

Foreword bij Herwig Pommeresche's Humosphere (2014)

The greatest obstacle to discovery is not ignorance—it is the illusion of knowledge.

—DANIEL J. BOORSTIN, HISTORIAN, JURIST, AND AUTHOR

The supposed improvements to our food supply as a result of today's intensive agriculture methods are not what they seem to be at first glance, and they are only temporary in nature. And world hunger is not the only problem that remains unsolved. On the contrary, we also struggle with the "side effects" of industrial agriculture: Agricultural poisons have long been not only seeping into the groundwater and appearing in measurable quantities in the soil but have also found their way into human urine and breast milk. All around the world, we are suffering from a lack of nutrients in the soil and the loss of humic soil. And it's an undisputed fact that industrial agriculture has also contributed to global climate change. Much of the general public remains unaware of how seriously these negative effects impact our livelihoods.

Herwig Pommeresche has worked in gardening and agriculture for many decades, and in the process has thoroughly investigated a large amount of little-known research, both theoretically and in practice, and compared it with conventional methods. He has reached the following conclusion: the cause of the aforementioned problems is an inadequate understanding of the physiological and biochemical mechanisms through which plants absorb and process their nutrients. The current prevailing wisdom, in short, is that plants exclusively obtain their nutrients from salts dissolved within the water they absorb from the soil. This model, which the author calls the mineral model, has been the basis of the fertilization methods used in agriculture and gardening since the middle of the nineteenth century.

Starting from the beginning of the twentieth century, however, a body of research has emerged within biology and the other natural sciences that has investigated and described a very different type of plant nutrition: To put it simply, plants are able to envelop nutrient particles in their root cells and thereby transport the particles into the cells' interiors. This allows them to absorb not only very small material (such as ions or salts dissolved in water) but also larger molecules and even entire cells (microorganisms, for example); and they do so—and this is the most interesting part—in living form. This process is known as endocytosis, and the basic concept has been known within zoology and microbiology for a long time. What wasn't known for much of that time, however, was that higher plants also make use of endocytosis. Little notice has been taken of this research in the natural and agricultural sciences, however, so the general public remains largely unaware of it (only very recently have there been a handful of studies that have taken another look at this phenomenon, and thus far they have confirmed it). Herwig Pommeresche has taken a critical look at our agricultural methods and analyzed and tested the practical applicability of the discoveries made by the researchers responsible for these studies. This second edition of Humosphere is the result of his own reflections and experiments and of those of the many kindred spirits who are also searching for sustainable alternatives in agriculture and gardening.

Admittedly, the explanations and theoretical bases for these observations may sound unlikely and hard to believe, and some aspects fundamentally contradict the things we all learned about plants in our biology classes. Even I found myself furrowing my brow when I read the manuscript for the first time. However, we should not dismiss out of hand the possibility that this "cycle of living material model" is indeed accurate. After all, life on Earth has regulated itself for the last 3.5 billion years according to principles that we—however much we might

believe otherwise—are still far from fully understanding. About 300,000 years ago, this system of life gave rise to humankind, and it was around 10,000 years ago that our ancestors first began to engage in agriculture. But it wasn't until the modern intensification of agriculture that massive problems began to appear in our ecosystems and natural materials cycles, problems which had been unknown over the prior millions, or even billions, of years.

Is it really so far-fetched that the way nature governs and regulates itself on its own might work better than the methods we have come up with during this last blink of an eye in evolutionary history? Is it really out of the question that our methods are based on errors and faulty conclusions, considering that in fewer than two hundred years those methods have managed to destroy or bring out of balance great portions of the biosphere and our ecosystems, which had functioned on their own for millions of years before that? Any research that is truly conducted in the interests of the common good must impartially address these questions: Without us, how does nature secure and regulate plant nutrition? Why have our methods, in contrast, introduced so many problems within so few generations? Is it possible that we've overlooked something?

Any time that someone confronts us with new hypotheses and ways of thinking that we find unlikely, we should always keep in mind that what we call knowledge explains only a small proportion of our world, and it is always in flux. Even things that have long been taken for granted as true can nonetheless ultimately prove to be false. Just because many people consider something to be settled fact does not guarantee that they are not all wrong. I myself, just a few decades after my studies in biology, sometimes find that some piece of information that was taught to me at the time as irrefutably proven and established and thoroughly researched is being revised and presented much differently after again being looked into with newer methods and compared with other findings. How true might this be of a 170-year-old doctrine?

Today it is obvious to everyone that the Earth is round and not a disc and that it revolves around the sun rather than the other way around. We shake our heads at Galileo Galilei's contemporaries who threatened him with death simply because his discovery of the arrangement and movement of our solar system didn't fit within their framework. They were unable to conceptualize these ideas, whereas he was very much able to do so; but he could not prove them with the methods available to him at the time. He was nonetheless correct, as we know now. Who is to say, then, that all of our modern ideas and conclusions are correct? "We don't know what it is we don't know," is something Herwig Pommeresche frequently said to me while working on this book. How true. We should always operate on the assumption that we are still far from knowing everything.

Whenever we observe that something works differently—and indeed more effectively, more successfully, and without damaging side effects—with other methods than with the conventional ones, is it not logical to assume there must be some reason for this that we are not yet aware of? Why don't we set ourselves to the task of searching for this reason and expanding our knowledge? The clear practical successes generated by the methods presented in this book should give us plenty of reason to conduct further research in the direction suggested by the author in order to either confirm the model presented here or else find an alternative explanation for the good harvests that result from employing it.

It would be ideal if not only hobbyist gardeners and people looking for alternative methods for self-sufficiency take an active interest in this book's theories but also scientists and decision makers in educational and research institutions, as well as in politics. What do we have to lose by thoroughly researching this theory and investigating whether the methods can also be employed on a large scale in agriculture and food-crop cultivation? The negative side

effects of our intensive agricultural methods are too serious, the outlook too dire, for us to continue to tolerate inaction. A solution must be found if our soil is to continue supplying us and future generations with enough healthy, toxin-free food.

In naturopathy—a field in which, much like agriculture and nutrition, differing opinions and ideologies often clash bitterly —there is a well-known saying: “He who heals is correct.” During the work on this book, I came up with an analogous saying: “He who harvests is correct.”