Concept Paper

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Valeriy Revo *

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Entangled Doctor and Formulary Medicine

Valeriy Revo

Independent Researcher, Canada; valeri.revo@gmail.com

Abstract: The manuscript presents some results of the author's long-term work on developing a system information theory of the origin of life and diseases. The article's purpose is to substantiate the need to use this theory concerning the problems of biology and medicine. The task of the article is to substantiate the priorities of a doctor when using the achievements of natural science, biology and clinical practice, rather than formulaic initiatives. The author has shown that diseases are phylogenetically conditioned processes of a programmatic nature. Therefore, it is necessary to train doctors of a new formation. The effectiveness of their work will be ensured by clinical experience, interdisciplinary and specialized knowledge, system models – the highest form of meaningful representation of any objects and processes. Quantum features of the organization of life can manifest themselves in specific phenomena. One of them is the quantum entanglement of a doctor, which requires the organization of appropriate monitoring.

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2. Summary Statement

The material of the publication is useful for practicing physicians and organizers of the medical education system. The author draws the attention of specialists to one of the phenomena in the procedural practice of medical workers, even highly qualified professionals. This is their negative impact on the patient, not caused by psychological or other obvious reasons. He showed that this may be due to the effect of quantum entanglement.

3. Introduction

Understanding that any living organism has a dual nature has led to attention to the manifestations of this feature of its organization. Biology and medicine have extensive experience in studying the living in the dimension of Newtonian physics. However, the manifestation of the features of the organization and functioning of the living at the quantum level does not yet have its history, although many phenomena at this level are known but not understood. Here, researchers expect interesting findings, understanding the nature of which will allow a sharp increase in the efficiency of managing the body's resources, including the quantum dimension [1,2].

4. Results

4.1. Fundamental Basis of Medicine

Medicine has always been and will remain a doctor's art. Physicians of a new formation, having the relevant knowledge, clinical experience, and modern diagnostic and computer technology, will be able to manage not only the symptoms but also the programs of diseases of any nature and form.

However, some modern trends in medicine, for example, EBM "does not attach importance to intuition, "unsystematic clinical experience" and pathophysiological justifications as sufficient grounds for making clinical decisions" [3].

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Such a representation is unacceptable. First, the intuition of an experienced clinician has always been and remains the most powerful intellectual resource of a doctor. Secondly, EBM, having abandoned "unsystematic clinical experience", has not received systemic experience.

4.2. Systems Approach in Medicine

Medicine has not become a science because it does not have the necessary attributes for this: fundamental laws and physical constants. Clinical practice has always included a research component. It requires modern scientific instruments. This role is successfully fulfilled by a systems approach. True, subject to proper use. A universal algorithm of the classical systems approach was developed by V. V. Druzhinin and D. S. Kontorov (1983) [4].

Other design options have been proposed for the practice of evidence-based medicine. Thus, D. J. Cook et al. proposed (1992) their version, which they called "Five steps of EBM" [5,6]. Table 1 presents all three design options. Here is an algorithm for the classical systems approach and two basic principles of EBM, the content of which corresponds not to the systemic but to the systematic approach. The difference between these approaches is fundamental.

It was proposed to include aggregation and reduction in the algorithm of the systems approach. However, Druzhinin and Kontorov rightly believe this is an epistemological device of a different nature. As we can see, the first three steps in the algorithms are almost the same. However, the remaining steps of the algorithms differ fundamentally. Five steps of EBM and Six A's Principles demonstrate the dominance of the subjective component in the assessment procedure. The Six A's Principles algorithm reflects the dominance of the semantic, but not the content, component. Finally, the basic principles of EBM lack the deductive component and modeling in the problem-solving phase. The noted circumstances are unacceptable when working with complex systems with unclear properties and a high level of uncertainty. Man is precisely such a system.

Table 1. Examples of a systems approach algorithm in medicine [7].

№	**Algorithm of the classical systems approach** (Druzhinin V. V. and Kontorov D. S., 1983) [4,7]**.**	**Five steps of EBM** (Cook D. J. et al. 1992) [8]	**Bringing a Systems Approach to Health. (**Kaplan, Gary et al., 2013) [9]	**Six A's Principles of the Center for Evidence-Based Management (CEBMA)** (Barends E, et al., 2014) [10]	**The Hypothetico-Deductive Paradigm for Science Discovery**. (Li, Zelong et al., 2021) [11]
1	Identification of the problem. Leave only what is significant.	Translation of uncertainty into an answerable question	Identification: Identify the multiple elements involved in caring for patients and promoting the health of	Asking	Observation

 doi:10.20944/preprints202506.1300.v1

			individuals and populations		
2	Description of the system. Express in one language phenomena and factors that are heterogeneous in physical nature	Search for and retrieval of evidence	Description: Describe how those elements operate independently and interdependently	Acquiring	Question
3	Setting criteria. Set criteria by which we will compare alternatives	Critical appraisal of evidence for validity and clinical importance	Alteration: Change the design of organizations, processes, or policies to enhance the results of the interplay and engage in a continuous improvement process that promotes learning at all levels	Appraising	Hypothesis
4	Idealization — extreme simplification of the problem and creation of a system-relevant model.	Application of appraised evidence to practice	Implementation: Operationalize the integration of the new dynamics to facilitate the ways people, processes, facilities, equipment, and organizations all work together to achieve better care at lower cost	Aggregating	Predictions

 doi:10.20944/preprints202506.1300.v1

5	Decomposition. Find a way to divide the system into subsystems in accordance with the space-time model created for it or, in other words, its autonomous metric. According to the systemic paradigm (V. Revo, 2015), this is a systemic metamorphosis.	Evaluation of performance	—	Applying	Experiment and Test
6	Composition. Find a way to combine parts into a single whole without losing the properties of the parts that is, combine subsystems into a system while preserving their basic system features.	—	—	Assessing	—
7	Solution	—	—	—	—

EBM apologists also claim that "A NEW paradigm of medical practice is emerging. EBM does not value intuition, unsystematic clinical experience, and pathophysiological justifications as sufficient grounds for making clinical decisions and emphasizes the study of clinical trial data. EBM requires new skills from the doctor, including effective literature search and application of formal rules for the evidence-based evaluation of clinical literature" [3]. This review mentions a "NEW" paradigm of medical practice and a new strategy. But what EBM offers reflects the natural-philosophical approach to the disease, and there are no traces of the declared "NEW paradigm" in it. We again see only contentless slogans and declarations.

Until now, medicine has been active only in the direction of studying the manifestations of the disease, first of all, the symptoms, with which, in most cases, it has learned to cope. Its technological capabilities today are unprecedented. They make it possible to observe structural or functional changes in tissues of molecular and microsecond dimensions. However, observation is still the level of natural philosophy since the causal mechanism of the disease remains incomprehensible to medicine. Great hopes were initially raised by computers. However, today they can only help create analog models of diseases, including cancer.

To comprehend the program of a disease as a natural phenomenon, it is necessary to build its systemic model since any disease has a systemic nature by definition. My approach is closer to this goal. Predicting the pathogenesis of the disease in the first approximation allows knowledge of its stereotypical development. But today it is impossible to predict the moment of the onset of

 doi:10.20944/preprints202506.1300.v1

bifurcation in pathogenesis, and it is impossible to predict the outcome of the disease into remission or death. Knowledge of the systemic nature of the disease allows us to obtain the most accurate prognosis.

5. Discussion

5.1. Phylogenetic Memory and Diseases

I propose to build a new paradigm of medicine based on the systemic content of a natural phenomenon, which we traditionally call a disease. First of all, any disease is a software process [12]. That is why we can predict the pathogenesis of its development.

The quantum nature of disease programs has determined a similar pathogenesis of each of them for living beings of all subsequent phylogenetic stages. The function of storing disease programs in the body is performed by a specialized apparatus. It has a distributed holographic structure.

The phylogenetic memory of any organism always contains all the programs for its possible diseases (V. Revo, 1986-2023). I called it "Phylopathome" (from the Greek *φυλή* – tribe, clan, – is read as fyli, + *πάθηση* – disease, – is read as páthisi + the suffix *-om* means the commonality of something, – is read as om).

Phylopathom is included in the structure of the phylothek (from Greek *φυλή* – genus, tribe, – is read as fylí, + *αποθήκη* – depository, – is read as apothíki). Phylothek is a repository of fundamental systemic biological features of an organism that are passed on to phylogenetic offspring (V. Revo, 2024). These can be basic systemic elements of living organisms that appeared at this and all previous stages of phylogenesis. Disease programs are one of these elements.

Each program reflects the system specificity of the stage of phylogenesis at which it appeared. So, the most ancient class of diseases is proteoses. Then, according to the stages of phylogenesis, programs of genoses, neuroses, and encephaloses arose. Systemic and pathogenetic features of diseases that arose at the previous stage of phylogenesis naturally manifest themselves in diseases that arose at all subsequent stages of phylogenesis. This phenomenon is well-known to experienced clinicians. Thus, manifestations of the immune response always occur at genoses, for example, in tuberculosis. Immune and genetic components always appear in neuroses. For example, in peptic ulcer disease, inhibition of cellular immunity and an increase in the level of circulating immune complexes, as well as the presence of *Campylobacter pylori* in the ulcerative niche, are observed. The most phylogenetically early stage in the development of living things gave the world modern man (*Homo sapiens* L.) and the psychoses and socialoses inherent only to him.

The task of medicine is to give doctors the technology to manage the programs of all diseases. True, socialoses, due to objective circumstances, are available for management only at the symptomatic level. The programs of these diseases are transcendental for a person since, according to the theorems on the incompleteness and consistency of Kurt Gödel's formal systems, his own complete and consistent formalization is inaccessible to him.

5.2. Entangled Doctors

The requirements for a practicing physician, operating room nurse or procedural nurse when choosing this field of activity are well known [13]. These are high moral qualities, the ability to empathize, broad and deep erudition in the field of their work, constant improvement of professional art, and satisfaction with the profession. These qualities are difficult to formalize exhaustively and consistently, since there is no scale and the dimension by which to give an assessment is unknown. Therefore, people with no place in this profession often end up in practical medicine. However, even if a practicing physician or a procedural or operating room nurse fully meets the listed parameters, in certain situations, they objectively have no place in this profession. First of all, this applies to those who have physical contact with the patient's body. The manipulations of these medical workers do not benefit patients, sometimes even worsening their condition, although everything is done professionally and conscientiously. For example, surgical wounds heal mostly by secondary

 doi:10.20944/preprints202506.1300.v1

intention, and acupuncture by a highly professional specialist only worsens the patient's condition, etc. There are many such examples in clinical practice. This circumstance has a quantum-informational interpretation, which is represented by the Wigner/Proietti paradox [14]. According to Wigner's paradox, the doctor (observer) is part of a quantum system: his consciousness is capable of "collapsing" the superposition of probable outcomes of the patient's illness. In this case, a certain probability becomes dominant and can stably implement a certain (often negative) pattern. The experiment of Proietti's group confirmed the presence of quantum nonlocality caused by the entanglement of states that arose in the past and cannot be eliminated in a classical way. Such "hidden programs" are not local hidden variables according to Einstein. They are quantum-entangled system states due to non-local system coherence, as allowed by modern quantum mechanics. They are fixed in phylogenetic memory. Carriers of such a pattern need to choose a type of activity that does not involve direct physical contact with the patient. A systemically entangled doctor is not a bad specialist, but a carrier of a stable, autonomous program that has become part of his phylogenetic memory. Such workers cannot be punished, but they should not be allowed to do such activities from the very beginning. This should be taken into account when selecting future doctors and nurses. This is the task of cognitive quantum hygiene, which is time to create. So far, the only criterion for selection is monitoring the results of the activities of current specialists. If a stereotypical negative impact of certain routine manipulations on a patient of a conscientious, qualified medical worker is documented, he should be offered the opportunity to change his field of activity. After all, he, like Mephistopheles,

"Part of that Power, not understood,
Which always wills the Bad, and always works the Good." [15].

6. Conclusions

The material of the article allows us to draw several theoretical conclusions and offer practitioners several recommendations on the organization of the strategy and tactics of treatment and prevention of all groups of diseases.

1. Medicine is a sphere of cognition and practice; it has not yet become a science since it does not have the attributes necessary for this: fundamental laws at the macro and quantum levels, fundamental biological constants, and the modern systemic paradigm.

2. Knowledge of the nature of diseases, professional skills, and the art of the doctor are necessary conditions for the successful management of them.

3. Today, elements of the living macro and micro dimensions are available to medicine, and the elements of the quantum dimension, which form the fundamental basis of life, remain outside the field of interest of researchers. Any disease develops according to its phylogenetically determined program.

4. The programs of all diseases reflect their systemic content and a quantum nature.

5. Today, medicine has reached a milestone beyond which it becomes possible to predict the development of diseases and manage programs for their development in each person.

6. The main task of the doctor traditionally consisted in applying his art of effective treatment of the patient, which involves getting rid of any kind of pain and restoring the functions and anatomical structure of the body as a whole and its elements.

7. Today, medicine must recognize the need to transition to a new system-information paradigm, while preserving valuable elements of the previous natural-philosophical paradigm.

It must use the achievements of quantum physics in solving the problems of controlling disease programs in phylogenetic memory at all stages of their development.

8. Knowledge and understanding of the pathogenesis of diseases and their program content are effective intellectual tools for a physician. It allows him to offer an effective person-centred prevention and treatment program that is free from polypharmacy and can stop the development of an iatrogenic pandemic.

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9. The medical education system should develop a mechanism for identifying individuals among practicing physicians and procedural and surgical nurses whose work exhibits the phenomenon of quantum entanglement.

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