

The phenomenon of the COVID 19 pandemic against the background of its era

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Abstract:

The author analyzes the COVID-19 pandemic as a multidimensional phenomenon, including, apart from medical aspects, also those resulting from the evolution of civilization. Author discusses the barriers that are obstacles to the overall understanding of the COVID-19 phenomenon and that prevent consolidation of efforts to counteract it. The side effects of the industrial era regarding disturbances in the functioning of the ecosystem, of which humans are part and their impact on the COVID-19 pandemic are discussed in more detail. The mistakes and omissions of our civilization that could have prevented a pandemic or significantly reduced its consequences are also discussed. The negative information conveyed by the publication is that the already launched avalanche of changes, the catalyst of which is COVID-19, must take place, associated with significant civilization consequences. It is positive that we still have the opportunity, with clarity of purpose and combined efforts, to positively moderate change and increase the chances of human survival as a species.

Keywords: COVID-19 pandemic, consequences of the industrial era, ecosystem imbalance, ideology and understanding COVID-19, endogenous phages and COVID-19, further epidemics threats, global crisis and COVID-19

Introduction

At the beginning, I would like to convey the author's disclaimer that he consciously raises a number of sensitive topics that deviate from the usual views. The article is of a working nature, its main purpose is to provide material and stimulate constructive discussion, including in the area of omitted topics or conclusions. The author is of the opinion that the current situation forces for a more effective and open discussion, a constructive dispute, in which opposing views often intersect, in order to consolidate the actions necessary for our survival as a species and survival of the planet. Therefore, I do not treat any of the presented views as the only truth, I ask the readers only to assume that my intentions are positive when I proclaim these views.

In the phenomenon of the COVID-19 pandemic, the author distinguishes between a group of medical and biological issues and a group of economic and social issues. Both groups take part in the global civilizational crisis related to the breakthrough of the industrial and post-industrial era and the accumulation of negative consequences of extensive development during the industrial era. The author presents the view that the COVID-19 pandemic is one of the consequences of the industrial era and only a catalyst for the intense phase of the global crisis.

In his previous publications on mental barriers impeding the comprehensive capturing of the COVID-19 pandemic phenomenon the author pointed out the difficulties in capturing the full picture of this phenomenon, which requires a synthetic view taking into account the point of view of various

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specialties. The problem is the current fragmentation of science into very many hermetic detail-oriented sciences and development of specializations and sub specializations operating within their own language and their own conceptual and terminological systems, often inconsistent with other specializations. At the same time, despite the technological efficiency of detailed sciences in the selected areas, the perception of the world, which is maintained, is often distant from the present day. Still the dominating understanding of the human being within the in Western civilization is one of a privileged being, different from others, endowed with an immortal soul and distinguished by the ability to think, destined to rule the world. While progress in biological sciences proves that a man is the same multicellular colony as other living organisms on our planet and is an integral part of the biocenosis, the living surface layer of our planet. Despite many elements of autonomy in moving and acting, man is not able to live independently when cut off from other elements of the living organism, i.e. the biocenosis integrated into an ecosystem with the surrounding biotope.

The COVID-19 pandemic was not an unpredictable incident that unexpectedly disrupted the functioning of a well operating machine of civilization. The COVID-19 from 2020, compared to its predecessor SARS from 2003, is in total more deadly, although identical in origin and very similar in structure, and it gives an infected person a greater chance of survival. The secret lies in the 2-4-day latency in the manifestation of disease symptoms, when we infect others without having disease symptoms, and the frequency of asymptomatic or poorly symptomatic courses of the disease during which the carriers infect hundreds of people. Another distinguishing feature of COVID is the significant increase in the number of chronically ill patients with diseases resulting from the course of COVID infection in the respiratory, digestive and nervous systems.

At the outbreak of the pandemic the industrial-era civilization, which dates back to the second half of the 18th century, had already lost its functionality and stability as a result of extensive use of natural resources, including human health. That it had significantly prolonged human life, but it did so at the expense of its quality. The man, as an intrinsically integral element of the living layer of our planet (biocenosis, biotope), has been torn from it, and the parent biotope has been severely mutilated. In order to breathe, man needs to be supplemented with green lungs, besides, they are closely integrated with the biocenosis in many other areas necessary for survival and is a transfer element

of the uninterrupted flow of matter and information exchange, which is the basis of the functioning of the ecosystem. Human activities in the last 150 years of the industrial era led to a critical disturbance in the functioning of the ecosystem, to the extent that forced its deep reset in the form of the sixth phase of mass extinction of species, including the initiation of extinction of humans as a species. Due to the close functional connection of all elements of the biocenosis, its mutilation affects all its elements, including humans. This is most evident in the human population of the Western civilization, the most advanced of the industrial age. The humans of this civilization have largely lost the ability to exist independently, their biological and psychological functioning requires constant support (Wasilewski BW 2020). The degree of human mutilation determines the degree of decrease in human immunity to infections by viruses with which they have lived for millions of years of development. The factual picture of the biocenosis of which man is an element and the biocenosis of every human body significantly differs from the commonly accepted anthropocentric worldview. The anthropocentric understanding of the world, as discussed earlier, does not allow us to notice a rapid reduction of areas with a rich biosphere that allows for a full-fledged human existence and a rapid depletion of its composition, which is caused by human activity. For the same reason, we see the coronavirus only as a factor alien to our environment, as an enemy that appears unexpectedly and is an instrument of unethical warfare, which we must destroy in order to restore our original way of functioning. The imaginative, monumental image of a man - the Master of Nature, does not allow for the awareness that we are only a mega cell colony, similarly to the other creatures with a cellular structure that surround us and inhabit the biocenosis in which we are part. The anthropocentric view of the world denies the ability to think, feel emotions, fight for survival, even to the closest evolutionarily animals - mammals, massively bred and killed as part of the industrial process of producing food that is our food. For analogical reason the group of subcellular organisms, which are predominant in the animate nature in terms of quantity, and include viruses, viroids, phages, prions, and a number of other integral micronutrients of our biocenosis and our organism, are not included as parts of the living world. The human body contains fewer of its own cells than bacterial cells, the number of which is more than ten times greater than the number of subcellular organisms in our bodies. These microorganisms reach the interior of our body without major obstacles. The average human body transcytoses 3.1×10^{10} phages per day through the membranes of our body cells, and it is believed that this continuous stream

of endogenous phages spread through the blood and organs is involved in providing us with antibacterial [2] and antiviral protection. Each human organism has a specific constellation of phages residing in it, currently we have little information on the factors determining the composition and interaction of phages in the human organism. We know that phages can penetrate lung epithelial cells, protecting against viral infections, and the competitive activity of phages against angiotensin-converting enzyme II (ACEII), which is a target for SARS-CoV and SARS-CoV-2 coronaviruses [1].

At this point, I would like to explain the reasons for a wider discussion of the issues related to the relationship between the COVID-19 pandemic and the functional state of the microbiome - the flora of microbes living in our body. It is related to the view that the microbiome disorder is the basic factor opening the gate that prevents infection. So, if a systemic damage to our immunity is the cause of the current SARS-CoV-2 pandemic, then fighting it will only stifle the pandemic until the next offensive pathogen appears. The functional state of our body's microbiome is closely related to the state of the microbiome of the surrounding biocenosis, the balance of which has also been disturbed. There is a very significant backlog of research into the microbiome, which has made us powerless when confronted with epidemic threats of the magnitude conditioning our survival as a species. The drama of the situation is caused by the sin of omission in the area of research and development of new antibiotics and the therapeutic use of phages. Due to the significant investment risk related to the development of a new antibiotic at a cost of one billion dollars, where resistance to it can develop after several years of use, only a few companies continue to implement them, and to a limited extent. This resulted in a situation in which Carbapenems, the last implemented group of antibiotics - detected as a defense substance of one of the soil bacteria - were implemented for treatment 36 years ago. Antibiotics from this group are treated as a last resort drug and should be protected against unjustified use, in accordance with WHO regulations. Meanwhile, their main method of use is massive preventive application in industrial farms for the production of slaughter meat, which, as it has been known for many years, leads to the creation of new antibiotic-resistant bacterial strains. In countries aware of the threat of this problem, the preventive use of last-resort antibiotics was banned in industrial farms for the production of slaughter meat, which, unfortunately, is in a number of Western countries, including Poland.

Antibiotic resistance, according to OECD4 estimates, may cause 700,000 deaths worldwide [3]. In 2011–2014, the use of antibiotics in agriculture increased by 23%, and Poland ranks

second in Europe in terms of the use of the most potent antibiotics in animal husbandry in the treatment of human diseases. The results of screening tests in the field of antibiotic resistance carried out by the Sanitary Inspection bodies are disturbing. Resistance to antimicrobial drugs was found in 25% of samples of poultry meat, 15% of beef and 10% of pork [4].

The first case of total resistance to antibiotics was observed in Asia in 2011, and after a short time also in other areas, including Poland in (2011). It mainly refers to a New Delhi Superbacterium, which is the colloquial name of *Klebsiella pneumoniae* NDM - pneumonia rod, which belongs to the group of intestinal bacteria. The New Delhi bacterium is responsible for life-threatening pneumonia, inflammation of the urinary and digestive systems, meningitis and many other diseases. Very often it causes sepsis, which ends in the death of every second patient. In Poland, the disease appeared in hospitals in 2011 in Warsaw, and again in 2012 in a hospital in Poznan. However, hospitals did not take appropriate precautions [6] and patients infected each other while wandering between wards. Consequently, in a short time the number of infected began to increase rapidly. According to the data of the National Reference Center for Antimicrobial Susceptibility, in 2013 there were 105 infected people across the country, and in April 2016 this number was 1100, most of them in Warsaw. However, these figures are underestimated and there are certainly many more infected. In 2018, the New Delhi bacterium was detected in a patient of the Department of Cardiac Surgery and Vascular Surgery after a heart transplant on the night of July 22-23.

The gene for resistance to colistin [5], called the MCR-1 gene, was discovered by scientists at the South China Agricultural Academy in Guangzhou in 2015 and was generated in industrial poultry farming. Although five years have passed since this fact, despite the alarming warnings of experts, as was the case with warnings about the threat of a pandemic related to the virus, the implementation of practical countermeasures preventing another epidemic is ignored.

A similar sin of omission concerns delaying the implementation of targeted treatment and prophylaxis of bacterial and viral infections with the use of phages. A practical achievement of the research conducted in the Soviet Union in the first half of the 20th century was the development of a phage-soaked dressing for frontline soldiers. After the collapse of the USSR the research was abandoned. These studies were successfully undertaken and continued in Immunology and Experimental Therapy of the Polish Academy of Sciences in Wrocław, mainly thanks to prof.

Andrzej Górski [7], however, despite numerous efforts, the team of scientists from the Polish Academy of Sciences did not manage to overcome the organizational and financial threshold allowing for the implementation of industrial production of a phage drug. A recently concluded agreement on continuation of implementation research in China gives rise to hopes.

The triumphant propaganda of success of the industrial era does not allow for awareness of active human participation in the cataclysmic COVID-19 pandemic. The job is supposed to be done by developing a vaccine against the SARS CoV-2 virus, or by burning the books of wisdom together with their authors, as did the first emperor of China, just to reject the fact of reaching the end of the industrial era, for which nature has billed us.

Summing up briefly the importance of the discussed facts about bacteria for the COVID-19 pandemic: the mechanism of epidemic emergence in both cases is analogous, in both cases the warnings of experts prior to the outbreak of the epidemic are ignored, in both cases there are mental mechanisms that hinder full awareness of the situation. In the case of the COVID-19 pandemic, its course was woven into the steam of a para-war confrontation between the US and China [8].

Conflict of Interest

We hereby confirm that there is no conflict of interest associated with publication.

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