

BIO & NANO Aspects of Resuscitation

Stanislav Ordin*

Ioffe Institute of the Russian Academy of Sciences

*Correspondence Author:

Stanislav Ordin, Ioffe Institute of the Russian Academy of Sciences.

Citation: Stanislav Ordin. BIO & NANO Aspects of Resuscitation. *Glob J Med Clin Res.* 2026, 1(1), 01-07.

Received Date: 20 July 2026

Accepted Date: 26 July 2026

Published Date: 29 July 2026

Abstract

The Conway-von Neumann cellular mechanism, which allowed us to describe the origin and fractal development of LIFE, and the Feynman mechanism of robot miniaturization, which is followed by modern NANO-technology, have diametrically opposed developmental directions. These linear approximations, intersecting at the NANO level, complement and expand the concepts of permitted states of materials, including biological ones. But most importantly, they demonstrate the permissible limits of miniaturization of artificial, including medical, interventions in the restoration of nano-objects and human resuscitation

Keywords: Restoration at the cellular and supracellular level, living and non-living NANO-limits, fractals, neurons, nervous system.

Preamble

The human body is incredibly complex – every cell, in addition to its functional responsibilities, is alive: it heals itself, reproduces, and builds individual organs. Meanwhile, the central nervous system maintains the microbiome required for a given cell's local region. On a larger cellular scale, surgeons merely assemble and fix a fractured bone, while the patient's body itself completes the healing process, meticulously “assembling” and fusing the fragments. Similarly, the body itself also heals torn ligaments and muscles when properly secured. However, if a surgeon improperly assembles fragments of tissue, a basic injury, unintended by nature, can occur, leading to infection, or even tissue rejection or cancer. Restoring the nervous system itself requires a similar approach – correctly joining the fragments, assisting the body in self-healing, rather than attempting to compete with nature in the precision of assembly. Moreover, the micro and nano scales define the natural boundary between Chaos and Harmony, which LIFE, at the cellular level, has long mastered, both for its emergence and development. “Dead” change/implementation has a fundamental limitation at these scales – both the sensitivity of devices and the precision of actuators, which is much lower than that of Nature. Therefore, the surgeon's approach to “repair” of nerves must be SIMPLE – simply CORRECTLY orienting the process of SELF-RESTORING the nervous system. In other

words, surgical intervention must be based on a VISION of the Big Picture and necessarily complemented by CORRECT medical treatment, correcting the local microbiome and facilitating natural self-healing mechanisms.

ELEMENTARY, Watson!

Not only the Soul, but also the Human Body is quite complexly “structured” and is controlled/corrected primarily at the subconscious level. But in today's “Children's World,” young children use it mindlessly, while older “children,” with the help of Medicine, use it formally, which is often simply, unwisely, and incorrectly, based solely on structural research, without taking into account the Dynamic Element of Life [1].

Moreover, the “structure” of Consciousness in humans is far from simple, the ESSENCE of which remains a subject of debate. Even at the lay medical level of UNDERSTANDING Consciousness as the ability to adequately respond to stimuli, for most people it remains at a primitive level and is entirely determined by CONSUMPTION, to which a person is driven by PRIMITIVE Bodily Reflexes. And so a paradox arises: Consciousness is defined by the Body, like that of a dinosaur or a worm (with its brain either in its spine, or in its stomach and head), and exists solely for the purpose of eating. This paradox, quite naturally, is what leads our civilization to decline. Specifically, Fundamental Science,

without which Consciousness not only stops developing but degrades (just look at the internet or buzzers to see this), is least in demand by both the majority of people and Society. And conscious control of even one's own body is simply a burden for many. Although it's not at all a burden to follow the mass of ignorant but advertised recommendations about a "Healthy Lifestyle" (reinforced by the suggestion of illness if they are not followed). And in this situation, the doctor often has to take on not only the role of healer but also that of educator for most patients. But he himself should know how to educate them and what they need to be taught. And this development of a Doctor with a capital "D" is impossible without Fundamental Science. True Scientists, like True Creators in the field of Art, are driven by the desire to achieve the perfection of Harmony, even in defiance of animal instincts and the no less animalistic laws of Social life. In fact, this desire is inherent in many people with the rudiments of Consciousness—the gigantic set of neurons in the brain of a newborn. And the "Beautiful Impulses of the Soul" have found their reflection in the Cultures of all Nations. But the development of a person not only prunes "unnecessary" neurons but also suppresses the desire for Harmony. So, having acted like a hero in youth, a person usually simply strives to fit into the established bureaucratic, soulless social structure.

Ultimately, many people become soulless, which is not good for their bodies.

And a doctor is constantly forced to help people restore their bodies after injury or illness, despite their own reflexive pressures and the social pressures placed upon them, which are anything but harmonious. And, naturally, to do this as best as possible, you need to UNDERSTAND what you're doing. And in the field of nervous activity, ELEMENTARY neurology is still only in its infancy and doesn't provide the complete picture necessary for UNDERSTANDING, much less for proper treatment. And this, in principle, is possible if the doctor were DESIRE. But you have to deal with this, and I did, when I, a professional analyst, began to answer the doctor's question in detail: "How are you feeling?" The "doctor" jumped up in a rage and indignantly yelled: "Who's treating whom—you or me?" With a temperature over 40, it was difficult for me to shout out the "doctor," so I simply stopped describing the details of my sensations (some of which were later fully confirmed by tests) and quietly said: "I'm used to taking precise measurements and describing them meticulously."

But there's nothing mystical about the idea that biomedical research on numerous patients can be equivalent to the precision study of one, beloved self. This is simply one manifestation of the Ergodic Theorem: local averaging over Time (on one person) is identical to simultaneous averaging over Space (of people). And throughout my life, I have had to both develop and use precision physical methods, many of which were original. And if, while teaching my graduate students to begin measurements with instrument calibration, I nevertheless often found basic errors in their

measuring equipment (one even angrily remarked that I wasn't a scientist, but an investigator), then it's no surprise that when I was invited for consultations with experimental physicians, I found many basic errors, indicating a lack of basic knowledge of physics. This is certainly bad, but it's far worse that there's no basic description of certain areas of medicine, and without physics, there won't be one. People are usually accustomed to acting thoughtlessly, reflexively—it's more convenient. But to truly master the human body, you must learn to do what's inconvenient—TO THINK. Otherwise, it will turn out as I had to explain to doctors: "If I repaired measuring and technological equipment the way you 'repair' patients, then none of my equipment would have worked for a long time." Then I managed to convince the doctors to perform a repeat "exploratory" operation and correct the flaws of their previous one. And since then, I've been actively working for 15 years. But in most cases, the patient's death a few months after the "treatment" isn't even recorded as a medical error. Otherwise, the average person would have been deprived of their last straw.

A Symbiosis of "Dead" and "Living" Nanotechnologies.

But even in the so-called exact Sciences, and especially in the "non-exact" ones, at the current intensive stage of scientific development, there are many gaps between the fragments of Description. And without a General Description, it is practically impossible to take the right actions in practice. Similarly, in medicine, which is focused not on UNDERSTANDING but on KNOWLEDGE, much depends on the subjective ability of an individual physician to intuitively choose the right direction for effective treatment. And in clinical surgery, perhaps the most difficult task is the correction and restoration of nerves in general. And to even attempt to correct neurons, a comprehensive understanding of the nervous system is essential. And naturally, not at the level defined by Aristotle, who described the cerebellum. Of course, it's hard to expect that after reading this description of ELEMENTARY NEURALGIA, doctors will be able to surgically bring a person out of a coma, but I hope they will be able to more meaningfully restore the human nervous system. But to do this, we still need to start with what is UNDERSTOOD in the exact sciences. Namely, the general principles of miniaturization of artificial, dead technologies [2, 3, 4] and natural, living technologies discovered by Nature [5, 6, 7, 8, 9]. Modern NANO-technologies define the limits of medical instruments and resuscitation techniques. And the illusion that they can be used to arrange individual atoms as desired is good only for cheap fantasies of "repairing" a person and their organs - even a single living cell cannot be repaired using "dead" NANO-technology. So, genetic engineering, having seemingly achieved much, simply modifies the processes discovered by Nature, i.e., parasitizes on them. "Dead" NANO-technologies follow the path of primitive minimization of elements, while living "NANO-technologies" follow the path of constructing elementary, intrinsic fractals at the nanoscale. As a result, their actual attained limits are diametrically opposed (Fig. 1).

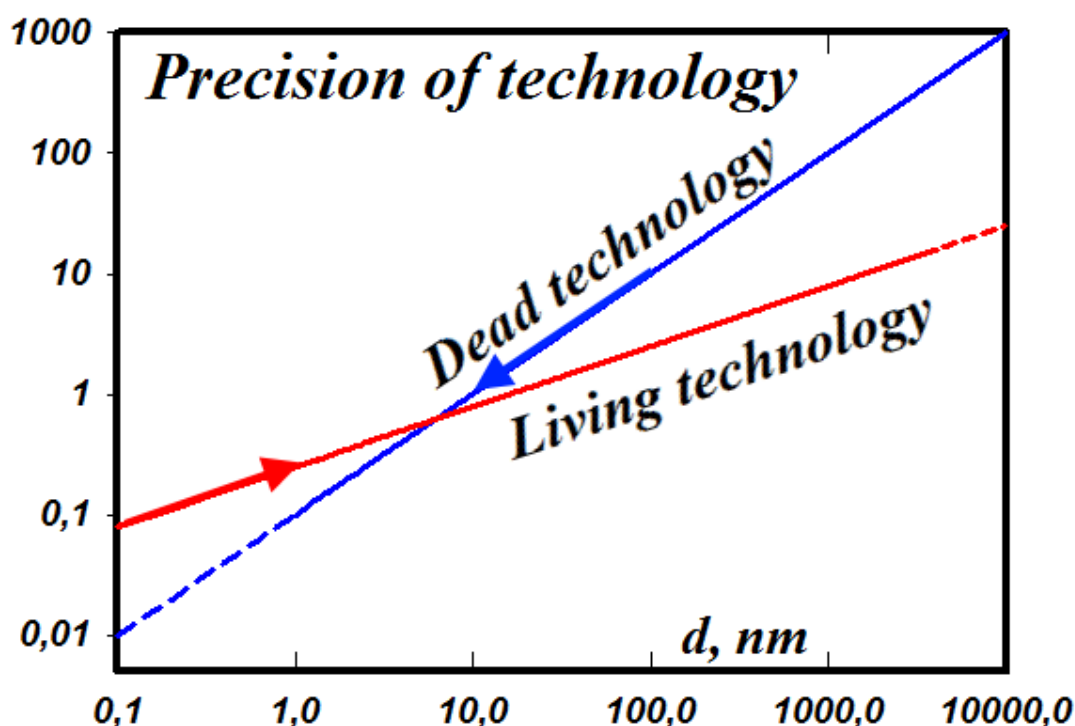


Figure 1: A diagram of the polar, logarithmic scale of element size, development of dead and living technologies.

Fig. 1 schematically shows that while we can do large things with high precision, even the most advanced nanotechnology at scales smaller than a few nanometers is inferior to what nature has long since “learned” to do. “Dead” nanotechnology has a minimum limit, determined by the Heisenberg Uncertainty Principle. Living “nano” technology, however, apparently begins with the smallest (about 10 Å) fullerenes. Firstly, it is no coincidence that a seventh-order symmetry axis was discovered in these fullerenes, which is incompatible with the symmetry axes of “dead” crystals. Secondly, its origin is fundamentally determined by the imperfect packing of carbon atoms in the “ball,” which leads to the preservation of its prehistory. And this is the transition

from “dead” Boltzmann Statistics to Information-Preserving Statistics, which lifts the Ban on the Existence of Life. So, fullerenes made from the simplest tetragonal carbon are essentially cosmic sperm spreading the rudiments of organic life throughout the Universe [10].

Thus, the dynamics of shrinking a NANO-object using “dead” technology will collide with the fact that nature strives to create its own (resonant, quantum, according to Planck) structures even at the smallest scales. And living “NANO-technology” confirms this—it demonstrates that simply shrinking a tree will not produce its branch or root (Figs. 2-4).

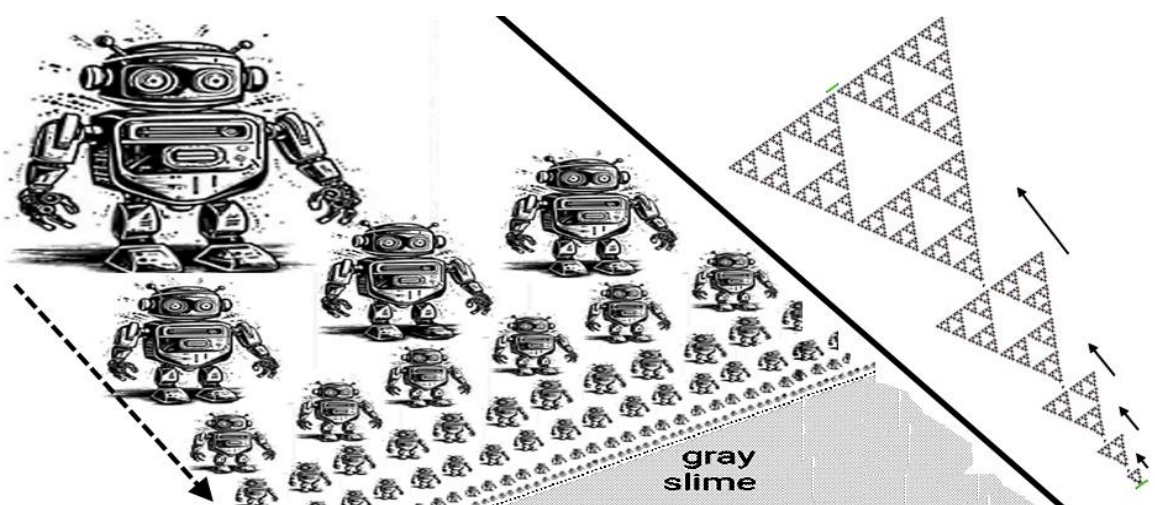


Figure 2: “Dead” NANO-technology (left) and counter-oriented fractal development (Sierpinski triangles), according to Conway’s “Game of LIFE”, built on the basis of models with destructive measurement techniques, according to Feynman’s linear approximation, from the macro level to the atoms (right).

Built on the Game of Life, living BIO-technology is constructed starting with the smallest fullerenes, capable of accumulating information about prehistory within their structure. This transforms the “dead” Boltzmann statistics into “living”

statistics with information accumulation [11, 12], setting the stage for fractal development. In living nature, the Creator determines whichever fractal first “came to hand”—those trees (Fig. 3) or vegetables/organs will grow (Fig. 4).



Figure 3: Bipolar fractal development of a tree’s crown and roots

Live NANO-technology, built on the Game of LIFE, is constructed starting with the smallest fullerenes, capable of accumulating information about prehistory within their structure. Thus, transforming “dead” Boltzmann statistics

into “living” statistics with information accumulation [11, 12], it determines fractal development. Moreover, in living nature, the Creator determines whichever fractal first “came to hand”—those trees/vegetables/organs will grow (Fig. 4).

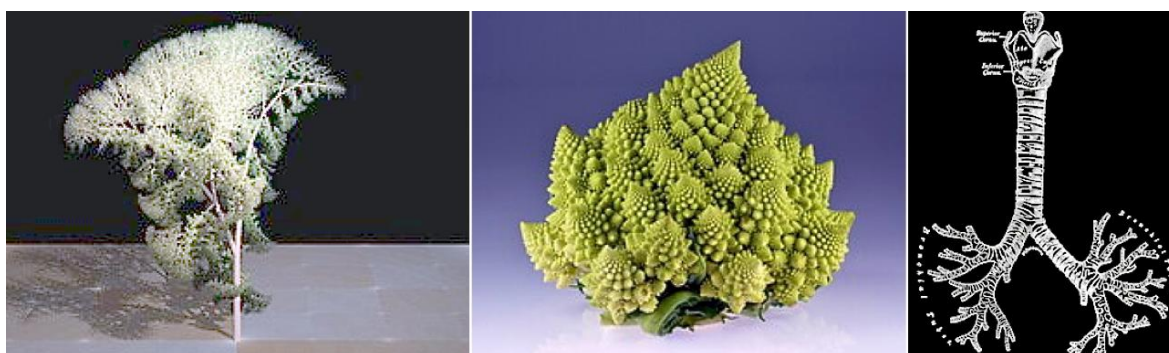


Figure 4: Fractal tree (left), kale (center), trachea (right).

In principle, all of these aspects should also be taken into account in Medicine. However, living technology, which has “learned” to create not only ordinary cells but also the “processor” of their

neurons—the Brain—still lacks a consistent, comprehensive description—an ELEMENTARY Neurology. This is hardly surprising, as translational errors are present even in the description of Synapsis—at the cellular level (Fig. 5).

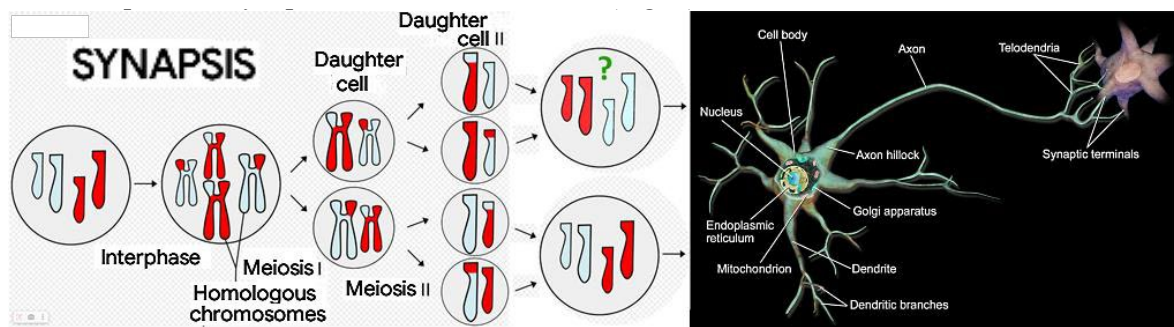


Figure 5: Living “nano-technology” embedded in cell reproduction through fusion and division (on the left is Synapsis—chromosome conjugation, the temporary paired convergence of homologous chromosomes, during which an exchange of homologous regions can occur between them).

Organs, nerve fibers (Fig. 5, right), and the entire organism are formed from the formed cells (Fig. 5, left). However, the primitive Synapsis diagram shown in Fig. 2 is NOT INVARIANT, since at each stage, a living cell supposedly forms not only a similar cell, but also an anti-cell (marked with a question mark in Fig. 2, 3). Nature cannot utilize such a wasteful diagram.

Thus, even a rigorous description of the life of an individual cell is essentially absent. This is again due to the essentially unreliable nature of experimental data on living objects, which simply kill life. Even the description of DNA and RNA is derived from X-ray measurements, which kill all living things. That is, The description of DNA-RNA originally used not a snapshot of a living cell part, but a recording on burnt ashes.

So, using life-destroying physical methods, and without actually mastering even micron scales, they built call centers out of processors by simply reducing the size of elements. These call centers will soon not only consume the majority of the electrical energy produced by humanity, but will also define TASKS that are supposedly relevant to all of humanity. And modern consumer society, built on bureaucratic principles, can do nothing to counter this. And it doesn't counter this; it is engaged in a race to actively utilize Artificial Intelligence based on the dead NANO-technology that is already in use.

Thus, NANO-technology has already reached the social level. But the ELEMENTS of electronics created by it, without reliance on Fundamental Science, consume billions of times more energy than the receptors and nervous system of a living organism. So, unintelligent nanotechnologies, devouring planet Earth, leave no room for LIFE! And Artificial Intelligence only facilitates this.

Restoration of the nervous system

Judging by the fact that amputated limbs can often be restored to their proper positions, and by the successful grafting of donor organs, large nerve fibers can be FUSED! FUSED not by deliberately introducing them at the NANO

level – the surgeon's main achievement is not in precisely CORRECTLY connecting the nerve fibers, but in being able to position them comfortably relative to one another. And the body itself “bridges the gap,” creating new nerve cells connected to the damaged ones. The fact that the body itself can do this, with the right approach from the doctor or patient, indicates that by activating each muscle in an arm or leg paralyzed after a stroke (using a device like a stun gun), it is possible (tested over 3.5 months) to achieve their complete brain control! The body, through constant training of temporarily atrophied organs, regenerates nerves over the damaged areas and correctly connects the fragments itself when localized nerve fibers are damaged or lost due to oxygen deficiency.

So, the common notion that nerve cells don't regenerate has some basis, but is fundamentally profoundly incorrect. LIFE manifests its specificity at various levels. This includes the level of a person pursuing a goal despite any injury, even at the risk of death, and the functioning of individual organs, as well as at the cellular level. In this regard, neurons are designed (by someone or something) so that, in a favorable external environment, including both cellular fragments and the microbiome, they not only receive and transmit information to and from the brain, but also maintain life within it. So, if the common understanding is more or less accurate, it's primarily about the nerve cells of the brain, which must regulate their own external environment (and not be regulated by someone in the head, as with other organs). In this regard, the nerve cells of the head are simply maximally autonomous. But they themselves are nourished (by the body) by blood, and a lack of oxygen in this blood is what primarily destroys them. However, the autonomous self-regulation of the brain's nerve cells can be deliberately disrupted by a Program determined by Consciousness. Consciousness, in principle, is autonomous from the vital functions of nerve cells. And poor health is usually just a disguise, a feigned bad mood. But there are points of intersection. After all, it is Consciousness that ensures the vital functions of the brain—the loss of Consciousness often leads to death. Consciousness. In this regard, it can, in principle, be taught to correct disturbances in the

autonomous functioning of nerve cells, which overlaps with yoga—after all, the functioning of brain nerve cells includes not only their self-reproduction but also the maintenance of what is called the SPIRIT. However, Consciousness can also artificially interrupt their functioning—the expression “the Spirit has left the body” is not without reason. While a computer’s operating system can be turned off and turned back on without any problems, when the SPIRIT has left the human body, the maintenance of neuronal functioning ceases. In this regard, drug treatment can be aimed at

improving the microbiome or cerebral blood vessels, as well as at treating the psyche.

The human brain is much more complex than any organ. While the cells of an organ are similar to each other, the first thing that catches the eye when “peering” deep into the brain (through interpretations of neuron visualization experiments in the cerebral cortex) is that they are all different (Fig. 6).

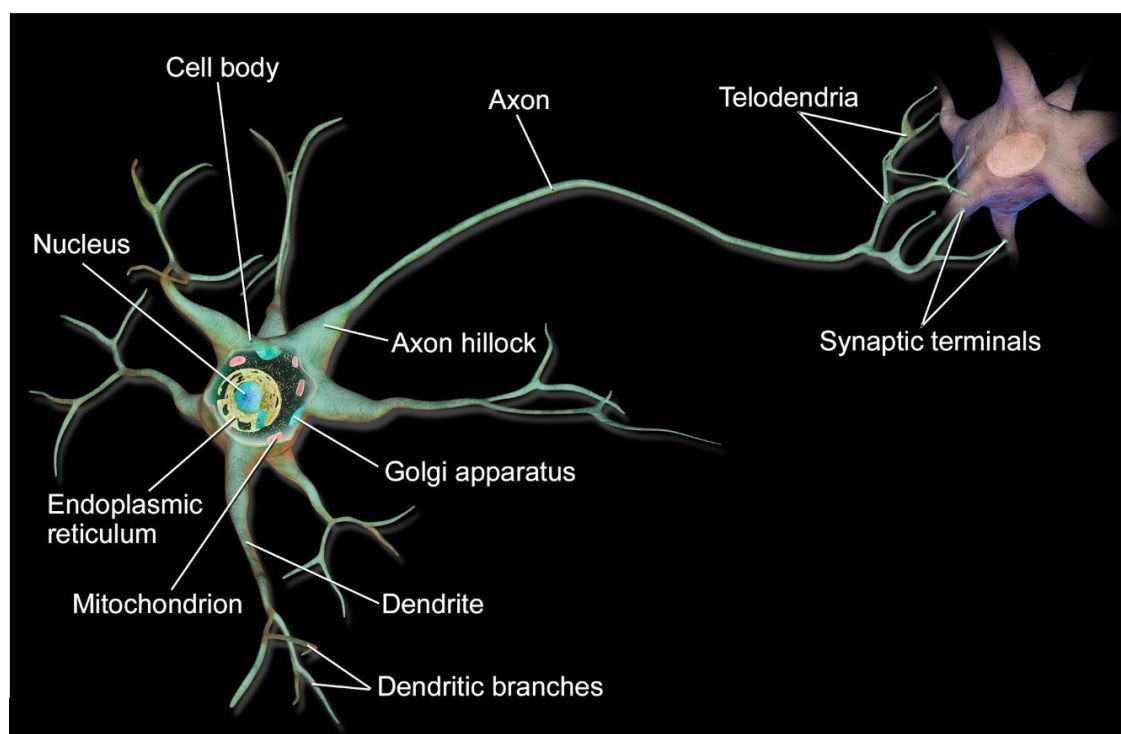


Figure 6: Neuron

And, more or less, identical, only in the white matter, in the bundle of connecting wires of the “thinking” “ELEMENTS” in the gray matter. The brain’s white matter is white because we can’t distinguish individual “wires” connecting different areas of gray matter. Gray matter, on the other hand, is gray (scattering) because individual ELEMENTS are visible. But the ELEMENTS are in quotation marks for a reason, because while they can be considered functionally similar, in fact, no two identical neurons can be found in the brain’s gray matter.

Thinking ELEMENTS are also in quotation marks not only because an individual transistor can’t think, but also because their varied shapes suggest that the THINKING ELEMENTS in them may also differ. So it turns out that the brain, even with its modern, primitive structuring, clearly demonstrates a lack of understanding, even at the ELEMENTARY level, of the Struggle between Chaos and Harmony, even in our Consciousness. But this Struggle, in principle, is the cause of the emergence of various degrees of Harmony, including LIFE itself. Nature, however, has managed to harmonize it, starting from the level of Fullerenes. And although we consciously strive to harmonize everything, our Consciousness itself also

demonstrates a Struggle between Chaos and Harmony, less harmonized than in the structure of the human brain.

That is, to construct an ELEMENTARY scheme, we must start from the very beginning, with Thermodynamics. But Standard Boltzmann Thermodynamics can only predict the Heat Death of the Universe, and certainly not the origin of LIFE. And this TABOO on LIFE itself was lifted using Prigogine’s Statistics with Information Accumulation and Flow Thermodynamics, while Kozeev’s work showed that the ELEMENT preserving prehistory is the fullerene. So organic LIFE did not originate by chance.

Head and Heart

A structural description of LIVING beings without taking into account the Dynamic Element of Life is incomplete, even at the cellular level. And in this regard, the Dynamic Connection between Head and Heart directly confirms the connection between Body and Consciousness. The Heart is more than just a pump for circulating blood. Although like a pump, the heart is permeated with a network of nerve fibers, which is diagnosed using an encephalogram. And the pain

of a heart attack or heart injury is much more intense than that of an arm or leg injury. But despite the fact that it is in the Heart that potassium isotopes establish synchronization of the entire organism, including the brain, the Head still controls the body. And if the Head cannot cope with the Pain, it can shut down the Heart, even if it is still 60-70% capable of functioning as a Pump. Although the same heart attack can occur due to Heart Spasms, when the Head is focused on preventing Spasms of Thought (and body), as happens, say, in strong-willed people after betrayal or a blood clot. When, at the Steklov Cardiology Center, the doctors showed me on a monitor screen my Heart, a third of the left side of which had become a dead tissue (due to a rupture/burnout of nerve fibers) and asked me if they should install a sten to allow the detected clot to pass, I answered, "I'll endure it a little longer, but first, suck out the clot so I don't turn into a vegetable." There was no need to "suck out" the reaction to betrayal from the Head—the heart attack "sucked" it out. And after three days in the intensive care unit, I cautiously began physical exercise. And one more self-observation, not only of my own condition. Knowing firsthand about precision physical measurements, I differentiated medical device readings based on how I felt, explaining to doctors that many of their "modern" diagnostic devices provided unreliable data, inferior in quality to both the devices I had developed and my own perceptions. Another "seditious" observation showed that I was no exception: in the rehabilitation department's smoking room, patients talked about everything but death, while the majority of non-smokers walked around as if they had lost their nerve and had given up on themselves. So, if we were to look at the death statistics after discharge, I think the death rate would be much lower for smokers whose heads didn't dictate their death. Although, of course, mindlessly enduring pain is fraught with dire consequences.

As for me, thinking about life, not just treatment, I reduced the number of lifelong prescribed heart medications to a minimum (to make ends meet, I only occasionally took additional doses based on my condition) and gradually increased my physical activity (monitoring my feelings). I also increased my mental workload, convinced that my remaining time was limited and I needed to make a mark in Science, where I'd been since I was 15.

References

1. Ordin S.V., « Dynamic Element of Life, NBICS: Science. Technology. 2019. Vol. 3, № 8, pp. 66-75. <http://www.nanonewsnet.ru/news/2019/vyshel-ocherednoi-vosmoi-nomer-zhurnala-nbiks-naukatekhnologii> <http://www.nanonewsnet.ru/files/nbics-magazin/nbics-magazin-190919-8.pdf>
2. Stanislav Ordin, « Physical Bases of Nano», Crimson

Publishers (Wings to the Research), Research & Development in Material Science (RDMS RDMS.001029.22(1).2025, Volume 22 - Issue 1, 2663-2668: Res Dev Material Sci.22(1).RDMS.001029.2025.DOI: 10.31031/RDMS.2025.22.001029, <https://doi.org/10.31031/RDMS.2025.22.001029>

3. Ordin SV, « Tetrahedral Characterization of Electronic Materials», Global Journal of Materials Science and Engineering (GJMSE), ISSN: 2694-3808, Volume 8 Issue 1, pp. 1-6, Pubtexto Publishers | <http://www.pubtexto.com/>, Review Article, Published: 20 April, 2026, DOI: <https://doi.org/10.36266/GJMSE/191>.
4. Ordin SV (2026). Principles of Characterization of Nanomaterials. Global J Mater Sci Eng 8 (1): 185 DOI: <https://doi.org/10.36266/GJMSE/185>
5. Stanislav Ordin, " Restoration of organs.", Clinical Medical Reviews and Reports, 7(4); Published Date: July 01, 2025, <https://doi.org/10.31579/2690-8794/266>
6. Stanislav Ordin, «Phenomenology of Conscious and Unconscious Sensations», Clinical Medical Reviews and Reports 7(9):01-02 December 2025 DOI: <https://doi.org/10.31579/2690-8794/296>
7. Stanislav Ordin, "Math-Phys-Chem-Virology." Global Journal of Science Frontier Research: A, Physics and Space Science, Volume 23 Issue 5 Version 1.0 Year 2023 Type: Double Blind Peer Reviewed Interenational Research Journal, Publisher: Global Journals, p. 41-44, Online ISSN: 2249-4626 & Print ISSN: 0975-5896,
8. Stanislav Ordin, «Nano and Frontier Aspects of Biomedicine», Biomedical J. Sci & Tech, Volume 46, Issue 2, p. 1-3 Res | BJSTR. MS.ID.007335 , Published: September 22, 2022, ISSN: 2574 -1241, DOI: 10.26717/BJSTR.2022.46.007335, 37313- 37315 - <http://dx.doi.org/10.26717/BJSTR.2022.46.007335>
9. Ordin S. «Principles of Defragmentation Medicine». J Clin Med Res. 2024;6(1):249-51. DOI: [https://doi.org/10.37191/Mapsci-2582-4333-6\(1\)-150](https://doi.org/10.37191/Mapsci-2582-4333-6(1)-150)
10. Stanislav Ordin, « Thermal LIFE of the Universe», Journal of Advances in Social Science and Humanities an Open Access Publication ISSN: 2795-9481, Vol. 8 No. 02 (2022), Published: 2022-05-08, JASSH 08 (04), 65-68 (2022), DOI: <https://doi.org/10.15520/jassh.v8i02>
11. J. H. Conway. Regular Algebra and Finite Machines. — London : Chapman and Hall, 1971. — ISBN 9780412106200. J. H. Conway. Regular Algebra and Finite Machines. — New York : Dover, 2012. — ISBN 9780486310589. — ISBN 9780486485836.
12. J. H. Conway. On Numbers and Games. — New York : Academic Press, 1976. — ISBN 9780121863500. J. H. Conway. On Numbers and Games. — 2nd ed. — Wellesley, Massachusetts : A K Peters, 2001. — ISBN 9781568811277.

Copyright:

©2026 Stanislav Ordin. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International license.