zellen angreifen und schädigen, müssen sie umgehend gebunden und abtransportiert werden. Das erledigt in meinen Augen der **Sauerstoff** im Blut, der ein idealer Elektronenakzeptor ist. Bei **Sauerstoffmangel** oder im Falle von **Streß**, wenn mehr Neutrinos eingefangen werden und mehr Energie bereitgestellt wird als transportiert werden kann, kommt der selbstzerstörerische Aspekt der freien Radikale zum Tragen. Dabei kann auch die DNS angegriffen werden, wovon in erster Linie die Erbinformation der Mitochondrien selber betroffen ist.

In einem ersten Schritt nutzen sich die Mitochondrien ab, d.h. die Zahl an funktionierenden Energiewandlern nimmt ab, um in einem zweiten Schritt zu degenerieren. Die Folge ist ein Energiemangel der Zelle, dem der Körper im ersten Fall mit einer Zellteilung begegnet, während im zweiten Fall die neu gebildeten Mitochondrien nicht mehr funktionsfähig sind. Der Energiemangel verschärft sich daher weiter und die Zellen bekommen den Befehl, unverzüglich neue Zellen zu bilden, die wiederum geschädigt sind. Das Gewebe fängt an zu wuchern. Es bildet sich ***Krebs als Folge eines Energiemangels*** der Zellen.

Ein Krebsgeschwür wird erst heilbar, wenn die Ursachen erkannt sind. Dazu wird sich die medizinische Forschung mit den Fragen und Prinzipien von Neutrinopower beschäftigen müssen, mit dem energietechnischen Aspekt der Skalarwellenstrahlung [a]. Bei anderen Krankheiten wird der informationstechnische Aspekt im Vordergrund stehen, wenn es darum geht, dem Patienten eine bestimmte Information einzuspielen [c]. Die **Homöopathie** überspielt durch Schütteln einer wässrigen Lösung die Information von einer meist toxischen Trägersubstanz auf Wasser, indem die einzelnen Wassermoleküle zu identischen Wirbelschwingungen angeregt werden. Technisch gesehen handelt es sich um eine Modulation.

Schwingungsmedizin

Es existieren in der **Schwingungsmedizin** neben der Homöopathie schon einige Ansätze, die Skalarwellen nicht über den Umweg des Wassers, sondern mehr direkt zu nutzen und dem Körper einzuspielen. Die Übersicht über die möglichen Verfahren schafft hier Klarheit (Bild 6).

Bild 6: Möglichkeiten im Rahmen der Schwingungsmedizin

Grundsätzlich existieren zwei antivalente Konzepte, abhängig von dem **Vorzeichen der Rückführschleife**, wenn der Mensch mit einem technischen Gerät zu einem schwingungsfähigen Gebilde zusammengeschaltet wird. Die Ankopplung erfolgt dabei über **Kopfhörer** oder über **Elektroden**, oder über beides. Da nur Skalarwellen benutzt werden, empfiehlt es sich, Handelektroden z.B. zu isolieren, indem sie mit feuchtem Papier umwickelt werden. Durch diese Isolierschicht, so lautet meine Interpretation, reduziert sich der konventionelle Wellenanteil, bei dem die Haut als Wellenleiter fungiert, während sich der gewünschte Skalarwellenanteil erhöht. Derartige Maßnahmen tragen entscheidend zum Erfolg einer Therapiemethode bei, auch wenn sie rein empirisch ermittelt wurden. Allein auf diesem Gebiet der Optimierung von Elektroden in Hinblick auf Skalarwellen ist ein enormer Forschungsbedarf vorhanden.

Aura-Resonanz

1. Bei positivem Vorzeichen der Rückführung handelt es sich um eine ***Mitkopplung***. In diesem Fall addieren sich die vom Menschen abgegebenen Signale auf, weshalb bereits minimale Amplituden ausreichen, um im Resonanzfall heftige Reaktionen hervorzurufen. Damit Resonanz eintritt, muss das System entweder selbständig die passende Frequenz und Phasenlage suchen, wie beim Synchrometer, oder der Therapeut sucht die Resonanzpunkte. Darunter fällt z.B. die Tontherapie [g]

Da es um **Skalarwellenresonanzen** geht, erscheinen Querverweise und Zuordnungen zu anderen Schwingungsformen wie **Farben, Aromen oder Edelsteinen** naheliegend. Bei diesen Therapieformen wird das Konzept verfolgt, das „Schwingungssystem Mensch", d.h. sein **Skalarwellenfeld, die Aura,** durch Anregung in der Eigenresonanz derart zu stärken, dass störende oder schädliche Fremdresonanzen abgeschüttelt werden. Gleichzeitig kommt es dadurch zu einer Entlastung und letztendlich zu einer Stärkung des Immunsystems. Das Verfahren arbeitet **ganzheitlich** und zielt auf die Verbesserung der Selbstheilungskräfte des Patienten und nicht auf bestimmte Krankheitserreger oder –symptome, wie bei dem anderen Konzept:

2. Bei negativem Vorzeichen handelt es sich um eine ***Gegenkopplung***. In diesem Fall subtrahieren sich die Signale. Die vom Menschen abgegebenen Signale werden ihm gegenphasig wieder aufgespielt. Entsprechende Verfahren sind die **Homöopathie**, die **Bioresonanz** in der ursprünglichen Form oder die **Frequenztherapie**.

Bioresonanz

Bei der ursprünglichen Bioresonanz werden **körpereigene Schwingungen** über ein EKG (Elektrokardiogramm), ein EEG (Elektroenzephalogramm) oder ein MEG (Magnetoenzephalogramm) an der Oberfläche der Haut abgegriffen. Das technische Gerät dreht dann die Phase um 180 Grad und verstärkt das Signal in dem Maße, dass bei rückwärts gerichteter Einspeisung **pathologische Frequenzen** ausgelöscht werden. Dieses sehr einsichtige theoretische Konzept ist in der Praxis natürlich nur so leistungsfähig, wie die empirisch ermittelten pathologischen Frequenzen für eine Krankheit ursächlich sind und nicht nur ein unwichtiges Symptom als Begleiterscheinung darstellen.

Dazu gesellen sich technische Probleme. Prof. Heine macht die ständig wechselnde Reaktionsvielfalt und das thermische Rauschen dafür verantwortlich, dass das **„Frequenzspektrum ständig fluktuiert"**, wie er schreibt [f]. Dadurch ist die erforderliche **Phasenumkehr** kaum realisierbar. Erst wenn Biosignale als Potentialwirbel aufgefasst werden mit einem entsprechend Frequenz-unspezifischen Rauschsignalverhalten, sollten sich Bioresonanzverfahren verbessern lassen, sollte auch die Phaseninversion keine unüberwindbare Schwierigkeit mehr darstellen.
Die Bioresonanz wird recht häufig und mit großem Erfolg in der **Diagnose** eingesetzt (Nosoden).

Frequenztherapie

Beim Einsatz einer **Frequenztherapie** sind die Probleme ähnlich gelagert. Trennen wir den geschlossenen und gegengekoppelten Kreis einer Bioresonanz auf und bilden eine offene Steuerkette, bestehend aus einem technischen Steuergerät und dem Patienten, dann erhalten wir die Struktur, wie sie bei einer Frequenztherapie zum Einsatz kommt. Das Ziel ist noch immer das gleiche: Es sollen das Immunsystem beanspruchende und belastende **Parasiten oder Krankheitserreger** bekämpft werden.
Ein Nachteil jeder offenen Steuerkette ist jedoch, dass wegen der fehlenden Rückmeldung **oder Rückführung** die Behandlung zunächst blind erfolgt.

Aus der Sicht der heutigen Physik darf die Frequenztherapie eigentlich gar nicht funktionieren. Die elektromagnetischen Wellen dringen bei den verwendeten Frequenzen nur wenige Millimeter in die Haut ein und hätten nicht die geringste Chance, einen Parasiten zu erreichen, der sich irgendwo im Körper aufhält. Dabei soll die Heilung von Fußpilz möglich sein, indem

der Patient die Elektroden in die Hand nimmt. Wie, so stellt sich die Frage, weiß das Signal des Funktionsgenerators, wo es hin soll?

Es handelt sich ganz offensichtlich um ein **Resonanzphänomen**. Der Skalarwellenanteil des eingespeisten Frequenzsignals tunnelt ungedämpft an die Stellen im Körper, mit denen er eine Resonanz aufbauen kann, und das sind bei richtiger Einstellung die ungeliebten Parasiten. Die Skalarwellenstrahlung bündelt sich am resonanten Empfänger, so dass trotz der niedrigen Sendeleistung als Folge der Bündelung die Energiedichte beim Parasit für diesen sehr hoch wird. Er geht daraufhin an seiner eigenen Resonanzfähigkeit zugrunde. Ist er erst einmal abgeschossen, geht der nächste in Resonanz, meldet sich ebenfalls ab usw. Auf diese Weise werden die Parasiten der Reihe nach vernichtet und nicht etwa alle auf einmal. Daher gibt Frau Dr. Clark einen **Behandlungszyklus** vor [i].

Will man jeden in Frage kommenden Parasiten einzeln ansteuern, dauert die Behandlung dementsprechend lange. Schickt man dagegen alle relevanten Frequenzen auf einmal ab, indem man sie überlagert, so lässt sich die Behandlung auf die Dauer einer Sitzung abkürzen. Geht der Therapeut noch weiter, und ersetzt das Sinussignal durch ein Rechtecksignal, so stecken unendlich viele Sinusfunktionen in ihm, wie eine Fourier-Analyse zeigt. Mit einem Rechtecksignal, wie es der **Zapper** abgibt, erwischt man sozusagen alles, „Gutes" wie „Böses". Da gehen die hilfreichen Darmbakterien genauso kaputt wie die Übeltäter.

Die Behandlung mit dem Zapper ist einfach, preiswert und genauso umstritten. Es ist der Schuss mit der Schrotflinte in den Wald. Irgendetwas trifft man immer. Dennoch stellt sich die Frage, warum trifft man nur Parasiten und Bakterien und nicht die lebenswichtigen Organe? Werden die nicht mit geschädigt?

Nun, das Signal des Funktionsgenerators ist unmoduliert; es trägt keine Information. Daher sind auch nur **einzellige Parasiten** zu einer Resonanz fähig, die keinen Informationsaustausch kennen. Menschliche Zellen und erst recht ganze Organe arbeiten dagegen mit komplexen Modulationen, die jede Resonanzbildung mit der technisch erzeugten Grundwelle wirksam verhindern, womit die Frage soweit beantwortet wäre.

Das bedeutet aber auch, dass **Immunreaktionen** zu erwarten sind: Ist die erste Behandlung mit der Frequenztherapie noch erfolgreich und konnten alle einfachen Parasiten getroffen werden, dann sind nur höher entwickelte Parasiten verschont geblieben, die ihre Information modulieren. Die

vermehren sich jetzt und können bei weiteren Sitzungen nicht mehr erreicht werden. Das Verfahren funktioniert plötzlich nicht mehr, stellt der Therapeut fest, der Körper ist offenbar immun geworden.

Zusammenfassung

Die Schulmedizin stützt sich in ihren Erklärungen und Behandlungsmethoden auf die Modelle ab, die sie messen und analysieren kann und die sie versteht. Dadurch wird der Mensch und das ganze Naturgeschehen auf eine Hand voll chemischer Reaktionsformeln reduziert. Die ganze Pharmaindustrie lebt von diesem Irrweg, der sich längst als Sackgasse offenbart hat, medizinisch wie finanziell. Dieses Gesundheitswesen ist nicht mehr bezahlbar und es stellt sich die Frage, ob es das Geld überhaupt wert ist, wenn mit elektrischen Signalen minimaler Leistung die gleichen Wirkungen erzielbar sind wie mit der Pillenmedizin.

Zuerst einmal ist zu erforschen, wie ein Organismus seinen Energiebedarf deckt und wie er kommuniziert. Da führt kein Weg an den Skalarwellen und den neu entdeckten Potentialwirbeln vorbei. Chemische Prozesse, wie sie beobachtet werden, treten nebenbei auf. Das steht außer Zweifel. Aber sie sind keinesfalls die Ursache. Daher wird auch mit Pillen und anderen chemischen Mitteln kaum eine Krankheit geheilt werden können, allenfalls lassen sich Symptome behandeln. Wird die Potentialwirbelmedizin erst systematisch erforscht und in der Praxis eingesetzt, sind Heilungserfolge zu erwarten, die wir uns gegenwärtig noch gar nicht vorstellen können.

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