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Sensory Consciousness and the Acquisition of Perceptional Reality. *How We Know That We Know*

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Abstract The past, present and likely all future societies will have continued to engage in ongoing mutual conflicts, resembling stormy waves, on all levels and scales. Human genetics or economic research have not provided any solid clues to the contrary. The 'why' of this historic extrapolation is examined through reversed engineering, utilizing systems science method – from waves of consequences to decisions and thoughts, in order to find the connecting tide that affect all waves. Thoughts reflect unique individual perceptional reality, which is emerging from common sensory processing biology. The waves, between thoughts and discord, lose their random meaninglessness with committed adherence to tides of evolutionary principles, as major determinants of decision-consequences loops of thoughts.

Keywords: *reality, perception, consciousness, health, decisions, quantum*

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1. Introduction

Physicists can make measurements, but cannot say anything about the essence of reality. Anton Zeilinger, 2022 Nobel Prize in Physics. [1]

It is estimated that life on Earth began several billion years ago, with humans appearing just in the more recent past. In the known Universe, life exists only on planet Earth with several near-total extinctions already in its history; on all levels, evolution continues to alternate between growth and regress, repair and regeneration, preserving what has worked and discarding what does not comply with the life-integral cycles and rules. All living entities have always had an intuitive confidence in this self-governing system, but with the emergence of humans and their own concepts, life on planet Earth has not been the same since. The goal of this research is to explore the contradiction. Figure1.

Targeted existing problems with formulated corrective hypotheses

Problem: Sensory processing is rarely differentiated from perception – Hypothesis: sensory processing leads to perception and in turn, perception selects what senses capture next.

Problem: It is presumed that all human eyes should see the same view – Hypothesis: same biologic eyes capture a view guided by variable perception.

Problem: It is accepted that people are born with perception – Hypothesis: Perception is a learned skill.

Problem: Existing investigative methods are mostly focused on details - Hypothesis: the application of systems science methodology, for root-cause analysis, offers a global view and leads to finding the initial causative etiology of formulated problems.

Problem: Existing variables are too numerous for meaningful research – Hypothesis: alternatives are restricted to first, pre-existing observer's concept of reality, and to second, the real-time multi-sensory capture of processing input that end with emerging perception.

Figure 1. Same eyes, different views

2. Method

Systems science, as a research methodology, explores life's principles on all levels and searches for coherence; it connects downstream evidence with likely upstream significance for life, upstream decisions and downstream consequences to living entities. The foundational General System Theory was originally conceptualized by von Bertalanffy in the 1960s. [2]

Systems science allows for differentiating the function and structure of various systems with high degree of predictability regarding functionality or dysfunctionality of a given organization, from individuals to societies.

There are two attributes of systems science that are especially relevant to this research: One - it offers a method for creating a structural context, a framework along life's principles, as a preferential path for search toward complementary knowledge; and, two - it gives pre-eminence to sensory input capable to register, evaluate, and react to change and its outcome. A healthy human body is a valid model for an optimized biologic system with multiple components and subsystems, all engaged in supporting one another as well as the larger systems. Such a harmonious living system utilizes bidirectional learning relationship loops, semipermeable boundaries, ongoing decluttering/recycling, inter-operable communication and generates system-optimizing outputs/emergence within horizontal and vertical hierarchies, always searching for the value in life.

3. Terminology/Glossary

Awareness – a state of activated senses.

Attractors - what is chosen from awareness for a focus.

Fitness – amalgamation of endurance, speed, strength and flexibility in one biologic system.

Hierarchies – upstream (governing) and downstream (working) societal organizations; in a healthy system, the upstream governing vertical hierarchy exercises 'macro-prudential' influence over the working horizontal hierarchy in order for it to gain the capacity to create value through self-organization.

Intuition – a first impression, an initial awareness of sensory-processed but not-fully-perceived input, awaiting further confirmatory sensory input; the state of health of gut microbiome-generated neuro-transmitters play a role.

Neuro-net – the physical existence with functional input and output of central and peripheral nervous system.

Organized complexity – presence of regulatory elements/components, in living systems, visible in human balanced relationships, where it expresses an aggregate of reciprocity, fairness, empathy and trust. Disorganized complexity demonstrates disruption of regulatory elements/components.

Risk – is what remains from uncertainty following filtering by healthy senses.

Rosetta stone – a recorded decree/proclamation of a Pharaoh, Ptolemy V in 1096 B.C., expressing 'divine honors', in several differing languages (two versions of symbolic Egyptian and alphabetic Greek), allowing for eventual decoding of ancient Egyptian hieroglyphs, by comparisons with known ancient and current version of Greek.

Value – an emergence of a healthy system, achieved through efficiency, effectiveness, risk management, and proportionate energy cost.

4. Discussion

Life principles are imprinted in evolutionary memory of all living systems. They provide the internal framework for processing sensory input, assuring adaptation and growth of living entities; complying with this imprinted gift of life, enhances organized complexity of each component as well as the larger system by creating value; a non-compliance is detrimental to all. Figure2.

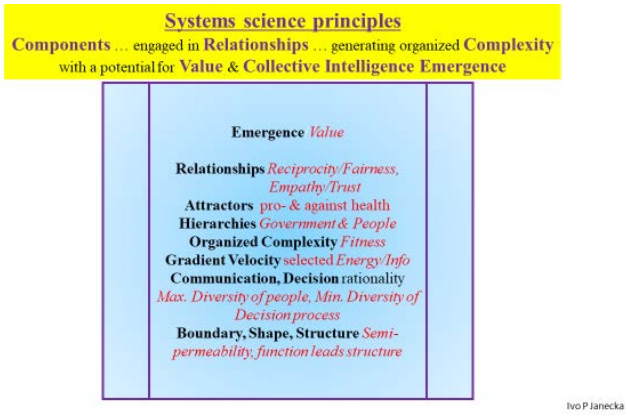

Figure 2. Systems science principles

The awareness of being alive is generated by sensory processing, which is primarily an electromagnetic-chemical language of signal transfer from triggered receptors; due to sensory limitations, this input is significantly restricted, filtered and compressed but this sequence is judgment free. The impact of gaps in any sensory acquisitions, is best illustrated with altered vision capture in macular degeneration. Figure 3.

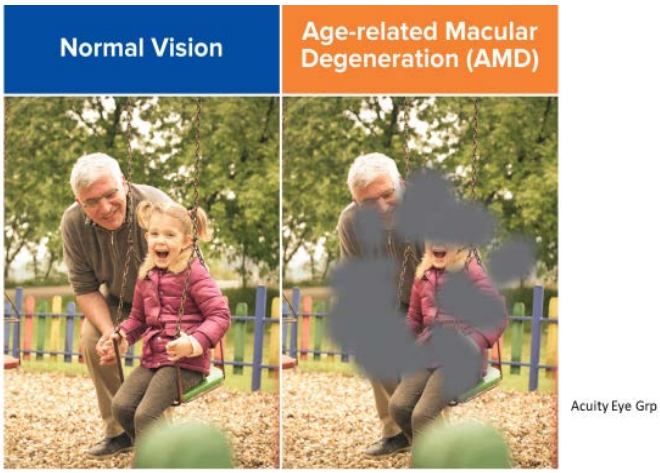

Figure 3. Defect in vision related to macular degeneration.

The majority of human sensory input comes from visual apprehension; eyes respond to a selected specific task, an attractor, based on judgement, confirmed by research: *'fixational eye movement', experimentally verified, to be under cognitive influence, which is an 'open-loop and can occur in the absence of visual information'*. [3]

All biologic systems have a brain, from a collection of neurons and ganglia (e.g. nematode *C. elegans*), to a fully-formed cerebrum (e.g. primates), offering the foundation for the emergence of perceptional reality on any level. Figure 4.

Any system, living or non-living, has an network that sustain it; cognition has a neuro-net among the living, and Internet represents a network among the non-living; both, however, have limits to their processing capability, cognitive threshold for the first and a denial of service for the second, unifying them in the common denominator of failure, an overload.

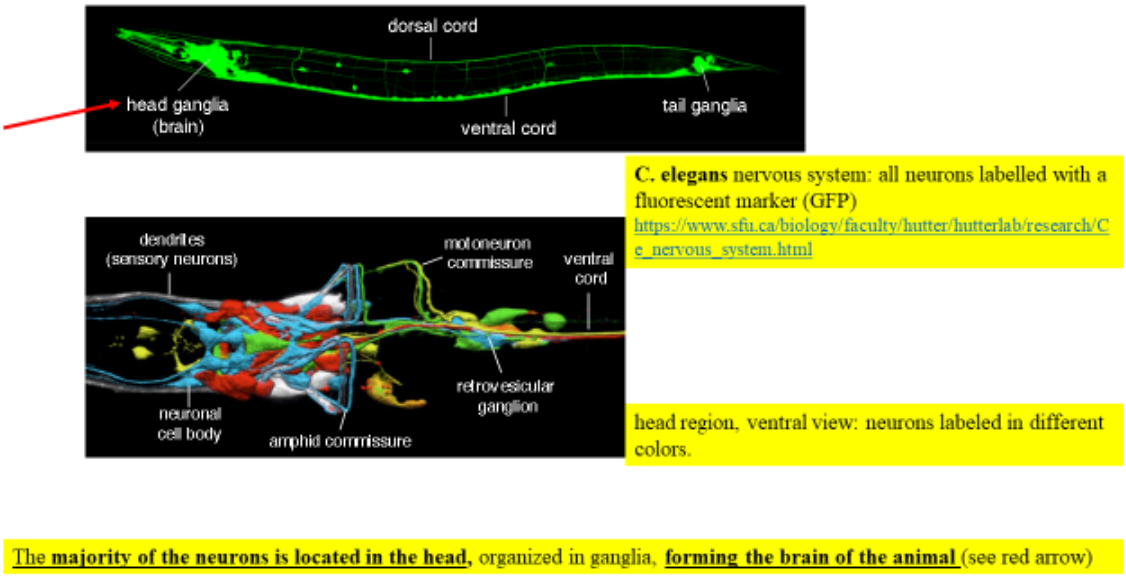

Figure 4. Brain of C. elegans

The way body-mind works (schema): based on consumed diet (when and what, healthy or not), the digested components in the gut feed the microbiome; per dietary instructions, those microbes generate neurotransmitters that are ferried to the brain (via the vagus nerve); there, they are diffused into synaptic clefts, allowing the neuro-net to function, (e.g. healthy or unhealthy perception/decisions); some new neurotransmitters from the brain travel back to the gut, specifically to the intestinal epithelial cells that impact the immune system and the system's recycling course, the autophagy; the importance of this process lies in the fact that it impact, based on type of microbes, the entire body-mind components; if the gut and its microbiome are not healthy, the entire living system follows suit as the key biologic protective boundary, the gut immunity, becomes dysfunctional.

5. Results

All observations, of self, the world or the Universe, depend on how they are measured, how broad or restrictive is the scrutiny; all measurements, even if technology-enhanced, are limited by the observer. In physics, the foundational double-slit experiment showed the duality of light, recording photons as waves as well as particles, based on the method of observation. Perceptional reality is also a measuring device by self of self and of the world, but of much greater complexity than the strict domain of physics, because it is based on how humans have used and interpreted individual sensory contributions yesterday, today, and will tomorrow. The formation of perceptional reality starts with senses that are the basis of conscious life; without senses, you may still be alive but not conscious, as there is nothing that can be witnessed. The neuro-net records various incoming frequencies and amplitudes of signals that trigger senses, following the rules of physics (wave interference, addition, cancellation, etc.), within the context of neurophysiology, expanding the observation of quantum wave-particle duality, in order to reach biologic observations of multi-dimensionality that is perceptional reality. Conscious existence requires sensory boundaries with specific sensitivities and specificities; senses represent filters, each reflecting, as if a single slit capture of external and internal reality, and, in an aggregate, establishing individual existential reality.

The inseparables

Mass-energy (particle-wave) and space-time … body-mind (decisions-consequences) … reality-perception

Mass-energy (particle-wave) and space-time

Space-time exists in the motion of the Universe, where time merges with distance, thus one cannot have time as its own entity; human time equals measurement, which can be done only of one thing at a time, choosing either movement/speed or object's fleeting position, the Heisenberg's uncertainty principle. Human time is constructed within historic cultural linearity, which doesn't exist in the Universe. Linearity is not the domain of life**,** as a calendar would suggest. Life exists in the quantum domain of waves and particles, as the existence of non-physicality and physicality, the mind and body. [4]

Body-mind (decisions-consequences)

Body-mind, the 'muscle-brain' world, is engaged in a competition for mutual resources of oxygen and glucose, as each consumes about equal amount; during high intensity activity, only one can become the dominant consumer; high intensity physical activity diminishes cognition and vice versa; this fact is well known to athletes who plan and practice not only the high intensity interval training but also the recovery phase; such a schedule is, however, much less familial to those engaged in high intensity cognition when the need for a planned period of recovery is just as critical; both activities require efficient logistics to assure optimal

utilization of the metabolic cycle, the supply of oxygen and glucose, as well as the clearance of byproducts, recycling, while protecting boundaries.

The mind-body influence is not a one-way path; it is bi-directional and inseparable, where not only the mind affects the body but also the body affects the mind, an intimate *yin-yang*; all information is shared and engaged in complementarity of function and structure. Figure 5,6. [5,6]

It is estimated that human body contains roughly 40 trillion cells of 200 different types that are organized within a complex three-dimensional matrix, following organizational principles conserved by evolution; to continue life, its logistics must retain ongoing pattern of organized complexity, in order to suppress any harmful growth. [7]

The continuing existence of life as a system, has a pre-requisite of body-mind integration; they are inseparable and co-dependent evolutionary entities with variable expressions; decisions are intrinsically tied to consequences. Body and mind are not always equal contributors to a living system's balance, i.e. being in synch with life principles, as body will make/construct what it was instructed to do, via epigenome that is judgement-proof, in response to cognitive decisions/instructions for health or un-health. [8]

Evolution mandates clean energy consumption, in order for mitochondria to generate clean energy for each cell to sustain function and structure of a healthy living entity; animals participate in this process instinctively but humans have choices, which often are counterproductive to this mandate, creating dissonance in every cell. The sensory processing, leading to perception, is dependent on the rate of maturation of neuro-net and that process fully relies on the metabolic state of energy-generating mitochondria, the underpinning of all health. [9]

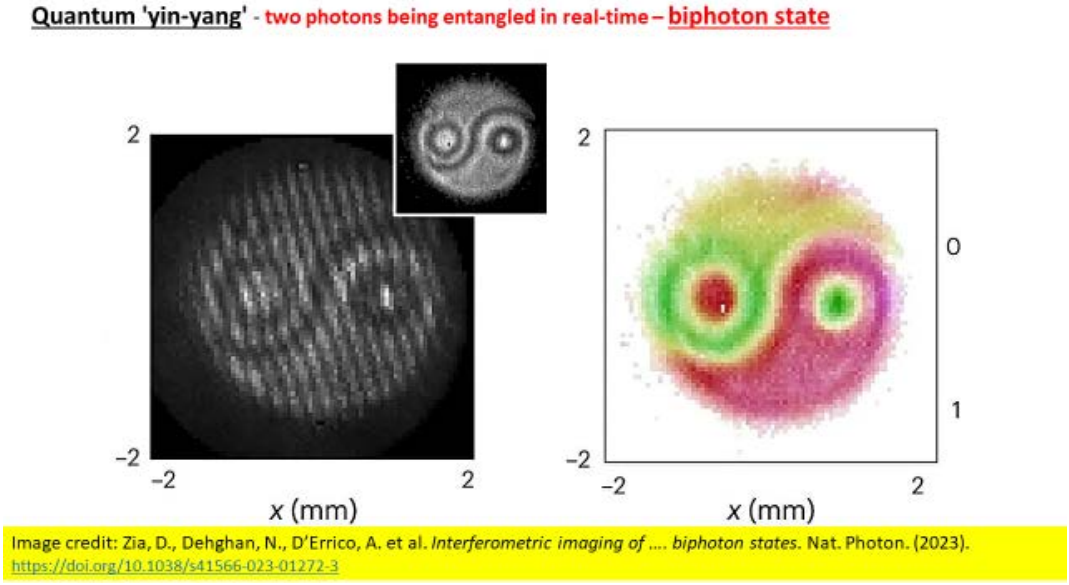

Figure 5. Quantum entanglement

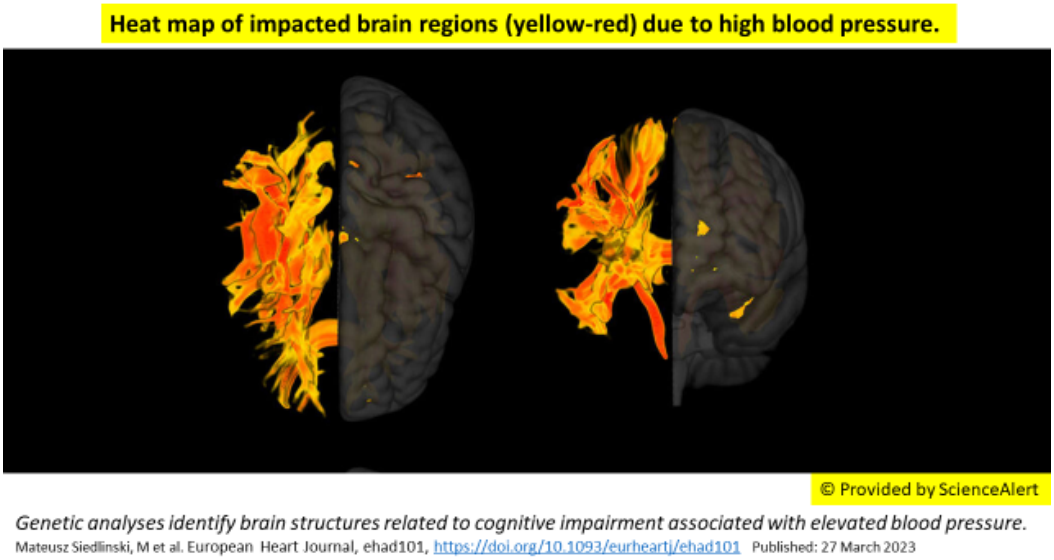

Figure 6. Body-mind crosstalk; impact of high blood pressure on structural changes in the brain, underpinning cognitive decline

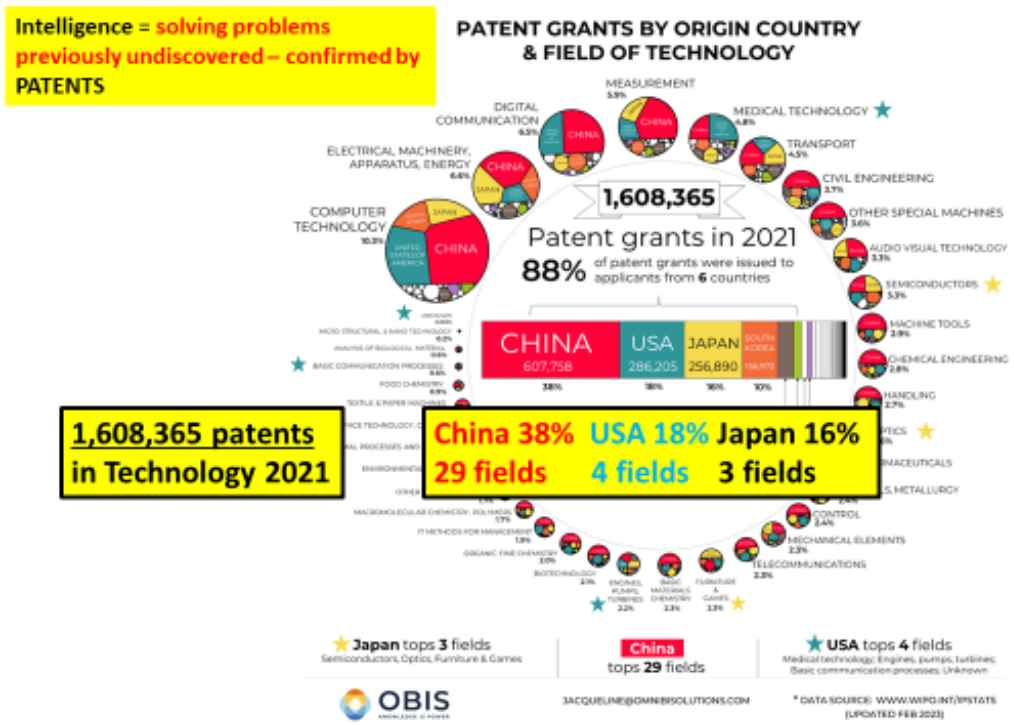

Figure 7. Comparison of technology patents awarded in 2021: China tops in 29 fields, US in 4 fields, Japan in 3, (modified)

Existing lifestyle, derived from past decisions, represents a strong momentum, a feedforward, for future choices; cellular organelles and the epigenome simply respond. [10,11]

Long-term, the often-quoted 'mind-body' connection, is observable and tested in societies with periodic publications on life expectancy and tested intelligence, broad measures of societal healthiness. During the decades of the 20th Century, both measures revealed that a new generation always scored better than the preceding one. The first couple decades in the 21st Century, however, both measures showed a decline; specifically, life expectancy started to decline in 2010, full 10 years before the COVID-19 pandemic; a reversal was also observed in measures of intelligence, with focus on logic and vocabulary, reflecting deficiency in rationality and communication, distorting responsibility. [12]

Patents are proxies for a measure of societal intelligence, as they represent peer-approved solutions to problems previously not available. Figure 7

Relationship with self is the intermediary between the body and the mind, which communicate with each other but use different languages; first, words of our thoughts impact our epigenome, which affect the function and structure of human body; the second, the language of a body, available to the mind, is carried out by senses, alerting us by various symptoms and signs, to what the body is not happy about, e.g. contrary to endowed principles of life, and presents us with pain, fever, lumps, etc. Such bi-directional relationship needs to be understood for what it is; if disregarded, an end-stage relationship is manifested by a war, first with self (self destruction with drugs, suicide, etc.) then with others (shooting wars, etc.), regardless of professed narrative/rationalization.

The two basic characteristics of life, the inseparable movement and intensity, are based on physical activity and healthy metabolism, which is supplied by intake of 'what and when'; the optimizing processing relies on evolving homeostasis via prevention of cellular stress; the physical and cognitive activity must be proportionate to the intake, balancing metabolism-induced food oxygenation vs. redux. [13,14]

The state of health of a biologic system is a dominant determinant of perceptional reality; a healthy system leads to healthy perceptional reality and vice versa. Health encompasses healthy body-mind, which does not utilize sensory processing via the reward pathway; this route has ancestral roots in hedonic/indulgent feeding behaviors. [15]

6. Reality-perception

Reality is not absolute; it is a comparative sensory construct with variable representation and is relationships-specific, among *object-subject-context* that delimit the transient existence of sensory experience, within the changing quantum gravity space-time deformations; all is reflective of the degree of attachment to relationships' attractors; the stronger the attachment, the 'heavier' the object of relationship is in the quantum space, the greater the space-time deformation. Reality is what you see and understand, not what exists beyond; it is relative as it is reflective of body-mind self-informing in bidirectional feedback loops; from health to health, from un-health to un-health. All what biologic systems are aware off, come through senses and is assessed by existing level of judgement, based on evolving perceptional reality.

Consciousness is an expression of life, and yes, a blade of grass is conscious to the extent that it can process input and react to it; in all, the level of awareness is related to the sophistication of senses. Human senses, all five of them, can process input in their well-known domains, but

the sixth sense is still surrounded in mystery, often expressed as 'gut feeling', 'flash of insight', 'sense of danger', etc.; it represents a subliminal sensory input processing without full comprehension, when it attempts to reach and be translated into the full level of alertness. Figure 8 [16]

Each sense gives us a different picture of the world, a sense-specific reality, awaiting interpretation; in an aggregate with other senses, cognition 'layers' those diverse 'slices' of the world, to give us a 'mosaic', a composite perceptional reality. Any loss of a dominant visual sense is devastating but can be ameliorated to some extent, following training with the use of auditory input.

Senses provide/assure conscious awareness. Perceptional reality is an effervescent compilation of individual thoughts, reflecting the character of cognitive knowledge base and its organizational complexity as well as the degree of compliance with life's principles. Does it resemble a kaleidoscopic mosaic, where individual decisions are made responsibly with full cognizance of consequences or is it a pile of glass of individual choices with consequences expected to be socialized? Learning occurs only in the former example, where the world is seen in all its beauty and harmony with humans being actively-responsible participants.

Senses of living systems deliver only data; interpreting any patterned information into meaning, lies in the province of healthy cognition, creating a tailored reality through perception. Patterns are making the invisible into the obvious. Figure 9a,b.

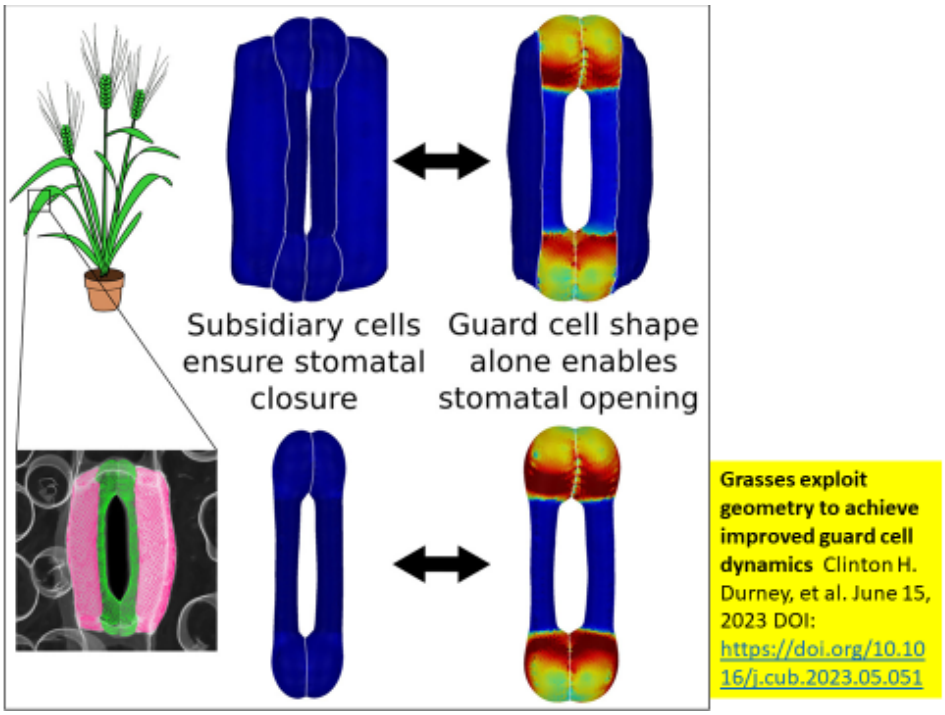

Figure 8. Functional cells of grasses influencing intake and output

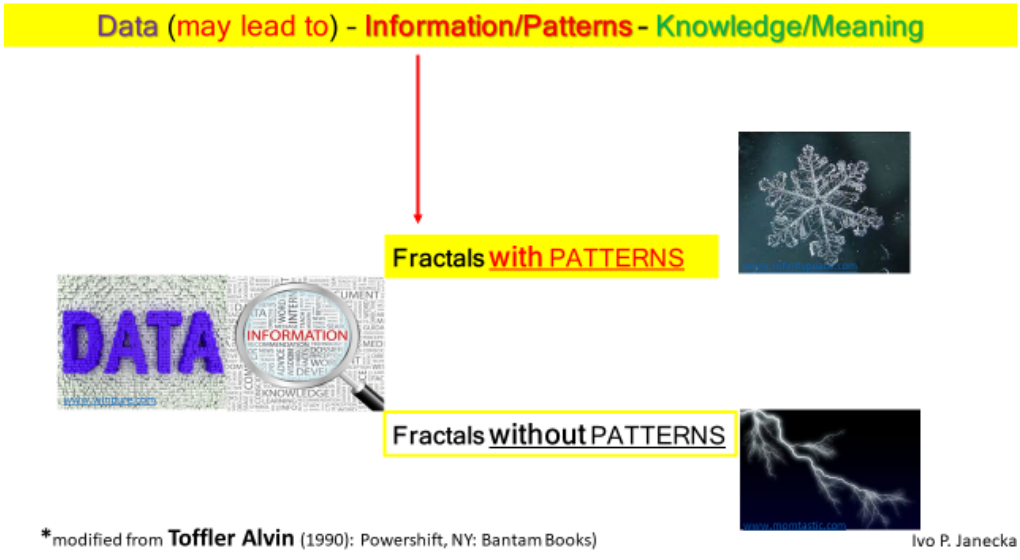

Figure 9a. Data into information

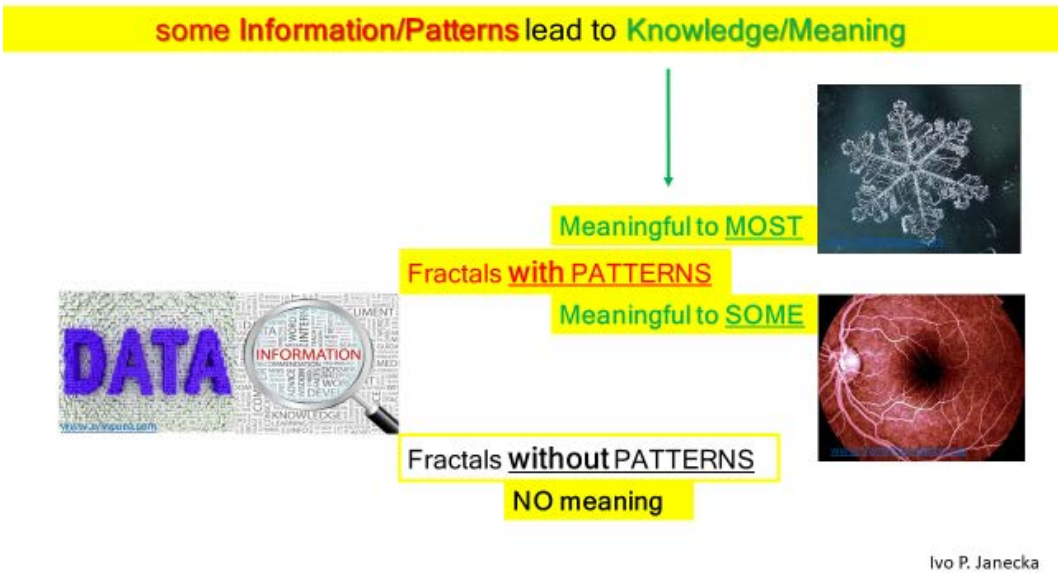

Figure 9b. Information into knowledge

How do we know that we know? Role of language.

We know what we can sense. Observations of octopuses, for example, reveal that they have a complex nervous system with the ability to engage in multi-sensory experiments (senses for touch, temperature, sight, sound, as well as olfaction, and gustatory processing); they are considered highly intelligent.

It is the sensory processing that generate awareness (e.g. of light, sound, etc.) but full perception, how we 'know', depends how the processing signals are reaching the prefrontal executive cortex: was it a healthy sensory path through the memory center of hippocampus and ending in a healthy executive cortex or an unhealthy pathway, which diverted signals through the reward center of the caudate nucleus, bypassing tangled memory of hippocampus, and reached the prefrontal cortex that likely was in an corrupt state of dysexecutive syndrome? The prefrontal cortex, in any given state, selects new but likely similar attractors for future sensory capture. Sensory processing and perception resemble a never-ending but evolving spiral of new input with strong feedback loops; what triggers senses will be processed and perceived, in principle; the details, however, may be dramatically different because, identical processing signals may reach orthogonally different level of perception. [17]

The following excerpts summarize the roles of brain's prefrontal cortex, the neuro-net's highest level, engaged in formulating decisions: *it is the seat of logic, analysis, problem-solving, exercising good judgment, planning for the future, and decision-making. Extensive two-way connections exist between the prefrontal cortex and virtually every other region of the brain; most of the connections are inhibitory, which allows for impulse control and the ability to delay gratification; the prefrontal cortex doesn't fully develop in humans until after age twenty,* [the end of first, the ancestral phase of life]. *When the prefrontal cortex becomes damaged, it leads to dysexecutive syndrome, analogous to alcohol intoxication and the 'dark side' of oxytocin, the state of 'constant present', inability to place events in the correct temporal order and a loss of insight. Alcohol interferes with the ability of prefrontal cortex neurons to communicate with one another by disrupting dopamine receptors.* [18]

Developing any skill needs specific pre-requisites, such as sensory readiness, time for learning, and practice. Infants are not born with language skills, but do have hearing, sight, touch, etc.; shortly after birth, the awareness of sounds generates imitations, and eventually their own expressions; each step expresses new translation of sensory input into an emerging language of thoughts. [19,20]

The presence of logic in human thoughts, with the existence of considered alternatives and their sequential elimination, appears to occur even in infants under the age of two as part of their thought language development. [21]

The internal dialog of cognition, the silent language of the mind and the language of dreams, is carried on following sensory input; in most instances, this is linguistically identical to an individual's primary language of communication; it is a learned skill, starting shortly after birth and followed by educational enhancements; the translation of one language into another, the electromagnetic-chemical language of sensory processing into understandable words, can be compared to the famed Rosetta Stone, a discovered carving in stone of one text, a proclamation of Egyptian pharaoh in three different languages that only during the last century, allowed for full translations of ancient hieroglyphs through reversed engineering from Greek to Egyptian.

The syntax of the language of human thoughts, has an impact on the formation of individual perceptional reality, especially its aspect of creativity, where its richness is likely derived from a contextual primary language that is not based on a rigid conformity to endless rules. Knowing other people's language, offers important clues as to their potential internal dialog with impact on international relations and valid understanding. A language network grows to be one of the strongest networks in the brain as the connections at birth are weak. Per Wei and colleagues,

with learning to speak, links strengthen between the various brain regions that are responsible for different types of language processing, such as recognizing words

from sounds and interpreting the meaning of sentences during language processing, primarily in the left hemisphere; in both sides in auditory processing; the influence of stress and intonation in the pronunciation of words activates in the right hemisphere. The structural language network is modulated by the specific processing requirements of one's native language. Native speakers of a language with complex syntax (German) show stronger connectivity in the intra-hemispheric frontal-parietal/-temporal language network. Native speakers of a root-based language (Arabic) show stronger connectivity in the temporo-parietal lexical-semantic network and in inter-hemispheric connections. Figure 10 [22]

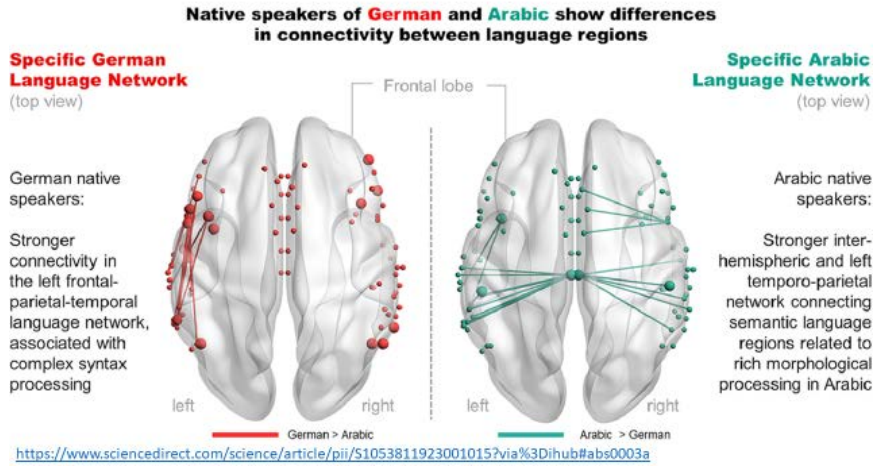

Figure 10. Different languages (German and Arabic) with varying inter- and intra-hemispheric connections

Figure 11a. Art by animals

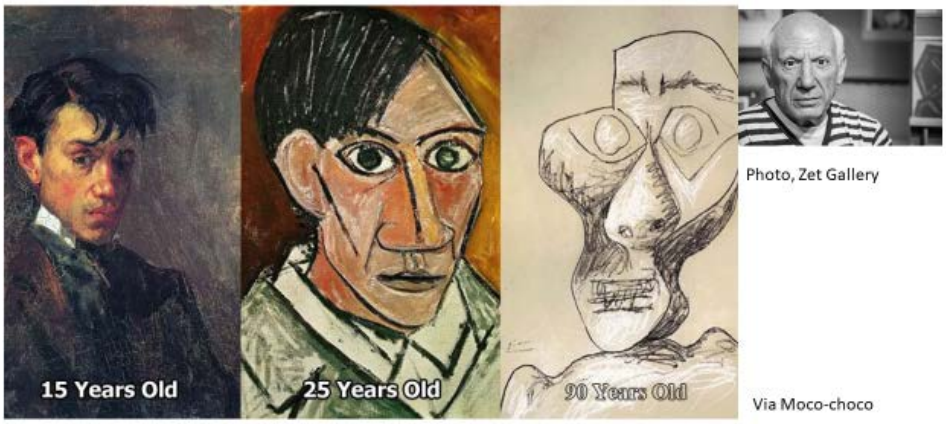

Figure 11b. Evolving – devolving perceptional reality. Pablo Picasso (1881-1973), *Self Portrait* from age of 15 years to *Facing Death* (1972)

7. Perceptional Reality

Perceptional reality is a product of perception, a bespoke understanding of what senses processed and cognition translated from the electromagnetic-chemical language of processing into the words of the silent language of thoughts. Optimized/healthy perceptional reality allows for comprehension of some foundational questions during life, e.g. self and the world.

The way we view self and the world, represents one life and its place in the ecology; such a life is designed from its function that must be of prime concern as it forms its structure. Life, its quality and duration, evolve from decisions that lead to either healthy or unhealthy body and mind, one that is in or out of synch with life's evolutionary principles. Though well-known and studied by systems science, those canons are seldom implemented in daily life and that depends on how ongoing input is interpreted and translated into decisions.

Perceptional reality creates its own internal culture: how we think about the past, present and the future, which all influence our decisions and lifestyle behavior that imprint our epigenome, thus continuously evolve or devolve bodily function and structure.

All humans, including research scientists, operate within the domain and influence of perceptional reality, from goals to methods to evaluation of results. [23]

Art represents a visible expression of individual's perceptional reality, a cognitive function conveyed in visible form, across spectrum of living entities, including some animals. All children discover art, first with a line or a circle, then something closer to the actuality their senses capture; the gradual intricacy of pictures parallels the complexity of evolving perceptional reality, happiness, fear, uncertainty, distortion, etc.. Figure 11a,b [24]

The evolution of perceptional reality through years of life can often be traced, through the changing art forms, from one of 'younger years' to another in 'older years', sometimes ending in stark contrast in time perspective. Figure 11a,b

8. Changes of Perceptional Reality Through Life

Human perception and any constructed reality, is variable but parallels phases of life, each with its *musts* and *don'ts*; its cellular components can be traced to the time of conception, when the functional epigenomes of parents, with all accumulated generational modifications, are shared; the process of accretion continues throughout the rest of the first, the ancestral phase of life, subject to parental, educational and cultural influences; this initial period of life ends with the maturation of the morphologic components of the pre-frontal cortex of the neuro-net, around the age of 25 years. During this time, safety and security are the fundamental demands and the perceived reality mostly matches those of the adults of the inner circle.

The critical neuroplasticity of the sensory system emerges with learning, primarily during a limited time during adolescence through decision-consequences loop, before it begins a life-long decline. Per Larsen and co-authors, *during brain development, there are evolution-conserved neurobiological mechanisms that promote and then restrict plasticity across sensory system, the hierarchical plasticity, which is experience-dependent during 'critical periods' and culminate during adolescence.* [25]

Significant changes are likely to emerge during the next, the decision phase of life, when personal experiences and individual decisions predominate, often with a goal to gain Maslow's a sense of belonging; throughout this phase of life, modifications can take place of what was inherited, by individual choices that re-modify the existing epigenome, for better or worse; without firm implementation of decisions-consequences feedback loop, however, there is no individual learning and person's perceptual reality assumes the reality of the cultural cluster; this period ends around the age of 50 years. The third and the final period of life follows as the phase of consequences that basically reflect the lifestyle's momentum, gained in the preceding phase of decisions. [26]

Eyes are pre-programmed to notice movement, intensity, color and novelty, a new event, thus preventing an input to drown retinal senses in stimuli and miss important clues; to recognize only what has changed is important for decisions on the 'battlefield' of options, hence the military interest in such technology; there, anything that moves is potentially significant. Systems science informs individual perceptional reality of transgression of its principles in order for it to remain in the health territory. Figure 12

Figure 12. A 3-D model of an eye taken with event-based neuromorphic camera, where sensors only transmit info about pixels that have changed

The crosscurrents

State of health: intake-output and relationships

State of health

Health is not health care; health is a composite of efforts and responsibilities for own biologic system, along a path that is well-known but is seldom taken. It is the only enduring foundational platform for a healthy perceptional reality that afford meaningful life for its body-mind system; it begins with a personal determination at fitness and homeostatic metabolism, the '*what, when, and how much*', guided by a basic rule of thumb: *eat when the birds sing* (daytime), and *exercise as often as you eat* (balancing food/energy intake with output). [27]

The dramatic decline of global health in early 21st Century, is a reflection of hugely negative individual decisions for self and others, inseparable from existing perceptional reality, prevailing cultural narrative, and the level of general intelligence; with all in decline, the absence of rationality and responsibility, is enormously detrimental to the larger system of life.

Relationships

All living entities exist in various relationships that are expected, by evolution, to positively contribute to the larger system of life; among most humans, however, it is not this endowed evolutional memory that is operational in their lives but one that is dominated by perceptional reality that echoes power or despair through relationship bonds, fully unhealthy lifestyles.

The body-mind conglomerate of a biologic system has two inseparable parts in a relationship and knowing the state of one, e.g. level of health, offers a window onto the other. For example, on a global level, the recent 'viral pandemic' was a massive 'cry for help' by millions of unhealthy 'bodies', revealing unprecedented winter of human decisions; the call was missed. A new, this time a 'narrative/doctrinal pandemic', is asserting its dominance, with characteristic absence of intelligence in decisions, demonstrating failing cognition, with key absence of rationality and responsibility, under the prevailing influence of unhealthy worldwide perceptional reality; the ill 'global body' exists in a state of disorganized complexity with 'ill-mind', manifesting confused thoughts and decisions; the prognosis is serious, as the deteriorating human body-mind superstructure of the world, so far, has only been getting palliative care. Absence of health in a population indicates the operating presence of unhealthy attractors, such as dominance/power within relationships, leading to unfavorable outcomes for most.

Wars representing an end-stage of failing relationships, initially with self (drug abuse, suicide) but invariably induces fails with others, dominated by a perceptional reality that is outside of principles of life, leaving a trail of human and ecologic disasters in its wake. Living entities kill only for food or if their boundaries are violated; humans also kill at will. In 1634 Oliver Cromwell declared that *when people run out of words, they reach for a sword*. [28]

Why is this topic important and why are global decisions so against principles of life?

Principles of life are carried in evolutionary memory of all living entities; they must be fully respected and lived by, and cannot be substituted with a differing narrative. For example, a war is a climate calamity threatening life at its core; all efforts should be made to avoid it, instead of winning it; but that require a healthy perceptional reality, understanding of human differences that are, and always will be, an unalterable fact. The origins of the above '*why*', can be found in the global health statistics, which are fully in the negative territory; as a consequence, no healthy perceptional reality can emerge and all unfortunate decisions flow from it.

Consciousness is a nebulous term; it seems to point to an end-product of both awareness (sensory processing) and its interpretation (sensory perception). The processing sequence is common to all living entities, but what is processed and what is understood is individually determined, in an ongoing and never ending loop, from processing to perception and back to processing, creating the never-ending variations of perceptional reality.

9. Conclusions

Senses do not exercise judgement, they only have evolution-endowed sensitivity and specificity to various triggering signals. Judgement only emerges from the formation of perceptional reality, which is a learned skill with all its handicaps.

Sensory perception reflects the present-day cognitive interpretive paradigm, a judgement, generated in the past and applied to the current sensory processing results; it is fully depended on the health status of a given biologic system in a decision-consequences loop. Systems science provides the boundaries for a healthy perceptional reality and offers a framework for life.

Truth and trust do not exist independently of human perceptional reality as truth is simply a path to trust, an emergence; vagueness of unhealthy perceptional reality overlaps with the elusiveness of truth.

History should be remembered and learned from but not judged as the present-day perceptional reality differs from the past one.

Evolution is without judgment; it simply adheres to its principles that have emerged within the system of life; human societies are ignoring those principles to their own detriment, likely due to the following:

* overestimation of own role in the living system due to unhealthy/distorted global perceptional reality,

* disconnect of decision-consequences learning loop, which terminates individual learning,

* ignoring the fact that a relationship with self is the foundation for all other relationships.

The current, unhealthy but prevailing, global perceptional reality, expresses an unfavorable level of relationship between body and mind of major cultural clusters, a gap between vanishing evolutionary principles of harmony and a war on self and others.

Notes

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References

[1] Anton Zeilinger, Nobel Prize in Physics 2022: Official interview, https://www.youtube.com/watch?v=3euGA15jDR4

[2] Von Bertalanffy, L. *General System Theory: Foundations, Development, Applications*, New York: George Braziller, 1969.

[3] Lin, Y-C, Intoy, J., Intoy,J., Clark,I.A., Rucci, M., Victor, J.D.,

"Cognitive influences on fixational eye movements", Current Biology, 2023.

[4] Heisenberg, W. *Nuclear Physics*. New York: Philosophical Library, 2019: ASIN: B07QRX5KMP.

[5] Zia, D., Dehghan, N., D'Errico, A. et al., "Interferometric imaging of amplitude and phase of spatial biphoton states", Nat. Photon, 2023.

[6] Siedlinski, M., Carnevale, L., Xu, X., Carnevale, D., Evangelou, E., Caulfield, M., J., et al. "Genetic analyses identify brain structures related to cognitive impairment associated with elevated blood pressure". European Heart Journal, ehad101, 2023.

[7] Weeden, C.E., Hill, W., Lim, E.L., Grönroos, E., Swanton, C., "Impact of risk factors on early cancer evolution", Journal of Cell, 186, (8), 1541-1563, 2023.

[8] Benada, J., Alsowaida, D., Megeney, L.A., Sørensen, C.S., "Self-inflicted DNA breaks in cell differentiation and cancer", Trends in Cell Biology, 33, (10), 2023.

[9] Iwata, R., Casimir, P., Erkol, E., Boubakar, L., Planque, M., Lopez, G., I.M. Ditkowska M. et al. "Mitochondria metabolism sets the species-specific tempo of neuronal development". Science, 379, eabn4705, 2023.

[10] Zheng, X-x., Chen, J-j., Sun, Y-b., Chen, T-q., Wang, J., Yu, S-c. "Mitochondria in cancer stem cells: Achilles heel or hard armor". Trends in Cell Biology, 2023.

[11] Levichev, A., Faumont, S., Berner, R.Z., White, A.M., Chicas-Cruz, K., Lockery, S.R., et al. "The conserved endocannabinoid anandamide modulates olfactory sensitivity to induce hedonic feeding in C. elegans". Current Biology, 33, (9), 2023.

[12] Dworak, E.M., Revelle, W., Condon, D.M., "Looking for Flynn effects in a recent online U.S. adult sample: Examining shifts within the SAPA Project". Intelligence, 98, 2023. https://www.sciencedirect.com/science/article/pii/S0160289623000156.

[13] Wilson,I., Kataura, T., Korsgen, M.E., Sovan, C.S., Viktor, S., Korolchuk, I., "The autophagy–NAD axis in longevity and disease". Trends in Cell Biology, 33, (9), 2023.

[14] Shadiow, J., Miranda, E.R., Perkins, R.K., et al., "Exercise-induced changes to the fiber type-specific redox state in human skeletal muscle are associated with aerobic capacity". J of Applied Physiology, 2023.

[15] Roca, M., Lightfoot, J.W., "Hedonic worms gorge on high-energy foods". Current Biology, 33, (9), 2023.

[16] Solano, J.L., Menard, C., "A gut feeling: The stressed brain drives intestinal inflammation". Immunity, 56, (8), 2023.

[17] Janecka, I.P., "Sensory Processing and Systems Science: There Is More Than Meets the Eye". Am J of Psychology and Cognitive Science, 1, (5), 2015. http://www.aiscience.org/journal/paperInfo/ajpcs?paperId=2254

[18] Levitin, D.J., The Organized Mind: Thinking Straight in the Age of Information Overload, New York, Penguin Group, 2014.

[19] Kujala, T., Partanen, E., Virtala, P. Winkler, I., "Prerequisites of language acquisition in the newborn brain". Trend in Neuroscience, 2023.

[20] Kazanina, N., Poeppel, D., "The neural ingredients for a language of thought are available". Trends in Cognitive Sciences, 2023.

[21] Bohus, K.A., Cesana-Arlotti, N., Martín-Salguero, A., Bonatti, L.L., "The scope and role of deduction in infant cognition". Current Biology, 2023.

[22] Wei, X., Adamson, H., Schwendemann, M., Goucha, T., Friederici, A.D., Anwander, A., "Native language differences in the structural connectome of the human brain". NeuroImage, 270 (15) 2023.

[23] Dubova, M., Goldstone, R.L., "Carving joints into nature: reengineering scientific concepts in light of concept-laden evidence". Trend is Cognitive Science, 2023.

[24] Edwards, B. The New Drawing on the Right Side of the Brain, New York, Penguin Putnam, 1999.

[25] Larsen, B., Sydnor, V.J., Keller, A.S., Yeo, B.T., Satterthwaite, T.D., "A critical period plasticity framework for the sensorimotor–association axis of cortical neurodevelopment". Trends in Neurosciences, 2023.

[26] Maslow, AH. Motivation and Personality, New York: Harper and Row, 1954.

[27] Janecka, I.P., "The Essence of Health and Longevity". American Journal of Educational Research. 2020, 8(11), 828-846.

[28] Cromwell, O. Goodreads.com, retrieved August 21, 2022. https://www.goodreads.com/author/quotes/102283.Oliver_Cromwell.