

Communication of Bacteria and their Relevance for Plant Growth and Human Health.

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Summary

There are uncountable numbers of micro-organisms living within us. They are constantly communicating among themselves and with the body cells, thereby forming a functioning dynamic network. This community is called the "microbiome".

Until recently one thought it necessary to kill bacteria to achieve good health. This conviction was reached through numerous misconceptions dating back to the 19th century. Bacteriology was influenced by politics from its beginning and bacteria were thought to be enemies the way one perceives strangers from a hostile nation.

As bacteria are invisible to the human eye it was easy to project a lot onto them. Therefore it has been overlooked that in truth they form a vital bridge between the invisible and the visible world.

Where do bacteria come from? What is their origin? Honestly: nobody knows. But we might get an idea: Take a string of 4.5 m length, that stands for 4.5 billion years of history of the earth, and mark it at 3.80 m where the first unicellular organisms were found as fossils who lived 3.8 billions years ago. Ever since there hasn't been a single spot on the earth without living microbes. They can even be found in hot volcanic craters, in salt deserts and in the depth of oceanic trenches. Measured on that string, Homo Sapiens has only existed for one-fifth of the thickness of a pin.

Like all life on earth, we are dependent on an abundance of a variety of bacteria for our being. So it is absurd that after this measurement 0.000013 millimeters ago human bacteriologist declared bacteria to be the most dangerous enemies of the human race.

Wherever unicellular organisms live, they immediately get in contact with each other. If they would not communicate with each other and with multicellular beings there would be no life at all on this planet.

We know a number of different ways of how bacteria transfer different informations. For example they use signaling molecules or light emission, they exchange electrons, vesicles and genetic material. Thereby they adjust their characteristics, their metabolism, population density, biofilm formation swarmig, exotoxin production, virulence and whatsoever... This enables them to react flexibly to the given circumstances, doing this simultaneously as a community which is called "Quorum sensing".

This communication takes place everywhere, for example within our bodies in the digestive organs. They help us to digest and metabolize the ingested nutrition. Our health is dependent on a comprehensive communication between bacteria and body cells. If this is deficient we become ill.

Meanwhile it was discovered that the microbiome releases neurotransmitters such as dopamine, serotonin and norepinephrine. Bacteria thereby are connected to the nervous system and the brain. In fact all our behaviour, psychological state and mental health can be traced back to the continuous communication between the microbiome and our body cells.

Many disorders such as metabolic diseases, allergies, neurological diseases and many more have – as we now know – their origin in a lack of bacteria or lack of communication in the natural biofilms in our guts. They can be healed by reconstitution of the microbiome.

The same applies to plants.

In the soil there are horizons with different microbial activities. Its fertility and the health of plants depend on the appropriate microbial communities. When a radicle lowers into the earth, signaling molecules attract specific bacteria which support plant growth. Their exchange comprises other species: Amoebae are attracted by phytohormones and would take up and away exclusively those bacteria which are not helpful to the growth of that particular plant.

If this microbial coexistence is reduced or muddled up or absent in the soil, for example because it was chemically disturbed, plants are susceptible to stunted growth and disease.

What happens when we use disinfections and antimicrobial substances? We change the subtle organisation of communication within the invisible life within us. The contact of a disrupted bacterial outer membrane surface produces irritating signals to our body cells. Subsequently corresponding irritating consequences for our life. Even if it looks positive in the first moment, it destroys life and its subtle natural interactions in the long term. This is why we should stop fighting bacteria and should stop poisoning gardens and fields. There are better ways of fruitful communication between the human being and the earth.

Bacteria help us find solutions we never dreamt of in order to solve problems that seem overwhelming to us, even to the problem of antibiotic resistances.

For that purpose for instance, there is a microbial mixture called „Effective Microorganisms“ (EM). They are a fluid solution which can be used to improve growth and health of plants, to cure animals and humans, to clear water and reduce bad smell or poison in polluted areas. EM were first developed in Japan more than 30 years ago and they are used worldwide. You find more information on EM in my books.

There is a way to a healthier life on planet earth. All we have to do is stop the useless war against invisible beings and start cooperating with these tiny living unicellular miracles who are the predecessors in the development of life and partners of mankind.

Making peace with the bacteria is a contribution to peace in the world.

Bacteria and I thank you for your attention.

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After clinical work, following her vocation, she changed for some years to practical horticulture and from that time devoted herself to the topics of nature, cultural history and healing knowledge.

In 2001 she held her first seminar in Europe on Effective Microorganisms (EM) and is regarded a leading authority in bacteriotherapy and developed a new microbiome therapy. Its core concern is the healing of life on earth.

As a freelance speaker and five-fold book author, she is invited to lectures and seminars worldwide and is a welcome guest on radio and television.

www.bacteriotherapy.eu

www.Darmbakterien-buch.de

www.Dr-Zschocke.de

Books from Dr. Anne Katharina Zschocke:

- (Spanish:) Nuestras amigas las bacterias. La Medicina del futuro. Gruppo Macro, Cesena 2019 ISBN 978-8417080334
- Die erstaunlichen Kräfte der Effektiven Mikroorganismen EM. Knauer-Verlag, München 2011, TB 2017 ISBN 978-3-426-87564-3
- EM - Die Effektiven Mikroorganismen. Bakterien als Ursprung und Wegweiser alles Lebendigen. AT-Verlag, Aarau 2012 ISBN 978-3-03800-600-8
- EM-kompakt. Knauer- Verlag, München 2014, ISBN 978-3-426-87671-8
(Italian:) La Rivoluzione dei Microorganismi effettivi. Gruppo Macro, Cesena 2018 ISBN 978-8893198431
- Darmbakterien als Schlüssel zur Gesundheit. Knauer, München 2014, TB 2019 ISBN 978-3-426-87693-0
(Italian:) I Batteri Intestinali. La chiave per guarire e vivere in salute. Gruppo Macro, Cesena 2017 I SBN 978-8862298520
- Natürlich heilen mit Bakterien. AT-Verlag, Aarau 2016 ISBN 978-3-03800-902-3
(French:) Nos incroyables amies les bactéries. Macro Editions, Paris, Montréal 2019 ISBN 88-9319-420-1
(Polish:) Mikrobiom – sposób na pokonanie chorób. Vital, Białystok 2018 ISBN 978-83-65846-46-4
(Italian:) I Nostri Amici Batteri. La Medicina del futuro. Gruppo Macro, Cesena 2019 ISBN 978-8893194174
(Spanish:) as above