

LIVING SYSTEMS: AN ENDOBIOGENY PERIODICAL

INTERCONNECTEDNESS

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Manuscripts should be sent to: livingsystems@learnendobiogeny.com.

We are accepting contributions for all upcoming issues.

Volume 1 Editorial Calendar, 2022-2023

- Issue 1 (September, 2022): Integration
- Issue 2 (December, 2022): Blood
- Issue 3 (March, 2023): Our relationship to the Universe: Cosmobiology and Circadian Rhythm
- Issue 4 (June, 2023): Neuropsychiatry and Psychology

About this journal

Living Systems: An Endobiogeny Periodical is a quarterly publication of Learn Endobiogeny (www.learnendobiogeny.com), an educational project of Systems Biology Research Group (SBRG). The periodical is dedicated to advancing discussions and applications of complex living systems and integrative physiology based on the theory of Endobiogeny. Our goal is to develop a community of knowledge and collective intelligence that improves the practice of medicine, the art of healing, and, the lives of individuals and the planet.

About the cover

Each issue of Living Systems features artwork by an Endobiogenist or a patient who has benefited from Endobiogeny. The inaugural cover photo was taken by Endobiogenist and medical herbalist Carolina Brooks of London, England. The subject is a monastery at Meteora, Greece. It reflects the theme of continuity and evolution. Meteora was inhabited by hermits in the first Christian millennia. By the 11th century, organized monastic traditions developed. In the 14th century, financial support allowed the community to flourish. The photograph, with its sepia tone, harkens back to the late 19th and early 20th century and the work of French photography pioneer Eugène Atget. The tonality and forbidding clouds are in homage to the great mid-20th century American photographer Ansel Adams. Carolina's original photograph was manipulated using digital technology on an Apple Computer, indicative of the evolution of photography. The photograph presents a sense of foreboding from the weather above, and challenges from below with the steep ascent to the monastery. And yet, the aspirant is rewarded with the welcoming monastery, warm, wise, and full of tradition. And so it is with Endobiogeny. There has been great challenges but preserved continuity throughout over 40 years. From its conception in 1983 by the late Dr. Christian Durauffourd in France, to its development by dedicated physicians and pharmacists, to its further development in America. The journey to endobiogeny can feel difficult because it up-ends all we thought we knew about Life and medicine. This journal, Living Systems: An Endobiogeny Periodical, is the next stage in the evolution of Endobiogeny, the next of many more to come. It serves as your guide on the ascent to the sanctuary of its practice. – KM Hedayat

TABLE OF CONTENTS

<i>Editorial: On Integration</i>	<i>4</i>
<i>Book Review</i>	<i>6</i>
Medicine, Language, and Interconnection	6
<i>Clinical Pearls</i>	<i>10</i>
Symbiosis, Microbiota, and the Fullness of Life.....	10
<i>Medicinal Plants</i>	<i>18</i>
Integration of Human- Plant Relationships.....	18
<i>Outside contribution</i>	<i>23</i>
Sustainability in Action: The A Team Foundation	23
<i>Nutrition and lifestyle.....</i>	<i>26</i>
Take a Moment for Gratitude	26
<i>Events calendar</i>	<i>29</i>
Tunisian Congress of Endobiogeny and Clinical Phytotherapy.....	29
<i>Conversations with innovators</i>	<i>30</i>
Exploring Collective Intelligence and Endobiogeny:An interview with George Pór	30

EDITORIAL: ON INTEGRATION

"I dare say that you have heard eminent physicians say to a patient who comes to them with bad eyes, that they cannot cure his eyes by themselves, but that if his eyes are to be cured, his head must be treated; and then again they say that to think of curing the head alone, and not the rest of the body also, is the height of folly. And arguing in this way they apply their methods to the whole body, and try to treat and heal the whole and the part together." Plato, c.400 BC *Charmides* ¹

Human life begins in a nested hierarchy: a fetus in a womb in woman in a family in a society on a planet in a solar system in a galaxy in a universe. We bath in the fluid of this wonderous interconnectivity that maintains the hexis of existence (c.f. below). The contemporary science of complexity (which implies interconnectedness) is not a great leap forward in rational science. It's a revelatory return to the science of antiquity, to an intimate, intuitive holism reflecting the reality of what Life is.

From ancient times scientists and philosophers applied rational inquiry to develop methodical characterization of living systems. Stoic philosopher Achilles stated, "Bodies I called unified if they are governed by a single hexis...whereby hexis is the cohesive Pneuma of the body." (p.118)² Philosophers of antiquity accepted the notion of hexis but differed in their definition. I define hexis as "the property of structural integration and functional coherence within a system assuring an optimal endobiogenic terrain." Pneuma, is a vital intelligence of Life that enlivens and assures the expression the plan of Life for each individual living being. Hexis, then, is a means by which pneuma operates within living systems.

All living systems are dynamic, because Life is in permanent movement and change. Living systems require a manager to ensure this dynamism, adapting itself to intrinsic demands and external solicitations. Dr. Durauffourd, originator of the theory of Endobiogeny, identified the endocrine system as this manager. Since the 18th century, the term "terrain" has been used by various European thinkers and philosopher-physicians, but the definitions were insufficient to capture the full complexity of life. Dr. Durauffourd sought to move away from that terminology and to create a rational characterization of Life using contemporary scientific concepts and terminology. When he first introduced the term "Endobiogeny" his definition was reflective of the notions of pneuma and hexis from antiquity:

"Man is a functional physiological entity whose maintenance, in all circumstances, is ensured by a set of **biological mechanisms in permanent motion**. This is why today **we prefer to replace the term 'terrain' with that of 'Endobiogeny'**...Endobiogeny ensures the stability, the constancy of the integrity, of the entirety of the organism at the cost of a permanent biological movement, the mastery of the physiological regulation of its internal environment, assumes its coherence vis-à-vis itself and in its relations with the outside world."³

The use of rational and systematic characterizations of complexity was in a 2 millennia old tradition. Stoic philosopher Emperor Marcus Aurelius stated:

"Make your own (method of reflection) a scientific method of inquiry into the mutual metabolism (μεταβολισμό, e.g. change) of all things. Pay diligent heed to this branch of study and exercise yourself in it. For nothing is so conducive to greatness of mind..."(p.273)⁴

Thus, from a rational, scientific perspective, complexity theory is not a *discovery* of contemporary times, but an *un-covey*. It is a holistic, rational science that goes far back in our intellectual heritage.

Living Systems: An Endobiogeny Periodical is a return to this heritage. Keeping with the principle of dynamism, we express timeless concepts in a timely language, and apply it to contemporary concerns. But this periodical is more than philosophical. It is scientific, clinical and practical. Thus, the *double entendre* of the title *Living Systems*: (the study of) living systems, and, *living* a systems-oriented life. The goal of the periodical is diffusion of scientific knowledge and motivation for personal evolution, the sole path to community evolution.

Each issue explores a theme. For the inaugural issue we chose interconnectedness. Our first section is *Explorations*: we discuss interconnectedness from the atomic nucleus to the cell nucleus to the universe. In *Book Reviews*, Dr. Adam Johnson evaluates fractal levels of language and the endobiogenic language of integrative physiology. In *Clinical Pearls*, Dr. Augusto Fronza and I discuss symbiosis, with clinical advice on managing dysbiosis. In *Medicinal Plants*, Anna Betz discusses community supported agriculture, with an action plan to increase our connection to the plant kingdom. In our *Outside Contributor* section, Anna van der Hurd discussed her work at the A Team Foundation focusing on food networks and nutrition. Under *Lifestyle*, Lizzie Johnson presents scientific benefits of and advice for expressing gratitude around meals. In *Events Calendar*, we summarize the 3rd Tunisian Congress of Endobiogeny and Clinical Phytotherapy. We conclude with our *Innovators* section, with an interview with George Pór, veteran researcher and activist in ecologies of knowledge and communities of practice.

I want to express my special thanks to our contributors and to our editorial staff, without whom this project could not come to fruition: Vasiliki Delengos and Dr. Brigita Hedayat. Finally, I offer my deepest gratitude to and dedication of our first issue to the late Dr. Christian Duraffourd, and to my dear mentor and friend, Dr. Jean-Claude Lapraz. Dr. Lapraz has for over half a century worked tirelessly to diffuse the theory and practice of Endobiogeny as presented by his good friend Dr. Christian Duraffourd.

Wishing you an interconnected life,

Kamyar M. Hedayat, MD

Editor-in-Chief, *Living Systems: An Endobiogeny Periodical*

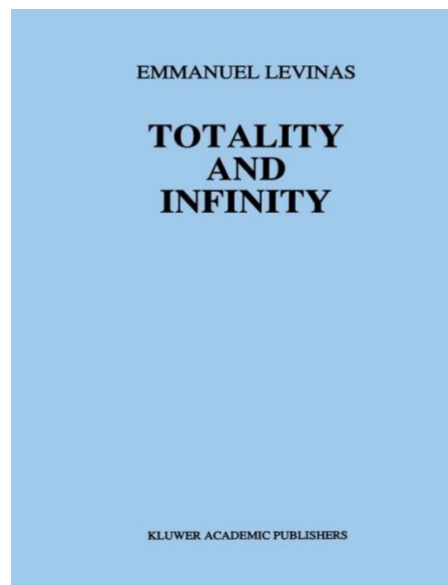
About the Editor

Kamyar M. Hedayat is co-founder of Systems Biology Research Group, a private research company dedicated to promoting research, education, publication, product formulation and development of commercial clinical tools based on the theory of Endobiogeny. He was trained by the co-developer of the Endobiogenic teachings, Dr. Jean Claude Lapraz, and is a leading international proponent of integrative physiology and Endobiogeny. He is the author of the definitive four-volume series [*The Theory of Endobiogeny*](#).

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BOOK REVIEW



Source: [Totality and infinity Book](#) by Emmanuel Levinas

MEDICINE, LANGUAGE, AND INTERCONNECTION

Weary from all who come with words, words but no language—Tomas Tranströmer, recipient of the 2011 Nobel Prize in Literature

SUMMARY: The practice of medicine requires the use of language by the patient and the physician. How language is used—to divide or connect—makes all the difference in the medical experience. In this article, Dr. Adam Johnson explores these concepts by reflecting on the book *Totality and Infinity*, by Emanuel Levinas and on the *oeuvre* of Swedish Nobel laureate, psychologist and poet Tomas Tranströmer.

Introduction:

Words are the fractionated elements of language. They are meaningless when written in a disordered jumble on a page. To be understood, in writing or speaking, we need get the order of our words right and separate them so that they begin to be understood. Words must connect correctly. On stage, we can add drama to our words by changing the pace, emphasis, tone and volume. All this gives words *meaning*, and it is only then that human language, composed of words, has meaning.

Although our bodies are more complicated than a Shakespeare sonnet, the modern practice of medicine has largely been content to use

fractionated words rather than express meaning in a physiologic language. We look at individual biomarkers which carry no information about the order of physiologic processes or how “fast/slow/loud/quiet” the physiologic discourse is. Without this understanding, much of the meaning is lost. Without meaning, patients and physicians are both perplexed when diagnostic tests are normal, but the patient is ill. In our current approach to medicine—and especially biomarker analysis—we have no language, only words. Instead of learning the language, the modern medical approach is to simply add more words (i.e. order more obscure lab tests).

Scientific inquiry tends to not pay attention to the things it can't measure, and you simply cannot get a blood level of speed, timing or the interconnection of physiologic processes, because it is qualitative and too dynamic for the sampling rate (every few weeks or months). But if not a quantitative measurement, what if you could *model* timing? You could go from the Tower of Babel to comprehensible language. You could understand that even though a patient's diagnostics may all be normal, they are ill because the metaphorical discourse between the various organs has become a shouting match and systems no longer listen to each other.

The endobiogenic medical approach brings language to medicine. It provides a theoretical framework for modeling timing, order, speed and physiologic dynamism. Using mathematics—the universal language—Endobiogeny accounts for the inter-relatedness of all the systems and for understanding humans in their microcosm.

FRACTAL LAYERS OF LANGUAGE:

A fractal layer above the language of physiology lies the language of philosophy and ethics in particular. In his masterpiece, [Totality and Infinity](#), the French philosopher [Emmanuel Levinas](#) describes an ethical philosophy that can only be understood in relation to the Other who is “infinitely” *irreducible*, and articulates unique phenomenological evidence that reduction of the whole-ness of the Other constitutes a violent “totalization.” While the philosophy of Levinas is brilliant and original in thought, the idea that selfhood only exists *relationally* has been around since antiquity. Despite the ancient nature of this idea, *totality* (the reduction of the Other) occupies the majority of human history and Western thought, especially since the Enlightenment. To our detriment, this totalitarian tendency has unwittingly left its mark on the way medicine is practiced today.

Aristotle famously said, “man is by nature a social creature.” Interconnectivity and interdependence

was practically axiomatic for the ancients. In the history of medicine, [Hippocrates, Galen, and Paracelsus each recognized that good health meant more than a healthy body](#): it meant understanding humans within the macrocosm, it meant finding balance in body, mind, and spirit within our selves as individuals, and as individuals within our environment. It meant paying attention to the whole.

Renaissance thinking (15th and 16th centuries) was rejected as thinkers embraced a world view euphemistically called the Age of Enlightenment (17th and 18th centuries). The cultural worldview became *systematically* fractionated. We started to *totalize* by organizing systems around ourselves. Driven by wanting to know, we systematically prioritized the objective and impersonal over the subjective and personal (or *interpersonal*). This trend continued and accelerated through the first, second, third, (and now fourth) industrial/technological/digital revolutions (1760-1840; 1870-1914; 1969-2000; 1960s-present). With this systematic fractionation came more and more disconnection. And the trend continued to how we practice medicine today: disconnected from other specialists at best, and adversarial relationships with other specialists at worst. Modern medical research today continues in the wake of this reductionistic thinking, making small gains in the narrow fraction of study all while creating greater and greater distance from how everything interconnects as a whole.

Levinas points out how we have gotten it backwards: We do not become social by first being *systematic* in language, quite the opposite—we become systematic because we first connected to multiple systems (Others) through language. This is the difference between thinking in systems versus systematic thinking: systems thinking is expansive and inclusive of the subjective and personal; systematic thinking prioritizes the objective, neutral, and impersonal; it organizes humans and things into forced categories to give us control over nature and other people, or at the very least,

conceptual control over categorization of them. In the process, *it reduces things to what they are not* (a part separate from the whole). It reduces the fractal expressions of language to words.

POETIC RECONNECTION

The Swedish poet [Tomas Tranströmer](#) spent his professional career as a psychologist, helping juvenile delinquents reenter society, counseling those in drug rehab, and helping those with disabilities choose a career. Once, during a poetry reading in New York, he was asked if his work as a psychologist influenced his poetic writings. In answering the question, he commented on how few people asked him the inverse of that question: how has being a poet influenced your work as a psychologist? You see, Tranströmer was first a poet and second a psychologist; not the opposite. And getting that order right meant that he was a better psychologist. Perhaps Tranströmer would suggest that as we see others the way a poet does, we become better physicians. The poet is primarily concerned with *epiphanies*: supra-rational “meeting places” of profound sacred *connection* with our landscape, our history, our culture, or another individual. Seeing others poetically means finding meaning, such as the waiver in a patient's voice that belies fear or grief. This means paying attention to the metaphors a patient uses in describing the symptoms that keep them up at night. This means using language, not merely words that reduce (*totalize*) the patient and keeps us at a safe objective distance. This is the art of medicine—the whole of medicine—which encompasses the fractionating science of medicine.

Life is not a “problem” to be solved only through rationality. We are not exclusively rational beings—we are also emotional, intuitive, embodied and social. Objective, neutral rationality cannot even operate unless it is embodied (has a set of operations to undertake), is motivated (so that it

does some things and not others), is emotional (has guides or heuristics to give solutions to problems that cannot be computed on a conscious level). So it is only under all of these private, unpredictable, sensing, feeling, unstable, passionate and embodied predicates that rationality can even begin to operate.

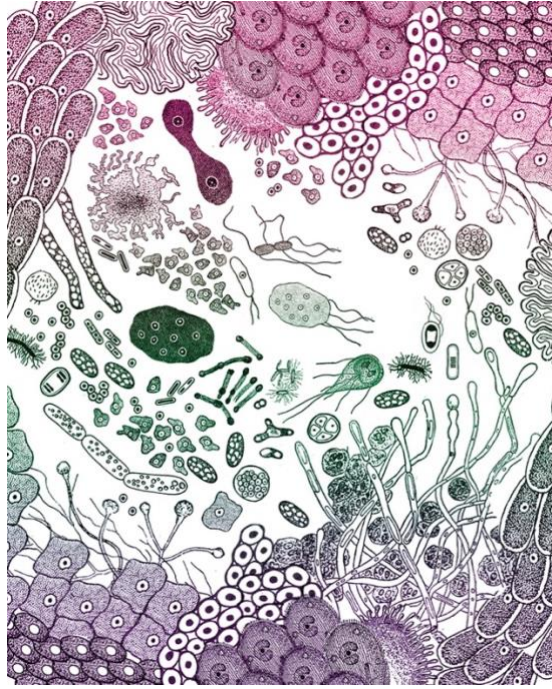
This should matter to every practicing physician who desires to be a healer. If real healing is to be achieved, connection must happen first. And for connection to occur, real language must be used, not merely words. Words are impersonal, neutral, objective, and sterile. But language exposes; language gives to the Other, allowing the ego (with our tendency to objectify or *totalize* the Other) to escape. Language changes patients from a “case” under sterile surgical drapes of diagnostic categorization to a human, with an *interior* reality that is *infinitely* as real and legitimate as my own. Language changes a patient who is a “poor historian” into an individual who is just as scared and overwhelmed as I am frustrated and spread-thin. Seeing others as Other demands compassion from us.

Conclusion: There are many fractal layers of language: spoken, ethical, philosophical and the elaborate language of physiology, to name a few. Endobiogeny provides a rich physiologic language of the dynamism and interconnectedness of life. This framework is informed by modern physiology, psychology, and mathematics—the most universal of languages. With language, we are better equipped to provide healing. The depth that Endobiogeny brings to patient care is not by turning up the metaphorical power of the microscope to higher and higher magnification (and disconnection). The depth of the endobiogenic approach is in stepping away from the microscope and viewing the entire landscape (terrain) of a patient, unfractionated and interconnected. ✱

About the Author

Dr. Adam Johnson is the medical director of [The Linné Institute of Medicine](#), a private medical practice dedicated to endobiogenic medical consultations. He practiced emergency medicine for 15 years prior to starting his practice in Endobiogeny. He has a background in literature and philosophy from Brigham Young University. He is married and lives with his wife and their four children in the beautiful mountains of Jackson Hole, Wyoming, USA.

CLINICAL PEARLS



Source: [Microbiome](#) by Casie Wilson

SYMBIOSIS, MICROBIOTA, AND THE FULLNESS OF LIFE

Reference: *The Theory of Endobiogeny*, volume 2, chapter 5: [Symbiosis](#)

SUMMARY: This conversation discusses symbiosis and dysbiosis. The starting point is volume 2 of *The Theory of Endobiogeny*, chapters 5 and 6. Drs. Augusto Fronza and Kamyar M. Hedayat explore the concept of intelligence, symbiosis and the possible role of mitochondria in intelligence. Clinical exam findings, biology of functions indexes, and simple treatment options are discussed: medicinal plants and diet. The discussion is free-ranging, addresses microbial endocrinology, what causes the light of the eyes to dim as we age, and the optimal duration of breast feeding.

LIFE REQUIRES SYMBIOTIC RELATIONSHIPS: MITOCHONDRIA AND EUKARYOTES

AF: How well established is the proposition that the microbiota are an [essential aspect](#) of the human development? Is it really necessary to have such a [great number of microbial organisms](#) in us?

KMH: Well, from an evolutionary perspective, the organismic expression of life—just the material

existence of complex eukaryotic life required some type of symbiotic relationship early on in the development of unicellular beings. It took a woman ([Lynn Margulis](#)) to really understand this hypothesis and prove it, because the life of the woman is about symbiosis owing to child bearing capabilities. The mitochondria were a separate type of being, creating symbiosis with unicellular organisms.

AF: Right, but wouldn't the baby inside the mother be more like a parasite than (a symbiotic being)?

KMH: It has a parasitic existence for a short period of time. And the mother's immune system develops a tolerance to the presence of this organism. But symbiosis has a mutual benefit, because from a purely organismic perspective, the mutual benefit is the ability of the mother, and by extension her male partner, to pass on their genetic material. The continuity of the material existence is benefited through the being which is gestating in the mother's pool. But to the point of eukaryotic organisms, the mitochondria, as I mentioned, were separate organisms, which fused and continue to develop early in eukaryotic existence. So, at the most fundamental level of cellular conglomeration, we "ourselves" as the human being, are constantly in a symbiotic state. The contribution of the mitochondria is that they're extremely efficient producers of ATP. How much ATP does an individual cell produce through glycolysis before cellular respiration? Two. The rest of the ATP is all produced by the mitochondria.

And the fact that mitochondria have their own genetic material, that they have their own distinct lifestyle, and they have the ability to influence the functioning of the eukaryotic cell is evidence that they are a separate organism living within the eukaryotic cell. I have a theory of cellular endocrinology where the mitochondria play the role of the manager and what would be the equivalent of the endocrine system in whole human being. But that's a discussion for another time...

HUMAN INTELLIGENCE AND MITOCHONDRIA

AF: It's quite interesting. I was reading recently an article about intelligence which says that it all comes down to the [mitochondria](#). If it's working properly, you'll be able to create thoughts and be intelligent. In a sense it's a correlation, a very big one in, in his case.

KMH: Well, I think that that observation is partially true. It's very reductionist to reduce thoughts to the material transmission of electrical impulses. Yeah. What I would say is that consciousness is a type of emergent property, which is not localizable to any specific material unit of biological function. But the conscious ability to think in a coherent way is greatly aided by the efficiency of mitochondrial function, by the osmolar flux within neurons and the electromagnetic coherence and organization of the brain. Because if you have mitochondria in the brain which are competent, but you have electromagnetic disturbance, from say, traumatic brain injury or a stroke or alcoholism, you're still not going to have efficient mental processes. So, the mitochondria are necessary, but not sufficient for efficient processes.

The other thing is that the emphasis of current scientists on the quality of thought, rather than the quality of feeling or the quality of social intelligence or emotional intelligence, is a very distinct bias towards the supremacy of mind and rational thinking as the pinnacle of the human experience. That's why in scientific literature, the brain is considered to be the most important organ, the essential organ; however, as I point out in our writings, and from my experience as an intensive care doctor, a person can be brain dead with hemorrhage or infarction of the neocortex. But as long as the brain stem and the basic regulation of cardiopulmonary activity is preserved, you can still be alive in a vegetative state. But you cannot be heart dead and brain alive. So clearly the heart, the brain is not the most important organ. Its role is to be an organizer, to be a unit of information exchange and hierarchization of principles.

And that brings us back to the notion of the microbiome, because the microbiota have their own priority and their own endobiogenic equilibrium that they seek to maintain for their own existence properly stated. They have the ability to produce these various neuroendocrine and neurotransmitter factors and excrete them through the intestinal wall or probably other areas and

influence central nervous system prioritization of the hierarchy of importance of conducting a certain type of activity, be it mating or eating or resting or whatever the case may be.

MICROBIAL NEUROENDOCRINOLOGY

AF: Kamyar, do you happen to know if all bacteria, doesn't matter the strain, do they all create serotonin and dopamine? Or, does it depend on the species?

KMH: I'm not sure what the state of bacterial endocrinology is. But I'll tell you that it is actually a developed discipline. Dr. Pejman Katiraei actually gifted me his copy of a book called [Bacterial Endocrinology](#). They were able to establish how the microbiome have their own endocrine system and how they can influence our endocrinology.

So that's why we really need to see them, as I argue in our books ([The Theory of Endobiogeny, volume 2](#), chapter 5: [Symbiosis](#)) as communal organisms, which means literally "sharing the same table," sitting at the same table, sharing life, sharing nutrients, sharing the prioritization of how the meta-organism of human being and microbiota survive together and thrive together.

AF: Yeah, I totally agree. That's why I went from the opposite side and tried to see if there was any exception to the case. I wasn't able to find an exception in mammals. They all have a specific microbiota. In lesser developed animals, they don't seem to have the same dependence on microorganisms. Ants, I found in an articles, had way less microorganisms in their bodies. They weren't sure why that was a case, but it was quite interesting.

INTELLIGENCE: HUMANS VS. OTHER LIVING SYSTEMS

KMH: I'm not sure why either, but let me share a hypothesis that others have put forward. The size of the human brain and the energy demand it requires

for its level of complex functioning, and the three layers of the brain are so energy intensive and resource intensive that the human being could never have developed to that level of complexity without having [a large number of symbiotic organisms](#) that could assist in nutrient extraction, in the production of essential material for life, such as B vitamin, for example.

AF: I was listening to your lesson on dysbiosis. Do you know if there is more bacteria inside omnivores like us or herbivores like a cow, and if there's a difference due to diet?

KMH: I'm not sure about the quantity, but I think in, in when we speak about symbiosis and relationships, it's the qualitative aspect of the relationship, which is important. This is in line with Dr. Adam Johnson's [article](#) about the qualitative nature of relationships. And this is absolutely true here. It doesn't really matter. The size of the brain itself is not evidence of intelligence. We need to understand intelligence beyond rational thinking or simple production of tools. Right? Because you say in a sense, we could say, organisms which produce tools maybe are so weak that they need the assistance of tools. Maybe it's not a sign of strength, but a sign of weakness. Is it really such a positive thing that we need to live in some type of shelter? A baboon or orangutan or chimpanzee or a bird, they don't need to build a home. Birds build nests, but they don't put roofs on the top of their nests.

So, are we superior because we're able to construct these housing units? Or, are we inferior because our organism is so vulnerable to death or wasting or the elements, that we need to have these so shelters or housing? So, the size of the brain is not even appropriate question. Think about something like an octopus, just the whole idea of where the brain is. And it has a distributed nervous system. Yeah. It has a distributed brain because every one of its tentacles is a type brain. Right? And the feeling that it has and its ability to perceive multiple streams of information far exceeds ours.

Or you look at a tree. A tree doesn't have a nervous system in the way that we think of ours, but they have sensing mechanisms and they're much more interconnected in what they now call the, "[wood wide web](#)." It's the way that the subterranean branching of their [roots creates a type of neural network](#), which is shared amongst other trees, even of different species. And we can't do that as human beings. We generally lack the ability to link up telepathically. We can't externalize our nerves and physically sew them together.

So, what does it mean to be inferior or superior? What does the size of the brain represent at the end of the day? Different organisms are adapted to different types of consciousness, different types of activities, different types of ways of expressing life. And they simply need to have the proper endobiogenic fit of the microbiome in order to successfully partner together to express life.

AF: I can see what you're saying. It very...hmm...

EVALUATING RESEARCH ON THE MICROBIOME

AF: How does one evaluate an article that comes to a conclusion that the microbiome can be beneficial or detrimental to us when the methods follow the ordinary methodology of research and not endobiogenic thinking?

KMH: A lot of the research, especially that done in the last 20 years, still continue to follow the [pharmaceutical model](#) of looking at an individual strain of microorganism and trying to use it in a pharmacological way, to "cure a disease" or resolve some type of I balance. And, my observation has been that the results in published literature have been mixed. They've been largely biased by small sample size. And my empirical observation in clinical practice is that using a mono strategy of a single strain of bacteria, or a fungus like *Sacharomyces boulardii*, works [some of the time](#), but [not as often](#) as one would anticipate that it should.

From an Endobiogenic perspective, we would say that supplying a certain type of microorganism is

neither necessary nor sufficient in most cases. When you supplement with microbial organisms they pass through. They don't stay in the GI tract for more than 24 to 36 hours. They have a very short half-life, if you will, of activity. The other thing is that the intestinal tract, for example, or any other tissue is submitted to the global priorities that the organism manages through the endocrine system. So, unless you have some type of very clear local demonstration of disease, most people's disorders have both a local level of tissue dysfunction and systemic dysfunction. But let's say somebody has recurrent urinary cystitis. There, there may be some anatomical issues, such as kinking of the urethra, or, hygienic issues. Or, there could genetic polymorphisms where the mucosal defense system is not as efficient in that area. But more often, in addition to that, there's the influence of a pro-inflammatory diet. There's the harmful influence of pelvic congestion and stasis of nutrients, which allows bacteria to overgrow, right? There's the influence of the neuroendocrine terrain and pro-inflammatory mediators. There is the quality of renal emunctory function and the amount of acidic waste products that are presented to and that dwell within the bladder. So, there's all these other factors that need to be taken into consideration. And it's only some of the time that simply changing the microbiome is both necessary and sufficient.

In conclusion, I would say that reading the articles or performing research in this field can be helpful if it's part of a larger construction of a worldview of a multifactorial approach where microbial organisms are one tool, amongst many others, that when combined synergistically according to the endobiogenic terrain of the individual.

MEDICINAL PLANTS FOR CORRECTION OF THE FLORA: AN ENDOBIOGENIC REFLECTION

AF: Right. Like when we use, for example, *Mentha piperita* or *Plantago major*, that tends to equilibrate the flora, how long should one way to see like effects or to see the decrease on symptoms associated with these issues?

KMH: Well, that depends on how well selected the plants or plants are. For example, in some people, a plant like [Juglans regia](#) is more efficient re-equilibrator than [Plantago major](#). That would be the case in somebody who has pancreatic insufficiency, exocrine and endocrine, where there's insufficient breakdown of nutrients from the diet. The excess exposure of the nutrients further down the small intestines is playing a role in bacterial overgrowth. So, in that case Walnut, which is very as stringent and has these antimicrobial properties and is a dual pancreatrope, will prove to be more efficient than *Plantago major*.

But assuming that you have selected the right plant or plants for the individual patients, the more acute the microbial imbalance is, the less time you use them. So, let's say somebody has acute food poisoning, you could use the plants for three or four days to resolve the issue. If it's subacute, maybe use it for two to four weeks. If it's chronic or chronic recurrent, you may need to make it part of a six month strategy along with dietary changes to allow for pancreatic rest or pancreas sparing diet for a prolonged period of time, until you resolve the imbalance in the terrain.

DYSBIOSIS: PHYSICAL EXAM FINDINGS

AF: What indexes or clinical findings would be related to addressing the terrain of dysbiosis?

KMH: The clinical history and exam are still the best way to determine the presence of some type of microbial imbalance in the digestive tract. Determination of where the imbalance is in the digestive tract can be simply determined by the onset of symptoms. For example, as we talk about [in our books](#) (*The Theory of Endobiogeny*, [volume 3](#) and [volume 4](#)), if bloating or gas occurs within the first 20 minutes of eating: it's in the proximal small intestine. If it happens within an hour, then it's it further along in the small intestines. If it's occurring three or more hours after even the meal it's at the ileocecal junction, or, beyond, in colon.

Intestinal dysbiosis can be ascertained through pain on deep palpation of the dysbiosis point in the paraumbilical region, and, a white coating on the tongue. Raised red papules on the tip of the tongue is a sign of small intestinal inflammation. This could support a suspicion of intestinal permeability—what the Chinese call, “excess heart fire.”

AF: Who came up with these examination findings, like tenderness around umbilicus?

KMH: Well, as far as I know, Dr. Duraffourd made these associations.

DYSBIOSIS: BIOLOGY OF FUNCTIONS INDEXES

AF: In your experience, do you find it to be very precise?

KMH: Yes. But remember, bacterial overgrowth is not equivalent to symptoms. If symptoms are present, and there are signs of bacterial overgrowth, then you have, uh, the evidence you need to address the endogenic equilibrium within the intestinal tract, focusing with emphasis on the microbiome. Having said that, when considering, what should be the point of emphasis, there are certain indexes that can help. So, as you mentioned, the somatostatin index (c.f. the lecture *Indexes of the Somatotrophic Axis*, [part 1](#) and [part 2](#)) can be used to look at pancreatic insufficiency. The corrected apoptosis index (c.f. the lecture *Indexes of the Somatotrophic Axis*, [part 1](#) and [part 2](#)) when it's elevated in my interpretation based on Dr. Duraffourd's discussion of this index would be suggestive of a chronic low-grade infection, or some type of problem where the organism keeps using apoptosis, which by the way, can be stimulated by the mitochondria to kill off the cell because it's been infected. So, when I'm considering some type of low-grade infection, I'll look at the, the corrected apoptosis index. And actually, one of the plants I like to use when that index is elevated is from your country—Uña de Gato, Cat's claw (*Uncaria tomentosa*). It's very efficient in these types of cases.

DYSBIOSIS: DECOCTIONS, TISANES AND TINCTURES AND EFFICIENCY OF TREATMENT

AF: All right, cool. Yeah. I'll start using it more often. Here there are some plants that are easier to find and less expensive (than others for treating intestinal dysbiosis). For example, *Juglans regia* is 50% less expensive than *Plantago major*.

KMH: Especially when you have somatostatin index high or low, and the apoptosis corrected index is elevated, if you make a decoction of the hull of the walnut and the bark of Uña de Gato you have an extremely effective treatment regimen which costs very little money. Of course, the leaf *Juglans regia* is also effective. And, of course, using it as a tincture is also very effective, but it costs more.

AF: But in case of a decoction, does it take longer to treat the patient?

KMH: No, just the opposite. If I'm treating primarily an intestinal disturbance, I prefer to use a tisane or decoction, unless the patient says otherwise, say, because they travel, or they don't have time to prepare it on a daily basis. But I encourage my patients to make a day's worth of the decoction, either the night before, or, in the morning, and to use it throughout the day in three or four divided doses. The total dose is 1 liter, taken before meals and before bed. It is very efficient.

AF: All right. Okay. I thought there was a difference in efficacy using a decoction, as compared to a mother tincture or dry extract.

KMH: Well, the decoction is less concentrated, but you're taking one liter per day, as opposed to 10 or 15 milliliters per day (in divided doses).

DYSBIOSIS: DISEASES OF AGING AND A DULLNESS IN THE EYES

AF: That makes sense. There is a [graph](#), in *The Theory of Endobiogeny*, Volume 2, in the chapter on dysbiosis. It shows the evolution of the microbiota from when you're a baby to old age, and the onset

of diseases. And as we grow older, the diseases come as well. Of course, there's like all this entanglement. That's why I wonder if you could change the microbiota to be more like that of a pattern of a younger person, would you have a healthier person as well?

KMH: I don't suspect it. The infant, evolutionarily speaking, was evolved to exclusively consume human breast milk. And so, the microbiota develop based on exposure to different factors: first exposure to amniotic fluid, then passage through the vaginal tract, then subsisting exclusively on human breast milk, then purée or overcooked food that's easy to digest before they have fully developed digestive capabilities. So, as we age, we need different microbiota to extract and produce different nutrients. Some of the changes, of course, are pathologic. That's due to stress and non-rhythmic living and the bad choices we make in terms of alcohol consumption, the types of foods we eat, *et cetera*.

I like the way you characterize old people as becoming dull and toddlers as enthusiastic and having bliss within them. A lot of what you described in the toddlers, we would ascribe to a very strong level of thyrotropic activity: the brightness in the eyes, the bliss, the joy, the curiosity, the delight in the eyes are ascribed to a strong influenced by TRH and the general functioning of the thyrotropic axis of the child. The dulling of the eyes and the spirit of life in the elderly is, no doubt, partly due to dysbiosis, but it's also due to declining mitochondrial function—coming back to our earlier discussion—and to reduce circulatory capability, either arteriosclerosis, atherosclerosis, increasing systemic vascular resistance, or diminishing cardiac function. And then there's of course the mental and emotional life of the adult as they age, facing, as Shakespeare would say, “the outrageous slings and arrows of misfortune” over the years, all their troubles, their woes, the griefs that affects the functioning of the brain and which dulls the brightness in the eyes. In the Old Testament (Proverbs 14:30), it speaks of how envy

rots the bones and sorrow “crushes the spirit” (Proverbs 15:13)—it brings dullness to the eyes.

AF: Yeah. It's something that I can see, with my grandparents. My grandmother, for example, is a hypochondriac. She's very concerned about her health and she's always complaining. If you ask her “How are you?” It's the wrong question. She doesn't have the feeling of being glad of being alive. And that's something that I often see.

KMH: Well, I would say that the human being receives two great gifts: the first is life, and the second is death. If that becomes a great relief.

TISSUE ACIDITY AND DEGENERATION

KMH: Well, let me mention one other thing, which is not mentioned enough in our endobiogenic teachings: the general acidification of tissue as we age. The general level of acidity of tissue, be it in local pockets or more distributed, decreases the general functioning: the binding of hormones and neurotransmitters to their receptors. There's a general reduction in the efficiency of management of the terrain because of acidity.

Let me share an extreme example. When I was a pediatric intensivist, when managing a “code blue”, resuscitation of a child with cardiopulmonary arrest, there were algorithms of what medications to give and in what order, published by professional societies. But I found, despite the consensus recommendations, that one of the most important medications in resuscitating a child was sodium bicarbonate for the immediate and dramatic reversal of severe tissue acidity. It made all the difference in my personal experience. Adrenaline cannot properly bind to its receptors, cortisol cannot properly bind to receptor when there's increasing levels of acidity; and, reversing that acidity improves the ability of these key elements of the immediate adaptation syndrome to instantaneously regulate the most essential functions of cardiopulmonary function. In a less dramatic and less extreme way, subtle variations in

tissue pH are going to have this effect of gradual decrepitude and degeneration of function. Hence the dullness in the eyes as well. So, correcting acidity using less aggressive methods, such as an alkaline diet helps. Avoiding red meat, fried foods, cheese and alcohol help reverse issue acidity.

AF: I tried. It wasn't easy.

KMH: When you are young, at first, the alkaline diet saps your spirit, because you feel like you're not “living” if you're not having alcohol, meat, cheese and dessert. But then you break through to a feeling of clarity and lightness when organism is functioning in a much more efficient way.

AF: It was confusing, the alkaline diet in the book (*The Theory of Endobiogeny: [A bedside handbook](#)*) because it says it's six green apples and I wasn't sure because it's a lot six green apples on the same juice.

KMH: Well, that's one option. You can substitute green apples with other green vegetables, especially parsley, cilantro, and celery. It's one option, but you can simply do it through a dietary change.

AF: Yeah. I stopped drinking alcohol even though I didn't drink that much. I reduced my intake of red meat a lot because of what was indicated in my biology of functions, which told me to eat more, um, more grains and more. Then, I went to do the grape cure diet with my friend. I lasted three days because I started to feel very lethargic, with no energy and headaches. The next day I ate some meat. I felt incredible again.

NUTRITION THROUGHOUT LIFE

KMH: I would say that probably 80% of people need [some animal flesh](#), some of the time. Meat is an efficient form of nutrients, especially when the animals are raised in a humane way, according to the old methods, pasture raised, grass fed, and slaughtered humanely. It's a totally different meat than what we're actually eating these days. Let's conclude soon.

AF: How long do you recommend infants to be exclusively breast fed?

KMH: Well, according to the studies I read, three months confers a great amount of benefit. [Six months is better](#) than three months, but six months seems almost equivalent with one year. But in an optimal case, I would recommend infants be breastfed until around two years of age, but not beyond that.

AF: Not beyond that?

KMH: [Not beyond two years](#). But of course, around four to six months, breast milk ceases to become the primary source of nutrition. It becomes an ongoing source of supplemental nutrition beyond six months. By two years, the pancreas has

developed its full digestive capacity. The digestive capacities of the child, locomotor capabilities, the size of teeth and strength of suck and bite really make breast milk no longer a truly supplemental or necessary or even beneficial source of (exclusive) nutrition. It really becomes a type of emotional comfort.

AF: I have a patient with this kind of problem at the moment. She has a three year old boy and he wakes her up every two hours during the night. She wakes up almost like five times during the night to breastfed.

KMH: There's also that problem (of continued sleep disruption). I recommend the mother start weaning between 18 and 20 months and for the child to be fully weaned on or before two years of age. *

About the Interviewer

Augusto Barbosa Fronza, born and raised in Brazil, still a bit young in age, and a great proponent of the use and spread of endobiogenic teachings, began studying and applying endobiogeny in his daily practices about a year and a half ago. Now any new case that comes his way becomes an investigative tale which has made daily practice much more fun and interesting to have.

MEDICINAL PLANTS



SOURCE: [Embracing one](#) by Susan Cohen Thompson

INTEGRATION OF HUMAN- PLANT RELATIONSHIPS

Anna Betz, MCPP, Dip.SW

SUMMARY: We live in an interconnected world, but we make decisions primarily motivated by what benefits us individually. Gaia theory, as explained by Anna in this article, is the foundation of a global community of living systems, including humans and plants. In this article, Anna offers ways to facilitate reflective thinking and concrete action towards a more sustainable and respectful relationship with plants, medicinal and comestible. Community supported agriculture and community gardens are both discussed as the outcome of the integration of the human-plant relationship.

NEW APPROACHES TO SELF, COMMUNITY AND PLANET

[Gaia theory](#) (1) is the principle that the biosphere of Earth is a single complex living system, influenced by all living beings within. This understanding of the interconnectedness of all living systems within the

terrain of Gaia has profound implications for human health, agriculture, climate change and many other scientific disciplines.

As members of the human kingdom, we need to ask ourselves, how integral is our behavior in terms of agriculture, stewardship of land and changing global temperatures in participating in the totality of the global ecosystem?

Our life is interdependent on other kingdoms of earth—especially plants—for food, air, water, fuel, clothing, and shelter, but their lives are not interdependent on us. With respect to plants and humans, who is the lesser and who is the greater? Who should be more mindful of keeping a balance?

QUESTIONS WORTH ENQUIRING INTO AS A COMMUNITY OF HEALERS:

1. As prescribers, producers and users of plant-based medicines, conscious of the interconnectedness of life in its many forms, what are the implications for the way we live and how we practice endobiogenic medicine?
2. As a community, how could we support each other in refining our receptivity to the spectrum of people-plant interactions?
3. Are there some practices worth replicating that could enable us to notice what catches our attention that needs to be ‘exercised’?
4. What are possible situations and conditions we can co-create as a community for the emergence of a more ecological life practice?
5. How can we become more aware of the contributions that plants make to human life—the meanings they add, the needs they meet, the values they create, their nuances and extraordinary adaptations?

ACTIONS WORTH TAKING FOR A MORE INTEGRAL RELATIONSHIP WITH PLANTS

As we inquire into these kinds of questions, we can become more conscious of our daily habits and choose to change them. Some suggestions to start with:

1. Purchasing plant extracts including tinctures from people who work with growers who are exemplary stewards of the land.

2. Supporting companies that use plastic-free, biodegradable and compostable pots instead of glass bottles or plastic ones for supplements. [Cytoplan](#) is an example of how a supplement company supports customers, both ethically and sustainably by going plastic-free. [This article](#) describes why glass bottles are not good for the environment either.
3. Supporting and participating in [Community supported Agriculture](#) (2) (CSA). CSA is a partnership between farmers and consumers in which the responsibilities, risks and rewards of farming are shared.
 - a. CSA helps to address increasing concerns about the lack of transparency, sustainability and resilience of our food system. It is one of the most radical ways that we can re-take control and ownership of our food system.
 - b. *The most significant difference between a CSA and a veg box scheme is the way in which customers share some of the risks and rewards with the growers, meaning sometimes they receive a smaller share of the harvest and sometimes a larger one dependant on any crop failures or successes of that year.*
 - c. *A non-profit organization in Greece named The Southern Lights (<http://thesouthernlights.org>) has created a regenerative farming program (<http://regenerativefarminggreece.org>). The organization is currently in the process of converting 6 farms throughout Greece into regenerative operations.*
4. Actively supporting biodynamic farming
5. Supporting ethical foraging *and creating Community herb gardens* in local communities to provide education and increase resilience and diversity as well as providing continued supply of herbs.

- Taking re-usable bags when we go shopping, etc.
- Shifting our mindset and behaviours from acting as consumers to becoming co-producers of what we need for a good life

Scientists and educators have described this contemporary condition as “plant blindness”—an anthropocentric and animal-centric cultural attitude that recognizes the large above the small, the moving above that which stands still, or the singular animal above the biologically complex and

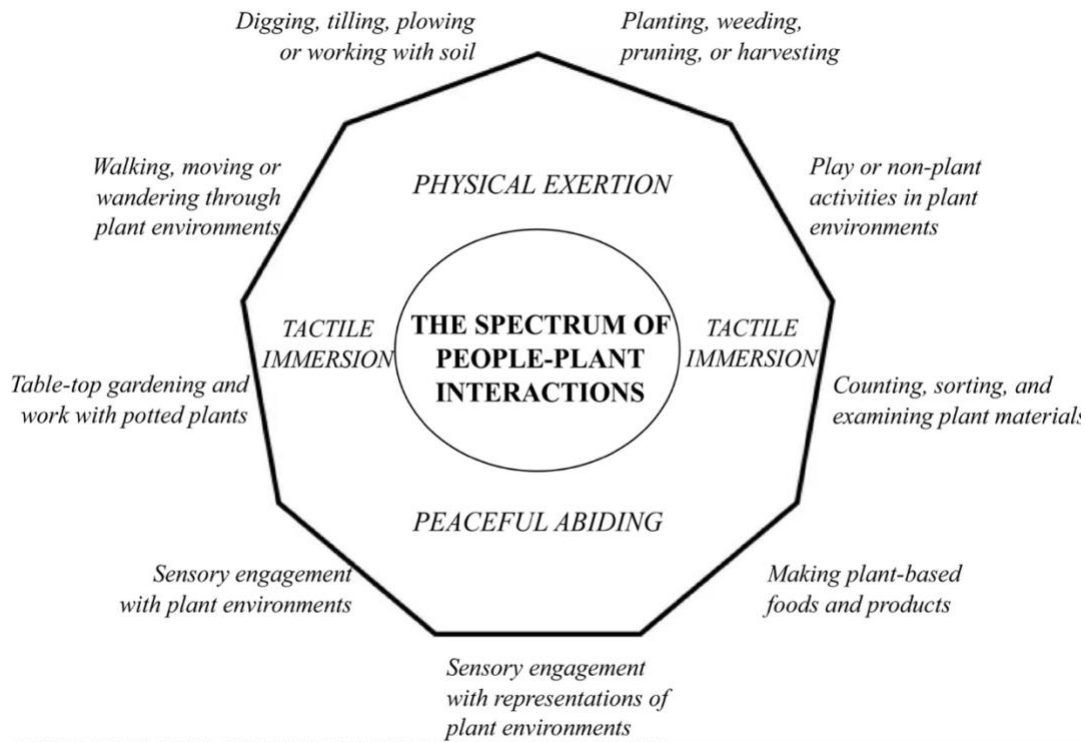


Fig. 1: Maps the spectrum of people-plant interactions, which can include various degrees of peaceful abiding, tactile immersion, and physical exertion (4)

To function in society, we can easily become guilty of filtering out information that seems to be unimportant to the personal or professional task at hand. In many cases these “unimportant” things may be plants. Although terms like “ecosystem services” and “sustainability” have begun to widen the reach of plants and brought them into economics and policy, it is also the case that self-identification with plants or everyday consciousness about plant ecologies is not yet widespread. This is especially the case in highly urbanized and industrial societies, where the intrinsic value of living plant ecologies has historically been ignored, or plants are seen as something to conquer, domesticate, and channel for economic profits (e.g., Brennan, [2000](#); Leiss, [1994](#); Merchant, [1980](#)) (4).

diverse landscape (Allen, [2003](#); Blackhall-Miles, [2015](#); Sanders, [2019](#); Wandersee & Schussler, [1999](#)) (4). People-plant interactions, may not always seem particularly productive for “commercial value” or relevant in “the clamour of our own practical interests”, but they can ultimately lead to profound shifts in personal or collective consciousness.

Imagine how our culture could start to change once children from a young age would spent more time in nature and developed their receptivity to the language of plants and opened themselves to other ways of thinking and being in the world.

There is not necessarily one kind of interaction that is more effective than another. Different kinds of

interactions may be better suited for different settings or groups, and can be adjusted based on availability of space or resources. The spectrum of people–plant interactions includes (c.f. figure 1): sensory engagement with representations of plant environments, sensory engagement with plant environments, walking, moving, or wandering through plant environments, play or non-plant activities in plant environments, counting, sorting, and examining plant materials, table-top gardening and work with potted plants, digging, tilling or working with soil, making plant-based foods and products, garden planting, weeding, pruning, or harvesting.

For educators, gardeners, or therapists who plan horticultural activities for a specific group, the goal is often to encourage people to engage with plants in both new and familiar ways. For example, someone who is eager for physical exertion through horticultural work may have difficulty pausing to rest and note new flower blooms. Someone looking to passively escape in the garden may need reminders to engage more tactilely or physically. In some cases, a temporary escape may be exactly what is needed. When properly approached and contextualized, plants are able to meet people where they are—in terms of ability, experience and background—which means that different people will experience the spectrum of plant activities much differently. A good resource is [The Profession and Practice of Horticultural Therapy](#) (5)

- CSA's to learn from and with each other. We can do this via podcasts, videos, articles, workshops.
- Cultivate our own patch of Collective Knowledge creation which would be

Conclusions:

There is an urgency in our world for us to live in a way that respects and honours our interconnectedness with everything. Consciously or un-consciously we co-create the world we live in with every choice we make in our lives, whether personal, social, economic or political. The theory and practice of Endobiogeny provides us with [ideal tools and practices](#) to support our collaborative sense-making as an endobiogenic community.

We can strengthen our competencies by envisioning and enacting our desired reality together. **Every consultation, every encounter and every therapeutic intervention can become an opportunity for transformative learning for ourselves, each other as well as for those we serve.** Together we can explore our strengths and learn how to use them in the context of the global, positive change we want to see happen.

Next steps:

- Come together as a global Endobiogeny learning community and envision and enact generative steps towards a desired future.
- Respond to the growing public sentiment and sensitivity for interconnectedness by engaging with the public and with practitioners in neighbouring fields like

accessible to the public, we need to create a well curated and easy to navigate knowledge garden. ✱

About the Author

Anna Betz, MCPP, Dip.SW, is a medical herbalist, co-founder of Endobiogenic Society UK and member of the professional governing body for qualified Medical Herbalists in the UK. She practises [Endobiogenic medicine](#) in conjunction with [herbal medicine](#), dietary, life-style and wellness coaching, utilizing systemic family therapy and

narrative approaches. For the National Health Service of the United Kingdom, she pioneered a 'brainfood project' to optimise brain health and to prevent or slow down cognitive decline.

Lear more about Anna's scientific contributions:

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Disclaimer: I have no financial conflict of interest with any of the companies or associations mentioned in this article.

OUTSIDE CONTRIBUTION



Source: [Illustration](#) by Mahla Bess Raphael

SUSTAINABILITY IN ACTION: THE A TEAM FOUNDATION

Anna Van Der Hurd

SUMMARY: The A Team Foundation supports ecologically sustainable, localised food systems, returning power to growers and choice to consumers so that high quality, nutritionally dense food is accessible to all. This article discusses adverse impact of multinational seed and fertilizer corporations and how you can support organizations making a difference in supporting community agriculture and traditional wisdom in farming practice.

Introduction

The system that drives farmers into a debt trap creates malnutrition. The solution lies in shifting from a toxic, high-cost system to a nutritious, low-cost, sustainable food production model. - [Vandana Shiva](#)

In 2009 [The A Team Foundation](#) a philanthropic Foundation based in the United Kingdom started with a few questions; Why was the seemingly simple act of eating well a privilege of the few? Why were child obesity rates sky rocketing, and malnourishment holding steady? Could the pesticides and herbicides ubiquitously used in conventional farming be causing untold harm to our children and the planet, and could the food we were feeding our children be making them sick?

Certainly, we were not the first to ask these questions. Propelled by a deep longing to correct course we embarked upon a journey of discovery that continues to unfold, meeting and learning from the people and organisations in the UK and around the world that have dedicated their lives to addressing the issues we saw starkly before us. The more we learned from our grant recipients and their networks, the greater our understanding of the interconnectivity of the problems we faced, and the solutions.

THE CRISIS OF OBESE, MALNOURISHED
PEOPLE AND THE DESPAIR OF CULTIVATORS

How is an overweight and simultaneously malnourished child in the US connected to an aging Indian farmer brought to despair and then suicide? Those that control seed, control life. Since the Green Revolution in the late 1960's multinational agrochemical companies have been selling "miracle" seeds and poisonous chemicals as a two-for-one false promise to unsuspecting farmers globally. Wherever these 'miracle' seeds went, there was a new thirst for water, an addiction to pesticides, herbicides, fertilizers and consequently ecosystem and livelihood collapse. Without subsidies, farmers struggle to pay for these products that require continual purchase year on year. One bad crop and farmers face crushing debt, with limited means of paying for more seeds and the synthetic inputs they need to grow. In 2022 up to 30 Indian farmers die by [suicide daily](#). While on the other side of the world and increasing all over the world, children are being fed the end result of the commodity crops soya, maize (corn) and wheat, in the form of highly processed, nutritionally void foods.

Since the dawn of agrarian life, farmers--often women--saved their seeds with great care, choosing the highly flavorsome, nutritious, and adaptive plants, the ones they saw thriving in their regionalized environments, for free. Now faced with the harsh realities of seed capture as opposed to the high yielding pest and weed resistant crops farmers were promised, [growers](#) are returning to the wisdom of their ancestors and building upon this rich heritage and field-based science. There are many [working](#) on the ground to support the spread of this knowledge, and in the process nourishing plant diversity, food security and health, in the face of the climate crisis, biodiversity collapse and economic uncertainty.

The issues we face seem vast and multiple and often they are exhibited singularly, or sometimes coupled but rarely are we presented with the complexity of the web we are presently caught in. Systemic and entrenched issues of discrimination, the growing gap between the wealthy and poor, and now in

2022 food shortages and hyperinflation are impacting the majority. We, as a society, have been building a system of short-term gain and not one of resilience. By allowing multinational corporations to control our food systems, putting profit before health and community, we have allowed interests that serve the few to dictate what we eat, how our food is farmed, processed, delivered and in the process have exploited the planet to breaking point. And all the while chronic illnesses are increasingly frequent, especially amongst historically marginalised communities. We seem to have lost our connection to the biosphere and compassion for each other.

HEALTH CONSEQUENCES OF THIS EPIDEMIC

It was estimated in 2021 by the [CDC](#) that [78%](#) of those who have been hospitalized, needed a ventilator or died with Covid-19 were overweight or obese. According to the World Health Organisation, [2.2 million of the pandemic's 2.5 million](#) global deaths were in countries with high levels of obesity. In the USA, Non-Hispanic Black and Indigenous People of Color (BIPOC) adults have the highest rates of obesity and diabetes and were tragically the most likely to [die with Covid-19](#).

BIPOC communities continue to be the worst hit by our failed food system, often living in food deserts where nutritious food is unavailable or priced out of locally grown organic foods. The pandemic brought to light how deeply broken and fragile our food system is, with global supply chain breakdown and exacerbated inequities of accessing healthy food. Covid-19 tested and wholeheartedly supported the theory that localized food systems were the most resilient. With supermarkets shelves empty, many that could turned to their local farmers, [box schemes](#) and other creative localized food delivery services that were popping up to meet the new demand. Many [grassroots groups](#) quickly organized to meet the new challenges of food distribution and access for the most vulnerable during global lockdowns, and in the process

supported the local regenerative and agroecological farmers that were truly feeding us.

FORGING A NEW PATH AHEAD

Like the mycelium that grows abundant in healthy soils, there is a thriving global interconnected community of people and movements that are forging a new path.

There are many hands that work together to rebuild the abundance in our soils and biosphere: the small holder farmers that still grow 80% of the food we eat, seed savers, soil scientists, black farmer organisations, indigenous communities, campaigners, community volunteers, millers, shop owners, investors, lawyers, chefs, bakers, journalists, policy experts, doctors, teachers, activists, ranchers, butchers and many more. We all have a birth right collectively squandered, and thus we all have a role to play. People who deeply care for each other and this earth, form a multifaceted system of resistance and offer tried and tested solutions to the numerous issues we face. As long as people and planet are put before runaway profits, as long as we respect and listen to the diverse voices who wish to reclaim the land and our food, as long as we only take what we need, as long as we understand all is connected and we keep curious, we can build the food systems that offer our salvation.

About the Author

Anna Van Der Hurd is the Chief Executive at the A Team Foundation. Learn more at www.ateamfoundation.org

The A Team Foundation supports food and land projects that are ecologically, economically and socially conscious. We contribute to the wider movement that envisions a future where real food is produced by enlightened agriculture and access to it is equal.

ORGANIZATIONS FUNDED BY THE A TEAM FOUNDATION THAT MAKE AN IMPACT

[The Land Workers Alliance](#)
[Kindling Trust](#)
[Seed Sovereignty](#)
[The Ecological Land Coorporative](#)
[Food Ethics Council](#)
[Sustain](#)
[The Perennial Fund](#)
[Almendrehesa](#)
[The Agroecology Fund](#)
[CSA Network UK](#)
[Sustainable Food Trust](#)
[Land in Our Names](#)
[Farmerama Radio](#)
[Pasture for Life](#)
[Beyond GM](#)
[Growing Communities](#)
[Real Farming Trust](#)
[Farming the Future](#)

GETTING INVOLVED

To support our work or the work of our grantees directly, please be in touch: info@ateamfoundation.org ✱

NUTRITION AND LIFESTYLE



Source: Keith Negley

TAKE A MOMENT FOR GRATITUDE

By Lizzie Johnson, Health Coach

SUMMARY: Expressions of gratitude have positive psychological and physiologic benefits. In this article Lizzie explores the expression of gratitude for the entire ecosystem involved in food, water and air. She offers practical methods to express gratitude at each meal.

Introduction

“Gratitude unlocks the fullness of life. It turns what we have into enough, and more. It turns denial into acceptance, chaos to order, confusion to clarity. It can turn a meal into a feast, a house into a home, a stranger into a friend. It turns problems into gifts, failures into successes, the unexpected into perfect timing, and mistakes into important events. It can turn an existence into a real life, and disconnected situations into important and beneficial lessons. Gratitude makes sense of our past, brings peace for

today, and creates a vision for tomorrow.” —Melody Beattie, *The Language of Letting Go*¹

Gratitude benefits our health and the wellbeing of the world, especially when it is expressed regarding our food. Reflection on our interconnectedness with the world cultivates gratitude. When we reflect on the essential elements that the earth and its inhabitants provide for life, we step into a greater appreciation of interdependency and meaningful connection amongst all beings.

Two fundamental elements needed for human life are water and air. In our busy, task-driven world, we seldom pause to think about these two fundamental elements. That is only the beginning of the essential elements of life and production of food. Food requires sunlight, water, soil, farmers, and a chain of workers (often from other countries) to deliver it to our local markets. Nourishment requires effort from people around us to bring it to our table. We are dependent on each other and on the environment for life. Recognizing this connection requires a level of psychological insight and openness to connect with others in a web of life. It allows us to see clearly the impact that the earth and the people around us have on our health and our ability to thrive. The true abundance and beauty of the earth may be beyond our conception.

THE PHYSIOLOGY OF GRATITUDE

Gratitude is not just an abstract psychological state. There are specific [neural networks within the brain](#) that are activated during the act of gratitude.² Gratitude can have a positive impact on health as measured by [reduced inflammation](#) (interleukin-6).³ Optimism and gratitude are correlated with improved well-being, even in the face of [severe disease](#),⁴ and a lower incidence of [depression](#).⁵

The process of being grateful is simple to grasp, but requires [genuine feelings](#) to be effective.⁶ gratitude. Begin with the simple practice of noticing. Enlist all the senses to uncover the abundant and beautiful resources around you. Notice, what you see, smell, taste, hear, feel and with an expression of gratitude

put language to it. What we notice creates the framework for the reality we experience: *"What we appreciate, appreciates."*

5 DAILY EXPRESSIONS OF GRATITUDE YOU CAN BEGIN TODAY

Before eating, express out loud gratitude for all 5 of the categories below:

1. The air you breath
2. The water you drink
3. Soil and the organisms enhancing it
4. People and animals that have contributed to the food on your plate in any way
5. The energy and beauty it offers you

Be as specific as you can about your gratitude. For example, "I am grateful for the oxygen that fuels my cells and allows me to extract energy from nutrients" is a greater expression of gratitude than "I'm grateful for oxygen." Try to express how the abundance makes you feel, or what you appreciate as an outcome of the particular abundance in your life.

Conclusions

Endobiogeny recognizes the importance of gratitude as part of regulating a health digestive system (c.f. [The Theory of Endobiogeny, Vol.2](#), p.92).⁷ This simple lifestyle recommendation is cross-cultural and universally applicable as a simple, health-giving act of positive psychology. ✱

About the Author

"Lizzie Johnson is a mother of 4 children, a professional Health and Life Coach, a Fitness Trainer, and a Social Worker (BS). She lives in Jackson Hole, Wyoming, USA with her husband Adam. She is passionate about listening, rhythmic living, and holistic eating. Her coaching practice is devoted to helping clients create personalized systems that move them towards healthier ways of living."

CONFLICTS

No conflicts of interest.

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EVENTS CALENDAR

TUNISIAN CONGRESS OF ENDOBIOGENY AND CLINICAL PHYTOTHERAPY

June 3-5, 2022, the Tunisians Association of Medicinal Plants ([ATPM](#)) held its 3rd annual scientific conference, dedicated to the late Dr. Christian Duraffourd. The theme was phytotherapy and dermatologic disorders according to Endobiogeny. It was an international event with speakers from the US, France, Italy and Tunisia (fig 1).



Fig 1: Left to right: Drs Lapraz (France), Hedayat (USA), Grandi (Italy), Chemli (Tunisia), Ballati (Italy), Mr. Henry (France), and Dr. Carillon (France).

The conference was held in Monastir, Tunisia in conjunction with scientific partners, such as the department of pharmacy, Monastir University. Officials from the ministry of health and esteemed members from the academic and industrial communities participated in a round table discussions regarding improvement of the quality of plant-medicine therapeutics in Tunisia.

Long-time collaborator of Dr. Duraffourd, Dr. Jean-Claude Lapraz presented the key note speech on the role of inflammation in dermatologic disorders. Dr. Kamyar M. Hedayat, editor of this journal, presented case studies in acne using the new physiologic modeling tool [GEMMA](#), a world-premiere of this new version of the [biology of functions](#) system of Endobiogeny.



Fig 2: (Right to left): Prof. Manel Zghidi and Dr. Hedayat with competitors for the 1st annual Christian Duraffourd prize for scientific achievement in Endobiogenic research

Another world premiere was the inauguration of the Christian Duraffourd prize for scientific excellence, awarded to three Tunisian researchers for their *in vitro* and clinical studies using medicinal plants and the [biology of functions](#) (fig. 2). It was a memorable event with over 300 people in attendance.

CONVERSATIONS WITH INNOVATORS



George Pór; Source: George Por

EXPLORING COLLECTIVE INTELLIGENCE AND ENDOBIOGENY: AN INTERVIEW WITH GEORGE PÓR

Introduction

George Pór is a long-time researcher, practitioner and advisor in “collective intelligence,” “innovation ecosystems,” and “communities of practice.” He is an independent scholar with former academic posts including Université de Paris, UC Berkeley, INSEAD, Universiteit van Amsterdam, and the London School of Economics. He met with Editor-in-Chief of Living Systems, Kamyar M. Hedayat for a conversation about collective intelligence and systems theory.

COMING TO COLLECTIVE INTELLIGENCE

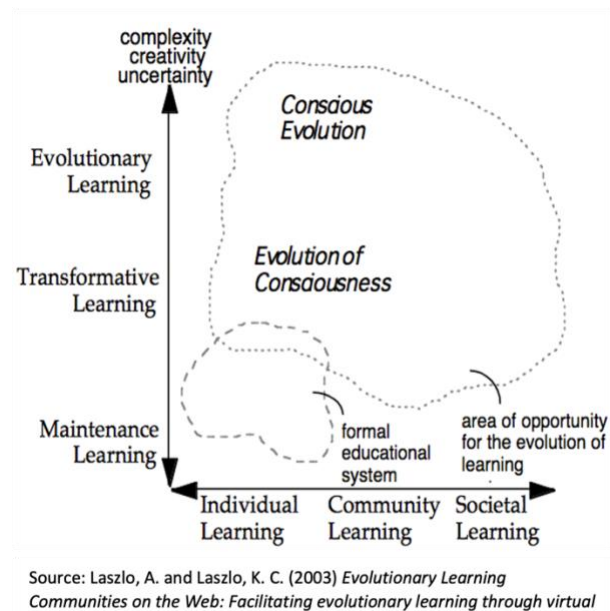
KMH: George, I wonder if you can start by telling me a little bit about how you came to your work in collective intelligence.

GP: I realized that neither my mind nor anyone else's is big enough—even a genius just cannot fully understand all the factors: biological, social,

psychological, spiritual, that affects one's wellbeing. When I realize that my health, even such an intimate and personal thing, is not just personal. It takes the expertise and experience of practitioners of various specialties to fully make me a person who is in good shape, particularly with age.

But to go back to the beginning, to my youth, this is when collective intelligence became a condition for

trying to be effective at what I was doing. At that time I was a young student organizer, organizing a radical student movement against the authoritarian [Communist] government. It became very clear that my (personal) intention will not make any difference in the political landscape of my country. So we need to put together our minds and develop some collective intelligence about what can be done, what is that we can do to make



a difference starting with understanding the social terrain. What are the characteristics of the society that have been living in? So that's where it really started in my youth in the 1960s as a movement organizer.

And I never ceased to be a movement organizer. It was the nature of the movement that changed from political to the movement of consciousness. And nowadays I'm trying to integrate the different dimensions of my life. So, collective intelligence for me is not only the intelligence of many minds and many earths outside of me, but all those that live inside you. Yes, well, I don't know that whether it makes a sense to you.

KMH: Oh, yes. Yes. And for our listeners and readers, you're from Hungary. And so you're

referring to the Hungarian communist government as part of the Soviet union, correct?

GP: Yes, that's right.

KMH: And at that time, or looking back now, how would you describe the attitude or approach of the Hungarian communist government to the idea of collective intelligence? Because in [some articles](#), you and your co-authors have talked about how you can have collective stupidity and group think, and that there needs to be wisdom as well, but how would you characterize that situation and what is it about the students that you wanted to make a change?

GP: Collective intelligence, despite many people thinking of it as my middle name, itself is not a good thing. It's almost value neutral, because just to develop the first nuclear bomb, that was an accomplishment of some kind of collective intelligence. And of course, on a very mundane level, delivering thousands of pieces of mail every day in a city--no *one* person knows how to do that. It's the collective intelligence of the whole service that is capable of creating the desired effect.

So in Hungary, it was not the stupidity of the government. It's more the narrow, particular, vested interest, interest vested in the power that created their collective so that they can maintain, the oppressive apparatus of the state. That was also a kind of collective accomplishment. It's not one dictator who created that, it was their collective intelligence. So, you are absolutely right Kamyar when you say that for collective intelligence to be beneficial, it needs to be guided by collective wisdom because wisdom is not value neutral. It has the built-in value of sensing, thinking, speaking, acting, relating from broader virtue, from a higher vantage point for deeper care for the common good, that is, what needs to guide connective intelligence to be beneficial.

INTELLECTUAL AND COLLECTIVE HISTORICAL INFLUENCES

KMH: I want to come back to that concept in just a moment. To complete an understanding a little bit about your background, do you find that there's anything in the Hungarian culture or history or language that supported a critical liminal awareness of concepts of wholeness or inner relationship or collective intelligence in your life?

GP: Well, in the very ancient times before Christianity got hold of our ancestors, the tribes, Hungary/Hungarians were a tribal society comprised of seven main tribes. And during those years there was a tradition of shamanism. One way of thinking about the shaman's work is to reestablish the balance in the social body. Later in our history the spirit of the people became divorced from the spirit of nature. So, rebalancing, what is out of balance that was part of the old Hungarian culture.

Of course closer to our times there were other manifestations in the culture particularly in arts, collective intelligence and also in political movements. It's less so than in the domain of philosophy, for example. A little-known school of thought—little known in the broader Western public discourse—is the [Budapest school](#). That's the philosophical school of [György Lukács](#), the Hungarian, Neo Marxist philosopher that built a community of students around him that became known as part of this philosophical tendency. As Neo Marxist they were critical of the communist government and they were not well looked at and I was part of that, philosophical tendency. So that was also part of my education participating in the collective intelligence of the Budapest school.

KMH: Was the work of your fellow Hungarian [Ervin László](#) influential to you in any way?

GP: Yes. Yes. I know László. I had a chance to work with him when he was invited to be a rapporteur of the World Wisdom Council meeting held in Budapest around 2003/2004. Yes, I read Ervin's books. Most of them in English, a few I read in Hungarian. He is a great [system thinker](#) and definitely his theory of [evolutionary bifurcation](#) has

impacted my own thinking. It's interesting that you asked about him because not many people know him in your domain of action. Since we don't know each other well enough, you must have a philosophical streak in you if you ask about Ervin.

KMH: Well, my background's Iranian, so I can't help, but be [philosophical](#). You know, in the first volume of our [four volume series](#) on the theory and practice of endobiogeny, the first chapter is dedicated to epistemology [[Link to free copy of the chapter](#)] because I thought it unconscionable to discuss our theory without first discussing the ways of knowing, how we come to our theory, the syncretic nature of our theoretical framework. So, in my journey to coming to write the book and writing that chapter, definitely Ervin's work was influential, as were other systems thinkers in [biology](#) and [physics](#).

GP: Interesting. I didn't know that. Let's say that that has wet my appetite even more for endobiogeny.

CONSULTING WORK IN COLLECTIVE INTELLIGENCE

KMH: Well, let's talk a little bit about your work. You've been a consultant and a creative visionary for all sorts of organizations for decades. Can you tell us about your work and the impact it's had for those organizations?

GP: One of my last clients was the European commission where I was the lead consultant on developing their communities of practice strategy. I had the chance to integrate my collective intelligence work with the other stream of my life work, which is movement building. So, I used the same qualities that I developed as a movement organizer and corporate consultant in my work at the European Commission, which is well - it came from the realization that if we want to do innovative business, organizational, social, even cultural or scientific innovation that lasts, and that is something that requires the collaboration of a number of people, we better start it as I started the student movement: just by talking with friends as

first steps, talking with people, developing relationships.

So, coming to some practice work and my consulting in that domain was highly relational. That means that, I just had some good conversations with people who were interested in communities of practice. Those conversations I describe as generative conversations where it was not goal oriented in a sense that I didn't go into the conversation with the intention of wanting to achieve something, to convince or serve something. My intention was to get to know each other and beyond that also how I can serve the fuller blossoming of that person. What can I learn in the conversation about the person that would give me some insight about their fuller potential? How can our conversation lead to more joy and more capabilities in that person's life? When you have a conversation like this, people appreciate and reciprocate. So I developed friendships, or more precisely, friendships just happened. And that was the base of my consulting work. And yes, we created a strategy of training facilitators of communities of practice, equipping them with enabling, technical and social infrastructure. So all that was part of the work, but at the foundation, it was just continuing my movement building practice in a new context with the difference that instead of having to go into prison [as the Communist Hungarian regime would have done] for that I received even some good consulting fees.

GENERATIVE LISTENING: LISTENING FROM THE FUTURE

KMH: Would you say that there's a type of generative process between movement, organization, communities of practice and the development of collective intelligence?

GP: Yes. Yes, of course, because before generative conversation and generative listening, there is this more widely known practice that people just do naturally: empathic listening. Every parent, anyone with a special relationship, knows how to listen to

one another with empathy, with listening—not only to the words uttered, but also listening to the space from which those words are coming. So that's the empathic listening, but, generative listening goes deeper than that, because it's about listening from the future, listening from the potential, listening from the highest potential of the conversation.

Generative listening and generative conversation are the connective tissue between the different streams of my work from movement building to consulting to collective intelligence, because intelligence is certainly not a mind capacity. A big part of intelligence is body intelligence and emotional intelligence. So the collective dimension of emotional intelligence for example, is how we listen to and what we can notice when we listen to the emotional quality of a social field, a social field created by the shared attention of two or more people in a physical setting, or even in a virtual setting. So, does it respond a little bit to your question?

KMH: Well, like you've been speaking about, my questions are more generative and I try to keep them open to allow you to answer in the way that you think is best.

GP: Thank you for the freedom.

ENDOBIOGENY AND COMMUNITIES OF PRACTICE

KMH: Could you describe the concept of communities of practice for our listeners and readers, who will primarily be physicians who have some interest in systems thinking through their study of endobiogeny.

GP: Hm. Yeah. Communities of practice have been around since we came down from the trees, maybe even before. It just means that for people to become better at what they are doing they need to be exposed to the experience and mental models of others working in the same field. So, communities of practice distinguish themselves from one from the other, by a shared domain of practice. So just to

give you an example, another client of mine was the [National Health Services](#) in the United Kingdom, and our company won the bid for creating a community of practice of health professionals in the region of Leeds, north of England. When I arrived to the first meeting, it turned out that they have more than 200 health professionals, but those health professionals are not in one domain. It included the managers of the local, general practitioners service to mental health specialists, nurses, all the variety of people working in the healthcare field, but not on the same domain, not in the same profession. So, it not only wouldn't have made any sense, but wouldn't be even possible to create one community of practice because their professional affiliations, their professional interest, their professional practice was in different domains.

So what we did instead of one community of practice, is to create a constellation, a network of communities of practice in adjacent domains, because, you know, a community, can be called the community only if it's voluntary if people show up because they want to be part of it. And they want to be part of the community if it gives them some value, something that they can value professionally speaking. So, like when I'm just thinking endobiogeny and other health directions, integrative, medicine, or various, natural therapies, even if they are close to each other, but they are not the same. And people who are part of the community, whether it's a formal established community or implicit, latent community, they like to feel proud of belonging to that body of professionals. And that's why it is important that we don't talk about and don't think about communities of practice in a very loose way, that is, everybody who is in the health field is one community of practice. No, because there are many specialties. And I guess that's enough to start it because I could go on and on since I've been giving training and workshops for facilitators of communities of practice that lasted a few days, sometimes a few months. So, but I will be happy to answer any more specific question that you may have.

DEFINING COLLECTIVE INTELLIGENCE

KMH: Well, I'd like you to define the concept of collective intelligence for our viewers and readers. And then, I'd like to explore how these concepts could be applied to endobiogeny and discuss with you some of the challenges we've faced in our communities of practice in endobiogeny.

GP: Mm-hmm. Well, when we talk about collective intelligence, first, we need to ask ourselves the intelligence of whom we are talking about, what is the collective? What is the community or the organization, or the social world in which we want to develop a collective intelligence? Because, collective intelligence is coevolving with the collective. I have a blog of collective intelligence where there's a whole category of blogs tagged with definitions. One of my favorite comprehensive definitions is "[Collective Intelligence is] an emergent quality of collectives that enables them to co-create the future, a desired future, that they find worth living and working for."

So what is that? What is that quality that enables them to do that? Then if we extrapolate from what our individual intelligence does for us as individual, we notice that thanks to our intelligence, we have memory, we can learn, we can coordinate our thoughts and actions. And the collective dimension of the same is having collective memory. Without collective memory, we can't develop our distributed cognition or shared intelligence, or capacity to coordinate, or action. That's also a factor of our collective intelligence. So learning coordination, having memory, not only as individuals, but as social entities—that's a very broad description that I don't use; it would require some scientific rigor.

There are so many definitions, depending on whether we look through the lens of which context, like economic or mathematical. There is mathematical collective intelligence, like the popular saying says that two minds are better than one, or, that none of us can be as smart as all of us. So that's a little bit beyond the mathematical

because that implies the emergent quality. So I differentiate collective intelligence, which is the intelligence of the whole group of people put together. It's still a kind of static definition because it is just one plus one plus one, but the collective intelligence I'm working with is the emergent collective intelligence. Like if you just think of the collective intelligence of Kamyar and George, it is not, what I can tell you, or you can illuminate for me. It is what may emerge from our conversation that neither of us knew before we started the conversation.

EMERGENT PROPERTIES AND GENERAL LIVING SYSTEMS THEORY

KMH: I find this concept of emergence very interesting, and an important one. We talk about it of course, in systems biology and in systems approaches to life. [Dr. James Miller](#) when he was at the University of Chicago did some interesting work with a working group—a collective intelligence of people across disciplines—in the sixties and seventies and eighties in this field. And they observed these emergent properties, say with a single nerve in the brain versus a collective of nerves versus the entire central nervous system. But they also observed “Demergence” as well, where there are certain properties which exist at one level of organization, which are lost at a higher level of collective organization.



Fig. 1: An integral map of development according to Ken Wilbur

And I don't think that emergence (or demergence) are bad. It's a valueless observation. It's just simply an observation that there's both, there's always demergence when there's emergence, because there's certain things which are not scalable. For example, the reaction time of an individual nerve in the body, a sensing or movement nerve is much faster than the conscious mind.

GP: Yes.

KMH: So there's a type of demergence in the acuteness of perception and response at the level of the whole mind, which is not as limited with an individual nerve. When you're working with human beings as the individual unit, and then into the collective of an organization or some type of

community of practice, do you observe some type of emergence that is worth noting?

DEMERGENCE OF VS. TRANSCENDENCE FROM LOWER SCALE PROPERTIES

GP: The entire level of an organization, and now I'm using the term organization not as an entity but as a process...so, at higher levels of the process of organizing some qualities that were present at the lower level, do get lost. I would not call it demergence because it's not that it is opposite to emergence. Like, evolutionary emergence is playing with the processes of differentiation, integration, transformation and in the differentiation phase when nature creates many variations, some variations demonstrate features that are useful from an evolutionary perspective, others not. And those variations that are built on features that are not useful may not survive. We know many cases of aborted evolutionary experience. So it was not demergence, it was just that in the integration from the many variations, only those species, entities got included in the next stage of organizing that contributed with value, with what was needed. So there is [Ken Wilber](#) who uses the term transcend and include. And so that's a way of describing emergence and what is included from the previous stage is what is useful, healthy, enabling the next stage and what is transcended, what is excluded is everything that is not contributing, not helpful to the next stage (fig. 1-2).

OPTIMIZATION VS. MAXIMIZATION: DEVELOPMENT OF COLLECTIVE EGO

KMH: I would agree with your analogy in terms of biological evolution. I recently read how biological organisms seek to optimize, but humans seek to maximize. And I find that when we come to the element of the human personality, human consciousness—especially subconscious dynamics—bring a lot of hierarchical valuation. This can be contrary to biological optimization and even to the self-interest of the individual or the

collective, such as selfishness, such as authoritarian means of organization. So I wonder how you address challenges when a community of practice is operating in a way which doesn't actually serve the stated principles and practices of the community and is not contributing to collective intelligence developing into collective wisdom.

GP: Hmm. Yeah. I encountered many examples of that in my consulting practice. Just as collective intelligence in itself, not necessarily something positive. The same is true for communities of practice because a lot of communities of practice develop a collective ego that is protecting their turf. Sometimes it's a new cult (of personality) around one expert, or it can also just be a group of professionals not wanting to share their “trade secret” with people outside of their community. So a lot of collective selfishness—yes, it does exist. And there is no other way to heal that but by raising the level of (collective) consciousness. And that's not a simple process as we know because in a group there is no homogeneity. People are participating from whichever stage of consciousness they are. And there is such thing as a group consciousness or collective consciousness, which is defined by the stage of development in the dominant discourse of the community.

And so that's not easy to change. There are different group processes that when facilitated wisely can help in an indirect way to raise collective consciousness or the other way, simply to attract new people to the group with the higher stage of development who will then have an influence on the dominant discourse of the community.

knowledge. Otherwise, I can read the scientific papers. I can even write papers, and then it becomes information for others, but knowledge is in the action.

That's why I really don't like the idea of knowledge management because knowledge exists between our two ears. It is not something that can be managed. I developed a discipline alternative to knowledge management that we call knowledge ecology. It's closer to how nature is using self-organization. So... but, I don't think that I really answered your question in a way that is relevant to what you are asking for because my intuition is that you are dealing with a specific situation, and my answer is too general, too weak. So if you don't mind to say more about the situation, then I can maybe address it.

ORIGINS OF MOVEMENTS AND ORGANIZATIONS

KMH: I think your intuition has served you well. My observation of movements and organization in history has led me to see movements starting for a couple of different reasons. One is from a shared collective feeling, which is part of the [*zeitgeist*](#), or maybe the [*volksgeist*](#) of the people and the time, or even across space and time like the [*development of calculus*](#) (by Sir Isaac Newton and Gottfried Leibniz, who did not know the other was working on the same subject), or how (Charles Darwin and Alfred Russel Wallace [*developed simultaneously*](#)) the theory of evolution without being in communication with each other.

But also, we find communities of practice beginning from a particular individual with a particular level of genius or critical insight. As one of my teachers said, "Artists and visionaries are not ahead of their time. They're in their time. The rest of us are behind, that's why we can't understand them." In Western civilization, there is the myth of the one person, the one hero who saves us all, the one genius, who figured it all out, who comes up with some disruptive idea has been a very popular part of our

ethos and our sort of mythological concept of who we are as a people. And so endobiogeny is in this third case where a single individual (Dr. Christian Durauffourd) with an extraordinary amount of perceptive capability, which we could call genius, was able to see what others were not able to see. Or as I like to say, we all saw the pearls laying on the table, but he figured out how to string them together to make the necklace.

ENDOBIOGENY'S PAST AND FUTURE AS COMMUNITIES OF PRACTICE

KMH: The community of practice of endobiogeny has had a storied and checkered past. One of the great challenges we face in creating either a single great community of practice or a constellation of linked communities of practice has been the heritage of the dynamic of the originator of endobiogeny. This may also be true for myself or others leading different communities of practice. It's seeing ourselves as a type of savior, or, person of extraordinary or exceptional intelligence who either invents or creates or translates (something unique). Then there's (the process of) diffusion of knowledge throughout the community.

So I think that in what I've read from your work and others, I don't think it's intentional, but at least I take away an impression that a lot of the idea of the communities of practice and collective intelligence are of the first two types of situations, where there's a *volksgeist* or *zeitgeist*. People come together and there's a type of either self-organizing tendency like the student movement in your home country of Hungary. There are certain prime movers, people who are initiating the movement, but just to kind of get the ball rolling, and then things organize themselves with this community spirit.

Endobiogeny, I would say, has not developed in this type of community spirit. It's much more of this sort of classic continental European idea of centralized authority, almost an ecclesiastical hierarchy of knowledge. And I'm interested in moving

endobiogeny beyond this past. So for example, in, we have two countries with less than 3 million people in the entire population, and they may have two or three different communities of practice dedicated to endobiogeny. So this is a very sort of fractured way of existing, where I think we're losing some of the ability to benefit from our collective intelligence, because while we're all united by endobiogeny, we have different specialties. Some are generalists, some specialists. Even as generalists, some people may tend to be really expert in fertility or cancer treatment or other types of specific disorders. And the whole reason that I started the learn endobiogeny [website](#), and we're starting this endobiogeny periodical [LINK], and having this conversation with you is to see how we can create a new chapter in the history of endobiogeny, where we can come to this point of creating a true community of practice, either as a single community of practice, or a linked, a consolation of communities of practice with a true, meta goal, which is shared.

FROM PROFESSIONAL ASSOCIATION TO COMMUNITIES OF PRACTICE

GP: Yeah, I appreciate very much that you shared this with me. It makes clear for me that when we arrive to the end of this conversation, because I will need to leave soon, this is really just where we would need to start. We need to start another conversation that I would describe to you as the art of movement building that goes beyond a single community and certainly goes beyond the shift from a professional association to a true community of practice. There are the three pillars of a community that do not exist for a professional association. Like you can have one or more professional associations of endobiogeny that differ from each other slightly by the style of the founder or leaders. That doesn't make it a community. And for some, just being an endobiogenist is sufficient commonality. Others may have developed a specialty practice within the endobiogenic field, related to the treatment of

some specific disorder. And they are interested more to connect with people who are working within that same specialty. So the domain, how we define the domain is not how we, meaning person interested to create a community practice, but how the practitioners define themselves in relation to the domain. So that's one thing.

The other pillar is the practice. In the context of community practice, practice means what is the knowledge that we find essential to codify? What is our knowledge? What is our emergent knowledge that we as practitioners find as practice worth replicating? Therefore, we somehow want to record it to make it easier to replicate.

The third pillar of community of practice is the community. That means the quality of relationships, and that's the decisive difference from a professional association. The quality of relationships in a community of practice is based on mutual trust, mutual support, which are not necessarily characteristics of a professional association. So when you are talking about several professional groups of endobiogeny within a small country, I think that they may be closer to something that I would call a professional association than a community of practice. And I started this last couple of sentences with saying that where we need to end this conversation, this is where it really, the interesting part will start. That's the art of movement building...

KMH: I think we (endobiogenists) would all benefit. And even this brief overview that you've mentioned has already given me an appreciation that each country in which endobiogeny is practiced, there's a way for them to maintain their professional and political organization and still have a community of practice that goes across the different professional organizations without threatening their political or economic or social interests.

GP: Exactly. That's a good insight.

CLOSING REMARKS

KMH: Well, thank you so much, George, for the time that you've taken and thank you for the decades of your life that you have dedicated to this vital shift in human consciousness back towards the collective and the building of communities, but with a new spirit of consciousness from, compared to, like you said, in the ancient times and the times of the tribes and the shamans. I think that we moved away from those times because there was a type of concentration of power and a single individual and

we moved to something else, but even our vast institutions be they national or transnational have the same problem, again, of concentrating power and existing to protect their own power and benefits. And now we need to move on to a new vision of the collective, which is dynamic and not rigid in power or in knowledge. It sounds like that's been the thrust of your work.

GP: Absolutely. Well, I definitely enjoyed very much our conversation and looking forward to whatever needs to happen next.

KMH: I enjoyed our time together very much to George. Thank you. ✱