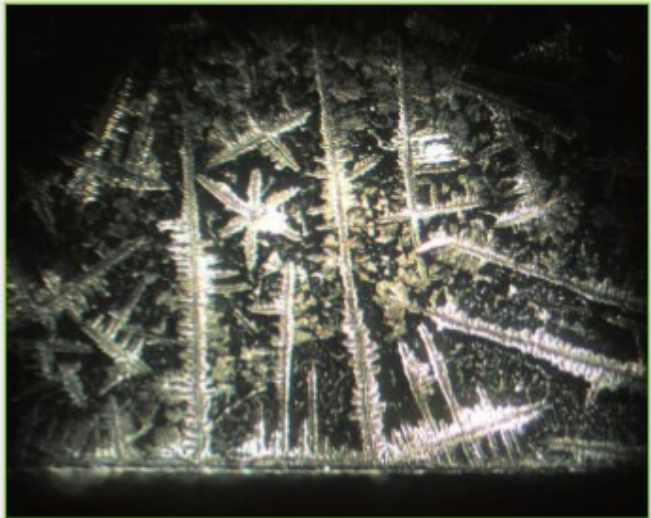


Ronald Fischer

Hydroxypathy

On the Road to Bioavailable Man

The Fundamentals of the Magnetic-Quantum Field



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 **Regenesa**
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Alsbach-Hähnlein

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Anne-Marie Walls

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Foreword

The Bible says: “In the beginning when God created the heavens and the earth, the earth was a formless wasteland and darkness covered the abyss, while a mighty wind swept over the waters. Then God said, “Let there be light,” and there was light. God saw how good the light was.” (*Genesis/1. Verses 1-4 The New American Bible*).

God ended the chaos by bringing universal order to the water and the light. Water, the corner stone of life, as the reservoir for energy, and light as the purest form of energy. In all the main world religions the beginning of life is always pictured through water and light.

The quantum physicist and 1933 Nobel Laureate Erwin Schrödinger wrote a paper in 1944, “What is Life” ^[1]. In it he described the two basic principles of biological existence: order from chaos and order from order. For him it was clear that order is the elementary prerequisite for life.

Do you know the introduction to the TV series Star Trek that was first broadcast in the 1960s? Or can you perhaps still hear how the narrator introduces each of the adventures of Captain Kirk, Mr Spock, Doctor McCoy and Scotty. He says, “Space, the final frontier. These are the voyages of the Starship Enterprise. Its 5-year mission: to explore strange new worlds, to seek out new life and new civilizations, to boldly go where no man has gone before.” The new and previously unknown experiences that the space travellers continuously have during their mission repeatedly earn a surprised and raised eyebrow “fascinating” from chief scientific officer Mr Spock. Inexplicable, yet in existence, therefore real.

In the real world astronomers are looking out into the universe for other life forms by searching for water as the cornerstone of life – rather than new energy forms à la Hollywood.

[1] Erwin Schrödinger (2012) What is Life?. Cambridge. Cambridge University Press.

The elements oxygen and hydrogen in the form of the water molecule H₂O plus light therefore make up the formula of life and are consequently, crucially involved in its development.

With this book I would like to explain the complex interconnectedness of life, being healthy and becoming healthy in simple and understandable terms. Exactly how I imagine it and how I have been permitted to experience it in thousands of cases.

What use is theoretical knowledge when things are totally different in practice, and in some cases turn out to be unexpectedly indescribable and fascinating?

There is a clever saying which states that there are more things between heaven and earth that can be neither scientifically explained nor proved. Phenomena that will perhaps remain unknown forever. The scientific community finds it difficult to accept this, so every effort is made to theoretically describe all processes and categorize them methodically.

But doesn't a living being also prefer to recover without theoretically verifiable doctrine, than to become ill or even die with all the expertise and verifiable scientific knowledge? This is a decision that everyone may decide for himself. In my opinion, in the conflict between scientific teaching and the alternative, natural healing, the medical sector is turning too one-sidedly towards the pole of controlled, taught medicine. I would like to thank all those who have repeatedly motivated me to write this book. What we are dealing with here is not a purely scientific process but a book that should make it very simply clear how easy it can be to remain HEALTHY.

I would also like to thank the many business partners who helped make it possible to present complex interdependencies in simple ways.

Heartfelt thanks also, to the many homeopathic practitioners, who, through their experimental and empirical work and success gave me the courage to go on.

As the representative for all “Hydroxypaths” I would like to name Mr Horst Jacob from Alsbach-Hähnlein, who achieves outstanding successes and results in his practice daily, so that even specialists of the university faculty come to him for advice. My sincere thanks also go to all those people who trusted me and became and remain, simply HEALTHY.

Special thanks to Joachim Nusch who brought me to the path that was predestined for me.

Finally, I thank my family who often had to go without my company but were always my home and a great support. Special thanks is also owed to my wife Monika, who always supported me in the compilation of scientific material.

If there is anyone who I have not mentioned, I would like to pronounce my thanks to him or her here, too.

1. Introduction – The birth of a new awareness

I was a computer scientist before turning to the unknown, the non-provable at the end of the last century and to my surprise, came to realise, “it does work after all!”

It came to pass that in the summer of 2000, just before travelling home from Spain, I was stung by an unfamiliar insect. As there were no immediate symptoms I made nothing of the incident. However, a few days later a circular, migrant reddening developed around the sting (Erythema migrans), such as one knows from an infected tick bite. My doctor immediately diagnosed a case of Lyme disease – oh dear!

The blood test however showed no result. As the Erythema migrans continued to spread, itched and finally covered the whole leg, the diagnoses became more adventurous and went from neuro-dermatitis, to psoriasis, from stress symptoms to psychosomatic agitation.

Sitting on the throne above it all was the universal remedy Cortisone – and let me tell you, it didn't help! Once the right leg was totally affected - I had scratched myself raw in places - the symptoms jumped to the left leg. Apart from a helpless shrugging of the shoulders, none of the treatments that the doctors tried helped, and I was left alone with my itch.

At the time I was working as a computer specialist at a pharmaceutical company, optimising motors. A lab technician saw me continually scratching my legs and advised me to use the disinfectant intended for the machines. Although I was more irritated than optimistic I followed his advice. At some stage one arrives at the point where you will clutch at any straw offered. I was to wash my leg with it, but as soon as possible because the disinfectant would return to absolutely normal water within a few hours. More sceptical than convinced by the instructions given by my advisor, I soaked my leg in the “disinfectant” several

times a day. And would you look at that? To my utter surprise the symptoms were gone after only two days. As Mr Spock would say “Fascinating!”

My doctor made no comment and still hasn't. What should he say to my miracle healing? It was clearly something that was outside of his imagination. I mean no offence. It is simply a case of stating the facts.

The “machine disinfectant” is the predecessor of the H-solvent (see chapter 5.3.1), Hydroxypathy, as founded by me. Ever since this key experience I have been highly motivated to develop this therapy further so that people can be encouraged towards self-help. My observations have taught me that all life in this world is based on communication, I mean on an extremely ethereal level, that I regulated by light, water and oxygen. A binary area of tension between “yes” and “no”, “on” and “off”, “0” and “1”, “plus” and “minus”, therefore built up totally logically just like a software program. If something is not right with this area of tension the result is literally tension, which influences every biological system negatively. Are all higher organisms binary organisms? I think yes. The appropriate values for describing this condition are “healthy” and “not healthy”.

The first 48 years of my life were shaped by my “not being healthy”. I had my annual cold, years of stomach ache, obesity, alcohol abuse, nicotine addiction, diabetes, fatty liver disease which increased to the level of cirrhosis, joint and back pain. Everything that a person has no use for in his life and that inhibits his growth.

Then I got to know the universal “Formula of Life”. I needed three years to get rid of the “old habits”, the dirt of civilisation. Up to that point I had lived like a health mess, opening the doors and gates of my body cells to acid producing toxins, collecting and storing them. The clean up or rather regeneration doesn't happen from one day to the next, it takes time.

I have not had any more problems for 15 years. Regular check-ups confirm my healthy status. My former general practitioner sends me away regularly with the words “What should I say, there’s no money to be made off you”. I am extremely thankful for this diagnosis.

This is also a reason, dear reader, to show you a path that makes it possible to be simply healthy in mind, body and soul and without the science that wants to explain it all. In my opinion, science is a never ending reversal of faith, scorning creation.

2. What is Hydroxypathy – The definition

Hydroxypathy is a process for recognizing metabolic changes (diagnosis) and their pre-therapeutic treatment. The specifically focussed use of hydroxide ions (OH⁻) and hydrogen ions (H⁺) in a hexagonally structured water matrix helps to regulate the physiological acid-base balance and set up a treatable environment. Diagnosis because, determining which organ's metabolic process is no longer functioning in the regular way is carried out through individual sense of taste. Pre-therapy because, the balancing of the physiological environment brought about by Hydroxypathy has the effect of regulating the metabolic process, which in turn smooths the way to finding the actual form of therapy that can fight the real cause of the illness.

The name Hydroxypathy contains four word stems which represent all the active components and the character of the process:

- Hydroxide – [OH⁻]
- Hydrogenium – stands for Hydrogen or rather the Hydrogen ion [Proton, H⁺].
- Oxygenium – symbolises further Oxygen (containing) forms [O₂, O₃, H₂O₂, ClO₂].
- -pathy –names a healing process where the protons and hydroxide ions eliminate the disease provoking qualities.

The statement of Claude Bernard, one of the great scientists of the 19th century says, “The germ (pathogen) is nothing, the milieu is everything!” The truth of this insight expressed by the French doctor and physiologist still stands today. Life scientists such as the US-American Gerald H. Pollack and his team focus

their research on the investigation of the milieu, the source of the milieu and the influence of changes in the milieu.

Recognizing the changes in the milieu increasingly enriches us with valuable data which helps to reinstate and/or maintain balanced health. This road to discovery could use more support from medical research.

The following chapters (3. to 3.6.5.1.) first describe my basic understanding of the physiology of the basis of scientific knowledge. Building on that, from chapter 4.3.4., I present the Hydroxypathy process, the concept and its effectiveness.

3. From the primordial cell to the unconscious control of life

At the beginning of all organic life stood the primeval biological cell, which was a highly complex system in itself with information and energy flows, storage depots and programs.

In August 2016 Ron Sender and his colleagues published a paper which stated that an adult human weighing 70kg is made up of 30 trillion body cells and 39 billion bacteria^[2]. Other experts claim that there are 70 trillion body cells. Whichever the case, such statistics exceed our imagination by far.

Each body cell in turn contains all the information of human life, whose program sequences are stored in the genetic material. On the other hand, an enormous number of programs are running in each cell simultaneously which in turn steer a multitude of automatic processes that influence our lives e.g. breathing, seeing, hearing, feeling, perceiving, tasting or metabolizing.

These tasks run automatically without us having to consciously do anything. They are steered unconsciously.

The only thing we consciously do is trigger muscle contraction so that movement is generated. We can think independently and thereby influence our actions but we cannot control the process of thinking with our consciousness. Therefore 99.9% of all actions and processes run unconsciously. I share the view of Professor Fritz A. Popp, who says that these actions and processes occur via control loops which make use of the internal lights or rather the energy within the cells, meaning the coherent light quanta (bio-photons) as described by him^[3].

[2] Sender R, *et al.* (2016) Revised Estimates for the Number of Human and Bacteria Cells in the Body. PLoS Biol. 14(8). DOI:10.1371/journal.pbio.1002533.

[3] Fritz A. Popp & Lev V. Belousov (2003) Integrative Biophysics: Biophotonics. Dordrecht. Springer Science+Business Media.

Coherent - meaning the optimal efficiency and order of information and energy in the biological system. Bio-photons steer cell communication physically and are also the trigger for chemical processes in the cell. These light impulses steer ca. 100,000 biochemical reactions per second. They simply regulate life, without thought, unconditionally and without demands or expectations. We'll come back to the topic of photons or rather light quanta and their importance, shortly.

At this point I would like to quickly point out that (bio-) photons are already being used successfully as a therapeutic medium. But if their use is to be beneficial, the therapist does need to have identified the root of the illness. Doctor - patient dialogue, numerology and kinesiology skills are very important here. If the real topic, for example the disharmony or the internal disorder within the patient, is not recognized, the treatment with photons brings little success and can even be damaging. To gain an informative analysis of the patient's condition his psyche, body, thoughts and sexuality need to be considered. All these factors have an influence on his internal milieu, on his physiology. If no adjustment is made to the natural, basic regulation of the appropriate milieu in the internal and external space of the cell, an effective treatment using bio-photon therapy is possible and in general, one can say that no other therapy is effective either. Through the application of Hydroxypathy, the milieu needed can be achieved again and practice has shown that preparations for energy treatment with light are more effective.

A true specialist in the field of photon therapy is Dr Serge Aguilera of Marseille. In his opinion Psyche, Physique, Thought und Sexuality all have "magneto-quantum fields" at their disposal. Each of these fields can be knocked out of balance by a collision with damaging influences – let us call them disruptive photons for the sake of simplicity. The amount of energy responsible for the shifts is unimaginably small. They are however measurable and are expressed in gravities following Aguilera's concept. If the sum of the gravities from the four

magneto-quantum fields drops below the normal value, the person falls into a depressive state of health. Depression, burnout, extreme shyness, reticence, auto-immune diseases are all examples of possible consequences. Should the gravities rise above the normal value however, the person will suffer from stress symptoms. Example illnesses can be: oxidative stress, metabolic disorders, epilepsy, ADS, ADHS even going as far as tumoural changes in tissue and cells.

3.1. No biochemical reactions without physics

Every reaction needs an action. But how does an action occur? What does an action involve?

As already described, trillions of cells in our bodies work simultaneously, according to programs which enable them to act or react. At the same time this means an unbelievably short timeframe where the processes are coordinated. But the timeframe is a form of communication that has to follow a certain rhythm, or one can say it is subject to a certain frequency. A certain frequency must be clear and therefore follow an understandable rule. This rule is laid out in formulas which can be proved.

With that we leave the molecular view point of biochemistry, which, simply expressed, describes the reaction between at least two biomolecules under the influence of a catalyser. Instead we turn to the perspective of quantum physics, which looks at processes on the basis of energy changes in the smallest possible measures of elementary particles. As promised we are coming back to the photons. But don't worry, you don't need a PhD in physics to follow. I'll make an effort to make this difficult dish easy to digest.

In quantum physics, the smallest energy units are called photons, whose characteristic is described by a continuous energy wave or oscillation. This can

be measured by its frequency and as already mentioned is therefore verifiable. The waves are sent out and received. Similar to broadcast technology, there is a sender and a receiver. By setting the same carrier frequency it is possible to transfer a multitude of overlapping acoustic waves which the listener (receiver) perceives as the interaction of different tones (speech or music).

If we transfer this model to a living organism, the elementary particles of the individual body cells send out information in the form of actions, using waves with certain frequencies (energies), which the body responds to accordingly, with biochemical processes (reactions). Therefore the reaction reflects action.

This is the exact same phenomenon that is used in light and colour therapy as well as in singing bowls.

Every individual as sender and receiver has one single address (just like a computer connected to the internet has a unique IP) which accepts the entry and exit of the waves. Hydroxyopathy can contribute to the perfect alignment of the antennae. If the antennae isn't aligned in the best way, the results are comparable to the stifled sound of a singing bowl as if it were covered by cloth. This change cause a necessary part of the information to be lost.

3.2. No life without laws of physics

For me this observation is the A and O of scientific approach. Whether processes can run or not, it's all a question of energy.

Since the rationalisation of quantum physics around 1900, it is possible to describe the relationship between the energy and the frequency of a (bio-) photon. On the one hand photons behave like electro-magnetic waves that travel through space at a certain frequency and can overlap with other waves (wave model see chapter 3.1.) on the other hand (bio-)photons also behave like

particles. They have a charge, a certain energy value, and an impulse (speed) so that they can move through space. During the process they can collide with other particles thereby changing their original direction and becoming faster or slower, or absorbing or giving off energy. A good image for this is when two billiard balls collide. The collision causes both balls to change direction and speed.

At first this wave-particle duality of the energy quanta – sometimes the photon behaves like a massless energy wave and sometimes like a speeding material particle – gave the scientists a lot of food for thought. You see originally they would have preferred a straight forward physical description. In the end there was nothing else for it but to accept the facts as they stood.

Therefore the core statement of this section is: Quantum physics reveals that all materials are made up of electro-magnetic waves. That sounds rather abstract, as we are not able to measure this with our five senses. However it is the reality. Since the insights attained by one of the important mathematicians of the middle ages, Leonardo Fibonacci, we can rely on the fact that the frequency spectrum in nature is organised according to harmonious criteria.

Let us take a short detour into the mathematical language for an electro-magnetic wave. The quantum physicist generally used the term “wave-function”. This provides information on the speed and energy that an elementary particle (photon) has at the individual places on its journey through time and space. The wave function is thereby the heart of quantum physics.

By the way, mathematics is the language of physics. As with all languages, this one is also very complex and needs to be learned if one is to understand. As difficult as this may seem in some parts, it is necessary if we want to express ourselves in physics.

The basic mathematical formula for the wave function is as follows:

$$\Psi (r, t) = A_0 \sin (\omega t - kr)$$

r = position vector

t = time

A_0 = amplitude

k = wave vector

ω = angular frequency ($\omega = 2\pi f$)

For our further understanding it is not at all important to understand this wave function in detail. It is enough to accept that taking the individual parameters (variables) r , t , A_0 , k und ω into consideration, each and every elementary particle in the universe possesses its own oscillation in accordance with the basic formula.

The following applies: every elementary particle (photon) can be clearly identified by its own personal oscillation. A change in the oscillation through any stimuli will consequently change the particle. These stimuli can come from outside (e.g. temperature, gravitation, electricity, environmental pollution) or inside (e.g. psychological, psychosomatic, mental) and change or adjust the oscillation. I would like to graphically explain this principle using a simple example. In Fig. 1A there is an example of a basic oscillation with a clear frequency and intensity, this represents a healthy system. Fig. 1B shows a disrupted oscillation with doubled frequency and increased intensity to represent a damaging stimulus. Fig. 1C represents the change in the basic oscillation caused by the overlapping. The intensity of the vertical amplitudes of the two oscillations are added or subtracted along the horizontal axis and

result in a new oscillation pattern. In physics this overlapping is called interference.

Fig. 1D shows the recognisable deviation (green line) compared to the normal red line. This is the risk potential for illness. There are shifts in the milieu which are favourable for the development of an illness. The healthy state disappears. The risk of illness above the norm (“+”-direction black arrow) and below the norm (“-” -direction red arrow) symbolise acidosis and alkalosis respectively in established medicine. This is precisely the reason for the wrong approach of the modern school and alternative medicine. It isn't the acids and alkalis working against each other but that of the physical actions that bring about pathogenic processes.

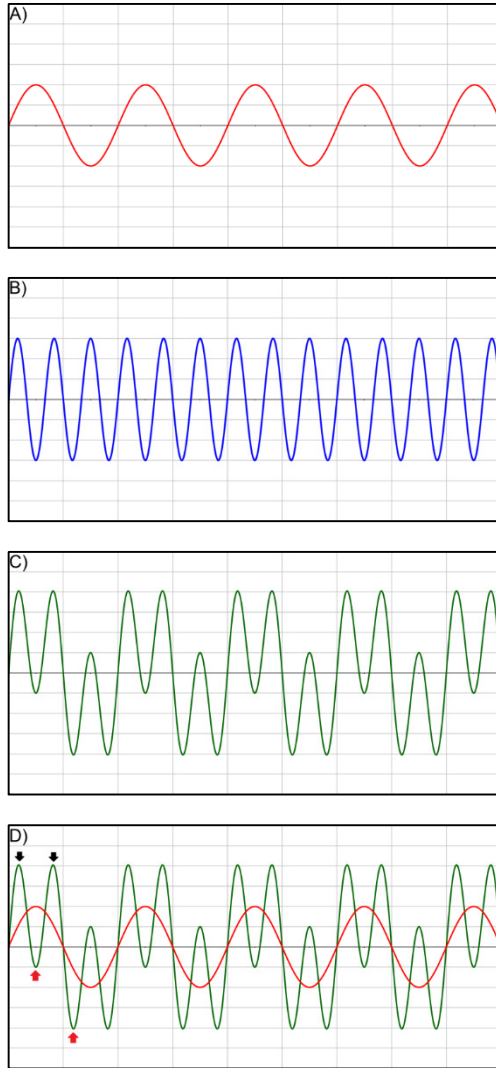


Fig. 1: Overlapping of Oscillation (Interference). A) “healthy” basic oscillation, B) the oscillation of a disruptive function, C) the new, resulting oscillation pattern and D) the basic- and resulting oscillations in comparison.

3.3. Programmed and guided biochemistry

We know that strange indescribable feeling that comes over us when we walk into an unfamiliar room. We take in the sum of the waves in this strange universe and suddenly change our well known feelings of security and comfort. We leave safe ground and changes occur, which trigger biochemical reactions such as goose pimples, accelerated breathing, feeling cold, sweating. We don't feel comfortable and lasting discomfort leads automatically to illness.

On the other hand we do feel comfortable when well known waves hit us that trigger feelings of comfort and security. Love, affection, a friendly hug or even simply familiar surroundings. Biochemical reactions trigger feelings of happiness through the secretion of hormones. A lasting sense of well-being maintains us in good health without us having to do anything for it personally. These are reactions that are predetermined or programmed in us, and run automatically otherwise they would run too slowly and we would long be extinct. Evolution was only possible because of these mechanisms. Biochemical reactions follow physical actions for the well-being and protection of the species. There are thousands of examples for why we react the way we do, the way we are and what we have become. Examples are – our instinctive flight behaviour, the reaction of the body to heat and cold, the development of a fever as a sign of acute illness and the unconscious change in the milieu to counter pathogens.

Unfortunately these protective mechanisms are widely suppressed with artificial measures when the suitable medicine for the symptoms is administered – allopathy keeps out of the way of the triggers of the symptoms. In my view this is not a particularly sustainable method for maintaining good health.

Evolution is the slow adaptation to a changed situation, a changed milieu. When, during the evolution of fauna, did man become man? Was it when we learned

to control fire? Was it the production of simple tools? Was it when we started to form family groups? Perhaps all of them, but over a long period of time. It took hundreds of thousands of years, until the Stone Age, for evolution to form man in the way that he basically looks today. Our organism still works the way that it did in the Stone Age, although we have landed in the present which we call the Technological Age. The 21st century is host to organisms that still tick like in the Stone Age.

Our inherent protection mechanisms no longer work. Modern medicine is facing a disaster. Leading medical professionals speak of an apocalypse of the pharmaceuticals. Active ingredients no longer work, no new active ingredients are making it to the market. Even the large pharmaceutical companies are planning with alternative medicine although they would be well advised to consider complementary medicine, as acute medicine is still better off in the hands of the pharmaceuticals.

Most important is the preventive improvement in the living standards of man, in the social sector, in medical healthcare and in environmental protection. In my opinion the solution to ensuring good health and therefore a decent existence, whether one is young or old, lies in the area of interpersonal relationships and environmental protection. Why do some people grow to a ripe old age while others die early?

One of the cell programs that has been around since the beginning contains the number of cell divisions possible and therefore also the death of the cell (apoptosis). An increase in the rate of cell division is not healthy and the same is true for a strong decrease in the rate. This is the same for a mouse, a tortoise or a human. A creature's life expectancy depends on how quickly these cell division processes follow on from each other. The shorter or longer the time span between two cell division processes, the shorter or longer the life of the being. Looking at it from the side of molecular biology, the ends of

chromosomes, the so called telomers, become a little shorter at every cell division. Similar to the way the plastic ends on shoe laces prevent fraying – these protect the DNA from breaking down. Once these are shortened so much that they can no longer provide protection – used up – the consequence is age-related loss of tissue and finally organ failure^[4]. The faster the cells divide, the faster we grow old.

The rate of division depends on the metabolism in the cells. If the metabolism is in balance, the rate of cell division will be low and life will be long. If the metabolism is not in balance, perhaps caused by life's circumstances e.g. stress, the cell division rate increases and life expectancy will be shorter. A mouse with its continuous fear of enemies is more stressed than a tortoise. A faster deterioration is unavoidable. Life expectancy is lowered.

Then again the metabolism is also dependent on the obtainable energy, which may be available in unlimited amounts but due to the situation already mentioned, may be changed or used up and converted. Life at high speed is shorter than in slow motion. Supposedly! A mouse may only live for a few months but it experiences all the stages of life – birth, youth, procreation, old age and death. But at high speed. The oldest living animal on the planet is, believe it or not, ca. 10,000 years old, lives at the bottom of the Antarctic Ocean and is a sponge (*Anoxycahyx joubini*). It was only discovered a few years ago, just like the Greenland Shark ^[5], which was described in the August 2016 issue of the journal Science (2016). It hatched from its egg before Martin Luther and is still alive today.

^[4] Balk B, *et al.* (2013) Telomeric RNA-DNA hybrids affect telomere length dynamics and senescence. *Nat. Struct. Mol. Biol.* 20(19). 1199-1205. DOI: 10.1038/nsmb.2662.

^[5] Nielsen J, *et al.* (2016) Eye lens radiocarbon reveals centuries of longevity in the Greenland shark (*Somniosus microcephalus*). *Science.* 353. 702-704.

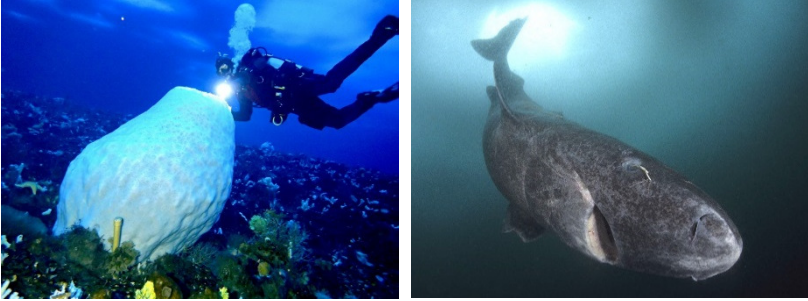


Fig. 2: The Methusalas of the Arctic and Antarctic oceans: left the Antarctic giant sponge (with friendly approval from Umi Hoshijima, supported by the “United States Antarctic Program”) and right the Greenland Shark (© Mauritius Images).

3.4. No life without metabolism

Maintenance of the metabolism is necessary for the prevention of deficiency symptoms. Because every deficiency leads inevitably to illness and finally an early death. Water, “the molecule of life”, as carrier and storage medium plays a decisive role in metabolism. Remember 99% of our body cells are water.

3.4.1. The structure of water

What does water actually look like in its molecular form? Before we look at this more closely I'd like to present the two elements hydrogen and oxygen.

Hydrogen

Hydrogen is the smallest, lightest and most common element in the universe. Its chemical symbol is [H] taken from the Latin name hydrogenium which can be translated as water producer.

In its atomic form Hydrogen has a single electron (negative charge) which circles its atomic core, which consists of a proton (positive charge) (Fig. 3 left). Hydrogen cannot be seen or smelled. One hydrogen atom never exists alone it always comes in pairs or so called dimers (H_2). It is called a hydrogen molecule. This is a characteristic that it shares with several other gas elements such as oxygen (O_2) and nitrogen (N_2).

But why does the smallest element in the universe have such a big influence on our physiology? Hydrogen stores energy and is a main actor in energy metabolism (respiratory chain) (see chapter 3.6.5). If enzymatically stabilized, hydrogen can take on an extra electron and become a hydride-ion (H^-). In this form it acts as an important electron donor in metabolism. A further significant characteristic of the electron donor is its inactivation of reactive oxygen species (general term for oxygen containing oxidants and radicals) in the organism. These compounds have an electron deficit. They are electron acceptors and therefore aggressively search for donors in the body cells. A high concentration of oxidants and radicals leads to “oxidative stress” and permanent strain accelerates the ageing process and causes long term damage to the health. Consequently, in its role as an oxidant/radical catcher the [H] is called an antioxidant. It willingly gives up its electron to the oxidant/radical and prevents the plundering of the cells thereby reducing the oxidative stress.

In connection with acids and watery solutions, we often see hydrogen without its electron, the so called proton (H^+). We'll be hearing a lot more about his species in this book.

Oxygen

Hydrogen's partner in the "water" compound is oxygen. Its chemical symbol [O] is also taken from its Latin name Oxygenium which can be translated as acid producer. As the frequency of elements on earth is different to that in the universe, the element that occurs most often on earth is in fact oxygen. Apart from water it can be found in almost all minerals. It is also involved in many combustion and corrosion processes.

Oxygen loves electrons. The power needed to pull and bind the electrons to it is generally expressed as electronegativity (EN). The only element in the periodic table that has a higher EN-value is the one which stands to its right, fluorine. A further indication that oxygen is a strong acceptor of electrons is revealed by the structure of the naturally occurring oxidants and radicals in the organism. They are all reactive oxygen species.

Just like hydrogen, the oxygen element occurs as a gas and mainly as a molecular dimer (O_2). In this form it makes up around 21% of the air that we breathe. Another gaseous variety of oxygen is ozone. Three [O]s come together in a row to form a trimer (O_3). Ozone belongs to the reactive oxygen species and is an oxidant. It is a temporarily stable compound which is highly energetic and reactive. Contrary to the colourless and odourless molecular oxygen, ozone has a stinging smell similar to chlorine gas. In the earth's atmosphere, the stratosphere to be exact, ozone serves as a protective shield against the ultra-violet light (UV-radiation) of the sun's rays. If unfiltered these rays can damage our genetic material, changing it and thereby causing skin cancer for example. The [O_3] converts these energy rich rays into harmless warmth and breaks down into molecular oxygen (O_2) and oxygen atoms (O). Ozone and oxygen atoms are important parts of Hydroxypathy as will be seen later in this book.

Oxygen's physiological relevance occurs within the respiratory chain, as most living beings need it, alongside hydrogen, for their own energy production. In

simple terms, the energy is provided through the enzymatically controlled merging of $[O_2]$ with $[H^-]$ and $[H^+]$ to H_2O .

Finally I would like to make a comment on the original but very limiting description of the “acid producer”. The chemistry community originally thought that oxygen was the distinguishing element of acids and therefore gave it this name. Only later did it become clear that there are acids that do not contain oxygen (an example being hydrochloric acid $[HCl]$) and that hydrogen as $[H^+]$ is the distinguishing element.

Having described both of the individual components we now come to water itself. Considered chemically, water is made up of an oxygen atom that has bound itself to two hydrogen atoms (Fig. 3). Its molecular formula is often the only one that most people remember from their chemistry lessons. What is the basis for this compound? According to the definition of the so called octet rule, chemical compounds are especially stable when the atoms involved reach the next possible noble gas configuration. This means that oxygen strives to obtain eight electrons on its outer electron shell instead of the mere six that it has, just like the noble gas neon and the two hydrogen atoms wants two electrons each to achieve the same number of electrons as the noble gas helium. How does this work? It works through “electron sharing” or covalent bonding.

Two new trajectories are formed, one from the outer trajectory of the oxygen atom and the other from that of the hydrogen atom, each with two electrons (the violet ellipses and balls in Fig. 3, right), which circle the oxygen and one of the hydrogen atoms. In this way the desired noble gas configuration is achieved for all participants and two chemical bondings are formed in the process. The electrons provided by the hydrogen atom are in the middle but they lean more towards the oxygen as it has a higher electronegativity and thus a stronger pull.

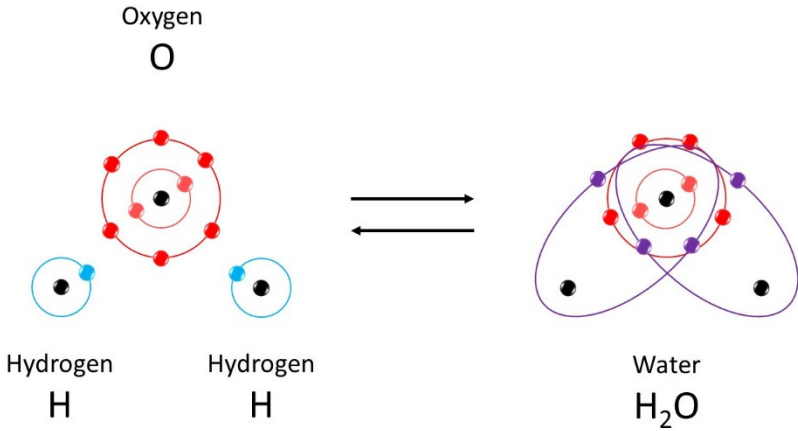


Fig. 3: Simple presentation of the molecular formation of water molecules – two hydrogen atoms (H) and one oxygen (O). The covalent bonds of the [O] to the two [H]s in the right H₂O-Molecule are marked as trajectories with a violet ellipse where two violet balls (the shared electrons) circulate.

A question that inevitably comes up when one works intensively with the “molecule of life” is: Does water have a special physiologically relevant order? Many scientists say “Yes” to this question and I wholeheartedly agree^[6].

This ordered structure is called hexagonal water. In its basic form there six water molecules in the form of a hexagon. These hexagons build connections to make bigger clusters or rather two dimensional connected layers similar to a honeycomb. This hexagonal form can be clearly identified with the help of magnetic resonance spectroscopy or X-ray diffraction analysis and can be differentiated from “unstructured” water. The hexagonal order is advantageous for storing and transporting oxygen and minerals as well as the elimination of

^[6] Jhon M S und Pangman M J (2013) The Water Puzzle and the Hexagonal Key. Saint Louis. Uplifting Press.

harmful substances for the body and therein lies its special physiological relevance.

Ionizing radiation (radioactivity or strong electro-magnetic fields caused by very energy-rich photons) has a destructive influence on the hexagonal formation. Whereas “unstructured” water becomes hexagonal when exposed to sunlight. In theory, in a healthy organism, all cells are surrounded by hexagonal water. This structure is virtually an indicator for the good functional condition of the cells, tissue and organs. At the same time this is also an important part of a healthy metabolism. Degenerate cells such as cancer cells are surrounded by a defective irregular water structure. If order is not restored the cancer can spread.

The energy of the heartbeat provides the body with its own regeneration system for hexagonal water. The continuous electric stimulation coming from the contraction of the heart muscle repairs the ordered water structure and preserves our “ticker”. This might also explain why cancer of the heart is extremely seldom. Exceptions would probably be explained by a faulty or limited stimulation impulse, which is not sufficient for maintaining the protective hexagonal layer. In chapter 3.6.5.1. we will take a closer look at the physiological importance of hexagonal water.

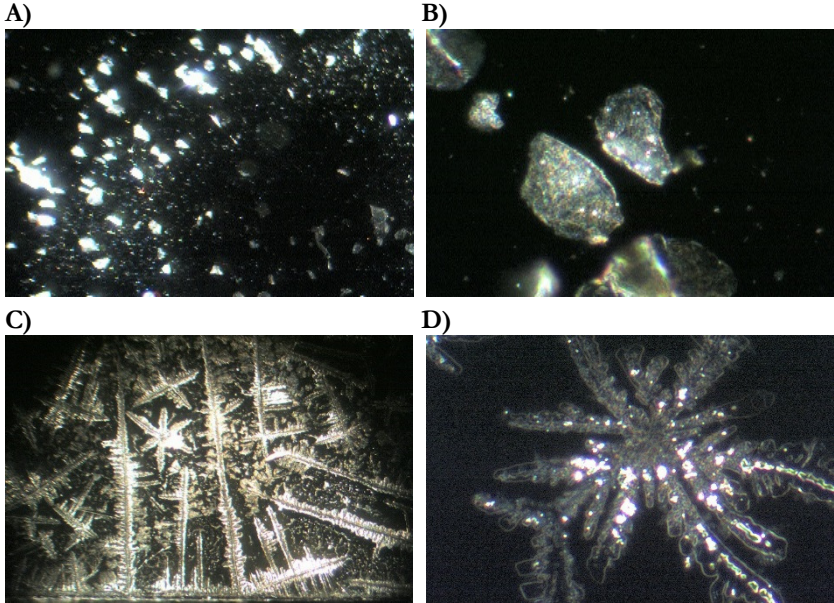


Fig. 4: Microscopic comparison of “activated water” A) 400 times and B) 1200 times the resolution and “hexagonal structured water” C) 400 times and D) 1200 times the resolution). The pictures were taken in a dark field.

3.4.2. Dissociation of water

Having clarified its chemical structure and physiological order, I am now going to present another characteristic of water which is important for understanding Hydroxytherapy. Due to the high potential of oxygen to draw electrons to it, part of the water molecule dissociates or splits into two oppositely charged particles (ions). This process is called auto-dissociation of water.

Thereby the positively charged ion (cation) consists of one of the two hydrogen atoms which, due to the loss of its electron, separates from the oxygen and becomes a so called proton H^+ . But this proton is so sociable that it connects up immediately with another water molecule and a so called hydronium(ion) (H_3O^+) is created (Fig. 5). In this case however no additional electron pairing takes place, just an electrostatic pull between the electron-rich oxygen and the positively charged proton. Simply said, the $[H^+]$ uses the water molecule to hitch a lift and can quickly let go to enter another connection. Later in the book I will sometimes speak of protons and sometimes of hydronium ions. This always means the presence of $[H^+]$.

The second, and of course negatively charged ion (anion) from the auto-dissociation is called a hydroxide ion (OH^-). It consists of the oxygen, the other hydrogen and the electron from the detached hydrogen.

In an appropriate electro-magnetic field, the dissociation of water can be increased. The irradiated energy is stabilised or rather stored in the separated ions $[H^+]$ or $[H_3O^+]$ and $[OH^-]$ respectively.

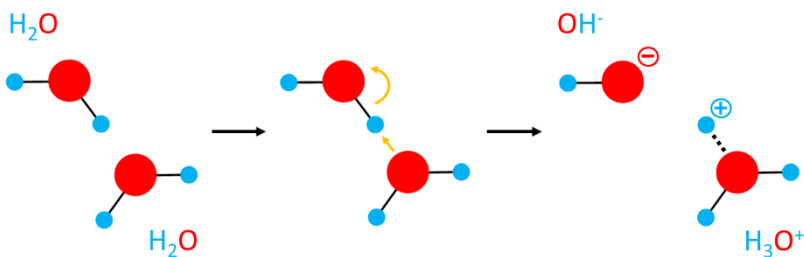


Fig. 5: Auto-dissociation of water molecules in a hydroxide ion (OH^-) and a proton (H^+) that combines with another water molecule to form hydronium (H_3O^+). The dotted line between $[O]$ and $[H^+]$ in the $[H_3O^+]$ symbolises its electrostatic pull.

3.4.3. Physiological requirements of water

The body of an adult between the ages of 35 and 60 contains 70% of this valuable water, of which 70% can be found within the cells and 30% outside. This makes it very clear how important the body's water balance is for life.

But many people don't reach these levels because the water supplies are inadequate and therefore the necessary control mechanisms cannot be maintained. The consequence is classic premature age-related diseases such as diabetes and osteoporosis.

Stage in life	Water levels
Foetus	ca. 90 %
Baby	ca. 80 %
Adult	ca. 65 - 70 %
Senior citizen	ca. 50 - 60 %

Tab. 1: Average water levels required by the human body for the different stages in life.

3.5. Transport routes in the cells

An important motivating factor for life scientists is the decoding of the supply routes for our cells, the research into the organised transport of substances through the encircling membrane of the cells from the outside to the inside and vice versa. Many researchers in this discipline have been awarded the highest

scientific accolade for their discoveries, the Nobel Prize. Here are a few examples:

In the 1920s Otto Heinrich Warburg described cell respiration and received the Nobel Prize in Medicine for his discovery of the Nature and Function of Oxygenase^[7]. According to observations, cytochrom-c-oxidase, the scientific name for this oxygenase, is involved in the transport of protons across the membrane. His hypothesis that cancer cells obtain their growth energy through the anaerobic fermentation of glucose stands today and is even being supported by newer research work.

In the 1980s, Erwin Neher and Bert Sakmann (both Nobel laureates for medicine in 1991), proved that metabolism takes place via the ion channels through different currents ^[8]. With the aid of so called patch clamp technology the scientists were able to measure incredibly small electrical currents of a few pico-ampere (10^{-12} A) that pass through a single ion channel. As mineral substances (important components of our diet) consist of positively charged ions (metal cations: Ca^{2+} , Mg^{2+} , K^+ , Na^+ , etc.), the cell needs to be negatively charged. It can only become negatively charged if it is in an alkaline state.

In 2003, the two American researchers Peter Agre and Roderick McKinnon received the Nobel Prize for the discovery of aquaporins in the cell membrane as well as for the clarification of the structure and cation filter function of the potassium ion channel.

The German magazine Der Spiegel reported as follows:

„As communicated by the Swedish Academy in Stockholm, Agre and MacKinnon were able to clarify how water and salts (ions) are transported in and out of the body's cells. The discovery

^[7] Dean Burk (2014) Cell Chemistry; A Collection of Papers Dedicated to Otto Warburg on the Occasion of His 70th Birthday. Charleston. Nabu Press.

^[8] Neher E & Sakmann B (1976) Single-channel currents recorded from membrane of denervated frog muscle fibers. Nature. 260. 799-801.

made it possible “to gain fundamental insight into how, for example, the kidneys recover water from the primary urine and how the electric signals in nerve cells are generated and transported.” It is very important for understanding a series of illnesses in the kidneys, heart, muscles and the nervous system (...). The idea that the body’s cells must have specific channels for transporting water was already suspected in the middle of the 19th century. But it was only in 1988 that Agre was able to isolate a membrane protein, which, more than a year later, was recognized to be the water channel that one had been searching for, for a long time.

According to the Academy, this discovery opened the door to a whole series of biochemical, physiological and genetic studies on water channels in bacteria, plants and mammals. Today, researchers can closely follow a water molecule as it passes through the cell membrane and understand why only water and no other tiny molecules or ions can get through.

Mackinnon was awarded the prize for determining the spatial configuration of a potassium channel. In the opinion of the Academy, it is thanks to this work that one can “see” ions passing through the channels that are opened and closed by way of different signals. Amongst other things, ion channels are important for the correct functioning of the nervous system and the muscles. ^[9]

Therefore, the energy needed to transport the ions depends on the difference in the electrical potential between the interior of a cell and the liquid on its exterior separated by the membrane. Although this so called membrane potential is always negative, it is changed by the concentration of the cation and anion concentrations within the cell and outside the cell. It can be increased or decreased. In this way the membrane potential steers the motor that controls the inlet and outlet valves (the cell channels) and thereby regulates the speed of the biochemical reactions, or initiates or ends them.

^[9] <http://www.spiegel.de/wissenschaft/mensch/zellforschung-chemie-nobelpreis-geht-an-zwei-amerikaner-a-268769.html>. (<http://www.spiegel.de/science/human/cell/Nobel-Prize-for-Chemistry-goes-to-two-Americans-a-268769.html>.)

If there is a reduction in the negative potential due to the increase in the positive charge because of an over concentration of protons (H^+) in the cell, the doors for importing the cations through the cell membrane channel will be progressively closed. If the charges are the same they bounce off each other. In the worst case the transport comes to a standstill. The cell is suffering from acidosis, it contains too much acid.

Conversely, an over concentration of anions caused by hydroxide (OH^-), can increase the level of the negative membrane potential and the opposite effect is achieved. Described in pictures, the doors of the channels are wide open and the cations can advance unimpeded into the cell. If it has to continually maintain this situation the cell will suffer from alkalosis – it is too alkaline.

Both deviations from the physiological norm of the membrane potential are harmful to the metabolism in the long term.

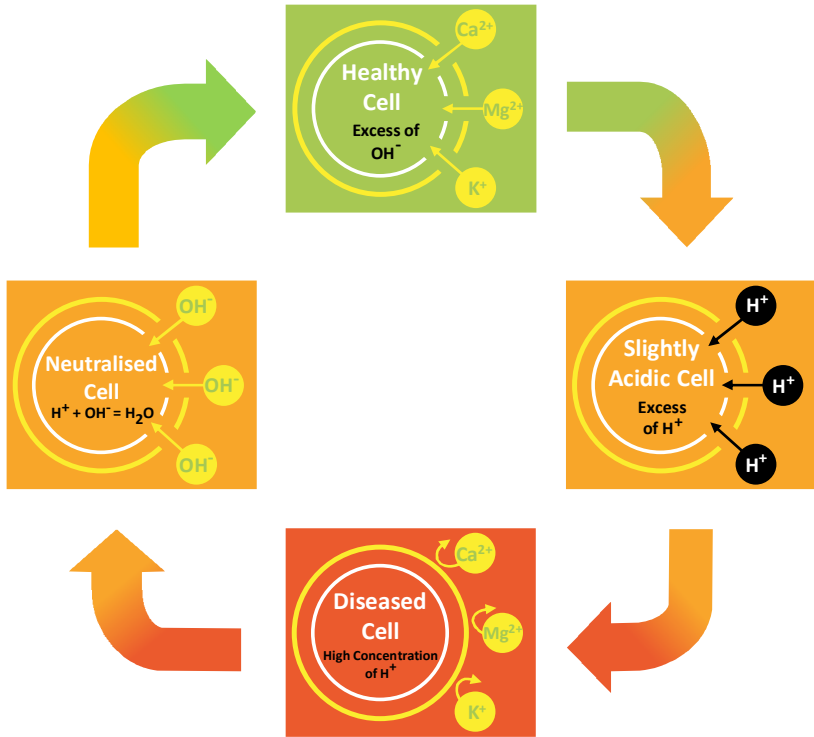


Fig. 6: The influence of the internal cell charge on the absorption or transport of vital minerals (metal cations: e.g. Ca^{2+} , Mg^{2+} , K^{+}) via the ion channels and metabolic processes that they guide. A strong increase in the proton concentration within the cell causes an unfavourable increase in the positive current potential. Above a certain level the metal cations can no longer pass through the ion channel and get through to the interior of the cell. This makes the cell ill. Neutralising the protons reduces the positive potential and the cells are once again able to absorb the action oriented metal cations

In the previous observations I used the terms acidosis and alkalosis in connection with the transport of ions by the cells. Acidosis of the whole body would be fatal. Even a decrease in the pH value of the blood from its normal

level of 7.35 to 7.1 would lead to death. But an increase of this value to over 7.6 is also dangerous and over 7.8 would also lead to death. In order to prevent this, our organism has access to an ingeniously complex buffer system in the blood which can regulate these deviations as necessary.

So it is not possible to have an over-acidic organism, but it is possible to have an organism whose acid/base balance is out of sync and whose energy and information wave regulation is no longer as it should be. I like to compare this pH regulation in the blood with a central heating system that is regulated with a thermostat. The heating water should keep the room temperature at 21 degrees. If the temperature falls, the water is heated and the room temperature increases to 21 degrees. Once the level is achieved, the heat is lowered.

Blood, as the life force, is constantly kept at pH 7.35 by an influx of “alkaline material” from the buffer system when the pH value threatens to fall and if it threatens to rise, acidic material is introduced. This automatically regulated bodily process is called the acid-base regulation.

For better understanding, acids, alkalis and the pH value will be explained next.

3.6. Acid-base balance

The regulation of the acid-base balance takes place in the organism in a watery milieu. As already mentioned, water is the “molecule of life” – involved in almost all functions within the body (biochemical reactions, the transport of substances and information, regulation of body temperature, homeostasis). A stable water balance is therefore necessary. In the Pschyrembel there is also an explanation for the acid-base balance but it only refers to the outer cell area ^[10]. The intra cellular area with double the amount of water is forgotten or kept secret? But what are acids and alkalis?

3.6.1. Acids

Acids are inorganic or organic compounds which, when in a watery solution, can release one or more protons (H^+). Therefore they are proton donors.

The more protons that are released into the liquid, the stronger the acid and the lower the pH value (see chapter 3.6.4.).

To “weaken” an acid or to neutralise it, the protons need to be removed. This is most easily achieved by adding hydroxide ions (OH^-).

^[10] Pschyrembel – Klinisches Wörterbuch. (2014) Berlin. Walter de Gruyter.
(*Pschyrembel – Medical Dictionary. (2014) Berlin. Walter de Gruyter.*)

These are the characteristics of acids:

- Acids taste sour
- Acids are (often) from non-metal oxides (minerals) dissolved in water
- Acids contain at least one non-metal besides hydrogen
- Acids are corrosive
- Acids corrode non-precious metals, thereby releasing hydrogen
- Diluted acids are called acidic solutions
- Acidic solutions conduct an electric current
- Acids possess and create H^+ ions when dissolved in water
- The more H^+ ions the acid releases the stronger it is
- When diluted with water, heat is generated
- Acids can be in solid, liquid or gas form

A few examples of acids:

Hydrochloric acid (HCl)

Nitrous acid (HNO_2)

Nitric acid (HNO_3)

Carbonic acid (H_2CO_3)

Sulphuric acid (H_2SO_3)

Phosphoric acid (H_3PO_4)

Formic acid (CH_2O_2)

Acetic acid ($C_2H_4O_2$)

Citric acid ($C_6H_8O_7$)

3.6.2. Alkalis

Alkalis or bases (sometimes leeches) are chemical compounds which can release negatively charged $[\text{OH}^-]$ ions (hydroxide ions) and with acids, form alkali, neutral or acidic salts where water is produced. The more hydroxide ions released, the more alkali a solution, the higher the pH value (see chapter 3.6.4.).

These are the characteristics of bases

- Bases can be called alkalis, alkalis solutions or in some cases leeches
- Alkalis are corrosive
- Alkalis taste bitter
- Alkalis feel oily/soapy
- Alkalis dissolve fatty and protein substances
- Alkalis conduct an electric current
- Most Alkalis are water soluble
- Alkali solutions always contain hydroxide ions (OH^-)
- When dissolved in water, solid hydroxide break down into positive metal-ions and negative hydroxide ions

A few examples of bases:

Caustic soda (NaOH) (sodium hydroxide)

Sodium bicarbonate (NaHCO_3)

Potash (KOH)

Ammonia solution (liquid ammonia) (NH_4OH)

Brucite ($\text{Mg}(\text{OH})_2$) (magnesium hydroxide)

Lime water ($\text{Ca}(\text{OH})_2$)

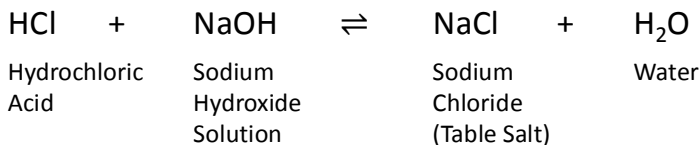
3.6.3. Neutralisation – creating salts

During neutralisation, if using the same amount of acid and alkali, water and salt are the results.

The pH value of the whole solution is then 7 (see chapter 3.6.4.).

Solid salts are crystals made up of positive metal ions and negative acid residue ions.

An example:



3.6.4. The pH value

The pH value is the scientific measuring unit that the acidic or alkali character of a watery solution indicates. Its name comes from *potentia hydrogenii* (Latin for the power of water) and describes the concentration of hydrogen/hydronium ions (protons, H⁺/H₃O⁺) in a liquid, indicated by its negative common logarithm. In mathematics it looks like this:

$$\text{pH} = -\log_{10}[\text{H}^+ / \text{H}_3\text{O}^+] \quad (\text{the square brackets here stand for the H}^+ \text{ concentration})$$

But what does this value mean? What does it mean when a watery solution has a pH value of 3?

As mentioned in chapter 3.6.1., acids in a watery solution release protons. The pH value indicates how high the dissociated proton content is in the dissolved acid.

According to the definition a watery solution with a pH of 3 (e.g. Coca-Cola) is:

$$3 = -\log_{10}[\text{H}^+ / \text{H}_3\text{O}^+]$$

The opposite of \log_{10} is the power of 10 (10^x), so:

$$[\text{H}^+ / \text{H}_3\text{O}^+] = 10^{-3} = 0.001 \text{ (a thousandth)}$$

So in this example, 1 in a thousand of all acid molecules release their protons

A water solution is considered:

- **acidic**, when the pH value < 7
- **neutral**, when the pH value $= 7$
- **alkaline**, when the pH value > 7

When the pH is lower than 7 then practically only protons/ hydronium ions exist, at a value of 7 the protons/hydronium ions and hydroxide ions neutralise their activity. When the pH rises above 7 only hydroxide ions exist and it isn't an acid strength but an alkali strength that is indicated.

As the pH value is also an indication of the concentration of charged ions – the more acidic a liquid, the higher the positive current, the more alkali, the higher the negative current – also applies (Fig. 7).

The lowest pH value is 0, the highest 14. From the point of view of physiology, these values are of a theoretical nature. In reality these values would never be reached in body liquids. These extreme values would be absolutely deadly for the living being.

Water has a pH value due to its natural ability for dissociation (see chapter 3.4.2). Pure, distilled water has a pH value of 7 as the concentration of positively charged protons/hydronium ions (H^+ / H_3O^+) and negatively charged hydroxide ions (OH^-) is the same and they cancel out the respective activities. If other substances were dissolved in the water the pH value could change.

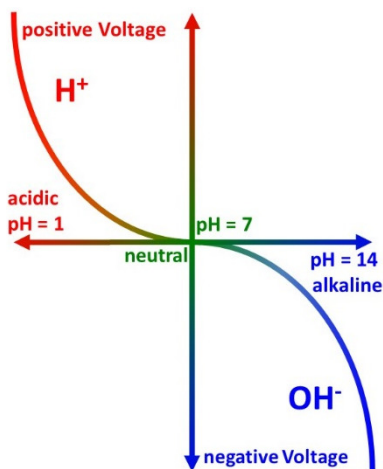


Fig. 7: Qualitative connection between the pH value and electric current. The increase in the positive or negative current rises in each case by a factor of 10 per added und subtracted pH value respectively.

The following is a clear example of what the information regarding the number of protons to the power of ten means with respect to the theoretical acid-base regulation.

Coca-Cola with a pH=3 contains:

- 10 times as many H^+ / H_3O^+ ions as in a liquid with pH=4
- 100 times as many H^+ / H_3O^+ ions as in a liquid with pH=5
- 1,000 times as many H^+ / H_3O^+ ions as in a liquid with pH=6 and
- 10,000 times as many H^+ / H_3O^+ ions as in a liquid with pH=7

What does that tell us? The usual diluting methods such as drinking 3 litres of water a day won't help us. Looking at it in purely mathematical terms, to compensate for a 0.3l glass of Coca-Cola one would have to either drink 3,000 litres of neutral water or a 0.3l glass of a watery liquid that has pH=11.

This fantastic achievement is managed by our healthy body with its ingenious buffer system. The emphasis here is on healthy, a sick body would not be able to manage it.

This example also makes it clear that it is simply not possible to compensate for a small glass of Coca-Cola with alkaline materials such as alkalizing powders which, in liquid form, have a maximal value of pH=9 or alkaline water of the same pH value. We would have to drink 30 litres of water with a pH=9.

Beware of conjuring tricks! A method for de-acidifying the body by taking a bath is being advertised on the market. One pours a handful of alkalizing powder into a bathtub filled with 50 litres of water the pH value registers as 7.8 (slightly alkaline). One bathes for 30 minutes in this water and when one gets out of the water the pH value of the water has sunk to 7. The conclusion of the manufacturer is that acids have been transferred out of the body and into the bath water by osmosis. But then, the following questions arise: Which acids are meant? Where do they come from? What amounts are we talking about?

There is no answer to the first question. Whether the acids stored in the tissue under the skin are released in this way remains to be seen. It is only the amount that can really be calculated.

To bring 50 l of water from pH=7.8 to pH=7 one needs 265.5 l of a liquid with a pH=7 or 26.55l of a liquid with pH=6. Where should such amounts come from? What happened really?

The mineral substances that were put into the bath water have deposited themselves on or very slightly under the skin (similar to salt when we swim in the sea). Due to this extraction of the alkaline powder from the bath water, it is brought down to a neutral level. Therefore in my opinion the effect this “alkaline bath” is supposed to have is most definitely questionable.

In the human body there are many different pH values to be found in the body fluids. They are listed in the table below (also described as the physiological pH values)

Body fluid	pH
Blood, Serum	7.37 – 7.45
Pancreatic juice	7.5 – 8.8
Bile	6.5 – 8.2
Urine	4.5 – 7.9
Gastric juices	1 - 4
Milk	6.5 – 6.9
Saliva	5.5 – 7.8
Skin	5.5 – 6.5

Tab. 2: Physiological pH values.

A final question here is: How does the body recognize or differentiate between acids and alkalis in its different organs? This is judged by the milieu according to the charge density of $[H^+ / H_3O^+]$ or $[OH^-]$ and the resulting induced current. Acids increase the positive current and alkalis the negative in our organism (cf. Fig. 7).

3.6.5. Water - acid or alkali?

After the basic explanations we now come back to water. What, according to this, is water? Is water neither acid nor alkali, or can it be used as an acid in one case and an alkali in another? Water is primarily a good solvent for all charged particles (cations and anions). This is why it can absorb both protons (H^+) and hydroxide ions (OH^-) and maintain them in a stable solution. The pH value tells us how acidic or alkaline a watery solution is. Water itself is neutral. Whether it is a diluted acid or alkali depends on whatever is dissolved in it. It simply stores information that results from the concentration of $[H^+ / H_3O^+]$ and $[OH^-]$ present.

As already mentioned in chapter 3.4.1., water is made up of two hydrogen atoms and one of oxygen. This is why it can dissociate into protons/hydronium ions and hydroxide ions itself (the pH remains neutral as both ion groups occur in the same amounts). The proportion of this split can be accelerated or increased by supplying it with energy. In this way water stores the energy that is fixed in the connection between the oxygen and the hydrogen. This in turn is made use of by nature. Biochemical processes tap into this energy reserve as and when needed.

In laboratory tests, so called detonating gas reactions show how violent the reaction is when oxygen and hydrogen combine to make water. If one burns or

ignites hydrogen gas (H₂) in the presence of oxygen (O₂) the bang that is heard, is louder or quieter depending on the amounts used.



The world was made aware of the disastrous consequences that a large hydrogen explosion can cause for the first time on 6th May 1937. This was the day when the Zeppelin LZ 129 “Hindenburg”, filled with hydrogen as the lifting gas, took its maiden flight. During the landing manoeuvres in Lakehurst, USA it exploded because of a gas fire.

Energy is obtained more carefully under physiological conditions. During the exchange of energy (the respiratory chain), the combining process of hydrogen and oxygen, to form water, is controlled by enzymes so that we don't explode.

On the other hand, for the opposite reaction - the dissociation of water - energy must be expended. As was explained a few sections ago. This can be obtained by the introduction of a current for example. Water is then gradually dissociated into its original substances (electrolysis). First of all protons and hydroxide ions materialize and finally it reverts back to the molecular gases oxygen (O₂) and hydrogen (H₂).

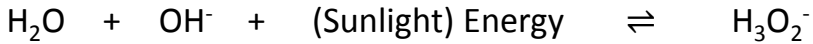
My conclusion: due to its ability to absorb protons and hydroxide ions, water transports information around the intra and inter cellular acid-base balance. If the balance is disrupted, water restores it by transferring the appropriate counter ions. The appropriate ions do need to be available in sufficient quantities, however. In an over-acidified milieu it needs the necessary amount of hydroxide ions. If this is not available, the metabolism of the cell will be affected as explained in chapter 3.5.

3.6.5.1. The “Formula of Life”

For me, the “Formula of Life” is water ordered in the hexagonal structure. This was already discussed in chapter 3.4.1. Now I would like to go into a little more detail. In the “honeycomb” structure, oxygen atoms are situated at the six corners and a hydrogen atom is situated in the middle of each of the six sides. Altogether one single “comb” is made up of one H_6O_6 unit. But what is the molecular formula of the basic unit in the multi-hexagonal layer? One oxygen atom is shared by three hexagons and one hydrogen atom by two hexagons. This means that only a third of the oxygen atom is available to the “comb” and only a half of the hydrogen atom. The basic unit of the multi-hexagonal layer is therefore half of the 6 [H]s and a third of the 6 [O]s = H_3O_2 (Fig. 8 left).

What does this molecular formula have to do with the customary water formula H_2O ? It looks as if it were an intermediate step from the H_2O -Monomer (single building block) and a dimer (a compound of two of the same molecule) H_4O_2 . But a hydrogen is missing for it to be a correct dimer. How can the formula H_3O_2 be explained? A hydrogen or rather its proton (H^+) is indeed missing. But in fact it left its electron in the oxygen $[O^-]$. The oxygen uses this extra charge to pull in the [H] of the next water molecule. In this case it doesn’t build another chemical covalent bond – the [H] has already done this with the [O] in the water molecule – it builds a so called hydrogen bridge. This is not as stable as a covalent bond but it is sufficient for the maintenance of a solid honeycomb structure. And that is how the basic unit of “living” water is formed.

As, according to observation, irradiation by sunlight promotes the formation of the multi-hexagons, in my view the following equation is valid:



So using this hexagonal structure, water stores electrons, in the form of the negatively charge hydroxide ions, and energy. As we will see later, this is a vital prerequisite for Hydroxypathy (see chapter 4.3.4,pp). As regards the physiological meaning of “living” water, I would like to close this chapter with a quotation from the water expert Professor Gerald Pollack. The biotechnologist at the Washington University in Seattle is of the assumption that the high level ordering principle of the hexagonal “living” water – comparable to a liquid crystal – is the (electrical) motor of life, which explains the function of capillaries, cell membranes and membrane tunnels in particular. These physiological filtering organs willingly open their doors for the structured water.

Even the function of proteins can only really be described through the presence of structured water as, “living” water structurally interacts with the proteins and the cell bodies^[11].

[11] Gerald H. Pollack (2013) Fourth Phase of Water: Beyond Solid, Liquid & Vapor. Seattle. Ebner and Sons Publishers.

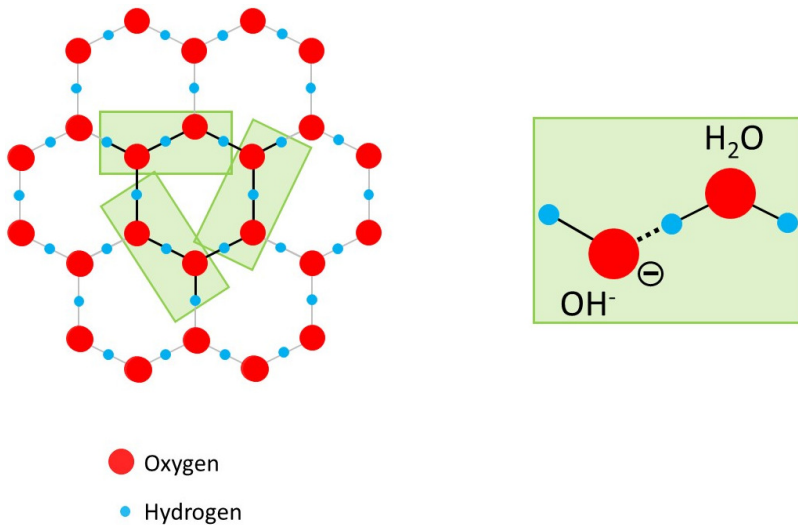


Fig. 8: Left: Order of the oxygen atoms and the hydrogen atoms in the hexagonal water layer. Three hexagons share one oxygen, two hexagons share one hydrogen. The green rectangles surround the basic unit of the hexagonal order. Three basic units make one hexagon. Right: The molecular structure of the basic unit H_3O_2^- : water (H_2O) and a hydroxide ion (OH^-) connected via a hydrogen bridge (dotted line).

4. Acidification of the body

We are going to leave the theory behind now and move on to the practice. Here I would like to explain in simple words, when the term acidification is used.

4.1. Definition according to East-Asian healing methods

Let us first take a look at the old eastern sciences. Thousands of years ago the Ayurveda scholars were thinking about the processes in the body. They came across some interdependencies that western medicine has still not recognized or doesn't want to recognize even today.

The healing arts of the Tibetan traditional Chinese medicine (TCM) and Ayurveda are still struggling to gain access to western culture today, even though their positive effects have long been proven.

My friend Joachim Nusch presents acidification in the same way that it is presented in Ayurveda^[12]:

Pitta = Surplus of acid

Ayurveda, the old science of life describes a multitude of causes of illness based on the Dosha teachings. Dosha calls the three different life energies Vata, Pitta and Kapha. These provide man with his individual constitution and regulate the bodily and spiritual functions. According to Ayurveda, each person is born with his own constitution. Ayurveda practitioners and therapists carry out a pulse diagnosis to check the patient's Doshas and identify any disorders.

Using the Jyotisch of Ayurvedic astrology, the astrologist determines the Doshas very precisely by evaluating the Janma Kundali according to the client's birthday.

^[12] German Essay of Joachim Nusch, 2008.

Ayurveda assumes that an individual is made up of five primary elements, ether (space), air, fire, water and earth. While man is made up of a mixture of these five elements, certain elements have the ability to connect up and to generate different physiological functions.

For example ether and air connect up to form what is called Vata-Dosh in Ayurveda. "Vata" stands for the principle of movement and can therefore be considered as the energy that drives the nerve impulses, the circulation, the breathing and excretion.

Fire and water are the elements that connect up to form Pitta-Dosha. Pitta-Dosha is the process of conversion or the metabolism. The conversion of food into nutrients that our bodies can transform into our own bodily substances is an example of a Pitta function. Acidification and complaints that are generated by a disrupted metabolism point to a Pitta disorder.

Finally there the elements water and earth which connect up to form the Kapha-Dosha. "Kapha" describes that which is responsible for substance, growth and in part the addition of structure. A further function of the Kapha-Dosha is to offer protection. Brain and spinal marrow fluids protect the brain and spinal cord and present a kind of Kapha that can be found in the body. Another example is the stomach lining which protects the tissue.

The teachings of Ayurveda say that man is made up of a unique proportion of Vata-, Pitta- and Kapha-Doshas. This is different from individual to individual. If one of the Doshas should become too strong, Ayurveda advises a certain lifestyle and dietary guidelines in order to help the person reduce the Dosh that had become too strong in relation to the others.

Ayurveda can also suggest herbs as supplements to accelerate the healing process. Ayurvedic medicine is based solely on herbs and herbal mixtures (Rasayanas). The herbs used in ayurvedic medicines do not work against the body's metabolism. If there are numerous toxins in the body, a purification

process is recommended so that these undesired toxins can be removed. This is known as “Panchakarma”. The goal of Ayurveda is to eliminate the cause of the illness not to cure the illness itself.

The Pitta-Dosha governs and influences all “combustion” and “fiery” processes in the body: heat management, the breakdown of food, metabolism and the generation of energy. A person with a surplus of Pitta inclines towards aggression, infections, skin disease, stomach problems and acidification. The liver of the Pitta-type produces more bile which promotes peristalsis. Therefore a Pitta disorder influences the energetic nervous system, the vegetative nervous system and the performance of the gastrointestinal tract (secretions, motor reflexes, circulation).

“Pitta is moist, warm, penetrating; its physical state is liquid; it is sour, fluid like a liquid and harsh. “Pitta” is quickly soothed by substances with opposite characteristics.”

Ayurveda advises a certain lifestyle and dietary guidelines in order to help the person reduce the Dosha that has become too strong in relation to the others. The Pitta type needs to reduce the surplus Pitta. The recommended diet and lifestyle support him/her in that.

For orientation please observe the correct proportions of nutrients for Pittas:

- 30 % Proteins,
- 50 % Carbohydrates
- 20 % Fats.

After 18:00 eat no more animal protein.

The following symptoms and complaints occur in the case of a Pitta disorder:

- Infections
- Ulceration and Putrefaction processes
- Burning (e.g. burns, urinary tract infection)
- Heat (e.g. Hot flushes, fever)
- Acid Stomach and Stomach ulcers
- Diarrhoea
- Pronounced hunger and thirst
- Strong sweating
- Body odour
- Tendency to bleed
- reddish, yellowish and greenish colouring of secretions or organs

“The balance of the metabolism, digestion, tissue and excretions as well as the happiness of the consciousness, spirit and senses are prerequisites for good health.”

4.2. Acidification? Doesn't exist!

In the clinical dictionary Pschyrembel I cannot find an explanation for acidification, only a few pages on acidosis. It says that it is a malfunction in the acid-base balance with a reduction in the arterial pH value to 7.36.

So what is acidosis if not acidification? A typical example of the kind of instruments that school medicine uses to declare that there is no acidification. But they do say how bitter (sour) they are when something happens (or doesn't

happen) that they don't like. Or they speak of "over-acidified musculature" when a sports person collapses with calf cramp. There are simply things that one doesn't want to acknowledge.

The drop in the pH value of blood belongs to the field of medicine which means no-one except for medical doctors are allowed to engage with this topic. Does this mean that base foods belong to the field of medicinal products? What is valid here?

Too much acid or too much alkali in the body causes the acid-base balance to fall out of sync. It is important to avoid this as every deviation from the norm brings the danger of imbalanced current and therefore tension.

If the current is no longer correct, the balance is affected, too. When the acid-base balance is being discussed, it is always the surplus of acid that is meant (acidosis). But as we have seen, a surplus of alkali (base) is just as dangerous.

Think of an acid stomach, if this is diluted too much with alkali materials, various reactions can occur, from stomach cramps, to heart burn even as far as proteins no longer being broken down.

Don't believe the nutrition gurus who only speak of base nutrition, nor the base powder popes who still have the mistaken belief that base powders will solve the acidification problem. These incorrect assumptions brought the belief that positively charged cations of calcium potassium, magnesium and sodium, in fact all minerals, contained in base nutrition and powders, have characteristics that work against the acid. All nutritional tables that present the acid value of foodstuffs are based on this and therefore belong in the bin ^[13]. As we go on however, we will only be focussing on the surplus of acid as this is responsible for the development of 95% of all illnesses.

[13] Jörgensen H-H. Sportler brauchen Mineralien (online: <http://nam.de/29.html>).

(*Jörgensen H-H. Athletes Need Minerals (online: <http://nam.de/29.html>)*).

4.3. How does acidification occur? Well-known reasons!

Up to now the reason given for acidification was an unbalanced diet as one hadn't thought any further than the gastrointestinal tract. In fact our nutrition isn't basically incorrect, it's more the way we eat. Hastily, without thinking about it, not chewing enough, too many products that contain only a small percent of their natural goodness. The current discussion is on designer label foodstuffs, products, produced in factories using foreign substances, but which lead us to believe that they are natural or we need them to lead a healthy life.

Years ago I warned people about using probiotic yoghurt drinks to strengthen the immune system. In fact it is the absolute opposite. These products have no use at all. In 2009 'Actimel' received the "Windbag of the Year" award for the product that raises the most false hope through advertising. If I supply my body with foreign bacteria that take over my immune system, my own immune system will be affected resulting in dependency on the foreign bacteria. Drug abuse is a severe example for this. Even worse, the bacteria used are taken from faeces, vaginal smears from cows and other such substances.

Foodstuffs should be food for life. They should definitely not contain too much:

- Sugar (!)
- Milk proteins
- Animal fats
- Saturated fatty acids
- Luxury foods (Alcohol, Nicotine, Sweets).

That said, this is only a small part of the reason for acidification, I estimate ca. 25 – 30%. The much larger proportion of the continually increasing number of illnesses that are caused by the deregulation of the acid-base balance is due to

the change in man's way of life over the last 30 years. The influence of the environment can no longer be simply explained away. Our own environment (work situation, family, stress), has reached a higher significance for the cause of illness than we were aware of before.

In the meantime stress is the number 1 cause of metabolic illnesses. Burnout syndrome doesn't only affect top managers nowadays, it also affects the middle levels of hierarchy. Bullying is an acute and omnipresent topic in most companies. The stress is often compensated with alcohol or tranquilizers. But how long will that work? The cruel answer is: Till the breakdown comes. Therapists need to take pre-emptive action here. Healthcare policies have worked to ease things but so little has been published that the majority of companies do not take advantage of the tax incentives because they are not aware of them.

Electrosmog, the influence of mobile phones, nuclear energy plants and traffic smog also contribute, just like the continual use of medication. Free radicals destroy the body's immune responses and lead to acidification.

We can hardly escape these factors. Of course we can change our eating habits, eat more base foods, drink more water, give up work, move to a stress free, uncontaminated place, give up the family, basically give up everything that modern life has brought us in indulgences and wellness.

The question is, do we really want that? Can we really do it?

With regard to weather sensitivity I'd like to report on the key word electro biology. Recently I discovered a "Spiegel" article from 1953 with the title "The electric creature - Man" ^[14]. The article presents the work and opinions of the country doctor Dr. Jobst Gödeke from Ärzten near Hamelin, Germany, who had discovered that in good weather, air becomes negatively charged, in bad weather

[14] Das elektrische Wesen Mensch (1953) Spiegel. 11. 31-32. (*The Electrical Creature - Man (1953) Magazine "Spiegel". 11. 31-32.*)

positively. In his opinion, our feeling of well-being during good weather is a result of negative atmospheric electricity. He also observed “that eczema and boils on the skin heal more quickly when the air is positively charged with (cat)ions. In tests carried out up to now, in quickly growing tissue and infections the negative charge prevails. The positive (cat)ions in the air and the negative (anions) in the infected areas and boils should attract each other. In this way, an exchange of charge, which is favourable for healing, should occur.”

He claims that “In negative air, the heart, which is the strongest electricity producer in the body, is most alleviated”. “The air acts like a booster to the tiny electric impulses in the heart muscle fibres. So that the heart has less work but achieves the same performance.” Later in the article it says, “Since the 1920s, during mass studies, bio-meteorologists have discovered astounding connections between weather fronts and health problems such as sleeping disorders, lung embolisms, thromboses, cardio-vascular disorders. The researchers interpreted the effects of a weather front on the organism in different ways. One theory says that the pressure on the electric charges of the air atoms has a direct influence on the body” At this point I would like to quote Mr. Spock once more, “Fascinating”.

The observations of the country doctor give us food for thought, if we consider that our organism – apart from the air which is charged according to the weather – is confronted with a multitude of electro-magnetic fields, which are caused by electricity users and radio waves. Is wireless harmless or in the long term damaging after all. What are the long term effects if your ear is hot after telephoning with your mobile phone?

It doesn't matter whether the manufacturers or independent testing bodies want us to believe that these technologies are harmless. All in all one can only recommend that one take a closer look at these pressures and if it doesn't seem right then react. Keep out of the way of cancer!

4.3.1. Adverse effects on the metabolism

In the meantime everyone is familiar with the well-known reasons for acidification. A multitude of authors have explored the reasons and then handed out well meant advice, which hasn't unfortunately lead to the goal. Acids influence the metabolism because they change the current between the cell's surroundings and its interior.

The influence on the metabolism causes a lack in enzymes, vitamins, nutrients, trace elements and finally information. This lack inevitably leads to illness. But why is it that dietary supplements in whatever form don't reactivate the metabolism, the base mineral materials fail as anti-acid agents?

And while we're talking about failure, let's take a critical look at the "acid-base balance". As it happens, for one acid molecule in the blood there are twenty alkali molecules. This shows that the danger doesn't come from the side of the alkalis, as one school of thought within medicine would have us believe, but from the acid.

It was only with the support of the repeatedly, optimally balanced adjusting and emergency response strategy that creation made it possible for us to climb from the single cell slipper animalcule in the earth's primordial soup to the Homo sapiens sapiens of today. A twenty fold protective barrier makes it unmistakably clear where the enemy, that we should and want to be protected from, is situated. But this ultimately means that a twenty fold metabolism is regulated with alkalis, therefore via the ion channels of the cell membranes which absorb minerals (Na^+ , K^+ , Mg^{2+} , Se^{2+} , Ca^{2+} etc.). The enemy enters through the back door in the form of hydrogen ions, which in their form of non-dissociated (weak) acids and therefore carrying no charge, can penetrate the cell as single protons (H^+). An increased accumulation of weak acids (e.g. acetic acids, ammonia etc) can lead to a partial de-polarisation of the cell (compare with chapter 3.5.).

However, the fact that nature built such a powerful protective wall for us makes it clear that it means us well. But no dike lasts forever if it is constantly under attack. In nature's original blueprint the plan was to have a nutrition pattern that was continually subject to fluctuations in the supply of acids and alkalis but only to a degree that the protective wall could compensate for. In between times we have moved a long way away from this nutrition plan. It would do us no harm at all to think about whether we are continually undermining the wall. If we slowly alter the healthy acid-alkali ratio of 20:1 to 19:1, then 18:1, then 17:1, we shouldn't be surprised if even the best system breaks down one day.

The cell's front door, the ion channels, remain closed to the base minerals.

In the following section I am going to describe how the potassium ion channel works, including the filter function.

4.3.2. From the metabolically active to the metabolically inactive cell

A healthy active cell deals with all incurring acids and alkalis thereby maintaining its internal balance. But how does the situation arise that an active cell becomes inactive? How and why do the ion channels used for mineral transport become sealed off in detail and what are the far-reaching consequences?

The diverse life processes e.g. the absorption of nutrients in the cells or the insulin release in the pancreas are dependent on communication with the ion channels.

As already explained, the excessive accumulation of positively charged protons inside the cell alters its membrane potential. The polarity of the charged protein sections in the ion channel is reversed and the mineral cations are rejected. They can no longer pass through the membrane and the transport or communication mechanism is interrupted (see chapter 3.5.).

How does the ion channel work on a molecular level? The American biochemist and physician, Roderick MacKinnon and his team, clarified the mechanism and the selectivity (filtering potential) of the potassium ion channel ^[15]. There is a sketch in Fig. 9.

The blue potassium cations (K^+) and the green sodium cations (Na^+) are responsible for the transport of nerve signals. The following trick enables the ion channels to allow the bigger potassium cations through while keeping the sodium cations out. The water coating of the cations helps the filtering process. Both particles are “clothed” with four water molecules, shown here as red with boomerang-like wings. Using their positive charge, the cations attract the electron rich oxygen (O) of the water.

As discussed in chapter 3.4.1., the oxygen binds the electrons of the water molecule more strongly to itself than the hydrogen (keyword: higher electronegativity of the [O]), this is why chemists speak of a negative partial charge of the oxygen. This ensures the attraction of the cation.

^[15] https://www.nobelprize.org/nobel_prizes/chemistry/laureates/2003/

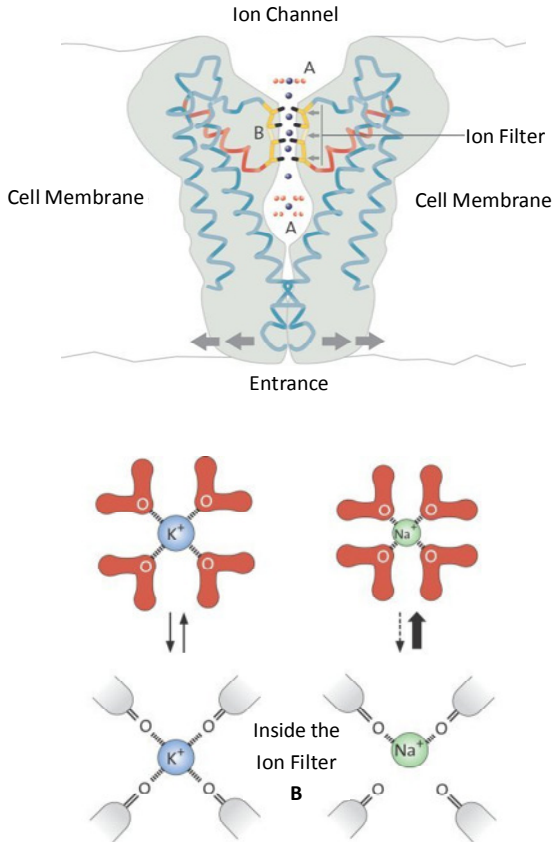


Fig. 9: Potassium-Ion Channel Filter Function. © Nobel Foundation 2003.

So if a cation wants to pass from outside (A, above) through the narrow passage of the filter (B) it needs to remove its water coating to get through “naked”. As a replacement sheath there are four oxygen atoms sitting at certain distances from each other within the narrow channel (B). They have the necessary attraction and the space between them is perfect for the bigger potassium ion

(bottom left). The smaller sodium atom doesn't fit into this "extra shirt" it is only half the size. Therefore it cannot remove its water coat and remains outside. The sodium cation has its own transport channel.

The potassium transport would come to a standstill if the negative charge on the oxygen in the replacement sheath neutralised and the polarity of the protein in the narrow (B) were reversed. In simple terms, if the transport process is to run smoothly there can be no competition for the negative charge on the oxygen atoms within the ion filter. On the other hand an increased presence of positively charged carriers within the cell can change the membrane potential so that the negatively charged ion filter will undergo a change in polarity. The positively charged (cat)ions will be rejected and can no longer be metabolised. The changed membrane potential alone is simply not enough to guarantee the physical action of opening the protein channel.

Vital minerals have to remain outside the "door". This is the reason why base powders, which consist mainly of minerals cannot activate the metabolism in an acidified cell. The reason being the significant excess of protons (H^+). The ion channels become stuck together. The cell becomes ill the whole metabolism breaks down and various different illnesses arise, the majority of which are irreversible. Is that really true? At least in today's medicine diabetes, multiple sclerosis, tumours and similar illnesses are considered not curable.

But I can assure you that these illnesses have already been beaten by Hydroxyopathy, although it cannot be scientifically proved nor is it documented by university studies. But understandably that wasn't important for those affected. The motto is: rather practically healthy than medically abandoned.

The conclusion for this chapter reads: using conventional commercial base material (as nutritional supplements) will not reverse an intra-cellular acidification.

This is a further example of why certain nutritional supplements can be misleading. For example if we take magnesium citrate, a so called alkaline nutritional supplement, once ingested it is converted into citric acid. The fact is, when the salt of a weak acid comes into contact with water, the acid it will partly re-form. So when magnesium citrate meets H_2O , citric acid and magnesium hydroxide ($Mg(OH)_2$) are created. The latter is alkaline so everything is fine. But if the magnesium citrate meets a hydronium ion (H_3O^+), which is highly likely in an acidified organism, the proton jumps across to the citrate ion and citric acid is the result. The magnesium cation (Mg^{2+}) is now free and is looking for an electron rich partner. So in this way alkaline elements are in fact being removed from the body. Taking citrate is therefore rather counter-productive. The patient takes citric acid, the body regulates this with alkalis. In this way alkalis are removed from the body. If the urine is alkaline because we excrete metal compounds, this is rather an indication of acidification for me. If on the other hand we excrete a slightly acidic urine, this is proof of an active de-acidification.

4.3.3. From the metabolically inactive cell to illness

One would think that a metabolically inactive cell would no longer be able to function and atrophy. In fact the opposite is true: it develops activities that are everything but well-meaning. False information is passed on, the communication between the cells breaks down and one might imagine that a revolution is

underway. Initially in secret, latently, unnoticeably, the inferno spreads throughout the whole cell structures and organs.

The simplest indications are tension, cramps, headache, discomfort, tiredness, sleeping problems, lack of energy. In sports people it is known as muscle acidification. If this acidification becomes chronic, infection, de-mineralisation and disruption of the immune system are added – arthritis, rheumatism, fibromyalgia, yes the whole pain palette.

As the blood's buffer systems have to increase the pH value they take the missing minerals from the bone depot. This de-mineralisation causes:

- Bone reduction (Osteoporosis),
- Heart attacks,
- Strokes.

If the metabolism is damaged, the removal of toxins is prevented. This leads to the typical sedimentary diseases:

- Rheumatism
- Gout
- Arthritis
- Strain on the kidneys
- Arteriosclerosis
- Heart attack
- Cataracts

The immune system breaks down, the result is many infections like colds. The immune system cannot combat infiltration by micro-organisms such as fungi, bacteria and viruses. A break down along the whole line preoccupies the person,

has an effect on him in his surroundings which in turn increases the acidification.

A vicious circle!

The supposed saviour: the base powder. But it has no real effect. You see, first of all the minerals gather in the area outside the acidified cells. As we saw in the previous chapter, they can't get inside because the ion channels are closed. In the worst case, these minerals slag in the area between the cells in the presence of acids and become compounds that are insoluble and if there is not enough water in the area, they become gall, kidney or bladder stones.

4.3.4. From being an inactive cell to becoming an active cell again

Coming back to life was also my goal many years ago when I was battling an acidification of the liver and the related diabetes.

For this we need the “Formula of Life”, a form of water that supports the physiology and the metabolism in a natural way (cf. ch. 3.6.5.1.).

The basic idea is to produce such an amount of this solution that is sufficient to overcome the gastric acid of the area around the cell and to reach the acidified cell's membrane. The solution should not reach any healthy cells, however.

We have already seen that acidified cells have a different membrane potential to the normal condition, caused by the positive charge of the protons. Healthy cells, on the other hand, have a much higher negative membrane potential. Therefore the solution itself needs to have a negative potential.

In summary my solution would have to have the appropriate hexagonal structure to:

- have a negative potential,
- be alkaline and
- to pass through the cell membrane.

An alkaline $[\text{OH}^-]$ solution, prepared with a pH value of just over 12 under the energetic addition of quanta. This solution should be strong enough to bind the intra-cellular protons (H^+). The question is, how do I maintain this hydroxide ion solution in a hexagonal “living” water matrix without generating mineral alkalis that are corrosive and therefore dangerous? If I generate alkalis, they need to be diluted, which means that the potential is weakened so much that the dissociated hydroxide ions are no longer effective enough to act in the cell’s interior. The experiments using water purification devices to produce activated water, failed.

Continually drinking activated alkali water (also called a catholyte) didn’t achieve the desired success. On the contrary, too much alkaline water weakens the effect of the gastric acid. This is important for:

- protecting the body against bacteria, fungi and parasites, that are ingested with food,
- the absorption of Vitamin B12, the vitamin important for nerves and metabolism, which can only be absorbed by acidic gastric juices,
- the complete and correct breaking down of proteins in the stomach. The proteins would otherwise not be completely digested, lie longer in the stomach and therefore lead to decomposition processes in the intestines.

I remembered the formula for the creation of water $[\text{H}] + [\text{H}] + [\text{O}]$. If I remove an $[\text{H}^+]$, I am left with an $[\text{OH}^-]$. If I remove further $[\text{H}^+]$ s, I am left with further $[\text{OH}^-]$ s. So I “only” need to remove the positive proton from the water molecule, i.e. take away one of the two hydrogens, and I’ll get a hydroxide solution with a negative charge. I continue with this process until I have achieved a pH value of 11.

I experimented for a long time using an electrolysis device and soon had the desired success. I had an alkaline solution made up of a high proportion of [OH⁻] anions, integrated in a hexagonal water structure (Fig. 8), a tiny proportion of mineral substances (< 0.6%) and a negative current. At least for a couple of minutes! It took a few more weeks until I managed to stabilise the solution so that it could be bottled and stored. In the meantime it can be stored for over 48 months without any loss in effect.

With that, the process for producing the basic OH-solution was developed. This is subject to the following conditions:

- the electrolysis of the water as an electro-chemical activation process (ECA) in a container with a semi-permeable membrane (common procedure that is used daily in laboratories all over the world).
- the aligning of certain parameters to enrich the water with quanta for the cultivation of a stable hexagonal structure as well as a stable current (or rather pH value). Therein lies the potential for providing the solution to healthy energy (SanaQuanten).

Thus I had the “Formula of Life” stored in bottles.

Now it was time to determine its effectiveness. Success came quickly as the test persons reported changes in their metabolism, that pain eased and many other good characteristics (that will be reported in this book) and life was worth living again.

I had managed to re-activate, inactive cells and to regulate the metabolism.

What had happened?

Acids and thereby sick cells with their strongly positive potential attract the negatively charged hexagonal water clusters (water units), with their masked hydroxide ions, like a magnet. They are channelled through the cell membrane to the interior of the cell and connect up with the surplus protons forming water. As structured water has a high affinity for molecular oxygen (O_2), cell respiration and the growth of the universal cellular energy carrier Adenosin-triphosphate (ATP) is strengthened. The water leaves the cell taking slag and any toxins with it. The minerals settled in the area around the cell can now be metabolised and the cell can fulfil its original tasks. Acids that settled around the cell and have had a damaging influence on the membrane potential are also neutralised by the “living” water and transferred in the form of water and the salt of the acid. The area around the cell is now also free from acids.

Back to the intra-cellular molecular level. What are the tasks of the minerals (cations) in metabolism and what exactly does it mean when they come to a standstill? I'd like to explain this question with the aid of muscle fatigue.

On the outside of the cell membrane there are mainly negative charges. These are parts of the phospholipids and glycolipids, but also extensions of glycoproteins. These form an ion charged cloud around the cell membrane. Calcium cations (Ca^{2+}) from the surroundings of the cell, react with the fixed charges in the muscle cell and neutralise them. The negative membrane potential decreases or rather becomes physiologically depolarised^[16], thereby activating or stimulating the muscle cells. The ion channels within the membrane are opened and potassium cations (K^+) pour out of the cell while sodium cations (Na^+) pour in at the same time. Muscle contraction occurs. The displacement of the

^[16] Silverthorn D. U. (2015) Human Physiology: An Integrated Approach (7th Edition). Harlow. Pearson Education Ltd..

cations across the membrane of the working muscle directly influence its stimulation and contracting ability ^[17].

What is the reason for this muscle fatigue?

When the outflow of $[K^+]$ in the muscle cell is higher than the inflow of $[Na^+]$, the membrane potential sinks and along with it, the level of the action potential for the ion transport mechanism. In the end it will be totally suppressed. As a result, less calcium is released from the sarcoplasmic reticulum (a particular functional unit of the cell) and the strength of contraction falls. A lower pH inside and outside the cells with the appropriate concentration of protons as positive charge carriers, additionally counteracts the membrane & action potential.

For a long time the search for the causes of muscle fatigue were focussed on the idea of a limited energy supply. But no study was able to show a dramatic fall in the intra-cellular ATP. The close connection between energy metabolism and ions or rather pH displacement however, looks quite obvious.

But how can the negative cell membrane potential be maintained in order to sustain the cell regulations described?

In many empirical trials the important pH structure could be restored with the aid of hydroxide ions. Fig. 6 in the front part of the book (chapter 3.5.) shows the route from the intact cell through to the acidified cell to the regenerated cell. Some speak of the rejuvenation of the cell, which is of course nonsense, the

[17] Maierbäurl H & Maasen N (2002) Ionenhomöostase, Muskelkontraktibilität und muskuläre Ermüdung. Deutsche Zeitschrift für Sportmedizin. 53 (9). 238 -243.
(Maierbäurl H & Maasen N (2002) *Ion Homeostasis, Muscle Contraction and Muscular Fatigue. German Journal for Sports Medicine. 53 (9). 238 -243.*)

cell has been refreshed and not prematurely drained. Life can be extended but actively and healthily.

In five years I have found several thousand co-drinkers, who have only positive things to report about the hydroxide solution (OH-solution) and I have had no negative feedback from any of them.

Food chemists look at their tables and say that the liquid should work like an alkali. Dear reader do you really believe that all hydroxide drinkers are masochists?

5. What can Hydroxypathy achieve?

Ideally, if we live healthily, illnesses can be prevented and we could live to be over 100 without infirmity. It is said of primitive cultures such as the Hunza people that they live to be well over 100. Unfortunately this ideal case doesn't occur very often but with the help of hexagonal water it can get a boost.

Taking a schnaps glass (20ml) of the hydroxide ion solution every day on an empty stomach improves the metabolism considerably and protects the cells from acidification, stabilises the acid-base balance, regulates the whole body.

The OH-solution has already been used successfully for both preventive and therapeutic treatments for the following medical conditions:

- Because of an unbalanced diet there is often a lack of alkaline minerals in the body, which are necessary for the excretion of surplus acid via the kidneys. A resulting faulty regulation of the acid-base balance leads to the deposit of acidic metabolites in the connective tissue and a change in the water binding. In patients with chronic back ache the cause was eradicated through taking the OH-solution as a supplement.
- It has been proven that free radicals and acidification have a damaging effect on the bone mineral density. This causes arthrosis, arthritis and osteoporosis. As the OH-solution works inside and outside the cells, the fall in the pH value is counteracted and the activities of the osteoclasts are limited, even stopped. The OH-solution has also proved promising when used in osteoporosis prevention treatment.

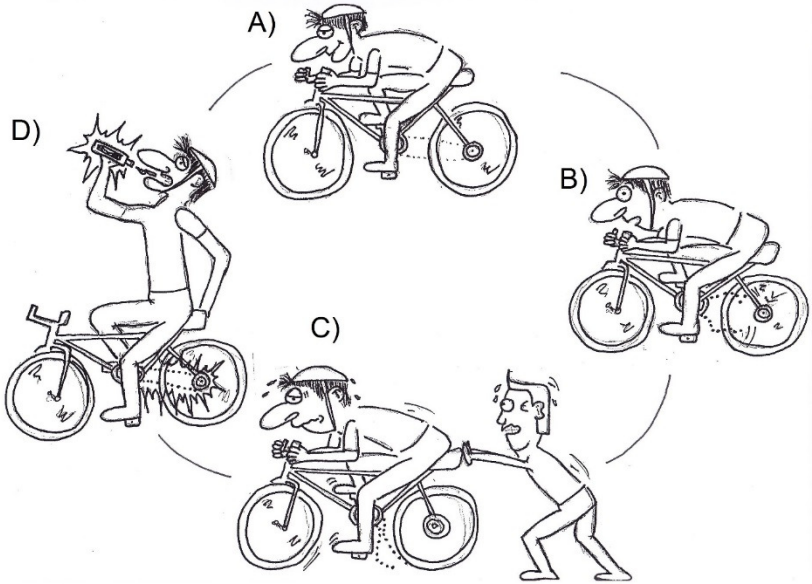


Fig. 10: Hydroxyopathy is the encouragement to self-help. Good health and illness can be compared to cycling. If we are healthy the bicycle is working and we can cycle as fast as we like with it **(A)**. If we are ill something is missing and we are limited. It's as if the bicycle chain is broken and pedalling won't help us to move forward **(B)**. In physiology our metabolism experiences something similar. If our health is compromised, important metabolic processes stop. Instead of dealing with the cause – in the case of the bicycle it would mean fixing the chain – we often only treat the symptoms by taking medicine and don't cure the actual cause. In the cycling story it's as if we are being pushed **(C)**. We ourselves have very little influence on our speed because the chain is still broken. The chain is a symbolic representation of the self-help that we attain (again) when the internal milieu is in balance. The acid-base balance of the affected area of the body is meant here. If this is brought back into balance with Hydroxyopathy, the normal metabolism begins to work again, our self-healing powers are mobilised and therefore support the therapy effectively. In the cycling story, achieving the therapeutically effective milieu is comparable to repairing the chain. **(D)** We can cycle alone again **(A)**.

- Malfunctions in the bowel are often caused by acidification. By drinking the OH-solution the bowel function was returned to normal. Acidification of the bowel goes hand in hand with a higher population of bacteria and viruses. It's not without reason that the fungus *candida albicans* can be found more and more often in the digestive system. More than 35% of the German population have been diagnosed with it.
- I have had the neighbouring stand to the fibromyalgia self-help group at several health fairs and was always well received and had a lot of success. In the shortest time patients were able to report that their pain had significantly eased after taking the OH-solution.
- Indeterminate pain
- Rheumatism – as a “wandering” pain. Several homeopathic practitioners reported on patients who ceased to have rheumatic complaints very quickly. They administered the OH-solution (2 times 25ml) along with 8mg Astaxanthin (more about that later), one per day.
- Reduction in the lactate value (lactic acid) and thereby an improved energy use. An inexhaustible energy source for sports people.
- Complementary therapies for tumours. Doctors that treat cancer with the acid-base theory point out the slowing down of the cell division in the alkaline area. By using the OH-solution the generation of cancer cells could be slowed down and metastases were not generated at all. In addition, the side effects of chemotherapy and radiation were considerably reduced. Patients reported a significantly improved attitude towards life during the treatment. Their courage to face life was positively influenced.

- An OH-solution is exceptionally well suited for improving the performance of endurance athletes as it prevents the acidification of muscles and the organism making it possible to increase performance.
- Application to open wounds
- Application after tooth extraction
- Successes have been reported to me about it as a supporting therapy for Parkinson's disease.
- The same is valid for multiple sclerosis
- Great success could be achieved through its use against diabetes. I myself was diagnosed with diabetes in 1999. I injected 18 units of insulin per day until 2001. I was able to transfer to tablets after losing a lot of weight (12kg). Since 2003 I have been taking the OH-solution every day along with alpha lipoic acid. Since 2005 I no longer need the extra tablets, my diabetic neuropathy has disappeared.
- The OH-solution has a balancing effect on the state of mind, on depression, too.
- The OH-solution was successfully used for all inflammatory disorders.
- Acne
- Gout
- Arthrosis, Arthritis
- Supporting therapy for Alzheimer Dementia
- Burnout-Syndrome
- Powerful antioxidant (radical catcher)
- Regulation of the bowel

- Regulation of the stomach
- Liver function disorders
- Renal insufficiency
- Gall bladder problems
- Weight regulation
- Application in the therapy of an altered milieu with the [H⁺] solution against viruses, bacteria and fungi as described in chapter 5.3.pp.
- Application during a fasting cure
- Loss of taste

Every day I hear of new successes in many different fields.

All of these cases have been confirmed to me by therapists who have already used them on several patients. Side effects have seldom been observed. They were mostly at the beginning of the therapy – a slight burning sensation in the oesophagus or an upset stomach. Occasionally there were incidents of diarrhoea but they can be evaluated as a positive cleansing effect. These side effects receded quickly after 1 or 2 days. Nothing stands in the way of it being used over the long term. I, myself have taken this solution almost every day for 12 years. I have had no health complaints in that time. Flu is a thing of the past. Other irritating aches and pains have not come to bother me either.

5.1. Hydroxyopathy as an aid to diagnosis

After therapists had already used the OH-solution with hundreds of patients I received an interesting piece of news: the OH-solution triggers different tastes for the patients when they drink it.



Fig. 11: Taste-Diagnosis-Process of Hydroxyopathy. Drinking the OH-solution provides information on deficiencies in certain areas of the body (detailed explanation in the text below).

On the basis of this information I gathered the experiences of the therapists over a period of ten years and recorded them in a table, from which the most common tastes could be assigned to certain organs (see Tab. 3).

Everyone was astounded at the certainty that a metabolic disorder could be assigned to our organs, because that's what it's all about. The accuracy rate lies at 90%.

Long before a disorder can be determined through blood tests, the cells are signalling a malady in the metabolism. The OH-solution is therefore an excellent possibility to act preventively. If the results of the blood test are not good the metabolism is already in the pathogenic range.

In this way therapists have the possibility to be several steps ahead of all other diagnosis systems. A metabolic disorder is easier to cure than an illness. The therapist can consider himself a health service provider rather than an illness administrator.

Detoxifying organs, liver and kidneys, are those most often affected. But the pancreas is among the "favourites" for metabolic disorders too. In principle, a budding diabetes can be prophylactically treated well in advance so that the illness never actually breaks out.

For the diagnosis test, the patient gets a small amount of the OH-solution to drink (ca. 10ml) and afterwards says what it tasted of. Please note the OH-solution is odourless and might theoretically have a minimally salty taste. Experience has shown that the tasters' results range from a very salty to a very disgusting taste. But why is this?

The organs send out signals or information to say that they are currently in a critical or acidified condition. My theory is that the affected organ presents the strongest opposite pole to the OH-solution so that it is transported there directly to start reducing the acidification. The resulting short circuit (minus hits plus) sends the brain a stimulus that corresponds with a certain taste. Empirical tests

over years make it possible to assign certain organs to this information. An example is that at the end of congresses I often noticed that the testers experienced a bitter taste. This was a call for help from the kidneys as the testers had not drunk enough water during the day.

If the taste is considered neutral or not even slightly salty, that mean the warning system for local acidosis is not working. Reasons for this can be a strong influence from nicotine, opiates and alcohol or possibly the indication for a tumour.

In the following table are the experiential values for the allocation of the different tastes to the corresponding organs that have deficiencies.

Taste	Organs Indicated
Slightly salty	No indication, Regulation in Order
Salty to very salty	Connective tissue and Muscles
Bitter, Metallic	Kidneys
Ammonia, Alkaline	Urinary system- and Bladder
Fish taste	Liver
“Bad eggs”, Sulphur	Gall bladder
Sweet	Endocrinal System, Pancreas
Chlorine, Vinegar	Gastrointestinal tract
Spicy, Burning	Heart and Blood circulation
Neutral	Strong influence of nicotine, drugs, alcohol or possible indication of a tumour

Tab. 3: Allocation of the tastes with the indication of the corresponding organ with deficiencies.

I am convinced that this is the simplest, most effective and cheapest method to check for acidification in the body. The more intensive the taste, the stronger the acidification, both inside and outside the cells. But don't worry – the tastes disappears after a few seconds.

However: One sip alone is not enough!

Now follows a drinking cure of at least 30 days. Every day before breakfast and before the final meal of the day drink a small glass (25ml). It's important to take the solution on an empty stomach during the cure otherwise the pH value of the gastric acid will be increased, as is usual with base powders, and this could lead to nausea. During the cure, the solution's taste changes and you will be able to recognise the success yourself. If the metabolism was only lightly affected it will be back to normal in a very short time. If the solution's taste doesn't change a concomitant therapy for the affected organ needs to be carried out. After that there should be a 4 week break. For chronic disorders it is absolutely fine to drink 1 small glass a day.

You can also dilute the OH-solution with water at a ratio of 1:4 without reducing the effect. However it must be clear that the 25ml of OH-solution should be poured into a 100ml glass of water and then immediately drunk. Many food chemists have not yet grasped the difference between a corrosive alkali (e.g. caustic soda) and a pure OH-solution. In a survey carried out in 2009, only 1 answer from the 100 described the solution as corrosive, and this simply lead to the recommendation to dilute it with water.

Recommendation:

During the drinking cure one should also undergo a detoxification process. As the metabolism is being activated, toxins will be pouring out of the cells and

these need to be funnelled out. The therapist can support the patient here with the various detoxification procedures. I would recommend a detoxification and purification with zeolites.

Summary: the OH-solution has proved itself to be an effective concomitant therapy. It is a door opener for the intra cellular area and facilitates faster success. It is not a replacement for other therapies, it goes hand in hand with them and is an excellent complement for the successful therapist

The best results are achieved when the evening regulation is rounded off with the H-solution (see chapter 5.3.pp).

5.2. The Transfer of Information to the OH-solution

If the OH-solution is successful as concomitant therapy, it should be possible to transfer, add or “swing” information from the therapeutic preparations into the solution. It would then be possible to use the OH-solution as a transporter of homeopathic information. This brings me back to the physical phenomenon of energy transfer through energy waves and photons. I described this earlier on in the book, in chapters 3.1. and 3.2. Broadcasted (electro-magnetic) energy waves contain important information. Professor Luc Montagnier, the French virologist and winner of the Nobel Prize for medicine in 2008, provided clear proof of this. At a scientific conference in July 2010 he presented a new detection method for virus infections. He expressed his conviction that diluted DNA - Deoxyribonucleic acid, carrier of genetic material – from pathogenic bacterial and viral species is able to emit specific radio waves that categorise the surrounding water molecules into nano-structures. These water molecules could then emit radio waves too. The water keeps this characteristic when neither

bacteria nor virus are able to be detected. Doctors could use the radio waves to recognise disease.

How did he come to this assumption? First he produced a watery suspension of DNA in a glass jar in the lab, sealed it and then set it next to second glass jar that was filled with pure water and also sealed. Standing there together, both were subjected to ordinary electro-magnetic radiation for a longer period of time. Afterwards the pure water was mixed with the raw material for a DNA synthesis and DNA was created. But the arrangement of the DNA was in no way random; the DNA in the second glass now had the same sequence as that in the first glass ^[18]. Here sequence means the arrangement of the base pairs, whose sequence along the DNA generally encrypts the genetic information.

According to that, water has a well-functioning memory. It can receive the smallest amount of energy, store it and pass it on. Simply said, water is a medium for transferring energy to transmit energy status, structures and functions.

Back to my idea of using the OH-solution as a transporter for homeopathic information. This was immediately put into practice!

Every patient receives a bottle of the OH-solution which has the information about the Schüßler salts on the label which the therapist considers important for the therapeutic treatment of the diagnosis.

Example: Diagnosis: Liver disorder:

Information from the Schüßler salts Nr. 5, 6, 9, 10

In this way every patient receives a highly alkaline regulation solution that is exactly tailored to his needs which very quickly leads to the desired results.

^[18] Montagnier I *et al.* (2011) DNA waves and water. J. Phys: Conf. Series. 306. 012007 (doi:10.1088/1742-6596/306/1/012007).

Acids in the area surrounding the cell prevent the flow of information and cause a scattering or change in the information. An acidified cell exterior has a gelatinous structure in which the information is intercepted. In rare cases they do reach their goal, the sick cells, usually only the healthy cells receive the information – those in the regulation.

(Energy) waves are also subject to the influence of the milieu, whether acid or base or a highly negative or positive potential is present. This is valid for homeopathy as well as in therapies with “the Zapper”, bio-photons, acupuncture, magnetic fields and sound therapy. In a harmonised surrounding waves achieve their intended goal unhindered. As a rule, Schüßler information is “packaged” in transport material that is either alcohol or starch (corn starch, sugar balls). Neither transporter is particularly suitable for getting the information to its goal without any deviation. As a consequence, the patient has to consume larger amounts of the Schüßler salt information transporters and therefore needs a correspondingly longer time to reach an improved physical well-being.

With the OH-solution the paths are cleared as soon as one starts drinking it. Acids are dispersed and an appropriate, regulated destination area (sick cells) are prepared for the flow of information.

The use of transport materials doesn't take into consideration whether the opposite goal as regards the Dosha character will be reached. So sugar as a transporter in a Kapha character wouldn't exactly contribute to mucus relief and detoxification. By using the pure information the Ayurveda character is taken into account. But not only the character in Ayurveda medicine, the signatures in traditional Chinese medicine, too.

Advantages:

- No loss of information through acids stored in the organism
- The cell is directly available for information
- Information tailored exactly to the patient (individualisation)
- No stress caused by glucose or lactose
- No stress caused by anions such as chlorine, sulphur, fluorine, phosphorous
- Real responsibility with regard to harmony of holistic medicine

5.3. Acid-base regulation also needs acid

When the acid base balance is discussed nowadays it is always the bases that are working towards a healthy body. But what about the acids?

There may be a base to acid ratio of 20:1 in the body but as we saw in Tab. 2 we have very important organs and areas of the body that are acidic, some are very acidic e.g. gastric juices.

We need acids because they build a protective barrier against bacteria, viruses, fungi and parasites. Whenever the body is under threat from outside it sends an army of acid bacteria to the front so that defence against invaders is guaranteed. An example: in the case of a burn, acids are sent to the wound immediately to set up a defence against possible invasion by micro-organisms. As the wound begins to close the body sends lymphatic fluid to the battlefield to dilute the acid and a blister forms as a secondary protective wall. If this bursts or is burst, the result is usually a painful infection – the physical tearing of the protective wall makes it ineffective. This shows us that acids are important for the body's defence mechanism.

Acids are needed for breaking down food into proteins, carbohydrates and fats. The food is prepared for digestion and metabolism and any pathogenic bacteria that have been brought along in the food, perish in the gastric acid.

Acid milieus are created to remove the living conditions for pathogenic bacteria. Acids have a variety of tasks in our organism and it therefore important to supply the organism with them occasionally.

All vitamins are acids for example – tannins too. The important vitamin C is a strong acid and there are many other examples.

5.3.1. An acid for Hydroxyopathy?

Regulating the acid in the organism is undoubtedly part of the regulation of the acid-base balance. It is therefore important that Hydroxyopathy gets an extra “acid”. The targeted use of acids saves life. Vitamins are the perfect example for proving this.

Acids have a high proportion of $[H^+]$ ions. They get their acidic character from organic and inorganic substances. They are dangerous; they corrode, they burn, they kill. However, when used correctly they bring more benefits than harm.

Up to now we have got to know the OH-solution, a liquid from which, to a certain extent, I removed the (H^+) proton. If you have been asking yourself all this time where the protons have gone I would now like to explain.

The protons were not lost, they can be found in a high concentration in the residue which I will call the H-solution as we go on.

The H-solution has a pH value = 2.2 – 2.5, so very acidic. It is also in an ionised state which is stable for more than 2 years. Because of the manufacturing catalyser sodium chloride (NaCl), further components are oxygen (O_2), ozone (O_3), chlorine dioxide (ClO_2) and hydrogen peroxide (H_2O_2). Therefore, the H-

solution is made up of a mixture of very strong oxidants that have an antibiotic effect.

This oxidant mixture is in a meta-stable state i.e. it is subject to continual changes in the quantities of the composition of the individual components. As a result, bacterial pathogens have no chance to adapt to it and generate effective defences against it as in a habituation process. Habituation processes, which are caused by taking the same antibiotic too often, delay or stop the effect and in the worst case have the opposite effect. Illness caused by MRSA (Methicillin-resistant *Staphylococcus aureus*) have become an everyday occurrence in hospitals. Incidentally, even if one only takes antibiotics irregularly and not continually it can lead to the same dilemma.

The H-solution is not used in preventive treatment, it is only used in acute situations. The fields where it can be applied are very diverse, from the disinfection of drinking water or elimination of mould and mildew to the treatment of bodily disorders that are caused by bacterial pathogens. I have even heard of cases where this H-solution healed malaria.

The next section of this book describes how the H-solution is applied. The focus lies in fighting and inhibiting the growth of bacterial pathogens by changing the milieu. The H-solution is often called “activated water” which is not quite correct in my opinion. It is a reduced water and in fact reduced by the $[\text{OH}^-]$ ions.

5.3.2. Predecessors of the H-solution

Where does this water come from, how is it generated and what are its germicidal, disinfectant effects based on?

In the time of the Cold War, the Russian's fear of contaminated drinking water encouraged Russian scientists to develop a process for making contaminated water drinkable again in a short time without using poisonous, chemical substances which would cause harmful side effects. They achieved this through an ingeniously simple and yet efficient process, the activation of the water.

The "activated water", also called Anolyte, makes all known bacteria, germs, viruses etc. harmless without causing harmful side effects. Also, as this "activated water" constitutes water in its basic form, it is not a medicinal product.

The solution is produced using a special electro chemical procedure where watery solutions are produced from virgin and stressed natural water components that are placed in specially coated reactors and separated by a diaphragm. This diaphragm separates anodes from cathodes thereby preventing the solutions from mixing. In addition to the principle of electro-chemical activation, the high strength of the electric field on the electrodes provides the water and the salts dissolved in it, with a meta-stability that makes it possible to adjust the redox potential to a certain extent. This achieves meta-stability in the "activated water" for a lifespan of only 2 - 4 weeks.

Through this activation process, the four highest performing oxidants, oxygen (O_2), chlorine dioxide (ClO_2), ozone (O_3) and hydrogenperoxide (H_2O_2) are additionally created in continually changing concentration ratios which are physiologically compatible. These oxidants are effective against the most diverse pathogens but in symbiosis they are effective against them all together.

My SanaQuanten laden “activated water” extends further than the field of antibiotics. The human body reacts to pathogens with a stimulant that is similar to that of the “activated water”, it generates antibiotic bodies that fight the invaders. If the body is weakened, more antibiotics have to be added until the point of an unwelcome resistance against antibiotics. Due to the meta-stability of the “activated water”, no negative side effects can be found. This amazing compatibility is not least attributable to the fact that the human (and animal) body applies this process constantly in its tissues.

5.3.3. A few studies on the H-solution

The effectiveness and efficiency of the H-solution has already been tested and confirmed by several international laboratories. In the following, I would like to refer to the opinions of four institutes who have tested the H-solution for its disinfectant, bactericidal, virucidal and fungicidal characteristics as well as for its safety and tolerability.

The Microbiology and Hygiene Institute at Regensburg University under the chair of Professor Dr. Lehn reached the overall conclusion that:

“In a qualitative suspension test with an exposure time of 5 minutes, the tested product, at a concentration of at least 25% (percent by volume), was sufficiently effective against the bacteria Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus and Candida albicans. In this range of concentration, using a quantitative suspension test, a reduction of more than 5 log₁₀-stages was proven. (See footnote [19] page 96 for log₁₀-stage definition).

The lower limit of efficacy lies at an exposure time of 5 minutes for Aspergillus niger using a 75%concentration of the test product.

The institute also found that „...in a suspension test with *Legionella pneumophila*, it was observed that the *Legionella* were killed in a concentration 1% of the test product with a reduction factor of 6.

The clinical virology team at the Max von Pettenkofer Institute of the Ludwig-Maximilians-Universität in Munich, led by Professor Dr. med. Frösner evaluated the H-solution as follows:

“To prove the efficacy, the guidelines demand at least a 10,000 times reduction, (4 log₁₀-stages) of the virus concentration. This figure was exceeded after an exposure time of 5 minutes at 20°C with a medium concentration of protein: the concentration of the polio virus (type 1) was reduced from an initial concentration of 8.5 × 10⁶ infectious doses to 5 × 10² infectious units. Therefore, for the conditions stated above, certification can be given for a virucidal efficacy against the polio virus (type 1).

It was also discovered that this efficacy seemed to be even better than a 0.7% formaldehyde solution! A further surprise at this high efficacy is the low toxicity of the disinfectant (H-solution). After diluting it 1:100 with an MEM that contained 10% foetal bovine serum, no trace of toxicity was observable for the tissue culture cells.”

Dr. med. Werner Yoss, consultant for dermatology, venerology, allergology and environmental medicine at the Dermatest Institute in Münster (Westphalia), certified the H-solution to have a very good skin tolerance:

“during the epicutaneous tests following the international guidelines of the ICDRG (International Contact Dermatitis Research Group), none of the 30 test persons experienced any changes in the skin of the tested area after 24, 48 or 72 hours.

It can therefore be concluded that on the practical application of the product (H-solution) no undesired skin reactions due to a skin irritant or sensitizing effect will occur.”

The Institute for Environmental Issues and Hygiene in Lollar near Giessen led by Dr. Jaroslav Prucha, Dipl.-Ing. assessed the H-solution with regard to its disinfectant effect for drinking water taking the appropriate guidelines into consideration and made the following report:

“The disinfectant effect of the “anolyte” (H-solution), produced using diaphragmatic reactors inside the device..., was tested from the microbiological and chemical-physical perspective according to the guidelines of the German Drinking Water Ordinance.

During the assessment, various bacterial concentrations of Escherichia coli and Pseudomonas aeruginosa were tested in graduated concentrations with the H-solution. For the purpose of a practice oriented application, the test bacteria were taken from water samples in our lab which are routinely investigated, isolated and cultivated. The water used for the series of tests came from the city of Lollar’s water supply system.

Following the requirements of the German Drinking Water Ordinance, we also tested for any tri-halogen methanes and other chlorinated hydrocarbons that might be generated through the treatment with the H-solution.

All tests and measurements were carried out according to the appropriate DIN regulations.

The experiments with the test bacteria Escherichia coli showed that, in a bacterial concentration of 140,000 CFU/100ml, a concentration of free chlorine in a range of 1.2mg/l to 0.3mg/l adjusted with the H-solution, killed off the bacteria completely after a reaction time of only 1 minute. However, using a concentration of free chlorine under 0.3mg/l, the disinfection time for a high concentration of Escherichia coli is increased to 5 minutes.

With a concentration of Escherichia coli of up to 7,500 CFU/100ml, a concentration of free chlorine of 0,15mg/l is enough to achieve complete disinfection after 1 minute.

The experiments with the test bacteria Ps. Aeruginosa showed that this bacteria was a little more resistant to the H-solution. In a high concentration of Pseudomonas aeruginosa, a concentration of free chlorine in a range of 1.2mg/l to 0.15mg/l only managed to kill off all bacteria after 5 minutes. With a high concentration of Pseudomonas aeruginosa, 4,100 to 5,600 CFU/100ml, using a concentration range of 1.2mg/l to 0.3mg/l of free chlorine,

complete disinfection was achieved after 1 minute. However, further experiments showed that 0.15mg/l of free chlorine was not sufficient to completely kill off Pseudomonas aeruginosa within 1 minute. Even with such a low concentration of Pseudomonas aeruginosa as 300 CFU/100ml complete disinfection was only achieved after 5minutes.

The results of the chemical-physical tests showed that the redox potential, which lies at 245 mV in the Lollar tap water, increases correspondingly, to namely 666 mV and 770 mV with concentrations of free chlorine of 0.15 mg/l and 1.2 mg/l respectively.

The pH value of the tap water is influenced by the H-solution. As the H-solution is an acidic solution, adding it to the tap water cause the pH value to sink. But even with a high dose of the H-solution the decrease is under 0.2 pH units which is comparable to 1.2mg/l concentration of free chlorine.

In summary, one can say that the H-solution is an effective disinfectant.

As, according to §5 paragraph 1 of the German Drinking Water Ordinance, it is permitted to disinfect drinking water using electrolytically generated chlorine and in addition the organic, halogen compounds usually formed from disinfectants based on chlorine were significantly under the limit in all tests where the H-solution was added, plus the pH value of the tap water is only slightly affected, the H-solution is a suitable drinking water disinfectant and can be recommended.”

A test for the bactericidal and fungicidal effect of the H-solution, carried out by the Ecoworld Laboratories Consulting GmbH in Vienna produced the following results:

“To measure the growth inhibition of bacteria, yeast and fungi in liquids, a selection of bacteria, yeast and fungi (cf. Tab.4 and Tab.5), in a liquid culture, were incubated with a 90% H-solution. The growth was measured after 3, 7 and 12 hours. The selection was made so that the most important bacteria and fungi could be measured.

In order to determine the minimum concentration of the H-solution, the bacterial strains Paenibacillus polymyxa and Escherichia coli were incubated with different concentrations of

the H-solution at a temperature of 28°C in a shaker and turbidity measurements were carried out after 16 and 24 hours. Complete growth inhibition was achieved for *Paenibacillus polymyxa* in a 10% H-solution and for *Escherichia coli* in a 60% H-solution.

The result: All selected Bacteria and Fungi were fully inhibited in their growth!"

Strain ^{a)}	ESC-Nr. ^{b)}	Class / Art ^{c)}	Phylum ^{d)}
And	439	<i>Aspergillus nidulans</i>	Ascomycota
gab0401	628	Descendants of Rust Fungus	Basidiomycota
JBL0501	678	<i>Zygoascus hellenicus</i>	Ascomycota
MC-A12	175	<i>Penicillium chrysogenum</i>	Ascomycota
MX-C2	138	<i>Penicillium chrustosum</i>	Ascomycota
MX-C4	140	<i>Trichoderma harzianum</i>	Ascomycota
PH1	490	<i>Fusarium graminearum</i>	Ascomycota
RSF-P405	18	<i>Hypocrea jecorina</i>	Ascomycota
RSF-Q101	22	<i>Cladosporium cladosporioides</i>	Ascomycota
YZGA515	49	<i>Saccharomyces cerevisiae</i>	Ascomycota

Tab. 4 List of the tested yeast and fungi.

Strain ^{a)}	ESC-Nr. ^{b)}	Class / Art ^{c)}	Phylum ^{d)}
AS33/2	286	<i>Agromyces ramosus</i>	Actinobacteria
KSS37.LB03	535	<i>Micrococcus luteus</i>	Actinobacteria
ATCC6633	363	<i>Bacillus subtilis</i>	Firmicutes
MXC5	152	<i>Paenibacillus polymyxa</i>	Firmicutes
KSS37-B04	527	<i>Ochrobactrum anthropi</i>	Alpha-Proteobacteria
BMW04-04	427	<i>Achromobacter xylosoxidans</i>	Beta-Proteobacteria
KSS12-B06	252	<i>Bordetella parapertussis</i>	Beta-Proteobacteria
KSS11-B04	242	<i>Burkholderia multivorans</i>	Beta-Proteobacteria
W02C	494	<i>Comamonas testosteroni</i>	Beta-Proteobacteria
W01A	493	<i>Variovorax paradoxus</i>	Beta-Proteobacteria
L327	630	<i>Enterobacter sakazakii</i>	Gamma-Proteobacteria
JM109	50	<i>Escherichia coli</i>	Gamma-Proteobacteria
W18B	499	<i>Rahnella aquatilis</i>	Gamma-Proteobacteria
TF 106	126	<i>Raoultella terrigena</i>	Gamma-Proteobacteria
BFK1	677	<i>Salmonella typhimurium</i>	Gamma-Proteobacteria

Tab. 5 List of the tested bacteria.

- a) Strain: Description of the respective strain in the Ecoworld Strain bank
- b) ESC Nr.: Number of the respective strain in the Ecoworld Strain bank
- c) Genus / Species: Genus and species of the yeast, fungus or bacteria strain
- d) Phylum: Classification of the respective strains to the different Phyla

The summary of the test report from Professor Dr. med. Exner, director of the Institute for Hygiene and Public Health of the University of Bonn records the bactericidal characteristics of the H-solution on *Escherichia coli*, *Pseudomonas aeruginosa* und *Legionella bozemanii* in an orienting investigation:

"In the course of an orienting investigation, different batches of the H-solution under the influence of organic pollution were tested at 20 °C and 30 °C after 30 seconds, 5 and 15 minutes with regard to the effect on the three above mentioned classes of bacteria in a quantitative suspension test.

In an Escherichia coli suspension with 1.5% H-solution (pH batch 6.6), 99.9993% and 99.9996% of all bacteria were killed within 5 minutes (this means reduction factors of 5.18 lg10-degrees ^[19] and 5.44 lg10-degrees respectively) more or less complying with the detection limit.

Using a 1.0% H-solution (pH batch 2), 99.9995% (5.32 lg10-degrees) of the suspended Escherichia coli were killed. In a reproduction test one week later using the same batch the result was still 99.995% (4.29 lg10-degrees).

In a test using Pseudomonas aeruginosa and 1.5% H-solution (pH 2) the amount of bacteria was reduced by 99.9998% (5.62 lg10-degrees) within 5 minutes and therefore up to the detection limit. In the reproduction test with the same batch one week later it was still 99.992% (4.12 lg10-degrees).

On adding a 0.75% H-solution (pH 2) to a Legionella bozemanii suspension, 99.99989% (6.95 lg10-Stufen) of all bacteria were killed within 30 seconds. In the reproduction test one week later using the same H-solution batch, the same results were achieved.

^[19] The reduction is calculated on the basis of powers of 10 (lg10 or Log degrees). A reduction of one lg10-degree is the equivalent of a reduction in the original amount of 90% or rather 1/10; at 2 lg10-degrees it is 99% or 1/100 and so on. A reduction factor of 5 is equivalent to a decrease of 99.999%. That means 10 out of 1,000,000 bacteria would be left.

Conclusion: In all tests the addition of the H-solution had the effect of reducing the amount of living bacteria by 99.999 % (5 lg10-Stufen). This means that the potential of this active substance was confirmed in suspension tests and a foundation laid out for further practice related investigations”

5.3.4. Application possibilities for the H-solution

This chapter shows a selection of health disorders where the H-solution has already been very successfully utilized.

Examples for internal application:

- Gastroenteritis from bacteria, viruses, fungi
- Gum infection (Gingivitis)
- Infection of the oral mucosa (Stomatitis)
- Fungal infestation of the internal organs / systemic mycoses (caused by *Candida*, *Aspergillus niger*)
- Bladder infection

Examples for external application:

- Abscesses, boils
- Neurodermitis
- Eczema
- Ulcers
- Insect bites/stings
- Athlete's foot
- Wounds
- Tooth surgery

You can find more information and therapy options taken from practical experience for practical needs in the next volume of my Hydroxyopathy series, "Hydroxyopathy – Internal and external applications"

Final conclusions to bio-availability

In pharmacology, bio-availability means the measuring variable, which indicates how fast and how much of a drug or nutritional supplement is absorbed and available at the target site.

The conclusion of this book is that minerals, trace elements, vitamins and proteins can only then be absorbed and processed when the body's milieu permits it.

It is only when all the switches in the organism are "ON", that the substances will be resorbed and passed on and fed to the metabolism and all other chemical processes, i.e. only when the physics allows the right activity. So it doesn't matter where the substances come from, water, plants, animals, fungi or earth. These substances are not bio-available according to where they come from – they are bio-available per se.

It is the human (or animal) that has to be bio-available, i.e. receptive, not the substance that is to be absorbed. Let's take the trace element Zinc as an example. Zinc (Zn^{2+}) is a component of many enzymes, has a key role in the metabolism and is involved in the development of genetic material, cell growth and strengthening the immune system. In short, it's important. If the lab result for $[Zn^{2+}]$ sinks it needs to be supplemented. For zinc to be absorbed by the organism, the body cells need to be conditioned accordingly. This is only possible with healthy cells. Sick cells have a problem with this and cannot absorb $[Zn^{2+}]$ no matter what form of nutritional supplement is used. If enough of the healthy cells absorb the zinc, the zinc levels in the body will rise – this can be proved through lab results. But how do I get the zinc to the place where it is urgently needed but excluded. As we have seen throughout the course of the book, acidified cells suffer from impassable ion channels. This is a direct consequence of an increased concentration of $[H^+]$ which has an extremely

negative influence on the natural cell tension. Sick cells are simply not bio-available or if you like bio-reachable. Professor Otto Warburg, who was quoted right at the beginning of the book, proved that illness arises through acidified cells. The ion channels of acidified cells are positively charged, the zinc, which is needed, is also positively charged. These positive charges repel each other.

What does this mean for us? The person first needs to be made bio-available, then any nutritional supplements that may be needed, can be absorbed.

Every therapy needs the interplay of physical actions and chemical reaction for it to be successful. This is why it is absolutely necessary to bring the milieu, the regulation and the bio-availability of the individual into balance as predetermined by creation. With the help of Hydroxyopathy it's possible.

With this in mind, stay healthy.

Ronald Fischer



This is not meant to be a scientific book, its goal is to provide science with some food for thought. There are many things that we don't understand but – inexplicably – they work. He, who can only accept reality when it is justifiable and verifiable can be compared to him who looks under the street

light for his lost key although he didn't lose the key there. When asked why he is looking there in particular, he answers that under the street light it's light enough to see. Interested amateurs, therapists, scientists and anyone in healthcare would be well advised to have a read of this book.

Horst Jacob, Alternative Practitioners