Spiritual and Material Causes of Humanity's Diseases and AI Medicine

Evgeniy Bryndin[1]

[1] Interdisciplinary Researcher of the International Academy of Education, Novosibirsk, Russia
Correspondence: Evgeniy Bryndin, Interdisciplinary Researcher of the International Academy of Education, Novosibirsk, Russia.

Abstract

The spiritual cause of human diseases is the rejection of harmonious relations with nature and the transition to immoderate consumption and comfort. Humanity views nature as a consumable material, and as a result, imperfect humanity relentlessly pollutes nature. Pollution of nature is the material cause of human diseases. Pollution of water and soil creates conditions for the emergence of infectious parasites. Inhabitants of reservoirs and soil are carriers and distributors of infectious parasites. Humanity, consuming inhabitants of reservoirs and soil, becomes a carrier of infectious parasites, a distributor of infections and a source of epidemics. AI medicine is developing to quickly and effectively treat rapidly spreading human diseases and prevent epidemics.

Keywords: spiritual and material causes, pollution of nature, human diseases, AI medicine

1. Introduction to the Problem

When unspiritual humanity defiles Nature, then Nature defiles humanity with diseases. Diseases are nature's response to its defilement by humanity. The emergence of diseases as nature's response to its defilement by humanity is a complex and multifaceted topic. On the one hand, diseases can be viewed as a natural response of ecosystems to disturbances caused by human activity, such as environmental pollution, climate change, destruction of natural habitats, and overexploitation of resources. Existing diseases can be the result of the interaction of various factors, including genetic predisposition, infectious agents, and people's lifestyles. For example, many diseases from viruses and bacteria can arise and spread due to changes in ecosystems caused by human activity.

It is important to note that the emergence of diseases as a response of nature is a spiritual biological law (Evgeniy Bryndin, 2018; Bryndin E.G. & Bryndina I.E., 2020; Evgeny Bryndin, 2024). Nature has no conscious intentions, but the changes we make to the environment lead to undesirable consequences, including the emergence of new diseases. Thus, it can be said that there is a relationship between the actions of humanity and the health of the population, and this topic requires deep analysis and awareness of the responsibility for the preservation of nature and the health of future generations (Bryndin E.G. & Bryndina I.E., 2019; Bryndin E.G. & Bryndina I.E., 2019; Evgeniy

Bryndin & Irina Bryndina, 2019; Evgeniy Bryndin, 2020; Bryndin E. G. & Bryndina I. E., 2020).

At the present stage, intelligent digital polyclinics are being formed — a modern medical institution that uses digital technologies and artificial intelligence to optimize the processes of diagnosis, treatment and patient care. An intelligent digital polyclinic offers innovative solutions to improve the quality of medical care and improve interaction between patients and doctors, managers with medical staff, between medical institutions.

2. Spiritual Aspects of Pollution of Nature by Humanity

First of all, we need to look at the pollution of nature by humanity through the prism of spiritual aspects. Here are some spiritual reasons that explain this phenomenon:

2.1 Alienation from Nature

Modern society perceives nature as a resource that can be used and exploited. This alienation leads away from harmonious relations with nature and leads to a lack of respect for the surrounding world and its ecosystems.

2.2 Materialism

Consumer culture places emphasis on material values and satisfaction of needs, which leads to ignoring environmental consequences. The spread of materialism reduces the level of responsibility for the environment.

2.3 Weakening of Spiritual Values

In the context of rapid technological progress and urbanization, many people lose touch with spiritual and moral values, such as caring for nature, harmony and gratitude. This leads to indifference to environmental issues.

2.4 Conflict Between Nature and Humanity

Nature is not seen by humanity as a friend and as part of a whole. This contributes to the perception of the environment as something that needs to be subdued and controlled.

2.5 Short-Term Thinking

The desire for immediate satisfaction of needs and the desire for quick results hinders long-term planning and care for the future of the planet.

2.6 Unawareness and Misunderstanding

Many people simply do not realize how their actions affect the environment. Spiritual unawareness and lack of understanding of the pollution of the planet by humanity as the cause of diseases.

2.7 Lack of Responsibility

Lack of understanding of one's role in the ecosystem and lack of a sense of responsibility for actions lead to pollution of nature.

3. Material Aspects of Environmental Pollution

Pollution of nature by humanity with harmful material substances and waste in various forms and shapes has made it a hostage to diseases.

3.1 Humanity Creates Infections by Polluting Nature with Harmful Waste

Pollution of nature with harmful waste does indeed contribute to the emergence and spread of infections. When waste, especially hazardous or toxic waste, gets into the environment, it can have serious consequences for ecosystems and human health. Let's look at several aspects of this problem.

3.1.1 Water Pollution

Runoff and waste containing pathogens contaminate drinking water supplies. This can lead to outbreaks of waterborne diseases such as cholera and many others.

3.1.2 Soil and Agriculture

Harmful substances and toxins can accumulate in the soil, which negatively affects crop yields and food quality. Since contaminated food becomes a source of infections, this poses a risk to human health.

3.1.3 Contact with Wildlife

Pollution disrupts natural ecosystems, leading to changes in animal behavior and migration. This can increase contact between wildlife and humans, increasing the risk of zoonotic disease transmission.

3.1.4 Development of Resistant Pathogens

Chemicals contained in waste can promote the development of antibiotic-resistant strains of bacteria, which creates additional difficulties in treating infectious diseases.

3.1.5 Decreased Biodiversity

Pollution can lead to declines in populations of various species, which disrupts the ecological balance and can facilitate the spread of pathogens.

3.2 Emergence of Infections in Nature

Emergence of infections in nature is related to

many factors, including ecosystem interactions, the evolution of pathogens and their hosts, and environmental conditions. Infectious diseases occur when pathogens such as bacteria, viruses, fungi, or parasites are transmitted from one organism to another. Let us consider several key aspects of infection.

3.2.1 Pathogens

Microorganisms that can cause disease. They can be found in the environment, in hosts (humans, animals, and plants), or in soil and water.

3.2.2 Pathogen Hosts

Organisms in which pathogens can multiply. Hosts can be either natural reservoirs of infections (e.g., wild animals) or susceptible to infections (e.g., humans).

3.2.3 Transmission of Infections

Infections can be transmitted in a variety of ways, including by aerosols (airborne droplets), contact (through the skin or mucous membranes), insect bites (e.g., mosquitoes), or contaminated food and water.

3.2.4 Pathogen Evolution

Pathogens can adapt and evolve to survive better in their hosts or to find new ways of being transmitted. This can lead to the emergence of new strains or even new species of pathogens.

3.2.5 Ecosystem Factors

Changes in ecosystems, such as climate change, habitat destruction, or animal migration, can facilitate the emergence of new infections. For example, climate change can expand the range of vectors such as mosquitoes, which can lead to the spread of diseases.

3.3 Path of Infections from Nature to Humans

The path of infections from nature to humans can be complex and multifaceted. It includes several stages, starting with the initial reservoir of infection in the wild and ending with infection of humans. Let's consider the main stages of this path:

3.3.1 Reservoir of Infection

These are organisms (animals, plants, microorganisms) in which the pathogen (bacteria, virus, fungus or parasite) can survive and reproduce. Reservoirs can be wild animals, domestic animals or even the environment (water, soil).

3.3.2 Pathogen Transmission

A pathogen can pass from a reservoir to a human through various routes: direct contact with infected animals, bites or stings from insect vectors (e.g. mosquitoes or ticks), contaminated food or water, airborne (e.g. inhalation of droplets containing viruses or bacteria from an infected person).

3.3.3 Human Infection

After transmission, the pathogen enters the human body and begins to multiply. This can occur through various portals of entry, such as the respiratory tract, gastrointestinal tract, skin, or mucous membranes.

3.3.4 Development of Infection

After infection, the pathogen begins to interact with the human immune system. Depending on the type of pathogen and the state of the immune system, symptoms of the disease may appear. Some infections can be acute, chronic, or asymptomatic. The body's resistance to infections depends on its immune system. Immunity can be innate or acquired, and its status can affect the likelihood of infection.

3.3.5 Transmission from Person to Person

Some infections can also be transmitted from person to person, which helps them spread in a population. This can happen through direct contact, airborne droplets, shared objects, or vector organisms.

4. Mechanism of Virus Formation in Body Cells

Virus formation in body cells is a complex process that depends on the interaction of the virus with cellular mechanisms. Viruses are parasites that use the mechanisms of host cells to reproduce. Let's look at the main stages of this process.

4.1 Attachment and Penetration

Viruses attach to specific receptors on the surface of host cells. After that, they penetrate the cell using endocytosis or fusion with the cell membrane.

4.2 Viral Disassembly

After penetration, the virus releases its genetic information (DNA or RNA) and protein components into the cell.

4.3 Genome Replication

The virus uses host cell machinery to replicate its genome. This can occur in the nucleus (for DNA viruses) or in the cytoplasm (for RNA

viruses).

4.4 Protein Synthesis

The viral genes are transcribed and translated into the proteins needed to form new virus particles. These proteins may include structural components (capsids) and enzymes (such as polymerases).

4.5 Assembly

New virus particles assemble in the cell. This occurs when viral proteins and genetic material come together to form new virus particles.

4.6 Cell Infection

The new viruses leave the cell to infect other cells. This can occur through the cell membrane (exocytosis) or by lysis of the cell, which leads to its death.

In a disturbed cellular environment, the mechanisms of its functioning are altered, which leads to unusual replication pathways of viruses or changes in their virulence. In such conditions, viruses can use damaged cellular mechanisms for their replication, which contributes to the spread of infections and deterioration of the host cells.

5. Intelligent Digital Clinic of AI Assistants

5.1 Intelligent Digital Assistants

Intelligent digital assistants are software that uses artificial intelligence technology to perform various tasks and assist users in their daily lives. Such assistants can work on various devices, including smartphones, computers, smart speakers, and other smart devices. The following are the key features and functions of an intelligent digital assistant:

1) Assistants can understand and process user requests in natural language, allowing them to interact with them in a convenient and intuitive manner,

2) Many digital assistants support voice commands, allowing users to control devices and get information without typing,

3) Assistants can be customized based on user preferences, remember their interests and offer personalized recommendations,

4) Digital assistants can be integrated with various services and applications, such as calendars, email clients, delivery services and many others,

5) Assistants can perform routine tasks such as reminders, scheduling meetings, sending messages and managing smart institution devices,

6) They can provide users with information on request, depending on their specialization,

7) Using machine learning, assistants can improve their responses and recommendations based on user interactions,

8) Modern digital assistants are designed with security and data protection issues in mind, giving users the ability to control what information is collected and how it is used,

9) Intelligent digital assistants can interact with each other.

Interaction between AI assistants can take various forms and for various purposes. AI assistants can work together to perform complex tasks. For example, one assistant can collect information, and another can analyze it and provide recommendations.

AI assistants can exchange data and work results to improve the quality of services provided. This can include joint access to databases and algorithms.

AI assistants can learn from each other's work, improving their algorithms and approaches to solving problems. In situations where a multifaceted approach is required, assistants can combine efforts to solve a problem more effectively, for example, in the field of medical diagnostics or data analysis.

An AI assistant can interact with several assistants at the same time, which allows for a more complete and detailed understanding of the information needed. AI assistants can interact with other software systems and platforms, which expands their functionality and improves professional experience.

These and other aspects of interaction are useful and effective in the healthcare sector. Intelligent digital assistants continue to develop, becoming more advanced and useful in medicine and everyday life. Intelligent digital clinics from AI assistants are beginning to form in medicine. To implement intelligent digital clinics, DeepSeek can be transformed into various interacting AI assistants.

5.2 Intelligent Digital Clinic of AI Assistants

The intelligent digital clinic based on interacting AI assistants is an intelligent healthcare system in which multiple digital assistants work together to provide comprehensive support to

patients and medical staff. Here is how the intelligent digital clinic functions:

1) Each AI assistant specializes in certain aspects of healthcare, such as diagnostics, record management, medical history, medication reminders, etc.

2) Assistants exchange information with each other to create a complete picture of the patient's health. For example, one assistant can provide data on symptoms, and another can process it to create a preliminary diagnosis.

3) Assistants are customized for each patient, taking into account their medical history, preferences, and individual needs. This may include medication reminders, lifestyle and dietary recommendations.

4) Assistants organize video calls with doctors, preparing the patient for the meeting, collecting the necessary data and questions for discussion.

5) Assistants analyze patient data and provide the doctor with diagnostic and treatment recommendations based on best practices and the latest research.

6) Assistants track the patient's health through wearable devices, collecting information on physical activity, blood sugar levels, and other indicators.

7) Assistants collect patient feedback on the quality of service and use this data to improve their recommendations and functions.

8) Assistants make an appointment with a doctor for a specific day and time and remind the patient about it.

All interactions between assistants and patients are protected using modern encryption technologies and compliance with privacy standards.

The intelligent digital clinic improves the quality of medical care and makes it more accessible and personalized for each patient. Patients can receive consultations from doctors remotely via video link, which is especially convenient for people with disabilities or living in remote areas.

All patient data is stored electronically, which simplifies access to information for doctors and improves coordination between different specialists.

Large amounts of data collected from various sources (e.g. test results, medical history) can be analyzed to identify trends, improve the quality of care and develop new treatment methods.

Based on the collected patient information, including genetic data, individual treatment plans can be developed, which increases the effectiveness of therapy.

Appointments, insurance processing, documentation and ensuring territorial interaction are automated, which allows medical staff to focus more on the innovative development of the intelligent digital clinic. For example, using the technology of chromatin conformation in cells.

5.3 Chromatin Conformation in Cells

Every cell in your body has the same genetic sequence, but only uses some of those genes. This is what differentiates brain cells from skin cells. The three-dimensional structure of the genetic material determines which genes are accessible. Chemists at MIT have found a new way to predict these three-dimensional structures using artificial intelligence (AI) that is much faster than older methods. This new technology, called ChromoGen, can predict thousands of structures very quickly (Greg Schuette, Zhuohan Lao & Bin Zhang, 2025). It helps scientists see how the three-dimensional shape of DNA affects cell function.

A cell's function depends on which genes are accessible to it. To study this process, DNA sequences are analyzed and modeled as they fold. By quickly mapping how chromatin folds, the ChromoGen system allows scientists to compare cell types, study gene regulation, and investigate how DNA mutations affect structure. This could lead to a better understanding of diseases linked to genetic changes and open up new avenues for epigenetic research.

In the cell nucleus, DNA wraps around proteins called histones to form chromatin. This chromatin has layers of organization that allow it to fit into tiny spaces. Epigenetic modifications, such as marks on the DNA, affect how the chromatin folds and which genes are turned on or off. Standard methods map these structures by linking nearby pieces of DNA, but they are slow. ChromoGen uses deep learning to read DNA and predict how it might twist and turn in cells. It combines two parts: one that reads the DNA, and the other uses AI to model the 3D shape based on vast amounts of previous data from experiments.

Deep learning methods have made it possible to predict the chromatin conformations of individual cells directly from sequencing data.

The researchers tested ChromoGen on more than 2,000 DNA sequences and found that its predictions matched the real data. ChromoGen can even predict structures in cell types it wasn't trained on, helping compare how chromatin varies between cells and what that means for gene activity. It can also investigate how DNA mutations change chromatin structure, linking this to disease. This study opens new avenues for studying cell biology using AI-powered virtual cells (Theofanis Karaletsos et al., 2024; Wenpin Hou et al., 2024; Bunne, C., et al., 2024; Laura Thomson, 2024; Charlotte Bunne et al., 2024; Amara Angelica, 2024; Le, M., 2023; Loconte, V. et al., 2023; Dalla-Torre, H. et al., 2023; Lipman, Y. et al., 2024; Nguyen, E. et al., 2024; Roohani, Y. H., 2024; Chen, R. J. et al., 2024; Abramson, J. et al., 2024; Cesnik, A. et al., 2024; Cui, H. et al., 2024; Kraus, O. et al., 2024; Chen, Y., 2024; Krishna, R. et al., 2024; Nguyen, E. et al., 2024; Celaj, A. et al., 2023; Evgeny Bryndin, 2024; Evgeny Bryndin, 2024; Zimian Wang et al., 2024; Fei-Fei Li, 2023; Elina Stoyanova, 2024; Pavel Ivlev, 2024; Fei-Fei Li, 2025; Evgeny Bryndin, 2025; Evgeny Bryndin, 2025).

6. Conclusion

Spiritual development can help people understand that their actions have consequences. From a spiritual perspective, it is important to develop a deeper understanding and respect for nature, and to strive for harmony with the world around us (Evgeny Bryndin, 2025). This includes caring for the planet, consuming consciously, and actively participating in its protection.

Tackling the problem of waste and pollution requires a comprehensive approach, including effective waste management, protecting ecosystems, and raising public awareness of the importance of protecting nature for health. Studying how infections occur in nature helps us understand how to prevent their spread and control epidemics. This is an important area of research in epidemiology, ecology, and medicine. Studying the routes of infection helps scientists and health professionals develop disease prevention and control strategies, as well as predict and prevent outbreaks.

AI medicine helps solve the problems of detecting diseases. Today, there are many services using AI technologies in clinics and medical institutions around the world.

Babylon Health service uses AI to provide consultations on symptoms. Users can enter their symptoms, and the system provides a preliminary diagnosis and recommendations for further actions. Babylon also offers the ability to communicate with doctors via video calls.

Ada Health application uses AI to assess symptoms and provide the user with recommendations on possible diseases. The user answers the questions, after which the application analyzes the data and suggests potential causes of the disease.

Buoy Health AI platform helps users understand their symptoms and directs them to the appropriate medical specialist.

IBM Watson Health platform provides solutions for analyzing patient data and helps doctors in diagnosing and choosing the best treatment based on large volumes of medical information and scientific research.

Zebra Medical Vision company develops AI systems for analyzing medical images such as X-rays, CT and MRI to detect various diseases and health conditions of patients.

Google Health is actively working on projects related to AI in medicine, including medical image analysis and development of tools to improve disease diagnosis.

PathAI uses AI to improve disease diagnosis based on the analysis of pathological sections. PathAI systems help doctors to interpret the results more accurately.

HealthTap platform connects patients with doctors and uses AI to provide recommendations and answers to health questions.

These examples show how AI medicine is integrated into the work of clinics and medical institutions, improving the quality of service, speeding up diagnostic processes and providing a more personalized approach to each patient. As technology develops, we can expect new solutions and expansion of existing capabilities, using robotic operators with spatial intelligence (Figure 1).

Figure 1. Robotic operator

In the process of life, a person forms and develops a three-level spatial intelligence: adaptive, mental and ethical. Adaptive intelligence develops in the environment, forming a spatial adaptive ontology in memory. Mental intelligence develops through multimodal communication, learning, problem solving and decision making, forming a spatial semantic ontology in memory. Ethical intelligence develops according to ethical values, forming spatial value ontology in memory.

Ontology is used in decision-making in real time at every moment of adaptive, mental or ethical activation of person in space.

Modern technologies of artificial adaptation (visual, navigation, tactile, etc.) in the environment, generative intelligence and a virtual ethical environment make it possible to create robots with spatial intelligence as assistants for interaction in a real environment.

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