

DR. BUTEYKO LECTURE

AT MOSCOW STATE UNIVERSITY IN 1969



ARTOUR RAKHIMOV

Buteyko Lecture at Moscow State University in 1969

by Dr. Artour Rakhimov

Table of Contents

Dr. Buteyko Lecture at Moscow State University in 1969

Introduction

1. Physiology of deep breathing

1.1. Deep breathing does not increase oxygen content in the arterial blood.

1.2. Deep breathing, according to the laws [of mechanics], removes carbon dioxide and diminishes its content in the lungs, blood, and tissues

1.3. Defensive reactions from hypocapnia (from deep breathing)

1.4. The spasm of bronchial tubes and blood vessels diminishes the influx of oxygen to tissues and causes oxygen deficiency [or tissue hypoxia]

1.5. Reduction of oxygen in tissues of the brain cells and in kidney cells leads to reduction of oxygen in venous blood.

2. Factors that make breathing deeper

2.1. Propaganda or myths about deep breathing

2.2. Excitement in the mental, intellectual, and creative fields

2.3. Overeating

2.4. Speaking with deep inhalations

2.5. Physical activity

2.6. Overheating

2.7. Sleeping or lying in a horizontal position

2.8. Most medical drugs intensify breathing

2.9. Negative emotions

2.10. Positive factors

3. Our method

3.1 Table of health and disease

3.2 How to measure one's breathing and body oxygenation

3.3 The control pause and its relation to health and disease

3.4 The control pause as the main measuring tool for our method

3.5 Practical problems during breathing retraining

3.6 Inability of sick people to learn the method from written instructions

3.7 Necessity of medical supervision

3.8 Example of recovery from disease

3.9 Secrets of yogis super-endurance is in high CO₂

- [3.10 Obstacles manufactured by officials](#)
- [3.11 Frequency of breathing](#)
- [3.13 The automatic pause](#)
- [3.14 Effects of smoking](#)
- [3.15 Pure oxygen and its effects](#)
- [3.16 Stale air in rooms](#)
- [3.17 Optimum air composition](#)
- [3.18 Drugs that decrease breathing](#)
- [3.19 Effects of flowers and plants](#)
- [3.20 How to eliminate deep breathing \(individuality\)](#)
- [3.21 Learning from the instruction](#)
- [3.22 What is common between yoga and our method?](#)
- [3.23 Cleansing reactions in our patients](#)
- [3.24 Symptoms of cleansing reactions](#)
- [4. 53 Questions and answers](#)

Copyrights

Translation: © Dr. Artour Rakhimov 2008-2018

This book is copyrighted.

It is prohibited to copy, lend, adapt, electronically transmit, or transmit by any other means or methods without prior written approval from the author. However, the book may be borrowed by family members.

Disclaimer

The content provided herein is for information purposes only and not intended to diagnose, treat, cure or prevent cystic fibrosis or any other chronic disease. Always consult your doctor or health care provider before making any medical decisions. The information herein is the sole opinion of Dr. Artour Rakhimov and does not constitute medical advice. These statements have not been evaluated by Ontario Ministry of Health. Although every effort has been made to ensure the accuracy of the information herein, Dr. Artour Rakhimov accepts no responsibility or liability and makes no claims, promises, or guarantees regarding the accuracy, completeness, or adequacy of the information provided herein and expressly disclaims any liability for errors and omissions herein.

roduction

CO₂ theory and a new method of treatment and prevention of diseases of the respiratory, cardiovascular, and nervous systems and some other conditions

***Lecture by Konstantin Pavlovich Buteyko, M.D., Ph.D. (Medical Sciences)
9 December 1969, Moscow.***

** Comments: Footnotes include Dr. Artour Rakhimov's comments throughout the whole lecture. Words in square brackets ([example]) are used to add missing words. Words in parentheses or "round brackets" are given to translate some Russian words or names or to clarify the ideas expressed by Doctor Buteyko.*

ditorial introduction

I cannot refrain from mentioning K. P. Buteyko's recommendations of "Breathe less; train breath holding." I accept his ideas that modern man is "over-trained" about deep breathing; that this reduces CO₂ concentrations in the blood and causes various spasms of the bronchi, coronary artery, and intestines. His ideas make sense. The test he suggests, which also deserves attention, is as follows: hold your breath after usual exhalation for as long as you can, watching the second hand of a clock. If one holds for less than 20 seconds, this is a poor result; from 20 to 40 seconds is satisfactory; from 40 to 60 seconds is good, and more than 60 seconds excellent. [\[1\]](#)

The host speaks:

Your attention please, dear comrades! A lecture will be held in the Communist auditorium of the Moscow State University. Today, the 9th of December 1969, Doctor of Medical Sciences Dr. Konstantin Pavlovich Buteyko is going to give a lecture titled "Discovery of diseases of deep breathing, as the main cause of allergies, sclerosis, psychosis, drug addiction, fraud, criminality, and other symptoms of disease and death of Western civilization." [\[2\]](#)

The organizer continues to speak: “This fundamentally new theory of breathing and the treatment and prevention of many serious diseases was developed in Akademgorodok [Novosibirsk's Scientific Centre] in the Laboratory of Functional Diagnostics led by K. P. Buteyko. Practical applications of the method of the voluntary elimination of deep breathing [the Buteyko method] during the last ten years have produced results that are unbelievable in the history of medicine.”

Editorial comment: He [Dr. Buteyko] enters the auditorium and approaches the podium. He is a tall man with slightly greying hair, and free smooth movements. One can feel that he has a lot of energy, and his large facial features appear unusually calm. Possibly, this occurs when people are confident of the truth.

Buteyko’s truth is the original discovery of a way to health for hundreds of millions of people. It is a path from incurable diseases to the super-endurance of yogis. [\[3\]](#)

Dr. Buteyko starts speaking

It is with great pleasure that I am lecturing at Moscow State University where I studied medicine and related sciences in 1946. It is very difficult to speak with such a group that does not have the same scientific background or occupation. It is easier to speak with doctors, physicists, or chemical scientists. Our problem here will be presented in general for all to understand regardless of their occupation. Therefore, I will not be able to elucidate this complex topic in detail. I will only present the main points, and perhaps later, according to the questions asked, which I would request you send up front in written form, I will try to explain more clearly for those who did not quite understand all the information.

Therefore I will explain, in general terms, all the main relationships that were found in our investigations, and their perspectives, and only in general terms will I touch upon the theoretical part, which would be unknown to the layman. I will also describe the practical part of the business, which can be used by doctors or professionals. But most important, we believe, is to provide educated people with our idea and theory. Most likely it will be clearer to you later. We try to disseminate our theory amongst the general

population and believe that knowledge of this theory alone can be a very important prophylactic factor in the struggle with most common health conditions.

Today we will not focus on details that relate to the technical part or methodological (or instrumental) part of our research, methods of data analysis, etc. This can be interesting as well. Scientific and popular magazines have written about this a lot. Therefore, the curious can find this information in corresponding magazines and issues.

It is also difficult to list all the scientific papers published during this project: there are more than 40, including 5 approved doctoral [Ph.D.] dissertations. Therefore, if there are people in the medical field, they can find these scientific publications and read them at the Central Library named after V. I. Lenin, searching for my name or the names of my colleagues. For the layman I can suggest the magazine *Izobretatel' i Ratsionalizator (Inventor and Optimizer)*, issue 5 for 1962, where all methodological questions and questions related specifically to our theory are briefly elucidated. It is seven years old now, as you can see.

Then there was a popular article in *Literaturnaya Gazeta* (Literary Newspaper), "Breathe Deeper! Should We?". *Sovetskaya Rossiya (Soviet Russia)* on January 14, 1968, which had an article that was "Defending Doctor Buteyko"; *Sel'skaya Molodezsh ("Country's Young People)* has now made a step to explain our theory. Additional information can be found in these popular articles, and scientific information, I repeat, in scientific publications, which can be found in bibliographic reference books.

Now, very briefly, I will explain the search itself, because it is only in the universities that questions of systematic scientific exploration and sources of new emerging thoughts and ideas are investigated. We frequently explain all this to people who study philosophy, common problems of sciences, biology, and physiology. These professionals are interested in knowing about thoughts and ideas which run contradictory to the main dogmas now present in medicine.

I must warn you in advance not to be surprised or indignant about anything.

Therefore please submit your questions at the end of the lecture since much will be clarified during the lecture.

Can everybody hear me? Otherwise, it would be very disappointing to be told only at the end of the lecture that the microphone was working poorly. However, it is possible to go on without microphones if they get in the way.

The main conclusion, which should become evident by the end, is the necessity to radically reconstruct the main prophylactic treatment, and methods of prevention and treatment, of the most common diseases of man, which concern damage of the nervous system, lungs, blood vessels, and metabolism. All these conditions should be treated using a method contrary to what has been used before. These results may be interesting to you. I will also touch upon questions concerning the clarity of intellectual work and our ability to increase our mental capacities, to improve memory, orientation, and sleep. Judging by the scope of these questions, it is obvious that the subject is too broad to be fully considered within the current two hours.

Thus, let us start with the search for truth. The first doubts that appeared and perhaps provided the first push toward original thinking already took place in my third year at the Medical Institute, when we had a therapeutic practicum. I had observed how the healthy and the sick, forced to breathe deeply during examinations of their lungs, experienced sudden worsening of their health state: lightheadedness, developments of asthma attacks, stenocardia (**coronary artery spasm*) , cessation of breathing, and seizures.

The most remarkable event took place during my third year at the Medical Institute when I was examining my very first patient and carefully listening to his lungs. During this examination, the sick people, as well as healthy ones, were made to breathe deeply. In a few minutes this patient, a heavyweight athlete, collapsed as if he had been shot. I rushed up to him: he was like a corpse—pale with sharpened facial features. I thought that the man had died. This happened in no more than some three minutes after I had listened to his lungs.

I rushed out into the corridor and called the nurse on duty (this took place in the clinic near the Petrov gates), yelling out that a healthy man was dying.

She calmly said, “Even the sick do not die here,” and peeking into the room said, “You made him overbreathe!” This was of little comfort, but it did calm me down. I asked for an assistant, and when he rushed in, the patient had turned blue. He took one breath, then another, opened his eyes, got up and asked: “What happened to me?” I could not answer!

However, the assistant explained that this was due to deep breathing. Deep breathing oversaturated the body with oxygen, which resulted in the sad state of affairs. This explanation aroused a gamut of questions in my mind: Can deep breathing be dangerous? Deep breathing has been taught for centuries (everybody practices deep breathing to get more oxygen into their system). If two to three minutes of deep breathing almost killed a man, then why do we practice deep breathing? Is it not dangerous?

This case forced me to search for answers to the above questions since the assistant refused to discuss this at all. Thus, even then (this was in 1949), it was possible to collect enough facts in order to explain what was going on with a person if their breathing became deeper. It was already known that deep breathing produces negative effects on the organism, and it is exactly this mechanism that we are going to explain now.

Let us analyze three scenarios: What are the effects of normal breathing; what are the effects of deep or intensified breathing; and what are the effects of shallow breathing (or breathing less than the norm)?

Considering the effects of any function on the human organism, it is necessary to take into account all three scenarios, [for example with eating]: what are the effects of normal eating, overeating, and reduced eating or fasting? We shall similarly consider breathing.

Apparently, there are enough factors to establish the effects of breathing on the human body, that warrant using laws, i.e., to develop the action of breathing as a theorem in the exact sciences using known axioms: the laws of physiology. It is possible to show this using symbols: what the effect of this is, or something other than breathing.

But before considering any problem, we should pay careful attention to

terminology. Much confusion and many disasters have happened in the numerous branches of science due to the fact that they did not specify the terminology. As it happened, they were speaking using the same terms about different matters and, of course, could not agree.

Therefore, we should discuss terminology first of all. Our outer breathing has two parameters:

1. Frequency of breathing.

If we record the breathing act, we shall get: inhalation-exhalation (this is the first breath), inhalation-exhalation (this is the second breath), inhalation-exhalation (this is the third breath), etc. Assume that we recorded the volume of inhalation-exhalation. Inhalations can be counted for one minute and expressed as a frequency of breathing. It is a very personal value: from 4 to 20 and more. Therefore, the frequency of breathing does not play an important role. We even forbid our patients to think about it.

What is important is to change the depth of breathing.

2. The depth of breathing, i.e., the volume of air that enters and leaves the lungs.

This volume of air is called “breathing volume,” whereas the general public uses the term “depth of breathing.” [\[4\]](#)

Depth of breathing can be greater than the norm, normal, or less than the norm. Let us discuss these three situations:

- 1) Normal breathing
- 2) Deep breathing
- 3) Shallow breathing.

Deep breathing means that each breath is greater than the norm, and shallow breathing less than the norm. We should immediately forbid such a term as “correct breathing” [or right breathing] to be allowed or to be published in the mass media and to be read by people who are entirely unfamiliar with the physiology of breathing. They [the mass media] think that the function of breathing is a trivial matter and that anybody can explain everything about it. Thus, the term “correct breathing” emerged. First of all, this is not a physiological term: it cannot be used to specify the function.

It is wrong to say “correct temperature” or “correct blood pressure”—these are the wrong terms. The concept of “norm” exists: normal temperature, normal blood pressure, and normal breathing. But this would be half the problem, if it were the only mistake. The trouble is that propagandists of deep breathing believe that correct breathing is breathing that is deeper. They consider deep breathing to be correct, and shallow and normal breathing to be wrong. This is an absurdity. The term “deep breathing,” as a deviation from the norm, already in itself implies the concept of disease. What is a disease? It is a deviation of a function from the norm. Hence, naturally, normal breathing, as a normal diet and normal activity, keeps the whole organism healthy. Thus, normal breathing corresponds to a healthy organism.

Physiology of deep breathing

What would be the effects of deep breathing or an acute deviation of the function? It turns out that there are enough laws of physiology, discovered 20–30 years ago, that prove the toxic action of deep breathing.

THE FIRST STATEMENT:

1. Deep breathing does not increase oxygen content in the arterial blood.

Why, you ask? The fact is that during normal breathing our hemoglobin cells are 96–98 saturated with oxygen. About 1–3% of the blood is “bypassed,” flowing past the lungs and therefore does not participate in the act of breathing. The first statement was discovered by [John] Haldane, as a law, about 30 years ago. [\[5\]](#)

It would seem to us that deep breathing is senseless, since it does not increase oxygenation of the arterial blood. However, deep breathing has another side: removal of carbon dioxide from the organism as a toxin. Yes, the second statement can be considered as an established fact, which is as follows:

2. Deep breathing, according to the laws [of mechanics], removes carbon dioxide and diminishes its content in the lungs, blood, and tissues

This fact is conclusive; the truth is irrefutable. However, what are the consequences?

a) An increase in the excitability of the nervous system. For over 60 years, carbon dioxide has been known as a calming, soothing, and even addictive substance. Therefore, a reduction of carbon dioxide in the nerve cells excites them. Those who learn deep breathing experience the following symptoms: insomnia, irritability, memory impairment, and right up to spasms of an epileptic nature.

When the whole nervous system is excited, the subcortical system is excited, and the regulation of the function is disrupted. Thus, deep breathing, first and foremost, destroys the nervous system. Furthermore, those who have acquired deep breathing and experience these symptoms visit doctors for

years trying to find a specialist able to diagnose the disease or, moreover, to cure it. Therefore you can well understand how deep breathing causes asthma, stenocardia [angina pectoris], hypertension, heart attacks, strokes, etc.

So the first phase, the neurotic picture, forces the patient to go from the psychiatrist to the neurologist and therapist, but they find nothing. Thus, they [patients] visit doctors for years having problems with the nervous system, until they suffer a heart attack or stroke, and then they are treated [by doctors]. Hence, the excitement of the nervous system is the first reaction to deep breathing.

b) Reduction of carbon dioxide causes a reduction in pH (concentration of hydrogen ions) in the blood, changing it from acidity to alkalinity since a solution of carbon dioxide gas is a weak acid. If carbon dioxide decreases, then the environment and organism become more alkaline or are shifted in the direction of alkalinity. This causes the following abnormalities:

c) Change in the activity of enzymes and vitamins: some of them increase their activity, while others decrease. And this inevitably leads to:

d) Abnormalities of the metabolism, which is the foundation of life—i.e., enzymes (there are about 700 of them that have already been discovered) and vitamins (there are more than 20). All these control units of the metabolism start to work abnormally. The metabolism is abnormal; the foundation of life is abnormal. If carbon dioxide decreases below the limiting norm, then there is a termination of the chemical processes—death of the cells and the organism.

How can one actually decrease carbon dioxide in the organism? This was the task of [Yandell] Henderson in 1907 when devices for forceful breathing appeared. [\[6\]](#)

He connected them to the animals, which within a few minutes died from spasms caused by deep breathing. Now there are thousands of such studies of people having experienced such deep breathing, and the effect was similar to what my first patient had experienced. Some could not be revived. [\[7\]](#)

It is without a doubt now that any person or any animal prevented from physical activity (so that carbon dioxide is not produced) or in the state of rest can be killed within minutes by deep breathing. The toxic effects of deep breathing are connected with the loss of carbon dioxide. This unchanging law is confirmed by thousands of experiments as cited in the corresponding literature. Thus, deep breathing is poisonous due to a reduction in the content of carbon dioxide.

If we instantaneously diminish carbon dioxide content, this leads to paralysis of all functions of the metabolism and the death of cells of the whole organism. What about slight decrease? This will not lead to such disastrous consequences. At the same time, the immune abilities of the organism weaken: the immunity is abnormal. And such sick patients, i.e., deep breathers, react to an infection so that they have frequent colds. They will be among the first people to become ill with tuberculosis, rheumatism, and confined infections (sinusitis, chronic tonsillitis, and caries). Abnormalities of the metabolism impair immune reactions and transform them into allergic reactions, i.e., when inadequate or abnormal reactions to external triggers emerge.

[\[8\]](#)

This leads to the appearance of hives, psoriasis, eczema, chronic cold infections or asthma, etc. The chemical composition of the blood is changed, causing abnormalities in the formation and regeneration of bones. The term “salt deposits” does not refer to deposits of salts, but irregularities in the formation and dissolution of bone tissues, i.e., in their metabolism. Such mistaken ideas are being imposed on the general public. The joint overgrowths that are visible are not salts but an overgrowth of bone tissues. Therefore, some parts of the bones could be destroyed or broken and salts deposited in other places. Teeth decay, etc., and finally, a dryness of the skin, brittleness of the nails, and loss of hair should appear. All these phenomena should develop in deep-breathing people. Ultimately, if we take into consideration that tumors also represent a type of abnormal metabolism, then it is natural that the person who is mainly deep breathing should get cancer. As expected, the person with a normal metabolism will be safeguarded by the organism’s resistance.

We already have the first encouraging results, when benign tumors in the form of fibrous antipathy and fibroma of the womb in women disappear if deep breathing is eliminated. All of these are real things. Here are the effects of deep breathing: loss of carbon dioxide. But why suddenly, is carbon dioxide toxic according to our old ideas, if a deficiency of this “poison” causes these sufferings and these terrible abnormalities in the organism?

To answer this question, it is necessary to briefly consider the history and evolution of Earth and life and the atmosphere of our planet. There is no doubt now that life appeared on Earth about three to four billion years ago. If we consider the development of Earth during the past seven billion years, then somewhere in the middle of this period life emerged. The atmosphere then consisted mainly of carbon dioxide and other partially oxidized products. It was seemingly entirely toxic in its composition; oxygen was practically absent. Nevertheless, life still appeared in this oxygen-free environment. Oxygen was totally absent. It was only present in compounds; i.e., it was inert. Mainly there was carbon dioxide, methane, and hydrogen supplied and incompletely oxidized products. In general, it was the same as the atmosphere that is now on Venus, as the results of our spaceship missions have shown.

Venus is a younger planet in cosmogenetic development, and its atmosphere is similar to the atmosphere on Earth during those times, as we believe when the life emerged. Our investigations and measurements confirmed that, yes, indeed, the atmosphere on Venus is 90% carbon dioxide and only about 2% oxygen. That is, theoretical assumptions about the conditions of the origin of life on Earth were brilliantly confirmed by our interplanetary investigations.

Meanwhile, every living thing on Earth is produced from carbon dioxide and is built on it. We simply do not realize this. As you know, Timiryazev and his school clearly established that plants utilize carbon dioxide from the air, by attaching water molecules during the reaction of photosynthesis and releasing oxygen as the waste product.

[\[9\]](#)

Still some other elements are taken from the soil and an organism comes into

existence: plants, fruits, and seaweeds. The main source of life on Earth is carbon dioxide from the air. Plants are eaten by animals, and we eat both. This means that we are built due to an energy of the Sun, from the carbon dioxide of air and water. Therefore carbon dioxide is the main element in the construction of all living things on Earth.

[\[10\]](#)

Dr. Buteyko: As plants and animals developed, they started to utilize more carbon dioxide than was produced by volcanoes, geysers, etc. And huge carbon dioxide reserves were eaten up by vegetation and transported underground, under sediment rocks, forming turf, oil, coal, shale, and soil—all of them below the soil covered with cosmic and earthy dust. With the disappearance of carbon dioxide from the air, all living things on Earth will die, life will end.

As you can see, the main reserves of carbon dioxide on Earth have been already exhausted; only 0.03% remain [in the air]. A minuscule amount!—1/30,000th of the total gas composition of air. And if this amount disappears, then life on Earth will end completely, since the plants and man will have nothing to eat. The problem of migration of plant and animal life to Venus, where huge reserves of carbon and carbon dioxide are present, arises, followed by a migration of people there, when plants and animals will have created the appropriate oxygen concentration.

It is already evident that life on Earth continued with high concentrations of carbon dioxide for billions of years and was built from carbon dioxide. CARBON DIOXIDE is THE MAIN SOURCE OF DEVELOPMENT OF LIVING CREATURES and an extremely important component of the environment for metabolism.

.

Today's atmosphere has abruptly changed. There is 21% oxygen in the air, and 0.03% carbon dioxide. It is as if we got scissors and cut off the head of life on Earth. [\[11\]](#)

However, life resists and adapts. Therefore, it is still preserved, though by volume and types of species it has declined considerably. This is due to the fact that the main source of moisture is living creatures. Vegetation contains

about 95% water. Therefore, moisture can only be where vegetation is present. Thus, vegetation will be in places where there is carbon dioxide, which is decreasing on Earth.

If vegetation disappears, then life on Earth disappears. This process can be traced through the annals of history. Deserts, prairies, and salt marshes are advancing on continents and life is retreating. This is a logical process of life vanishing on Earth due to the fact that resources of CO₂ are decreasing. However, the cells of animals and humans—i.e., cells of the heart, brain, and kidneys—still need about 7% CO₂ and only 2% O₂ in the surrounding environment, in order to survive. But now the air has 10 times more oxygen and 250 times less carbon dioxide. It is not suitable for our cells, as its composition is very different from what our cells need. [\[12\]](#)

This fact is confirmed by embryology: During recent years, detailed studies of gas-blood exchange were finally done in both human and animal embryos. It was found that during those 9 months, we live in an environment that has 3–4 times less oxygen and 1.5 times more CO₂ (both as partial pressures) in comparison with adults. Obviously, the organism of the mother creates similar conditions for the embryo to what they were a billion years ago. This supports the Law of Haeckel-Severtsev: “ontogeny recapitulates phylogeny” [**in other words, the embryo, in its development, repeats the general evolutionary stages*]. [\[13\]](#)

Everything that goes on in the organism of a fetus is a repeat of the history of life on Earth. During birth and the first 2–3 breaths, there is a sudden increase in blood oxygen content and a sudden drop in carbon dioxide.

The child is virtually disease-free in the womb of the mother. It is only after birth that diatheses and all other horrible abnormalities of metabolism appear because of a sudden change in the air. The wisdom existing in Europe and especially in the East surprises us. The newborn is tightly swaddled and in some cases even tied to a wooden plate. The chest is covered with layers of felt. Our grandmothers covered the cradle with the infant using a material covering [leaving a small hole for air exchange]; i.e., they swaddled [the baby] tightly and covered it as well. Folk wisdom well understood that this air, which is especially poisonous for the newborn, requires gradual

adaptation. [\[14\]](#)

Today our doctors immediately send the new-born to the oxygen chamber. We give him 100% oxygen and, in addition, breathing gymnastics moving the arms up and down, and so on. We are already teaching him, even if he does not understand what is going on. Wherever hyperventilation is popular, children momentarily become blind within a few days. Then the experiments with baby rats were conducted by keeping them in pure oxygen. The result was blindness in two to three days.

In this instance, immediate sclerosis of blood vessels in the retina of the eye takes place. It is obvious why it takes place. Such high oxygen content was found neither a billion years ago, nor in the womb of the mother. The human requires 2% oxygen, instead of 100% as it is given. Therefore this becomes a negative factor as the organism was not accustomed to this.

Today at the end of the lecture you will understand more fully your prejudices in this matter. It seems that we have been doing the exact opposite in relation to our breathing and diseases. This is not surprising because we have relied on prejudices, and these should be done away with as soon as possible. The first prejudice is about the usefulness of deep breathing, and mankind has been dying due to deep breathing. It is responsible for the fact that 80–90% of civilized people perish from diseases connected with deep breathing.

Thus, it is clear in which direction these facts are pointing. A vast amount of material has been accumulated. For example, oxygen psychosis is the unlimited search for oxygen. They are now trying to give it [oxygen] under pressure to increase [surrounding pressure] up to 5–6 atmospheres and to force [oxygen] into the organism. In Moscow and Kiev special chambers are under construction for this purpose. They will take patients there so as to revive them. Physiologists have already done similar experiments long ago.

1. Pure oxygen at 1 atmosphere pressure kills a mouse within 11 days,
2. At a pressure of 5–6 atmospheres, the mouse dies within 40 minutes at the same concentration of oxygen.

This means that old prejudices are leading us in the wrong direction, and it is clear as to why: our cells in their development did not experience concentrations of oxygen above 2%. It is evident that 21% oxygen in the air is too high for our organism. We have not as yet adapted to this sharp change in the environment. It is evident that 10–15% oxygen content in the surrounding environment will be useful for our cells.

This is approximately the same as that at an altitude of 3,000–4,000 meters above the sea level. And this is why longevity is prevalent in the mountains: oxygen poisoning is less there. But there is little carbon dioxide here, or in the mountains which is about 0.03% and we need 7%. But oxygen content there is below the norm, and this provides a better life for the human organism. Moreover, people there are less sick with asthma, hypertension, stenocardia, heart attacks, strokes, and sclerosis. This is an established fact.

If people with asthma, hypertension, stenocardia, and even schizophrenia are transported to that altitude (there are many such experiments now), they function better under these conditions and even think better. If animals are transported to such altitudes and they adapt, then it is more difficult to kill them by bloodletting, poisons, radiation, etc. Hence, in conditions with lower oxygen concentrations, the organisms of both humans and animals become more resistant. Apparently, the poisoning action of oxygen is reduced.

Hence, at sea level we have excessive oxygen, and it is necessary to hold it back as much as possible—not something we have been trying to do so far; more and more the situation with carbon dioxide becomes clear now—if it were a poison, then we would have been poisoned long ago.

On the contrary, we are craving for beer, kvass, and mineral waters. We even have ordinary water carbonated. We saturate it with carbon dioxide and drink it. These are the examples that a person instinctively seeks the source of life. If on radio and everywhere they repeat that carbon dioxide is poisonous, and a man tries to get more of this poison, surely this is done for a reason that is at least pleasant. If, in fact, carbon dioxide were a poison, we would get a damaged gastrointestinal tract and all of us would have terrible diseases like ulcers of the esophagus and stomach. It turns out to be the contrary: if one regularly consumes carbonated water, then the state of those suffering from

gastritis, colitis, and stomach ulcers improves and sometimes ulcers are even cured.

Why is this so, you ask? It seems that for millions of years all animal cells have been living at high concentrations of carbon dioxide, and we were also developing in the mother's womb at high concentrations of carbon dioxide. Also, carbon dioxide taken internally cures all diseases connected with deep breathing and deficiency of carbon dioxide. Here is how all of this appears. It turns out to be the opposite of what we imagined, and this is not surprising. Thus a reduction of carbon dioxide due to deep breathing is extremely bad. This is quite clear as all the sciences and their development throughout history confirm this without a doubt based on facts. Everything we thought, such as, "deep breathing is useful," "the more oxygen, the better," "deep breathing is a guarantee of vitality," and "carbon dioxide is a poison" are all, exactly the opposite.

It turns out that deep breathing causes abnormalities in the activity of smooth muscles (spasms and illnesses). It reduces our life. Carbon dioxide is the most valuable source of life. Excess carbon dioxide is harmful, just as is an excess of any other substance. It should be at the optimum or normal level. Since the main preventive strategy for diseases is deep breathing, then you can see that this strategy causes diseases instead of preventing them. But to see this it is necessary to finalize our theory.

According to the laws of physiology, in particular the teachings of academician Anokhin (our physiologist), diseases appear when constants, boundaries, and norms are shifted. Therefore, Anokhin believes that CO₂ content is the key constant of the organism, calling it the most important constant that determines the norms of life of our organism. [\[15\]](#)

The CO₂ level is lower during deep breathing. The lower the level of the constant is, the closer the person is to death. And if the carbon dioxide level is above the norm, it's not that dangerous, because 3% of carbon dioxide in the cell is the lower limiting level (admissible) and anything below that level causes the cell to die. Nothing terrible happens if it is above the norm since animal cells for billions of years were living at high concentrations of carbon dioxide [in the air] and also in the mother's womb.

There is no total one-sidedness: if we increase carbon dioxide above the norm (the middle norm), then an interesting phenomenon arises that I will explain later: super-endurance [or super-resilience], a special stability of certain processes, a special stability of the nervous system, etc. Now we shall connect this with the secrets of yogis, which thus far have not been decoded. It turned out that we discovered the way to decipher the super-resilience of yogis and their miracles. [\[16\]](#)

All these miracles are based on the fact that yogis accumulate CO₂, and all their secrets are connected with a reduction of breathing. Over 30 years ago [John] Haldane found that the organism regulates CO₂ level with 0.1% precision (the threshold of CO₂ regulation). Since this is the level of precision, CO₂, obviously, is very important. Is oxygen regulated with the same precision? Only when oxygen decreases by more than 5%, will the organism react to restore it. [\[17\]](#)

Let's consider the fact of when oxygen content gets higher: You can breathe 100% oxygen, and there will be no defense mechanism since the organism has never experienced such oxygen concentrations and is not adapted to having a defense mechanism. An organism can defend itself only from those factors from which it died in the past. Since CO₂ is regulated with 50 times greater precision than oxygen, this means that the biological significance of carbon dioxide is 50 times higher than that of oxygen. This then is in agreement with the statements made by Anokhin.

During the process of evolution, when carbon dioxide started to disappear from our atmosphere, the organism should have formed the defensive mechanisms against the losses of carbon dioxide. Therefore, the third point of this theory is that this is a defense against losses of carbon dioxide, or from deep breathing. Similarly, we shall call point 3.

3. Defensive reactions from hypocapnia (from deep breathing)

a) Independent defensive reactions are spasms (*or *constrictions*).

Constriction of valves reduce CO₂ losses; spasms of bronchi (**bronchoconstriction*), blood vessels (**vasoconstriction*), intestines, urinary

tract, all smooth muscles, and all muscles of organs of elimination that become traumatized. This is the very nature of spasms. The defensive reaction against CO₂ losses is accomplished by narrowing of the channels of CO₂ removal.

b) Decrease in blood pressure (hypotension). Hypotension develops after 1–3 minutes of deep breathing; the blood pressure drops, and shock and fainting take place. And, indeed, my first patient lost consciousness not only from spasms of blood vessels and reduced blood flow to the brain but also from low blood pressure. [\[18\]](#)

c) Increase in production of cholesterol regardless of the diet. Cholesterol is a biological product that has insulating properties. It protects nerve fibers and membranes of vessels from various influences, and it protects the organism from CO₂ losses. We took 25 hypertensives, as they are called (hypertension or stenocardia with high cholesterol). The vegetarian diet, which they previously had, was abolished; medication was abolished (they drank liters of iodine trying to fight cholesterol unsuccessfully). When they started to reduce their breathing and increase CO₂, the cholesterol started to fall even though they were allowed to eat fatty meats and bacon.

We established a law, according to which, a decrease in CO₂ by 0.1% increases cholesterol by 10 mg/dL. We published this work for the therapists' congress in Irkutsk in 1965. It is available in the corresponding proceedings. The law of cholesterol regulation was also established. All the never-ending discussions that cholesterol is harmful or useful, is increased or not increased, all get clarified. If deep breathing is present, cholesterol will be elevated in spite of any medications or treatments; nothing will lower it. If breathing is reduced, no increase [in cholesterol level] will take place regardless of diet. How quickly can cholesterol be reduced? After a week of proper training, there is a sharp shift in the direction of reduction.

d) It turns out that loss of CO₂ intensifies the secretion of mucous membranes and cells' permeability, and this causes edema, an appearance of puffiness under the eyes, facial swelling, chronic rhinitis, secretion of mucus, and increased secretion in the stomach. All mucous membranes start to generate their fluids that serve the given function of this mucosal surface.

Therefore, secretions for asthmatics and pulmonary patients are useful. One should not try to cough it out, because it protects the lungs from excessive losses of carbon dioxide. In the past, we would tell an asthmatic: “Cough it up, spit it out, and over-breathe.” He would cough, and his cough would rupture alveoli. It would develop into emphysema, overload his heart, produce fainting, damage bronchial tubes, and provoke attacks. But if his breathing is decreased down to the norm, or deep breathing of our asthmatics is eliminated, then a cleansing reaction takes place; secretions of mucus emerge and disappear without any coughing, sometimes within a day. Thereafter [mucus] is no longer produced since it is not necessary.

e) Lastly, hyperfunction of the thyroid gland (or intensification of metabolism) can develop from deep breathing as well.

f) Sclerosis of vessels, bronchial tubes, and lungs is, in general, a defensive reaction from losses of carbon dioxide. Sclerosis is a defensive hardening [or stiffening] of tissues, their protection from the external toxic environment. This is its biological role. If it is difficult to judge the state of blood vessels, then it is easy to observe, particularly in 10-year-olds, the development of chronic pneumonia, asthma, bronchitis, sclerosis, and pneumosclerosis. When breathing is decreased down to the norm, the lungs are cleared. In six months we do X-ray pictures: sclerosis is no longer visible. When breathing is reduced down to the norm, the lungs are clear. Sclerosis is dissolved and no need for its existence!

Our sick, deep-breathing patients, who acquired high cholesterol due to deep breathing, often get cholesterol deposits on eyelids (yellow spots and blots). So far they have been removed through surgery because they never disappear by themselves and only increase. But during the process of getting reduced breathing down to the norm, these blots dissolve visibly within 2–3 weeks; i.e., cholesterol dissolves even on the skin.

Apparently, the same process takes place in blood vessels. Therefore, this process is reversible. This is a brief list of protective reactions. But after passing a certain level, these protective reactions become damaging reactions; the pathological reactions create their own symptoms of deep breathing and

the effects that follow in the chain of pathological processes.

Therefore, the fourth statement can be suggested as follows:

4. The spasm of bronchial tubes and blood vessels diminishes the influx of oxygen to tissues and causes oxygen deficiency [or tissue hypoxia]

And this is true of deep breathing. The deeper the breathing, the less oxygen reaches the tissues of the brain, heart, and kidneys because of the spasms of the blood vessels and bronchial tubes. Nature happened to be economical. It should have created one set of bronchi and blood vessels for oxygen transport, and another set for the removal of carbon dioxide. Nature did not know that our environment would be changing and such pernicious conditions would come about. This led to a physiological trap or pitfall: when the spasms of bronchial tubes and vessels take place, in order to diminish the losses of carbon dioxide, then, since oxygen is using those same channels, it is automatically decreased. Therefore, deep breathers have neither carbon dioxide nor oxygen. [\[19\]](#)

There is no balance here. These two substances are entirely different in their actions: carbon dioxide is the source of life and the regenerator of functions of the organism, but oxygen is the energizer. They are only united by the same routes of delivery and removal, but in reality, they are entirely different things—no balance is possible here. They are regulated entirely independently of each other, but in this instance, deep breathing diminishes the content of carbon dioxide in the organism and diminishes oxygen content as well. Therefore, I emphasize the fact or law established long ago: the less the depth of breathing, the more oxygen is delivered in the organism; and vice versa, the deeper the breath, the less oxygen is delivered in the organism. This is reflected very well in the Ph.D. thesis of Igor Aleksandrovich Kovalenko. His doctoral dissertation was approved in 1967 at Parin's Institute. [\[20\]](#)

He [Kovalenko] in his dissertation showed these numerical relationships on animals. By the way, his Ph.D. thesis at the University Library has disappeared, but there is a detailed abstract that you can read. This law is

specified there. Hence, what is said on radio and written in newspapers, “Breathe deeper and you will get more oxygen,” is not simply a falsehood, not simply physiological illiteracy, but an idea turned on its head. And why does this happen? Unfortunately, people who are illiterate in physiology act, and they are permitted to act; consequently, deep breathing is widely propagandized. Neither [John] Haldane himself, or [John] Priestley, nor any of the known physiologists had stated such nonsense, “Breathe deeper,” because this is absurd. [\[21\]](#)

For some unclear reasons, it is allowed to deviate only one [physiological] function from its norm [:breathing]. If one says, “Eat as much as possible,” then people will say that this doctor is mad. But if one says, “Breathe deeper,” then people think this is quite normal. These prejudices stick in our brain. However our brain is imperfect, and it can be poisoned by prejudices. Therefore, doing away with prejudices is very difficult.

5. Reduction of oxygen in tissues of the brain cells and in kidney cells leads to reduction of oxygen in venous blood.

Oxygen content decreases in veins because its content is minimal in the blood flowing through the tissues. Therefore, the difference in oxygenation between arterial and venous blood increases. There is about 96–98% oxygen in arterial blood during normal breathing, and in venous blood the norm is about 80%, whereas for deep breathers it drops down to 70% or less. Oxygen content in the venous blood decreases; this is observed clinically. But hypoxia, it turns out, expands [venous] blood vessels and bronchial tubes so that during deep breathing the arterial vessels are narrowed (spasms). [\[22\]](#)

We can see that in the eyes of hypertensives, the arteries are constricted, but veins are dilated more than the norm. This can be explained now, whereas the old hypothesis did not [explain it]. There was some strange reaction of the organism: all venous blood vessels of the body are dilated (venous textures of the nose are dilated, leading to the blocked nose during chronic tonsillitis). For deep breathers, the blocked nose is the “valve” or an attempt of the organism to decrease breathing. But, instead of decreasing breathing (then the nose will be unblocked), the person opens his mouth. During mouth breathing, CO₂ losses are greater, and the nose is blocked even more. He

goes to doctors and asks for treatment. The question arises as to how to cure him if he himself has created his blocked nose! The stagnant veins intensify their secretions. We have explained this theoretically.

Venous textures of the esophagus are expanded. Sometimes even bleeding is possible. Veins on the legs are dilated, where the gravitational pressure is higher. Hemorrhoidal veins are expanded, and hemorrhoid affects the unfortunate deep breather. It will form again if cut out, and this effect now has a theoretical explanation.

The structure of the pathological actions of deep breathing causes these numerous disease processes, which have neither a theoretical explanation nor a practical treatment. Unfortunately, I must admit along with many famous physicians that medicine is in a state of impasse in relation to many diseases. We actually cannot cure anything. Asthma is incurable, which is what the sick person is told quite frankly if he demands a cure. Hypertension, as all know, is practically incurable. Stomach ulcers are incurable. Even the chronic cold can't be cured so far, nor eczema.

It turns out that all these incurable diseases arise from deep breathing. [\[23\]](#)

Since the sick, with these health conditions, are taught to breathe deeper, they then cannot cure the disease but only aggravate it. This means that “incurable” diseases arise from deep breathing. They can't be cured because the treatment was directed toward intensifying the breathing and pathological mechanisms. However, if the breathing decreases, then an asthma attack or chronic tonsillitis can disappear shortly thereafter. These [pathological] reactions, I mentioned, can appear [due to hyperventilation] in 3–5 minutes, whereas the improvement [due to reduced breathing] will begin in 10–20 seconds. The reactions are instantaneous.

I hear a whisper of indignation and joy, “Is he saying that all diseases are caused due to deep breathing?” No, not all. There is only one disease that appears due to deep breathing. The disease of deep breathing, and it causes a wide range of abnormalities. It makes metabolism, the foundation of life of all cells, abnormal; and wherever there is a stronger body part or a weaker one, then one or another symptom will prevail and strongly manifest itself as

a disease. [\[24\]](#)

For example, everything that I find in a patient with bronchial asthma can be found in a sick hypertensive person or a patient with stenocardia [angina pectoris]. The disease of deep breathing accounts for 150 diseases that were not treated and were not diagnosed properly. Thus, 30,000 diseases are registered by official medical nomenclature, but the disease of deep breathing is not registered—although theoretically, it accounts for 90% of the morbidity, death rate, and inability to work, while all other diseases only account for 10%.

This is going on in our civilized countries, where infections have been practically eradicated. There is no panacea here, of course, but simply an ordinary solution that has been confirmed in actual practice. Thus, when the asthmatic starts treatment using our method, the same asthmatic, and he has all the symptoms I have cited, we guarantee that they all will disappear if the breathing is corrected. This will all come to fruition if he keeps his promise to eliminate his deep breathing. It can be eliminated, contrary to how you learned to breathe deeply—and everyone has his own method. (There is agitation among people in the auditorium.)

Reduction of oxygen in tissues (tissue hypoxia) increases arterial pressure.

This is a law of physiology. It is well discussed and proven in Muraenko's doctoral thesis approved in 1967. I was then an opponent to this dissertation. He clearly showed that any reduction of oxygen in tissues increases [blood] pressure and creates hypertension. Since hypertension in particular, arises from deep breathing, as we established, then the spasm of blood vessels in the hypertensive person results in the blood vessels narrowing due to a carbon dioxide deficiency. Therefore, in order to rescue cells from oxygen deficiency, the organism increases the blood pressure, because higher pressure makes the [blood] flow rate higher, pushes the blood, and saves the organism from death.

Thus, hypertension is a life-saving reaction of the organism; i.e., it is contrary to what the sick and doctors have thus far thought—that high blood pressure

appears out of nowhere and kills the organism. It is exactly the other way around—it [hypertension] saves the organism from oxygen deficiency in tissues. This is logical and without a doubt quite clear. Therefore I can say that when oxygen deficiency reaches a certain threshold, then hypotension (the first reaction) changes into hypertension.

We can see that almost a majority of sick hypertensive persons had hypotension once before. Later the angiospasm became even stronger, the symptoms became stronger, and the oxygen grew even less; and in a matter of days, the person will become hypertensive, with all symptoms remaining the same: the same headache, pain in the heart, insomnia, spasms, etc. I'm sure there are such people here whose hypotension changed into hypertension, and not just a few. Thus, this confirms everything that I have said here. There are no exaggerations here. In general, it is now clear how all this takes place.

The hypotension is the first stage of hypertension and not a separate disease. If our asthmatic has hypotension or hypertension, then the former and latter get eliminated, if one increases the CO₂ up to the norm. These are not separate diseases, only two symptoms. Finally:

The reduction of oxygen in tissues due to deep breathing, when it reaches a certain threshold, in a humoral reflexive [instinctive] way, excites the breathing center.

It [the breathing center] deepens breathing, and deep breathing removes carbon dioxide, strengthens angiospasm, and aggravates tissue hypoxia to oxygen deficiency. This further increases breathing. More breathing means more oxygen deficiency. Thus, there is a negative feedback, as they say in mechanics, or a vicious circle, as they say in medicine. And disease, as a system, takes over. [\[25\]](#)

Here, this factor is felt by the sick as air deficiency, but this is not so. He breathes for three [people], the lungs have a lot of air, gasping is immense, but there is no oxygen in the tissues of the brain and heart; the sick person perceives this as false information (shortage of air). As he tries to breathe, even more, he feels even worse, and he breathes even deeper, it becomes

worse. Previously he was told to “breathe deeper,” and medications were given that intensified the breathing.

Therefore, the sick and particularly the asthmatics, quite visibly feel an air deficiency throughout their lifetime. Over-breathing all the time leads to their deaths. We in the name of official medicine assist him in this. However, once it is explained to the asthmatic that it is necessary to do the exact opposite, he begins to decrease his breathing and experiences relief.

On the other hand, this also shows that it is very easy to learn how to breathe deeply and closing this [vicious] circle a few times a day of the [deep breathing] gymnastics for five minutes, and in two to three years he has learned to breathe deeply. Consequently, he has ended up with everything. But a greater challenge is to unlearn deep breathing.

On [national] radio now they have ceased to say, “Breathe deeper.” I delivered two lectures there, and they are now saying, “Do not hold your breath.” Even this I consider a victory. For some 30 years, 10 times a day, over the radio we heard the phrase, “Breathe deeper.” What happens if we execute this command of breathing deeper? As you know, there is vertigo [dizziness], weakness, noise in the ears, etc., and one gets sick. You will be sick throughout your life if you start to maintain deep breathing from this moment on. The majority of civilized people have been engaged in deep breathing and thus perpetuating the disease by regularly engaging in [deep breathing gymnastics]. This is an unfortunate result for our society today. This is essentially a summary of the theory.

We conducted the simplest of experiments of how to decrease breathing down to the norm and how to saturate the organism with carbon dioxide. But before going there, I’m only reminding you that the symptoms that appear from deep breathing are those we mentioned during the discussion of this theory. This theory was explained by me in 1962 in the journal *Izobretatel’ i Ratsionalizator* [*Inventor and Optimizer*] № 5, because the main [Soviet] medical journal *Klinicheskaya Meditsina* [*Clinical Medicine*] refused to publish it. Then we published it [the theory] in the journal *Izobretatel’ i ratsionalizator* because it was decided that it was also an invention. In fact, this is an invention.

Thus, we started to understand what was necessary for the sick. During the investigations of the influences of carbon dioxide and breathing [on human health], something turned up that has been known for a long time: the person himself can increase and decrease his breathing.

In 1962 at the clinic near Petrov's Gates, I was teaching students when I met a patient suffering from hypertension to diagnose the disease visually. Being well-informed in physiology and medicine, it is always possible to roughly diagnose a group of diseases. This should be done. It is necessary to stop relying on the diagnosis of medical apparatus. It is necessary to get the information that is not yet measured by laboratories. I made a very serious mistake when I diagnosed the pulmonary disease of a young patient with malignant hypertension [severe form of hypertension]. What deceived me was deep breathing. This could not be explained by the old theories: why deep breathing and hypertension—what was the link? In fact, deep breathing has nothing to do with hypertension, according to the old theory. According to our theory, there is a direct link: deep breathing causes angiospasm, and angiospasm causes oxygen deficiency, and this increases blood pressure. That was why he had developed hypertension.

Thus, immediate breathing tests were started. Here the ventilation effect (**the reduced breathing*) was discovered. It turned out that a person can change their breathing through their own willpower, and we can see how his disease is connected with breathing. To our delight, this reaction is very quick.

Within 1–5 minutes, the ventilation effect allows getting rid of all symptoms that we were discussing: spasms of the bronchial tubes (i.e., attacks of asthma and bronchitis), the blocked nose (to unblock it), angiospasm of the brain (migraine or headache), angiospasm of the heart, angiospasm of the hands or legs during Raynaud disease, stomach ulcer pain (this is a spasm of the blood vessels of the stomach), spasm of the biliary ways during cholecystitis, the prevention of epileptic attacks (aura). All these are instant reactions.

In order to warm up the hands or a frozen nose, you should decrease breathing. The blood vessels then expand, and you will be warmed immediately. Now we have the opportunity to control our own organism

consciously, by understanding these mechanisms. Moreover, if you are excited, or if you experience nervous agitation and excitement about something, then this is deep breathing. Slow down your breathing, and in 1–2 minutes you will calm down.

If you breathed deeply before going to sleep, then you will have insomnia. Many of you have experienced this. However, if you slow down the breathing, then you will be able to fall asleep in 2–3 minutes; i.e., there is an opportunity to control functions of the organism using breathing. This is because breathing is a global function of the organism, the main function. Within 20–30 seconds, its change already influences almost the entire organism, all organs, and systems.

Moreover, if breathing is diminished, then even edema bags under the eyes [puffiness] begin to decrease as you watch. These are the reactions. Itching during urticaria begins to decrease on the spot. You will decrease pains of various natures by holding the breath, because carbon dioxide is a drug (a weak one). Thus, when a man clenches his teeth in pain reflexively, he stops breathing. These are the opportunities available to a person who now begins to understand his own organism, if he rejects old prejudices that put science on its head. This is what is possible to achieve in 5 minutes. This is due to the method of voluntary elimination of deep breathing (VEDB). VEDB is such a difficult and long title, but it is a logical one.

What is its feature? It is to reduce the amplitude of deep breathing. This is clear to everybody: if there is no inhalation, there is no exhalation; diminish movements of the chest and stomach. All children as young as two and half years old can execute this function. This principle, within a short time, can sometimes produce more than the best medications can achieve in a month. About 70–80% of the sick are able to do it and get rid of their spasms, whereas either others do not control their breathing or their disease is not connected with breathing.

However, the following phase of reaction is even more beautiful. Each of these healthy and sick people can breathe deeply. We then give a command to breathe deeply, after they have eliminated the spasms. They do not believe us, thinking that this is hypnosis or psychotherapy. There were such

tendencies, particularly among the lay people, believing in an evil spirit and so forth. This is uttered by those who do not know the laws of physiology, do not wish to study them, and ignore them. Well, it is now clear that the evil spirit is not a factor, that breathing acts according to these laws of physiology, and this is how it should take place. But the sick person indeed does not know the laws of physiology. He will think that we, using a magic hand [wand], got rid of the disease. Such ideas can also arise in people's minds. This is the first phase.

Now the second phase. We give instructions to breathe deeper, our main and favorite instruction. As Sokolov wrote in *Literaturnaya Gazeta* [*Literary Newspaper*] , “Breathe deeper, but is it necessary?” [\[26\]](#)

We say “it is necessary”! [Do it] again, in order to cause these attacks. How soon? In 1–5 minutes. The sick patient sees that it is not hypnosis or psychotherapy, it is the law of physiology. And we again cause attacks of asthma, stenocardia, and epileptic seizures. For over 50 years, it has been known that deep breathing triggers epileptic seizures. [\[27\]](#)

Somehow, nobody could come up with the idea to try to reduce breathing and observe: maybe, they [seizures] will not appear? No, they do not appear in most patients. We checked that.

There is nothing surprising in this. The attack is induced. We then ask, “Well, how are you? Do not breathe!” The patient again reduces his breathing, and again the attack is gone. “Understood?” “No, I do not understand”... “Breathe deeper!”... And so on until he understands that his asthma or hypertension doesn't come from somewhere out of the blue but that he himself causes it (i.e., his disease), and, indeed, he can cause it at any moment. [\[28\]](#)

While there is an academic dispute going on amongst academicians, folks are using the method, because more than 200 doctors have completed their monthly specialization in our laboratory. Meanwhile, we mainly invite sick doctors. It is easier to work with them when they come for specialization. At the beginning, all doctors were able to come. When a healthy doctor with considerable experience comes, he has taught deep breathing all his life and

given medications that increase respiration such as camphor, caffeine, adrenaline, cordiamin , and ephedrine, all of which intensify breathing; i.e., he practically hindered the treatment. Suddenly now, he learns that all this is due to deep breathing and can be treated. Therefore, we need to spend a fortnight to convince him and show him the sick and only then begin to teach him. We abandoned this [practice], and started to invite only sick doctors.

The introductory lecture is given [to these new doctors], as for you now. Then the excitement begins: “Everything is just the opposite! Nonsense! This cannot be so!” etc. We say to these doctors, “Do not worry. Come here, we’ll do the test. What is your disease?”

“I have migraines (stenocardia, hypertension...).”

“Breathe deeper!”

After deep breathing it gets worse. “Breathe less!” ... “Aha, everything disappeared.”

“And you still do not believe it; let’s go [again].” Then the test is done, and everything goes well after that. “Aha, all is clear—it’s the exact opposite!”

Therefore, we engaged in training only sick doctors, for our technique is very difficult and complex; it requires a lot of time, attention, efforts, etc. The cured doctors started to work in the Soviet Union and treat patients with cardiovascular and pulmonary conditions. [\[29\]](#)

7actors that make breathing deeper

1. Propaganda or myths about deep breathing

Prior to January 1, 1967, 1,000 patients left their hospitals [cured], and only 1/4 of them were in our laboratory. We had a physiological laboratory and also a physiological combine [diagnostic complex], about which you can read in the journal *Izobretatel' i Ratsionalizator* [*Inventor and Optimizer*]. This is complex of apparatus and devices that record information about breathing, circulation, and other processes on a magnetic tape or on the graph [paper], which is then processed by a computer. It turned out that bronchial asthma can be represented by a mathematical formula, as well as hypertension, stenocardia [angina pectoris], etc.

One of these directions is to express medicine and physiology mathematically. Regarding this aspect, you can check our works. The spasm of bronchial tubes in an asthmatic is represented by a mathematical formula, and this work “Ventilation effect” is published in the journal *Vrachebnoe delo* [*Medical Practice*] № 4, 1968. For four years this article was passed on from one journal to the next. In this article we stated that in using this method, it is possible to stop an asthma attack; consequently, the paper could not be accepted. When we deleted this practical result or this point with conclusions, and all the rest were some hard-to-understand formulae, they published it.

But any person, after carefully reading and understanding the idea, will realize its essence—a formula of bronchoconstrictive ventilation. This is not surprising, because each reviewer sees the opposite. He did not hear such a lecture [as you are now], and he has doubts if this can be so. He, therefore, writes the following review, “This cannot be possible, because it can never be possible.”

This is natural when all new things are reviewed. Our principle was to prove the theory with practice, and practice never betrayed us. It proves our theory without delays. It is the ventilation effect or the breathing test. Within this short time of 1–5 minutes, it allows us to prove the same reaction using any healthy person. You know all these things. I will not invite any sick or healthy people here or show [these effects]. Deep breathing should (did you ever blow into a fire or into a [rubber] pillow?) produce weakness, dizziness,

dark circles around the eyes, noise in the ears, and a nervous trembling, including fainting. This is understandable; it is an action due to the departure of carbon dioxide from the organism.

The life source is leaving you, and you are getting into a deplorable state. These are the angiospasms in the brain, irritation of the nervous system, angiospasms of the eye and the ears. At the same time the heart races, pulse increases, blood pressure drops, etc. These are the first symptoms of deep breathing. Therefore each of you can check this theory within 1–2 minutes on yourselves and confirm it. It is such a quick demonstrable truth that we will not waste our time showing these effects here. This is the breathing test.

A second problem arose: how to check which part of those sick with asthma, hypertension, and stenocardia suffer from deep breathing? It was most of them, unfortunately (95% of the sick).

When is it possible to say that the patient is ill due to deep breathing? Deep breathing must be eliminated and then observed to see if he is cured or not. If he is cured, he was ill due to deep breathing. Some 95% of the patients are in the hands of practicing doctors in Kharkov, Chernigov, and Siberia to eliminate their main symptoms using the method of volitional elimination of deep breathing. Some 5% [of patients] can be ill from another reason. Therefore, it is a skill to make the correct diagnosis of deep breathing and to treat the sick person.

The principle of prevention and treatment of diseases of deep breathing is to prevent a fall in the carbon dioxide concentration in the organism and maintain it [CO₂] at the [initial] level. If it was lowered, raise it up to the norm. This will prevent the disease from developing and will cure it. This is the principle of prevention and treatment of those diseases that we have discussed. Therefore, it is necessary first of all to reject deep breathing training, and, it is necessary to officially bring to the attention of the Academy of Sciences and Ministry of Health the question of prohibiting all deep-breathing gymnastics in the Soviet Union.

I recently visited some resorts. Unfortunately, they are not resorts, but nurseries of infection of deep breathing. Many times per day one hears

“Breathe deeper,” “Breathe deeper,”; i.e., people did not read our works or discussions that are going on. Some 20 articles have already been written in the popular and literary newspapers. Deep breathers have decreased their ability to work, they read nothing, they perceive badly, and they are continued to be taught to breathe deeply.

Therefore, now the task is to prevent the training of deep breathing since the main cause of the development of deep breathing is training the population in deep breathing and the dissemination of the idea that deep breathing is useful. It is the principal cause of mass morbidity among civilized mankind. The natives, who do not know that deep breathing is useful, are sick 100 times less often with asthma, hypertension, and stenocardia than civilized people.

Thus, the main reason that deep breathing exists as a concept is its so-called benefits. The importance of this factor can only be revealed when all mankind knows about the harmfulness of deep breathing as much as they now know about its benefits. This will only transpire in a few generations.

Now a civilized man is taught to breathe even before birth. A pregnant mother is sent to do deep-breathing gymnastics in order to prevent pregnancy toxicosis, hypoxia of the fetus, spontaneous abortion, complications during birth, etc. It turns out that deep breathing affects metabolism, causes pregnancy toxicosis. This leads to the spasms of the uterus and umbilical cord of the fetus, causing oxygen deficiency of the fetus. It affects metabolism and causes abortion; i.e., it does not prevent but rather causes those things that they say it will not.

There are many such experiments, and they were conducted on lambs and guinea pigs. But they are not that silly to breathe deeply when there is no need; therefore they are forced by an apparatus to breathe deeply. Thus, abnormalities of the metabolism arise, abortions, and all else.

So, if the mother breathes deeply (we do have such conclusions and practical observations), then her reduction in CO₂ inevitably causes a reduction of CO₂ in the fetus as well. Therefore, the system of breathing control is reset at the lower CO₂ level, and the child is already born breathing deeply. His mother taught it to him before his birth, and diathesis, pneumonia, asthma,

eczema, etc. begins. This is what really matters.

There are supporters of deep breathing who say, “When I go to my *dacha* (cottage), I get a desire to breathe deeply; my organism demands it.”

At first, when our ideas were little known, we could cure in a matter of 1–2 weeks the most severely ill who had been sick for years. Nobody believed us. It was only later that the population started to believe us. When they saw the effects, when people were cured, then they began to seriously consider this. Usually in the beginning when a patient came to us, he would say, “Nonsense, I have been already cut up, pricked by huge syringes poked into me, and nothing. What breathing...?”

I had a long dispute with one scientist. He said, “When I go to my dacha, I have a desire to breathe deeply.” Well, how could I disprove this? I asked him, “Do you have a dog?” “Yes, we live in Novosibirsk, in an area with a lot of smoke, and when we arrive at our dacha, I have a desire to breathe deeply.” “Does the dog go with you?” “Yes, he does.” “So, you come to your dacha, sit down on a bench on the bank of the Ob [river], and begin to breathe deeply?” “Yes, it goes without saying.” “What about the dog?” “No, he doesn’t.” That’s because the dog’s mind does not have a silly idea about benefits of deep breathing.

Thus, most people now learn how to breathe deeply instinctively. Each time, going out of the auditorium, what do we do? Yes, I experienced this myself. I also thought that it was a crime not to go out on a balcony, after half an hour of studying, and breathe until light dizziness, “getting oxygen.” Upon returning, I could not think normally and could not absorb anything, until [I] figured out why this was taking place.

Therefore, the main cause of deep breathing is the idea of its benefits. And it is a shame for us, doctors and physiologists, that for 20 years of teaching deep breathing, there is not a single scientific work, where it shows that someone somewhere doubled his breathing, CO₂ fell by this much, and he is now super smart, super powerful, etc.

Not a single piece! This is not possible to achieve: in 12 minutes he will lie in

a coma and die. Therefore, the benefits of deep breathing and its propaganda are taken for granted as a religion. [\[30\]](#)

The huge mass of deep breathers shows just how poisonous deep breathing is. That is why the elimination of prejudices about the benefits of deep breathing is our first problem, and I actually am delivering this lecture for this exact reason. Although there are parallel articles, as for example, in *Moskovskaya Pravda*, "Elixir of life: deep breathing," or "Scientists, in particular, you need to learn how to breathe deeply."

2. Excitement in the mental, intellectual, and creative fields

It turns out that the second cause of deep breathing is excitement in the mental, intellectual, and creative fields, so what is it? This is excitement, but excitement means deep breathing. That is why people in the intellectual and creative professions breathe deeply. That is why they often get sick with diseases that we discussed earlier. But in newspapers, they write that particularly people with intellectual jobs are encouraged to do a few deep full breathing movements every half hour. And if one follows this, he will get heart attacks or strokes and death in six months. This recommendation is slow murder by poison. That is the second factor of increasing breathing.

3. Overeating

The third factor is overeating. Overeating in general and especially of protein foods. Even doctors talk about the mechanical effect of an excess of food on your breath: "Behold, overeating causes pressure on the diaphragm, hence shortness of breath [panting]." This is also an attempt to impose an idea that man is like a mechanical car, not a chemical one. There are no mechanics here. We are chemical entities. Only chemistry acts upon us. The basis of our life is biochemistry and metabolism.

And therefore, you can drink 2 liters of water and will get no shortness of breath, but if you drink a glass of good broth, dyspepsia will follow because eating intensifies breathing in the following manner. Substances that are quickly absorbed and enter into the blood and cells must be reassembled: they get involved in metabolism. But metabolism is the same as breathing! The breathing of cells is affected; the signal travels to the breathing center and increases shortness of breath. That is why shortness of breath occurs after

meals. Nothing is pressing. The idea of mechanics is terribly primitive.

And especially dangerous are the substances that are hard to break down or that require special treatment: these are proteins. These quickly absorbing proteins are the main poison for cells. And if they are given, then give very small amounts. But we [official medicine] now adopted a policy for patients with asthma and hypertension, especially children, "to get energy": broth, even chicken broth, quick-absorbing milk, and in addition, cottage cheese.

These products have intensified breathing and even maimed children, causing acute episodes. When the body instinctively refuses food, but we overfeed the child, force-feeding children is a forceful way of teaching deep breathing. You probably know that 80% of families feed their children saying, "[Eat this] for daddy, [this] for mommy, for *kukareku* [the rooster]." They [parents] go under the table [following the hiding child], to get the child to eat something. This is a false and absurd notion that the more the child eats, the stronger he will become.

The reality is the opposite: this is why we have to avoid overeating, in general, and proteins, in particular. These strong broths, especially from chicken, in this respect, are poisonous: they are quickly absorbed, and dairy products, especially cottage cheese—i.e., the foods that are fed to these unfortunate patients.

It's very sad, but we checked this accurately. I'm mentioning only those things that we no longer doubt.

Here's a recent example: a girl 11 years old, who has already been ill for 10 years with asthma and chronic pneumonia, came in hopes of being cured. We had to help, since to refuse to help, according to international laws, is a crime. Therefore sometimes it is necessary to forego science and help the patient in order to restore the fundamental laws of our medicine. The theory was explained to the girl, and she instantly mastered it, and the more I spoke with her, the happier she became, because all our recommendations precisely coincided with her desires. All that she was striving for was forbidden by parents who tried to do everything exactly opposite.

She studied our method, all medications were abolished, asthma ended in 2–3 weeks. Then, when everything was practically finished, there was nothing edible in the house (it seems that they had renovations going on), and she was given a half glass of milk and one cottage cheese patty. In a half hour, she had a severe asthma attack. But prior to this, they did not notice any attacks.

And this has been tested on patients thousands of times. Give them cottage cheese or milk, and in 20–30 minutes the attacks of asthma, stenocardia, and hypertension begin. This happens because of intensified respiration.

In this light, we should have a sober view of protein foods. When are protein foods necessary (those same dairy products)? When the organism is growing. Therefore, milk is created by nature for the newborns: this is children's nourishment. The older the organism, the less protein is required for building the body. It turns out that an adult can get all necessary proteins from plant foods (oatmeal, grain crops, and potatoes). The adult will get a sufficient amount of these proteins [from these foods], whereas an overload has a negative impact on the liver and kidneys. Thus proteins must be consumed sparingly, with respect to age. Therefore we [breathing doctors] are adamant defenders of milk and dairy products, but for whom? For babies, whose organisms are growing. Is it clear?

Consider our "ancestor," the orangutan. He did not suck his mother in adulthood, and someone else's [mother] did not give him milk. That is, phylogenetically, we are not adapted to the consumption of dairy products during adulthood.

Now they [official medicine] try to involve all the older people in the dairy diet, all in reverse. Why? Because they are forgetting that there is a history, there is science, there are laws, and there is a basic logic that has all been forgotten. This is upheld by prejudice, which is, moreover, ignorant. There should be a norm, a logic, and common sense in everything. Do not forget this! If you begin to reduce breath, people themselves will realize that common sense will always prevail to discover a way out of any situation. We are misunderstood only by the "super deep breathers." However, we do advise them to correct their breathing too, and they will begin to understand as well.

The application of our method requires a clear understanding of these laws and techniques, but deep breathers have a poor memory and have not learned anything. During attacks of asthma, stenocardia, and hypertension, they know not what to do. But when breathing is gradually reduced, the brain, memory, and consciousness are restored, and learning can be further continued. This is a natural process. This is about eating.

It is natural that hunger itself reduces consumption (**metabolism of cells?*), i.e., reduces breathing. You have heard Professor Nikolayev recommend light fasting to treat diseased [\[31\]](#).

It turns out that reduced eating reduces respiration; carbon dioxide increases above the norm. That is why fasting cures all manifestations of the deep breathing disease: epilepsy, asthma, hypertension, angina pectoris, etc. That is why, when the patient reduces his breathing using our method, he develops an aversion to food, especially proteins. This is reasonable since these functions are closely linked. Fasting will cure due to a reduction in breathing and increase in CO₂. But when the fast ends, they learn to breathe deeply and, moreover, start eating dairy products, the breathing could become even deeper, and their [health] state deteriorates. [\[32\]](#)

Thus, the increase in CO₂ is a protective reaction against hunger! Our body has long been aware that not only plants but also animals and humans can fix their CO₂, include it in our metabolism, and more simply, build even irreplaceable proteins. This most significant discovery was made by academician Guly at the Kiev Scientific Research Institute of Biochemistry in the USSR Academy of Sciences. [\[33\]](#)

He showed that fixation of carbon dioxide can be done even by animals. If feeding remains the same, but the carbon dioxide [in the air] is increased, then the bodyweight of piglets and chickens can be increased by an additional 50% due to them using their own carbon dioxide. [\[34\]](#)

We have observed the same in our patients who have reduced their breathing below the norm. Eating is sharply reduced. They eat less. They run more. The coefficient of efficiency increases. This is a reasonable reaction that goes on.

In 1967 the book *Vuglekislota Ta Zhittya* [Carbon Dioxide Is Life] was published, in Ukrainian. There is chemistry and some formulae that biochemists will understand. This book suggests our theory; it is proved; its prospects are discussed; and cited data, which deciphered our effect, is provided.

We now understand why patients who have decreased their respiration below the norm, and we have many such patients, suddenly begin to eat 2–3 times less. They have an aversion to meat and milk. It turns out that it is easier for the organism to construct its own proteins from simpler products than to reconstruct foreign proteins. To destroy, and then to build [is more difficult]. You know that it is easier to build on a new place than to deconstruct and to build anew.

Therefore the organism begins to depart from excessive nourishment containing meat, milk, and so forth. It adapts to vegetarian food, i.e., what yogis have automatically come to. But all this is connected with a decrease in respiration and with an increase in CO₂. These are not random things; they are quite regular. This is about diets.

We have probably been excessively absorbed in this, and the time is running out. How much time do we still have? Shall we take a break? I think not.

4. Speaking with deep inhalations

Those who have urgent things to do may leave. This lecture is optional at this time, but it will be mandatory soon. Do not worry about me. I have learned how to deliver lectures without deep breathing. This is very important.

We teach our sick people, especially lecturers and teachers, how to speak without inhaling [deeply]. How do people usually speak? They demonstrate a deep inhalation with the sound [a:] and then begin to speak. This is deep breathing, which is exhausting; it "wears the voice," as singers say. Therefore, one should speak without deep inhalations; then you can talk for many hours. Zubkov, a real yogi, can speak for 5–6 hours. He always mentions our ideas and our theory. So, this is something for lecturers to think about. Try to start [speaking] immediately, without deep breathing

(inhalation). [\[35\]](#)

5. Physical activity

Next is about physical activity, labor, and sports. Here again is the fact that in our press and everywhere else, there are people who are illiterate in physiology. They have imposed upon us a thought, and again contrary to the truth that physical activity, sports, and labor deepen our breathing. This is quite the opposite! It is wrong to consider any function bureaucratically, as a fact detached from life. After all, breathing is done to ensure metabolism.

Therefore, breathing must be considered in parallel with metabolism. It turns out that physical labor, sports, and workouts increase metabolism; i.e., they increase production of carbon dioxide and carbon dioxide increases, during exercise, in the blood, while oxygen is reduced. This is what physical exercise does. [\[36\]](#)

This is because carbon dioxide [production] increases. Additional CO₂ stimulates the respiratory center and intensifies breathing. How much? Well, only to the extent that would not further increase carbon dioxide. Thus, the higher the intensity, the more carbon dioxide is in the blood, and the greater the irritation of the respiratory center and deeper breathing. But it is deeper only formally! And if we take into account our initial assumptions from the beginning, then carbon dioxide in the blood increases, oxygen decreases, and breathing becomes shallow, not deep. It has decreased in relation to the metabolism. Here's the reason why exertion and sport are useful: they increase carbon dioxide, the foundation of life, in the body. This is why sport, exertion, and physical labor are useful.

During prolonged intensive exercise, the receptors that control breathing adapt to increased CO₂. If the person regularly works and toils, then he practically follows our method: he is decreasing his breathing using the exercise. Hence, the diseases can be cured by regular physical activity. There is no need to spend 3 hours every day on retraining one's breathing. Instead, one should work hard 5 hours per day with perspiration. This will cure asthma, hypertension, angina pectoris, and other diseases.

We are trying to put patients using breathing [exercises] back on their feet so that they are able to move, and then reassign them into sports or labor. If you do not want to train your breathing 3 hours per day, instead work up a sweat for 3 hours per day, and your breathing will be reduced. These things are similar. Consequently, other factors that increase ventilation will be counterbalanced, and you will be healthy.

Therefore, concerning physical exercise or labor, there is a minimum standard for each person. If he exercises less, then he will die gradually. It is similar to a deficiency in vitamins, water, or food. We need about three hours of hard work every day to sweat. This will be a standard for man. He is made up of 60% muscles; these muscles must function. All joints must revolve in their entire amplitude. This is our intention and instruction.

What was done in our previous procedures or our first treatments [directed by official medicine]? They immobilized patients by saying: "Do not walk," "Do not move," and "Lie down." What do we do? First, we tell them to go walking, then running. Moreover, how? Expiration, holding breath, and running. This approach accumulates carbon dioxide more rapidly, and people cure themselves more quickly.

Now take physical labor. It is a very powerful factor. Books are being published, titled: *Running for Life*, *Jogging*, etc. It turns out jogging hampers breathing, intensifies metabolism, and especially increases carbon dioxide. That is why they cure themselves. This was not known thus far.

Therefore, you can sit and reduce breathing, but it is more difficult [to increase blood CO₂] than being in motion. To reduce your breath is to cure yourself. You need not interfere with your breathing: just run, and you will also recover because of the increased carbon dioxide. And you can run or walk, but with deep breathing—i.e., to over-breathe, to reduce carbon dioxide below the norm—what shall we get? The same fainting, asthma attacks, stenocardia, dizziness, etc. Hence, the movement itself does not play a role. It's useful due to the increase in carbon dioxide.

Let's look at movement. Now in the age of automation and transportation,

movement [physical activity] is minimal. This is something that may happen soon: you will click on a button, and a machine will get you out of bed, load you into an elevator, bring you to work, and home again. Complete atrophy. Therefore, heart attack cuts a part of the heart: it [this part] is not needed. Thus, a transformation: a disease of adaptation.

However, now we should be thinking about anti-automation and anti-transport. Do not use transport until you have walked 2 km. If one's job is less than 2 km away and he uses transport, fine him. If a person sits and writes, calculate what energy he should expend every day. And he should write with both hands, with some special efforts so as to toil. To turn on the light one should raise a weight 10 times and then it will be turned on, etc. We should create an environment with maximum labor, because the man himself has a tendency of being, as you know, the exact opposite—lazy. [\[37\]](#)

6. Overheating

Next, it is necessary to consider the problem of overheating. An increase in temperature or overheating increases breathing not only in dogs but in humans too. This is particularly noticeable in children. Here is a child in a loving family where both grandmother and mother are incredibly affectionate, but this child, because of the damaging beliefs, simply cannot be healthy. He could be killed by a ridiculously damaging regimen.

Therefore, the surviving child is one who struggles and resists doing things opposite to the regimen. When I have more time, I will write a book titled, *Challenging the Affectionate Mother's Beliefs*. Why? Overheating begins literally from birth. [Damage is also done] with the breathing exercises. These days many parents involve their children in breathing exercises aimed at deepening their breathing. Later the adult becomes aware of the phrase "Breathe deeper" as an order, and he adapts to it. Constant overeating, wearing too much clothing, and overheating are harmful as the child's metabolism is 2–3 times higher than ours. Therefore, if we feel comfortable in this building in a suit, the child will feel fine in just a shirt. But he is bundled in five pairs of pajamas.

Eventually, overheating leads to increased breathing, and he gets a cold. He

did not get a cold from a draft, but from his hyperventilation or from deep breathing. Then they put even more clothes on him and exacerbate the matter even further. In the end, he is completely ruined. Indeed it is well known: in a large and poor family where there are a widow and ten children, only potatoes and bread, one shirt for all, running half a mile in the snow barefoot and chubby-cheeked, they are all are healthy. Why? Well, what we consider useful is precisely horrible; i.e., all our beliefs that appeared with no cause and are, as a rule, erroneous—they are harmful. Hence, it is necessary to avoid overheating.

For the patients with deep breathing, it is good to be in cool accommodations because, most likely, from their childhood, they already instinctively became accustomed to dressing up more warmly than was necessary. Certainly, they should adapt to cold conditions gradually, although, by the way, there are examples of folk treatment of asthma, especially in children, whereby they are immersed in ice-cold water for 2–3 minutes to eliminate attacks. This is terribly stressful [for the organism] and a shock. Then they stop wearing too much clothing, and asthma disappears.

7. Sleeping or lying in a horizontal position

Lying in a horizontal position also intensifies breathing. This is especially obvious in patients with asthma, heart disease, hypertension, and stenocardia. Their condition becomes acute at night, because of their horizontal position. If they lie down during the day for 2–3 hours, their breathing becomes heavier and brings on the attacks. What do we [official doctors] usually do? Have the patients lie down. But lying down is contraindicated because it intensifies breathing.

Many severely sick patients remain sitting up, afraid to lie down. This is sensible. We should lie down only for a minimum amount of time, and only when sleeping. Our patients with deep breathing practice [breathing exercises] but cannot control their breathing at night, and hence, sleep is actually a poison for them.

The longer the patient sleeps, the more chances that his breathing will be increased causing attacks. Therefore, we wake him up after 1–2 hours, he practices decreasing respiration, we reduce his sleep down to 4–5 hours in a

24-hour period, not more, and he cures himself. Later, when the breathing is corrected, sleep becomes less than the norm. It reduces itself. It gets deeper and deeper. This alarms many patients, “Previously, I was sleeping for 8 hours, and it was not enough, but now I sleep 4 hours and get enough.” Yes, it is possible to get enough sleep in 4 hours with very light breathing.

If patients lie down, then they must lie on their tummy. This compresses the rib cage, the abdominal muscles, and the walls of the belly, thus decreasing respiration.

Children, especially asthmatics, or the deep-breathing children, turn themselves over on the tummy during sleep. And here it begins: the parents are on guard; the fight goes on, sometimes for years. The child turns on the tummy hiding its head under the pillow, but no, they turn him over to face up. Again and again, he tries to rescue [himself], but they will not give in. There is no rest for him, nor for the others. And if we take a child sick with asthma, he sleeps on his back and wheezes. He turns on his tummy; the wheezing disappears in a minute. [He is] again on his back: in a minute the wheezing starts again.

Therefore we have recommended to deep-breathing patients, especially children, to sleep on the tummy on a hard bed so that their spine is straight and not bent, etc. (**In the 1960s in Soviet Russia spring beds were very popular, but hard beds are still better health-wise than modern mattresses.*) This is regarding lying down. But for the severely sick patients, we recommend sleeping sitting, while they decrease respiration [doing daily breathing exercises], until breathing gets reduced.

8. Most medical drugs intensify breathing

The next factor that intensifies breathing is medical drugs. The enormous number of drugs that have inundated our life intensify respiration: antibiotics—penicillin, streptomycin, and so forth. Therefore, if they are prescribed not according to requirements, they reinforce symptoms of the main disease, such as with asthma; i.e., they reinforce respiratory and cardiovascular diseases. This is reasonable. After such treatment, in 2–3 weeks the state of health inevitably deteriorates.

What is the mechanism? Yet antibiotics are fighting with microbes by suppressing the breathing of the microorganisms. Meanwhile, the whole living world, as we know, has one common ground: metabolism. Therefore, they [drugs] do the same with our cells as well. They suppress respiration of cells, but to a lesser degree than that of bacteria. This excites the breathing center and impairs breathing, thus increasing it. Besides, they are allergens; they sensitize the organism. This is the reason why they bring great harm. Reckless, widespread use of antibiotics brings great harm.

Then substances such as camphor, codeine, kordiamin, adrenaline, teofedrin, ephedrine—the main drugs that we [official doctors] use to treat [diseases], they intensify breathing. People use them senselessly, trying to cure themselves, and cause tremendous harm to themselves.

In particular, caffeine is found in strong coffee, strong tea, chocolate, and cocoa. Therefore unlimited coffee or tea drinking deepens breathing and causes disease of deep breathing. Meanwhile, we just used to recommend to hypertensives, between their attacks, to drink coffee and more coffee. Yes, if he drinks coffee, he will feel better for half an hour or an hour and then even worse.

9. Negative emotions

Well, as for negative emotions, they overload the nervous system. Negative emotions cause excitement and deepen breathing. Therefore, “life in paradise” reduces breathing, but where will one find paradise? Life is a struggle. Therefore, factors that are under our influence must be taken into account and used.

10. Positive factors

Water procedures reduce breathing: swimming, saunas, etc. Massage, all known types, reduces breathing. Then, many postures reduce respiration, in particular, Bell’s reflex: elevation of eyeballs upwards stops breathing reflexively. Inflation of cheeks reduces breathing. Pleasant posture or the Lotus, used in yoga—press your feet until pain—slows breathing. Therefore, the majority of yogis have shallow breathing.

There is one question not discussed here: What would happen with the organism if breathing decreases below the norm? That is when breathing changes from deep to shallow, and then from shallow to continually shallow. Here we should not confuse full breathing of yogis with deep breathing.

Advocates of deep breathing confuse these two concepts, and in their defense, they say, “Yogis, for thousands of years, have breathed deeply, and we see that they are super-humans.” Quite the contrary. The full breathing of yogis is shallow breathing in our understanding. It is done, first, very slowly—inhalations and exhalations as well; second, with maximum breath holds after inhalations and exhalations.

And if we record the lungs’ ventilation and levels of carbon dioxide, it is clear that with such training lung ventilation is reduced, and carbon dioxide increases. Therefore, the full breathing of yogis, according to its physiological effect, is analogous to our shallow breathing. This is the reason for its benefit. Now many people are interested in the systems of yogis. This, of course, is a surprisingly clever system of exercises.

I do not speak about any religions or superstitions—this is not part of the tasks of my lecture. But physiologically, yogis instinctively selected almost everything that decreases respiration: the majority of their postures (**asanas*) lead to the decrease in respiration, and the respiratory gymnastics itself is called, in Indian, Pranayama. The literal translation means “slowing breath.” Whatever the yogis did with their breathing, their final goal was to restrain [breathing], to harness it, to reach breathlessness and deathlessness. But those who misinterpreted and poorly understood it all have introduced this confusion that allegedly deep breathing is the breathing of yogis.

Our method

And finally, one should not confuse the following concepts: We are speaking about breathing, which goes on day and night—about our basal breathing, the foundation of life. Meanwhile, the system of yogis has separate breathing exercises. Therefore, it is practically unimportant for us how and what you do: feet upwards or downwards, through the right or left nostril, or by right or left side. We are interested in where you will arrive as a result of these exercises. If carbon dioxide increases and breathing decreases, with each day, then this will ensure the transition of man into a super-endurance state.

1 Table of health and disease

As it is evident from the table (**see below*), here [in the middle of the table] is the zone of normal breathing and normal carbon dioxide (**in the lungs and arterial blood*) ; this is respiratory rate; this is automatic pause, after expiration—it is present during sleep as well. BUT THIS IS deep breathing, which the majority of you have. Surely, it is visible without the measurement of the control pauses.

Health state	Type of breathing	Degree	Pulse, /min	Rf, breaths /min	CO ₂ in alveoli, %	AP, s	CP, s	MP, s
Super-health	Shallow	5	48	3	7.5	16	180	210
		4	50	4	7.4	12	150	190
		3	52	5	7.3	9	120	170
		2	55	6	7.1	7	100	150
		1	57	7	6.8	5	80	120
Normal	Normal	-	60	8	6.5	4	60	90
Disease	Deep	-1	65	10	6.0	3	50	75
		-2	70	12	5.5	2	40	60
		-3	75	15	5.0	-	30	50
		-4	80	20	4.5	-	20	40
		-5	90	26	4.0	-	10	20
		-6	100	30	3.5	-	5	10

Table abbreviations:

Rf: respiratory frequency in one minute (number of inhalations or exhalations)

% CO₂: % CO₂ in alveoli of the lungs (**or arterial blood if there is no*

ventilation-perfusion mismatch)

*AP: automatic pause or natural delay in breathing after exhalation (*during unconscious breathing)*

CP: control pause, or breath holding time after medium exhalation and until first distress.

Dr. Buteyko: Therefore, during deep breathing, carbon dioxide levels become lower, oxygen levels are lower, breath holding time is shorter, breathing frequency is higher, and the automatic pause is absent. Here (**when we move up the table*) respiration is increasingly less, here (**when we move down the table*) increasingly more. In the first direction (**upper rows*), that is where the yogis are situated, and here is where most of the severe patients are (**lower rows*)—condemned people.

2 How to measure one's breathing and body oxygenation

If breathing gets deeper, oxygen [content] in the body decreases. Oxygen [content] in the organism can be found using a simple method: after exhalation, observe how long the person can pause their breathing without stress. That is, to make a breathing delay.

But it should not be confused with a delay of breath in sports, etc. How to do it in sports or medicine when testing breathing? The person is forced to inhale deeply, to exhale completely, sometimes until the limit, and then hold the breath to the maximum, after which breathing is severely disrupted—deep breathing starts. This breath hold is harmful because of the additional deep breathing that upsets the balance [of gases] in the lungs. And subsequent prolonged deep breathing reduces carbon dioxide in the body, causing harm. Therefore, delays of this type (**the correct ones, or the CP*), which are carried out to measure body oxygenation, are usually less than the [maximum] delay that the person can achieve.

The correct way is full (**usual or ordinary*) exhalation, but with no stress, to expel from the lungs additional air that affects the test. Otherwise, the difference in the lungs' capacity will introduce errors in measurements. After full quiet exhalation, hold your breath. This time, from the end of the exhalation until the beginning of the inhalation, is the control pause. It correlates with oxygen content in the body. [\[38\]](#)

When we studied these things, we had enough equipment (our hardware was unique even for the Soviet Union: the world's best apparatus was used in our laboratory), we had an opportunity to measure everything, but in [medical] practice, patients and physicians have no equipment. We had to get our physiologists, mathematicians, and breathing instructors to find the parameter that allows us to evaluate the level of carbon dioxide indirectly. Thus, the control pause was the most important demonstrated parameter that correlates with carbon dioxide (the dependence was quite accurate). This result turned out during calculations on a computer using mathematical techniques, and for the first time, we applied it [this result] in physiology.

3 The control pause and its relation to health and disease

This criterion is unequivocal: one cannot have 7% CO₂ and a pause [the breath holding time] of only 10–20 seconds. This is impossible—CO₂ in deep breathers is less and less [with a progression of the disease]; simultaneously, oxygenation of the body is less. If it [the pause] is less than 10 seconds, this is a serious disease. The less [the pause], the more critical the condition of the patient: 5, 3, 2, 1 s—death... Watching the control pause, you can see how close death is and how life expires. But one can escape this condition: [take] smaller, smaller, and smaller inhalations, and in half an hour one accumulates oxygen and the control pause increases.

4 The control pause as the main measuring tool for our method

Therefore, our second principle is as follows: it is necessary to measure breathing in the process of its reduction, and in particular, the control pause. If it grows day by day, then the amplitude of breathing decreases, oxygen is accumulated, and health is improving. And here [in the table] it is shown. This is a real table, based on data from our patients, with tens of thousands of measurements by the physiological complex (or combine), parameters of the healthy and sick, and during the process of treatment.

We found that with decreased breathing, carbon dioxide increases, oxygen in the body increases, the control pause increases—sometimes from 8 seconds, for example, it increases up to 180 seconds: 3 minutes! So here is a severely and chronically sick 70–80 year old man, suffering for 40 years, who was bedridden, and blue [from tissue hypoxia], on oxygen and injections,

suffocated from his huge breathing but was still conscious.

We explain our theory to him to perform the hyperventilation provocation test, giving the instruction, “Breathe deeper.” After one minute of deep breathing, he feels worse. “Decrease your breathing.” [He feels] better. Conclusion: reduce breathing. And he begins with all his might to reduce breathing, slowing it down, and to the point of “suffocating himself.” The patients jokingly call our method “draconian” or “the Siberian method of gradual self-suffocation.”

5 Practical problems during breathing retraining

It is very difficult. Why? There is no oxygen in the body, but it is necessary to reduce breathing. There is a desire to breathe, but it is not allowed. He starts to reduce his breathing; the control pause increases. He measures it in 5, 10, and 15 minutes (which is determined by the doctor) and sees how oxygen increases; everything is alright. The doctor must control the training: he appoints the individual frequency of breath holds. It is forbidden to correct the breathing without medical supervision.

First, because half of patients deepen their breathing; one-third is playing with their breathing. And if the patient is only thinking about breathing, rather than slowing it down, his breathing will increase, and this will produce negative effects. Therefore, one should neither think about breathing nor play with it, but restrain it with all one's willpower. This is the principle. Our technique is not for just trying out; it should be either used or not at all.

6 Inability of sick people to learn the method from written instructions

The breathing [retraining] should be monitored by an instructor who had learned the method himself. Our instruction of 1964 was published in Novosibirsk, 1,000 issues. We still were naive and thought that after reading this correct instruction, the patient would be able to reduce breathing and then compare when it is normal. It [the instruction] included the information about normal breathing: 2 s for inhalation, 3 s for exhalation, 3 s for the pause, etc. First, he starts to breathe deeply; secondly, he immediately tries to fulfill that normal breathing. All effects are the opposite, even [for] a [medical] doctor.

7 Necessity of medical supervision

Therefore, [breathing retraining is done] only under the supervision of a [trained] eye, that has seen and knows the method, so that there would be no errors. An error will intensify breathing, not diminish it. If there is no error, then there is nothing unpleasant. It is important to observe the principle.

8 Example of recovery from disease

So when the severely sick man, who could not move, after 3, 4, 5 months [of breathing retraining], on the sixth month achieved 150–180–240 s breath holds. Easy. He exhales and can easily remain for 4 minutes without breathing. All diseases disappeared long ago, he can work tirelessly for 24 hours, he sleeps for four hours, eats twice as less, etc., and he does not get influenza.

Everyone in the family is sick with the flu, he will not get sick; and if there is an infection, he sits down for our [breathing re-] training, a half-hour session, and the flu is gone. It turns out that the influenza virus is afraid of an acidic environment [in the blood]: acidification immediately makes it weak. Most of our patients know about this, and they never get sick with flu. This elderly man used to get the flu a hundred times in a year, and now all around him are sick, but influenza cannot get him.

He achieved the zone of “super-endurance” [or super-resilience], his breathing is below the norm, carbon dioxide is above the norm, and the [control] pause has increased up to 240 seconds.

As a result, patients are advised: do all [physical] exercises with the control pause, or without breathing, and walk upstairs without breathing; try to slow down the breath, or exhale and run with no breathing.

We were terribly surprised and shocked when this old man who could not walk around in his room, had terrible dyspnea so that he was unable to move, laying in bed, and in a few months when I visited his home, he was out digging potatoes all day and was not tired at all. But his grandson could dig [potatoes] for only half a day because his control pause was 20 s. He [grandson] breathes deeply, sweats, and feels weak. The grandfather was digging potatoes all day, came home, exhaled, and ran up to the third floor without breathing. He came back home and had no dyspnea. Why? He ran up

the stairs for a minute but would not breathe for three minutes. This was quite a simple and easy task for him.

9 Secrets of yogis super-endurance is in high CO₂

Then we understood that by reducing breathing below the norm, our patients arrived at miracles. Here we realized; what it was all about! It reminded us of the yogis. What they strive for, it turns out, is achieved through reduction of breath and increase in carbon dioxide. This explains their miracles.

If some secrets are suggested to our patients, then they can reduce their breathing for 10 or even 15 minutes! But who? The terminally ill, who in their 60s were dying, would be able to do this. We declassified the major miracles of yogis.

Their major miracles are in the reduction of respiration and the accumulation of carbon dioxide. For thousands of years, the yogis were looking for “prana,” which is somewhere in food, air, etc. It turned out that carbon dioxide is prana. Here is the main source of life—carbon dioxide. If you accumulate it, you become a “superhuman”; if you lose it, you suffer.

10 Obstacles manufactured by officials

This is how our investigations proceeded further, how they spread. Everything is growing like a [snow] ball, but our opportunities are restricted because every success scares celebrities. They are trying, so to say, to cut our opportunities. [\[39\]](#)

We encourage our medical scientists, deliver these lectures to them, spread and share our knowledge, and do not keep them [our ideas and discoveries] secret, so that more philosophers, medical researchers, biologists, physiologists, and all people are included in this matter. This is a world of unlimited opportunities. We have just opened a curtain that shows a surprisingly wonderful world—the world of no fiction, only reality. And what I am telling you has been done already by hundreds of people who have come to us in Siberia or here in Moscow. And there are such people here who have achieved super-endurance and do not see this as something surprising,

Therefore, our public lecture—“From spasmodic disease to the super-

endurance of yogis”—is not an empty phrase, not fantasy, but a reality, already proven by thousands of people! I did not find it necessary to show this reality here (**he is probably talking about public testimonies of invited patients*) , because I do not doubt your complete trust in me, and I believe that to demonstrate is necessary only to those who do not think so. They require some facts; you do not need them, because you clearly understand everything and can partially check many of the ideas on yourselves.

11 Frequency of breathing

Now, let's look at the frequency of breathing. Many people think (and these, again, are the thoughts promoted by non-physiologists) that if breathing deepens, it becomes less frequent. This is not so. The frequency of breathing and depth of breathing are two parameters of one function. The function should intensify or weaken.

Intensification of the function is deeper and more frequent breathing. The weakening of the function is less frequent and less deep breathing. Therefore, those who have learned how to breathe deeply are also observed having frequent breathing. Thus, there is a direct correlation, rather than an inverse one. The deeper the breathing, the more frequent it is.

And that's why our patients, when following even the most basic first step of the method (there are several steps in total), will only slow down each inhalation, reduce the amplitude of the inhalation, and not allow air to enter; breathing itself will become less frequent. [\[40\]](#)

12 Why sick people should not even think about breathing frequency

The first major mistake of patients is that they start to breathe less frequently: inhalation, exhalation, and then they hold their breathing and sustain this pause for a long time. They confuse the control pause with the automatic one, deepen their breathing, and start to breathe slowly and deeply. They do everything the other way around. The meaning is lost. These people are sick with the disease of deep breathing, and they deepen their breathing.

Therefore, only a reduction in the depth of breathing causes its slowing. There is a direct connection. But the breathing frequency is strictly individual: it depends on gender, age, weight, etc., and, as a rule, it is not

limited. We prohibit the sick to think about it; otherwise, it would confuse them. It is necessary for us only to measure carbon dioxide. If we measure breathing frequency and the control pause, then we roughly know the level of carbon dioxide in the blood and the general state.

13 The automatic pause

And finally, the last parameter is the automatic pause. This is a pause that occurs even during sleep for people and animals with normal breathing. How does this happen? Sometimes in a family where there is a patient, we show an example: Here is a dog or cat lying around, and it is not hot, so it is breathing normally (no dyspnea). How is it breathing? The rib cage falls after exhalation, pause, then a small inhalation, exhalation, pause, again a pause. This is normal breathing: inhalation, exhalation, pause or breath holding—this is the rest for the lungs and the possibility for gas exchange. This is a pause, a normal, automatic pause, regardless of our consciousness.

Deep breathers do not have it. Therefore, they do not need to know this. Here is their breathing. They should reduce the amplitude [of inhalation]. The pause will come when breathing is reduced. And while breathing gets reduced down to the norm, and then becomes less than the norm, this pause gets longer: breathing becomes smaller and less frequent. The indicator of breathing frequency is the automatic pause after exhalation.

All deviations from the norm in the direction of deepening of breathing, we divided into 5 levels of hyperventilation. This table is used by hundreds of our doctors and patients, and it has never failed. Thousands of patients were tested according to this table. Patients are at the bottom; when they get to the middle, they are cured; when they get higher, they are “supermen.” If they are not raised—nothing will help! This law is immutable. These are the key points that I wanted to share with you.

14 Effects of smoking

Of course, a lot of questions appear. Well, what is the effect of smoking? Nicotine increases breathing: this is the reason why it is harmful. And in this regard you will probably ask me: is it possible to accumulate carbon dioxide by smoking or drinking soda, etc.? It must be remembered that the organism of an adult, with average [physical] exercising, emits about 600–1000 liters

of carbon dioxide per day. We roughly absorb about the same amount of oxygen. One cubic meter—this is slightly smaller in volume than this desk. And those miserable quantities of carbon dioxide (in soda, etc.) do not play any role.

15 Pure oxygen and its effects

Or oxygen foam. For the stomach of the deep breather, this is good, because in the tissues of the stomach there is little oxygen, and oxygen uptake directly into the tissue will be helpful. Oxygen is necessary to give to those who do not have enough of it in the blood; oxygen tents are indicated for these patients.

If you give oxygen to deep breathers, this will lead to poorer states of health. On this topic, we published an article in the journal *Sovetskaya Meditsina* ["Soviet Medicine"], № 3, 1967. We showed there that if the hypertensives, heart patients, and asthmatics are given pure oxygen to breathe, this will lead to the deterioration of their state, and this is what we see in reality.

16 Stale air in rooms

Here is a question about rooms with stale air. Yes, breathing gets bigger there, while breathing in the fresh air apparently gets reduced.

Because in stuffy rooms, there are no positive ions that favorably influence the respiratory system. And in the [stale] air there are many aromatic substances; this air has been breathed many times. To breathe this air is akin to eating food that was chewed many times [by other people]. This air is harmful.

17 Optimum air composition

In rooms with stale air, carbon dioxide increases a maximum of 3 times. But while its content in a pine forest or seashore is 0.03%, the rooms have 0.1%. What is the significance? None. We need 7%. Oxygen [concentration] here it is 1–2% less [than in outdoor air]. This also does not matter to us. Our optimum is 5–7%. Yes, this would be good. Therefore, these [optimum] concentrations can be achieved only in closed spaces.

Can one increase carbon dioxide in the body by constant inhalation of carbon dioxide? These experiments were started long ago. Experiments with

astronauts were conducted recently. Yes, if you create an atmosphere with carbon dioxide. The average deep breathers—the hypertensives, patients with angina pectoris, asthmatics—have in their bodies 4.5–5% of carbon dioxide in the lungs and blood, not 6.5% as you see from the table. They are lacking by 2% in carbon dioxide. Therefore, they can be treated as follows: Put them in chambers with 2% carbon dioxide. But it will be necessary to contain them in the chambers. If they leave the chamber, breathing gets deep, and they will faint within five minutes. This is not a solution.

18 Drugs that decrease breathing

You can reduce your breathing using drugs. It is reduced by over-the-counter medicines, sleeping pills, calming substances, anti-coughing medications (codeine, dianin, many herbs, etc.) in particular, Indian hemp (*Cannabis sativa*), the drugs empirically taken to treat hypertension: reserpine, serpazil, raunatin, etc. All of them suppress breathing and apparently, therefore, help hypertensives. Nobody knows this. For 15 years they have been searching for medication from this hemp so that it would not suppress respiration, but the treatment for hypertension has not been obtained.

If they do not suppress breathing, high blood pressure is not treated. These substances can be used if a person cannot reduce their breathing.

Alternatively you can create a mask, wrap the rib cage, or wear corsets, etc.

19 Effects of flowers and plants

These are questions that have not been considered, but may be of interest. There are flowers and plants in the room. They absorb a miserable fraction of carbon dioxide and emit oxygen, without practically altering the balance of gases in the air. But for the treatment effects, it [the gas balance] must be drastically changed. In addition, flowers release some aromatic substances harmful to the respiratory system. Therefore, one should not expect help from having potted plants.

20 How to eliminate deep breathing (individuality)

Therefore, the only way left is to carry out the principle that we have proposed for the prevention and treatment of the mentioned diseases: this is the principle of willful elimination of deep breathing. As one learned deep breathing, so should he re-learn it. Using which way? Contrary to the idea that deepened his breathing. Everyone has a method and has used it to deepen

breathing, and it is possible to correct it [breathing] practically by the reverse process.

21 Learning from the instruction

The principle is known, and the doctor who mastered it, and spent a month learning this method [from us], will individually “tailor” our method to the sick patient. If you find our instruction from 1964 anywhere, it is widely available in the [Soviet] Union and in the central markets of major cities. It is sold for 3 rubles and has been reprinted many times. There, on page 9 it is written, “Not valid without the signature of the author.”

This instruction, as you understand, should have the signature (a small detail that it lacks) of the doctor who studied with us for a month. Then it [the instruction] would work. This manual is written only for doctors who passed our specialization. Why? If this instruction is read by a doctor who did not learn from us or who is sick, he will do everything in reverse. His psychology is different. It is necessary to change the psychology [first]! How? By changing our ideas about breathing and by the widest possible publication of our ideas and the truth about the dangers of deep breathing. Then this [instruction] will be correctly interpreted.

Because sometimes one encounters an “instruction” (it has there: inhalation, exhalation, pause), but instead of this it is written, “Inhalation, inhalation, sigh.” (**Here is a play on Russian words with the implication of the mistakes done by a typist of the instruction. In Russian, this wrong sequence of words sound as “vdoh, vdoh, vzdov,” while it should be “vdoh, vidoh, pa:uza.”*) Such instructions should make us wary and should not be used. They can lead to superstitions [mistakes]. They are spread through the Soviet Union in very large numbers. One should wait while we get an opportunity to publish a monograph, then all will become clear. In the meantime, you need to use only the idea of our theory, spread it around, and talk more about it.

22 What is common between yoga and our method?

Yes, there will probably be questions: What does our system have in common with the yoga system? The first thing [we have] in common and the only one [effect]: the final result. [What is the] Difference? Our system is scientific, based on measurements, strictly controlled, predictable, etc. We not only tell

our patient that he will get cured, but even define the period of time after which he will be healthy. That's if, of course, he will train properly. We even define which reaction of health recovery [or healing reaction, or cleansing reaction, or sanogenesis reaction] he will have.

23 Cleansing reactions in our patients

And this is something I did not mention and tell you, about the reaction of recovery. Since these diseases were never regularly cured by any other people and are not cured now, and they [the diseases] are quickly and irrevocably cured only by doctors who mastered our method (theory and practice), then we for the first time in scientific world have observed how self-healing progresses when all medications are canceled and tools for breath reduction are applied. As soon as breathing approaches the norm (the control pause is approximately 40 s; for severely sick people it also happens upon achieving the 20 s level), then the reaction of recovery comes about. The 20 s and 40 s are the borders that separate disease from health.

24 Symptoms of cleansing reactions

What does this reaction look like? Basically, the same way as a person gets sick. For example, a child had diathesis, then pneumonia, asthma, eczema, and hives. He grows up: stenocardia, hypertension, stomach ulcer, etc. If he begins to diminish his breathing, then his disease, as it turns out, goes along perfectly this way but in the reverse direction. There is no other way.

And, it turns out, all these [diseases] should become acute and be eliminated forever. It is logical. Here it is necessary to help the sick person with certain things, to practice breathing retraining, to provide reassurance that he is on the right track, and all is correctly done. And at the same time, the cleansing reaction takes place.

Why do we call it so? Because deep breathing disrupts metabolism. Each cell accumulates masses of toxins, and during the reaction of recovery, the organism eliminates them. Abundant perspiration appears; the tears flow. If there was a blocked nose, there are copious—literally as rivers—discharges from the nose. Saliva can be sticky, with unpleasant smell; it shouldn't be swallowed, and it is necessary to rinse the mouth frequently. Vomiting begins, sometimes with bile, if the gastrointestinal tract was injured. All these

things come out easily. Copious discharges of mucus begin.

If one is a smoker, his mucus, black as soot, gets expelled [from the lungs]. And the sick person just gets time to clear the throat [and cough it out]. Then the discharges can get green, then yellow, then foamy mucus—all is flushed. We, at first, did not know what was going on. Nobody saw such a picture: the sick person hurries in and says, “I must be going mad: I am foaming.” It turns out that this is the last stage of the lungs’ cleansing. This is the way the lungs get cleared.

Simultaneously urination becomes more frequent. The urine acquires an unpleasant tint and smell: sometimes it becomes a brick-red color, sometimes greenish with black tint. Defecation becomes more frequent, but very frequent defecation makes it impossible to practice [breathing exercises]. As soon as the control pause is done, the person cannot reach the toilet fast enough [because of soiling himself]. Then he sits on the toilet and practices [breathing exercises] there.

This is how the cleansing reaction goes on in the severely sick because each cell has accumulated masses of toxins and various useless substances. Meanwhile, those who have used a lot of medication [during all their previous years] have these discharges with a specific smell of these drugs. All of this is eliminated from the organism.

Such reaction, on the one hand, is seemingly awful, especially due to the fact that, as a rule, all these discharges are contaminated with blood: blood from the nose, blood from the mouth, urine is red as blood (but it does not have, as a rule, whole blood; only hemoglobin), bloody diarrhea, and so on. And if the asthmatic has had pneumonia many times, then all this is accompanied by fever, headaches, weakness, and painfulness in all muscles, all joints, and the waist. Particularly painful are the places of former bone fractures and [surgical] operations: all these pains are overcome. A headache is present, as a rule, together with chills.

For children, especially with a history of lung inflammation, the temperature increases up to 40 degrees. This is not an infection; this is a cleansing reaction. It is necessary [for the doctor] only to observe, and if the

temperature is too high, to give febrifugal medication [to reduce the temperature].

The reaction continues for an average of 2–3 days. The sicker the person, the more severe the cleansing reaction.

In mildly sick patients, about one third [of all patients], the visible reaction is not observed. There is some pain and an extra visit to the toilet, and that's it. Then the patient arrives with complaints: "Look, I do not have a cleansing reaction," or "Give me something to get a cleansing reaction. Otherwise, I will not believe that I am cured." This also could seem bad [to some patients]. Because the cleansing reaction shows how serious the changes in the organism are.

I will stop here since it is necessary to know the following: I warn you that you should not treat yourself; that is why I am stressing the importance of this stage of training.

3 Questions and answers

Question: Your theory is in paradoxical contradiction with modern medicine. There is an impression that the latter is quite absurd. What is the reason? What do both the international and our physicians say about your theory?

Dr. Buteyko: Well, this is a sharply written note. As you may well see, our theory is not paradoxical. It accurately corresponds to the laws of physiology. All that I have said and that the sciences have accumulated confirm our theory. The only discrepancy is with some beliefs about benefits of deep breathing. It is necessary to reject these beliefs.

How to perceive the theory? As you can see, it is published. We have many followers and many opponents, as with any other theory. Officially nobody has criticized our theory, although I reported it to the Society of Physiologists at the Physiological Institute on Mokhovaya Street in 1964 (with regard to bronchial asthma).

And what is there to object to? It is constructed on the laws of physiology. Therefore some back-door intrigues are possible, but they cannot distort reality. Thus, there are no critics of our theory, because it is constructed on known laws. I have a grim outlook on this issue since there are important turns: all is changing. It is necessary to stick to the optimum or the norm and not to rush to extremes. We are appealing for this.

Question: Tell us, how can your method overcome hypertension?

Dr. Buteyko: Hypertension... In *Sovetskaya Rossiya* (*“Soviet Russia”, a large national newspaper), news correspondent Shpakov blabbed and gave away the secret: I was sick with hypertension in 1962 (purely at that moment this idea [breathing less] really rescued me from death, because people do not live more than 2 or 3 years with the malignant form of hypertension), and simply, using this principle, I constantly slowed down my breathing. There was no method involved. I simply did not breathe deep at any time. As you can see, I did not suffocate, and I can even tell you interesting things. *Sovetskaya Rossiya* (*“Soviet Russia”) 1968, 14 January, a large article.

Question: Has it been possible to bring this theory to the attention of sports

leaders [coaches] and prepare sports professionals [athletes]?

Dr. Buteyko: It is difficult: we have limited manpower. Two scientific researchers and two doctors have worked in the Siberian taiga, doing their work there and not hindered by anyone. As you see, everything is done—now it is necessary to apply it. (**He probably means that there are great results achieved but without broad practical applications.*) Many sports leaders understand our business, but there has been no planned training. This is in the future.

Question: In the forest, there is excessive oxygen. Does it mean that it is harmful to be there?

Dr. Buteyko: Why? The oxygen [concentration] in the forest and in this auditorium is about the same; I spoke about this. Well, perhaps here it is 2% less. But in the forest, there are numerous useful substances. Whether it be the forest, the seashore, the equator, the Pole [North or South Pole], or this auditorium, the oxygen content is about the same. Its content decreases with height (the concentration of molecules decreases and barometric pressure decreases). The pine forest has more ozone and aromatic compounds, which act individually: some people feel better, others worse. These initial views on different oxygen content are unscientific. The difference is so small that our devices could not detect it, whether in the forest or on the streets of Moscow. Infinitesimal changes of these factors do not play any role.

Question: You said that CO₂ is a drug. After one month of training, I felt that I was thinking more slowly. My head was “foggy.” Sleeping time increased. Please explain these effects. And one more [question]: what is the difference between breath holding after inhalation and exhalation?

Dr. Buteyko: Well, these are questions about the method. It seems that somebody, without my permission, began to practice. Why is your head foggy? You could have deepened your breath [during self-practice], who knows? It is better not to do this, so what can I say? Maybe you are having a cleansing reaction if the breath gets decreased. In what form, and why? Could you have chronic tonsillitis? Intoxication? There are many questions, difficult questions. If one has a focal infection (chronic tonsillitis), then it is not possible to correct the breathing. [\[41\]](#)

Hence, it is necessary to remove the inflamed tonsils first [tonsillectomy]—

that is, the infection, or infection in teeth (**cavities*)— and then engage in breath retraining. So, that it is a personal question.

Question: What is the method of learning how to breathe properly? Is it possible to learn it independently [DIY]? If it is possible, tell us more about this.

Dr. Buteyko: Well, I should start right from the beginning again. Usually, the second lecture is grasped more fully. I showed the principle of breathing measurement too. Therefore, those who listened carefully can measure their breathing. One should measure the frequency of breathing for one minute and check it with what is going on with the breathing. If it is normal, maybe there is no need to do anything or train. If you want to reach the zone of “super-endurance”—breathe less.

But the most important thing is to stop learning to breathe deeply. Exclude the factors that intensify breathing, and this will already be a huge move forward. A deep-breathing person goes to extremes: first, he learned how to breathe deeply, then he wants to reach the zone of “super-endurance.”

Abandon this illogical habit, and this in itself will be useful. My lecture was intended to help you to stop further learning to breathe deeply. I will be very glad if this is achieved.

Question: Apparently there is a method to treat cardiovascular problems using carbon dioxide baths. Does it corroborate with your theory?

Dr. Buteyko: Yes, there are many ways that verify this, but these are already details. What would happen depends on how the breathing will change—for it is possible to inhale carbon dioxide but for the breathing to increase, leading to a negative effect. [\[42\]](#)

Question: What are the dangers of doing the control pause after inhalation, if it is done without stress?

Dr. Buteyko: What I said about measurements of breathing is that the control pause is done to measure breathing and not for breathing retraining. It is started after exhalation. Breathing retraining is something else. The control pause does not train breathing, but measures it.

This is not a treatment; this is a measurement. I repeat for the tenth time: the

control pause is done to measure one's breathing, so that there are no doubts. Obviously, the author [of the note] did not understand. He thinks that the control pause is for training. Nothing of the sort. [It is an] objective control. If there are measuring devices, there is no need to do it.

Question: What is more useful: to hold breathing after inhalation or after exhalation?

Dr. Buteyko: For healthy people, these are almost equal. The breath holds are only different in duration. After inhalation, it is 2 times longer than what would result after exhalation. However, patients with asthma, hypertension, and stenocardia, who have expanded lungs, should prefer the control pause after exhalation. [\[43\]](#)

To hold breath is to return the rib cage to the norm. We practically developed this technique for the sick, and the sick should measure the control pause after exhalation. Therefore, yoga systems have breath holds after inhalation and exhalation. They are almost equal according to their physiological effect. [\[44\]](#)

Question: Please explain the importance of table salt for breathing.

Dr. Buteyko: Salt has a huge value in breathing, but this is a special question. It is impossible to cover everything. The only thing I can say is that excessive use of table salt causes the elimination of salts necessary for the organism. Therefore we tell the sick to reduce the consumption of salts. [\[45\]](#)

We are against the use of mineral drinks in large quantities: they have large amounts of salts. They produce negative effects. Therefore, drinking large quantities of mineral waters, as a rule, worsen the state, especially in the severely sick. Two glasses of borzhomi (**a popular type of mineral water produced in Georgia*) and he has an asthma attack. Most useful is to drink plain water, ideally spring water, but where can it be found?

There is also a question about alcohol. We view alcohol similarly to sugar. Excessive use of sugar leads to the destruction of B vitamins necessary for the nervous system. Sugar, for its combustion, requires B vitamins, necessary for the nervous processes. Everything you eat is sugar: bread is starch or sugar, potatoes are starch or sugar, meat or glycogens are sugar, fat is broken

down to sugar. [\[46\]](#)

Sugar deficiency does not exist. But bread, potatoes, and other products have B vitamins, which favor sugar metabolism in the organism. If you consume pure sugar, then the content of B vitamins in nerve tissues decreases. The nervous system primarily suffers. Here is something else that is usually promoted. Let me remind you about the experience with Japanese seamen who started to consume polished rice without the hull and bran layers so that only the grain [core] is left. All vitamins in rice are in the hull, the proteins too.

The seamen consumed, as a result, only starches or sugar. In 2–3 months the ship returned, and two-thirds of the seamen died from nervous palsy, heart failure, nervous exhaustion, etc. For a very long time, the Japanese were searching for sabotage [poisoning] or infection, until scientists known to you discovered the vitamins of the B group. Therefore those wanting to eat sugar will reach the state of these Japanese seamen.

Alcohol, according to its physiological effect, has two directions: first, it acts on the nervous system and breathing (it suppresses breathing). It suppresses breathing during the first stage. But later, when alcohol is converted to oxidized products (**by the liver*), they replace carbon dioxide. The hangover is the reaction of deep breathing: headache, weakness, and nausea. [\[47\]](#)

If the breath is decreased, these phenomena will disappear. But moreover, deep breathing tactically intoxicates the organism. It causes oxygen deficiency in the tissues, approximately in the same way as alcohol does. Deep breathers are half-drunk. Their reactions are inadequate, they will get into car accidents, and they get excited more than usual. But if the deep breather feels that he gets drunk from alcohol, as soon as he decreases his breathing, this decreases the component of intoxication from deep breathing and decreases the intoxication. There is such an opportunity whereby he will sober up a little.

In deep breathers, hangover and excretion of carbon dioxide produce negative effects. Therefore usually deep breathers do not drink. First of all, they instantaneously become tipsy; they lose control from the slightest dose of

alcohol, and they feel even worse later, when alcohol is disintegrated. Alcohol itself is the product of the disintegration of sugar. Therefore, according to its physiological effect, it is similar to sugar. It requires B vitamins for its destruction and damages the nervous system. Alcoholics will have the same effects as the Japanese seamen.

This is our opinion about alcohol. And, in general, we tell the sick, “When you go visiting healthy people, to have fun or to mourn, or there’s a strong urge to be consoled, of course, it is possible to drink somewhat to drown the sorrows or to have fun. This will be a very positive factor, but do know when to stop.” And, in general, we permit the drinking of alcohol as much as there are seconds in your control pause: 20 seconds—20 grams, 240 seconds—240 grams; everything fits, and this just creates the normal reaction directly according to the table.

Question: Were any experiments conducted in air with increased CO₂ content?

Dr. Buteyko: Yes, there were many such experiments. Fortunately, when our idea came to us, the main [experiments] on that data, which I told you about, had already been conducted. A vast amount of experience has been accumulated, tactical material that confirms all that I have said. Only it should be classified logically, in the same way as proving a theorem. Then everything will fall into place and the many experiments. Animals, by the way, can exist in an atmosphere with even 30% of carbon dioxide for a long time without perishing.

Question: Is there any harm from pauses in breathing?

Dr. Buteyko: Why harm? Only one should not confuse the control pause for measurement [of one’s breathing] with the usual automatic pause after inhalation-exhalation. By the way, the automatic pause is about one-tenth of the control pause. Is there harm from normal breathing? None at all.

Question: How does one apply pauses in breathing?

Dr. Buteyko: You should not apply anything! Consider you never heard anything that was said here today. You understood everything exactly opposite. I suggest that the author of this note terminate all his experiments, and under no circumstances [can he practice]. He confuses the control pause

with the automatic one. What will he then do at home? Do exhalation, and breath holding up to the control pause, then inhalation, exhalation and again. All this as was discussed, and he'll learn how to breathe normally. Under no circumstances can one train like this. My first request is that deep breathing be unlearned first of all.

Question: Please tell us about yourself. Is it possible to be treated by you?

Dr. Buteyko: I am a clinical physician according to my profession, but I am involved in physiology. There are more than 50 million patients in the Soviet Union who are subject to our treatment. I am not going to treat them all. Our task is to teach academicians, professors, and doctors so that they can treat the patients. This is our task. We will solve the first part. However, the treatment of each patient would distract us from our cardinal tasks.

Question: Is there a center in Moscow or other cities, where they treat people using your method?

Dr. Buteyko: Yes, there are many such centers now. I will not name them, especially since the waiting lists are many years long. It is also prohibited to take patients if a doctor cannot see them through for at least 6 months. Therefore our task is gradual. First is to inform the sick and healthy that there is such a disease as deep breathing so that they cease to learn to breathe deeply, and the regimes for the sick are changed, and that the medications that acutely intensify breathing are not given. Gradually, slowly, and surely this will be a victory. We are not deep breathers. Therefore we do not go for extremism. All should be done gradually, particularly in such complex questions.

Question: You say that creative activity and excitement lead to deep breathing. Should we not then refuse such work?

Dr. Buteyko: Under no circumstances should one deliberately learn deep breathing. Concerning mental or creative activity, add two to three hours of physical exertion, then you will be able to work normally and monitor breathing so that it will not increase. If breathing is increased, you will get vertigo, headaches, poor sleep, and memory impairment, and you will not be able to work creatively. You should know why it took place, and this will be a plus. Previously they thought that deep breathing assisted working and therefore learned to breathe deeply.

Question: Is it correct to understand that, apart from reduction in the depth of breathing, it is necessary to stay away from meat, fish, and dairy products? (Question from someone in their 30s).

Dr. Buteyko: No, I talked about the principles that we discovered, and how to adjust them is an individual question because everyone's metabolism is different. For example, I am sure that my [dog a] German Shepherd will not confuse me with anybody else out of some 3 billion people. This is indeed so: metabolism is strictly individual. And among people there are “rabbits,” according to their metabolism—they should eat only cabbage with other vegetables, and there are “wolves” who cannot exist without meat and will die. This should be approached strictly individually.

There are “rabbits” that are “wolves” by character and vice versa: character and diet do not coincide. It is necessary to look at each separate case, but the principles are true.

Here is a question about the forest, useful and useless plants, and burning fuel: how all of them influence carbon dioxide in the atmosphere. Of course, it is necessary to grow plants that after absorbing carbon dioxide, produce something in exchange, e.g., fruits, etc. Well, burning coal, petrol, and other fuels during [the last] 100 years did not result in an appreciable increase in the content of carbon dioxide in the air. Those minute quantities that were produced here were eaten up more by seaweeds rather than the forests.

The seaweeds of the seas and oceans absorb 3–5 times more carbon dioxide than all the forests of the world. How should we deal with seaweeds then when seaweeds are consumed by sea animals? These are the problems that arise. Our laboratory or the Academy [of Sciences of the USSR] cannot solve them. There are many problems in this respect in different areas.

Question: What can you say about the book *Jogging for Life* ?

Dr. Buteyko: I said that jogging and physical exertion increases the content of carbon dioxide in the blood and tissues; this is how it heals.

Question: The breathing gymnastics of yogis include exercises with breath holds during vigorous movements or in a static state. You are probably

familiar with the gymnastics of yogis. What is your opinion?

Dr. Buteyko: Yes, if one properly executes the breathing gymnastics of yogis and their exercises, along with a proper world outlook, it is of use. We have a lot of examples of when they tried to learn yoga exercises, based on the concept of the usefulness of deep breathing. All exercises were executed with increased breathing, and they got sick with hypertension, stenocardia, ulcers, heart attack, and stroke. All of these while they were engaged in yoga gymnastics.

Others were correctly engaged in yoga gymnastics: their breathing decreased, and they were cured of these diseases. So, as you see, [it] depends on how you approach this. Therefore, the gymnastics of yogis was practiced only under the supervision of the guru (teacher); the knowledge was transmitted confidentially, because nuances or how to do it, and the breathing should be controlled by an experienced yogi or guru.

Question: What can you say about the benefits of walking in fresh air?

Dr. Buteyko: We force our patients to move more in fresh air, to run and to hold their breath. So, it's quite clear: breathe less but breathe fresh air. If the doctor says to you, "Eat less," you will not start to eat rotten products. If you are told, "Breathe less," then it is necessary to diminish breathing but to breathe the purest air—better still, mountain air.

Question: The combination of actions in the organism of carbon dioxide and oxygen is unclear.

Dr. Buteyko: There is no combination. These are different factors. Carbon dioxide is a factor of life and a regulating one, whereas oxygen is the energy source. They are united only by one channel of movement, but it is not essential.

Question: Do yogis consume only milk?

Dr. Buteyko: Only milk... This person does not know yogis at all. The yogis, in general, are vegetarians; and milk, somehow only from the buffalo (6.5% fat content), is used very seldom, in different conditions. They usually do not drink milk. This person is mistaken. We are not against milk entirely. And yogis could have some wrong view. Milk should be given to the young and exhausted people.

Question: Who breathes deeply using deep breathing? Indeed, nobody purposely breathes in such a way.

Dr. Buteyko: Well, this person is not of our age. In this day and age, everyone knows that deep breathing is useful, and all aspire to deepen it. This note is obviously written by someone from the previous century. If you do not breathe deeply, then it is not necessary to intensify breathing; this does not contradict our theory.

Question: Do pearl divers breathe intensively before immersions?

Dr. Buteyko: Did this comrade see divers himself? Aha, he read, ok. Well. Little attention is paid to how the diver breathes before and after the dives. I managed to decipher this question to some extent... I tried... Hmm...an interesting question. The diver does about 100 dives, 2 minutes each; for 200 minutes or 3 hours, he is underwater [every day]. This is most active work. But this is not that important. It is how he breathes the other 21 hours, instead of those 3 hours. If he breathes deeply, then he will be severely sick and will die. And if he breathes normally, he will somehow endure 3 hours. The key is not in the dive, but in the way the person breathes day and night. First, what is the basal breathing?

Second, what do we notice? Divers, Japanese, especially women (ama), they dive up into their 70s. Imagine, up to their 70s! And then for 20–30 more years they teach how to dive. There is “a song of ama.” It is whistling through pressed lips. Before and after the dive they never breathe deeply. Particularly after the dive, they monitor so as not to over-breathe deeply. They exhale air through pressed lips, with resistance; i.e. [they] do the control pause according to our technique. Therefore, they preserve vivacity and serviceability up to 70 years of age. They diminish breathing between dives.

Southern divers, particularly from Vietnam and others, they breathe deeply before and after the dives. They get sick very quickly with sclerosis and die at a young age. Therefore, it is not a question of the dive, but what takes place between dives, that matters. This is the information that I have about this question.

Question: It is known that most of the nomadic peoples that are engaged in

animal industries (Mongols) eat mainly meat and milk— *koumiss* (**koumiss is a fermented milk of mares*) . They practice the koumiss-cure.

Dr. Buteyko: Well, yes that is correct. It is possible to eat meat too. I do not say that eating meat necessarily results in deep breathing. I am talking about it as it is observed in the whole scheme of things. By the way, I have some informal data, but in Mongolia, there are too many people sick with atherosclerosis, and in particular, problems with the cardiovascular system. These problems are frequent and take place early in life. I don't have complete data though. You see, this is a complex question. And koumiss, milk of mares, contains many useful mineral substances, microelements, and vitamins. It is possible to use it [milk]. However, we should not go to extremes about what I was saying. Some people should drink milk, particularly children or the sick (without deep breathing).

Question: Because we are so rushed, we are always on the run. This possibly also causes frequent deep breathing. Would it not be better to be late, than to run?

Dr. Buteyko: This is clearly written by students wanting me to condone their being late. First, I cannot do it for obvious reasons, and, second, being in a hurry, indeed, intensifies breathing. Therefore I advise you to get up an hour earlier, walk to the university, and train your breathing. You will not be late. In fact, rushing and excitement do intensify breathing. It is necessary to slow down breathing and then to run; then it will be useful.

Question: During the past 50 years, the concentration of carbon dioxide in the Northern Hemisphere has increased.

Dr. Buteyko: Where is this data from? This is a fantasy. There is no such data, because the atmosphere on Earth is mixed at a very high speed. The air that was at the North Pole and has a wind speed of 500–600 km/h in the upper layers—and it does have such a speed—will be at the equator in half a day. The atmosphere is so intensively mixed that concentrations of gases are identical practically everywhere. During calm weather conditions, cities have some small carbon dioxide excess, but it is temporary.

Question: Was there something published about the common diet, from the standpoint of your theory, and where?

Dr. Buteyko: The things that I said about diet are known facts: about proteins

and sugar. The only unknown was that meals with large protein content intensify breathing. We did not manage to publish this work yet. But here all prompts are due to simple everyday experiences. Possibly, there is no need for a specific publication.

Question: Is it possible during a strong attack to use Theofed, Platifilin, and Papaverin? Dr. Buteyko: It is individual. It will be discussed by the family physician.

Question: Is it possible to eliminate negative emotions using your method? Dr. Buteyko: Yes, excitement [anxiety] can be eliminated. And there are conditions for this in the family where our idea and our technique are known. They say, “Exhale and hold your breath!” All [excitement] settles down on the spot. Even the counting method (count up to 50) slows down breathing and soothes the nervous system.

Question: Do all parts of the lung work during shallow breathing? Dr. Buteyko: Aha, here is an interesting question. When their breathing is trained, our patients go to the doctor who does not know our theory and physiology, and he says, “What is wrong with you? It’s not really possible to diminish breathing. This can atrophy the lungs.” And many sick patients abandon training.

It turns out, deep breathing causes abnormal metabolism in the lungs and atrophies them. Emphysema of the lungs develops from deep breathing. Bronchospasm comes, and during deep breathing, some parts of the lungs are poorly ventilated. There can be atelectasis, until abscesses. The reduction in breathing evenly dilates all bronchial tubes, and the lungs are easily ventilated. The lungs get restored, emphysema and others disappear, and the vital capacity of the lungs increases. Everything is the exact opposite. All earlier ideas were only being considered.

Question: Where can we get a consultation here in Moscow?

Dr. Buteyko: Well, the official units are doctors and establishments. They will deal with you. Those who know our method will deal with you at the top level, those who do not, at the lowest.

Question: What about rheumatic carditis, myocarditis, and allergies?

Dr. Buteyko: I spoke about allergies. Allergies, obviously, appear in asthmatics due to deep breathing. Allergies can be primary, due to abnormalities in the metabolism, and of another nature; they should be diagnosed. Rheumatism is, as we consider it, an infection plus deep breathing.

Question: Should the reduction of breathing amplitude be the norm of breathing or its episode?

Dr. Buteyko: This is about the method of breathing training. Breathing will begin to decrease constantly if it is diminished no less than 3–4 hours per day. Then it will begin to decrease even in between training. This is a smart comment. Constant reduction of breathing should be the law of our society.

Question: Can your method be used in critical cases?

Dr. Buteyko: Yes, of course, [it] eliminates asthma attacks, stenocardia [angina pectoris], and other critical states within a few minutes when patients access the help of the doctors trained by us. Our method eliminates the state in 3–5 minutes, whereas [ordinary] doctors cannot stop an asthmatic from having an asthma attack for many days, weeks, or months. This fact should be well known.

Question: What is your opinion about hot baths with simultaneous breath holding?

Dr. Buteyko: A combination of a hot bath with breath holds is, in my view, something imaginary. We did not conduct such experiments. Hot baths; to whom and for what? All these questions are very difficult. We do not recommend applying our technique in hot baths.

Question: Can you tell us where you work and live? What is the exact title of the establishment where your research has been conducted?

Dr. Buteyko: Our laboratory was organized in the Siberian Branch of the Academy of Sciences of the USSR, in Novosibirsk, in the Academgorodok. The laboratory was in the Institute of Experimental Biology under the supervision of professor and surgeon Meshalkin. Later we became a part of the Institute of Cytology, and then the Institute of Physiology. These transitions saved us from obstacles.

The main investigations were completed, and the current goal is to transmit these studies to the center [Moscow], organize a laboratory here, and conduct new research at the highest level. Well, where do I live? These details, likely, are interesting for a few. In Novosibirsk. The address is known. If you want to write letters to Novosibirsk, write “Buteyko”—they will get to me, because thousands of letters do. I have an apartment in Moscow, which has been empty for 8 years awaiting my return. The details are not that important.

Question: Is it true that those people with asthma, who use prednizolon, cannot be treated using your method?

Dr. Buteyko: No, not true. This is a hormone. You may know that sick people with asthma are prescribed hormones knowing that they are deficient in these hormones. However, they are not prescribed correctly. But hormones, it turns out, diminish breathing. This is how they are treated, but they destroy the hormonal system, causing hormonal dependence. And, in particular, the adrenal glands are destroyed: they atrophy. [\[48\]](#)

Dr. Buteyko: It turns out, our technique and the increase in carbon dioxide stimulates the adrenal glands and can wean patients off hormones. Therefore our method, fortunately, is capable of curing the patient of hormonal dependence that initially he got from hormones. It is almost the sole method that can rescue him from hormonal dependence leading to severe abnormalities: fragility of bones, growth of a beard and mustache in women, etc. Asthma remains, and such “charms” are added [when ordinary doctors prescribe hormones]. But we, at the beginning, prohibited our doctors from taking such patients, because treatment of the sick with hormones is considerably more difficult.

Question: What is the explanation for the use of oxygen tanks during acute attacks of the disease?

Dr. Buteyko: That depends on the disease. It is necessary to look for what is missing and provide it. Oxygen should be given to those who do not have enough [of it]. Otherwise, chaos will take place. He has too little carbon dioxide, but they give him oxygen. Can you imagine? It’s as if he asked for water, but they gave him a herring. And vice versa. It is always necessary to give something that is required, including oxygen.

Question: How much soda would you recommend that one should drink?

Dr. Buteyko: We always say, “Drink when you are thirsty.” If there is a desire, you should drink; if there is no desire, do not drink. We have no other indicators. There are millions of gauges in the organism that take into account all parameters and produce this desire. But in the meantime, we can speculate, in a leisurely way, using the same reasoning, as it was said about breathing.

There is another question concerning exhaust gases from motor cars. They don't contain much CO₂, but they contain more sulfur and cyanic compounds, soot and other toxic products. Of course, it is necessary to fight this. Air should be pure.

Question: What is the right diet?

Dr. Buteyko: A balanced diet consists of mixed vegetables and other foods. I cannot cover everything in one lecture. I only indicated what is necessary to avoid, which absurdities, or deviations. The principle is a wide range of foods, and more vegetables with aging. This is the main law, but even this law is individual.

Question: Do yogis delay their breath after inhalation?

Dr. Buteyko: They do everything and even upside down and through the right nostril. But those are exercises. We discussed this before. Here it is not significant. We are talking about breathing that goes on day and night, about real breathing, not about exercises.

Question: I have already heard about your theory earlier and tried to do shallow breathing with breath holds after exhalations.

Dr. Buteyko: With breath holds after exhalations! This person has understood nothing, of course! In general, we are against breath holds. If one practices breath holds, this is a gross mistake of our technique. If one tries the control pause, then it can be done just a few times in a day for measurement. Someone has everything mixed up! You must stop this immediately! This is an amateur performance! You understood nothing and should give up learning deep breathing. You will then get benefits. Otherwise, you will make claims later: “I tried the Buteyko method”... It turns out that he tried deep

breathing! [\[49\]](#)

Question: What is your opinion about kefir?

Dr. Buteyko: Fermented dairy products and firm cheeses are absorbed slowly and have less negative effects. [\[50\]](#)

Dr. Buteyko: But the diet should be selected individually. I am only warning you: “Avoid extremes!” Many times I have been visited by a sick asthmatic, and I would ask him, “What do you eat?”

“Only cottage cheese and milk, for two years already.”

This is something we insist be avoided: the absurd, and the extremes.

Question: How should one breathe during morning exercises, during running, or when washing one’s arms all the way up?

Dr. Buteyko: This, in fact is a very genuine and urgent question. If breathing is normal, there is no need to interfere with it: it adjusts naturally. If breathing is deep, it is necessary to slow it down both at rest and during exercises. This is the main principle. But in order to find out which breathing one has, define it using the table. [\[51\]](#)

Dr. Buteyko: Of course, it is necessary to give up learning deep breathing. If you hear “Breathe deeper!” on the radio, do not do it! (I hope that you already understand what the problem is.) But to explain here the system [of the Buteyko breathing exercises] or which exercises to do is difficult. Here only principles were provided.

Question: The breathing of yogis does not contradict your system, as I understood. Yogis endorse slow breathing. In general, what is your attitude toward the yoga system?

Dr. Buteyko: Well, there are many systems developed by the yogis, and in general, we cannot speak about the system in a strict sense, unless they have tables, measurement of breathing, etc. I personally have not studied the breathing system of yogis using devices. This is our next goal.

In general, according to those descriptions with which I was acquainted, and the final results, the yogis arrive at shallow breathing. It may take 5, 6, or 12 years of training that leads them to shallow breathing.

There are no doubts about this. Super-endurance of yogis is the effect of shallow breathing. This final result unites real yogis and our system, the scientific system of breathing. Yoga should be studied! There are many interesting physiological things there. This topic is raised by many scientists in Moscow, and I support them. We came across these phenomena accidentally, and if we focus on them, many interesting things can be discovered.

Question: Many hypertensive people and bronchial asthmatics have never heard about deep breathing and, moreover, never practiced it on purpose.
Dr. Buteyko: I listed factors that deepen breathing. Deep breathing can be hereditary or congenital, such as a mother who worried during pregnancy and breathed deeply, etc. It is possible to acquire deep breathing. There are many causes.

Question: Would you kindly suggest doctors in Moscow who attended courses in your laboratory.

Dr. Buteyko: They asked me very seriously not to disclose any information. They are already overworked. You should contact the medical organizations if you require medical assistance.

Question: Should we sleep in rooms without proper ventilation?

Dr. Buteyko: We should not.

Question: Is it possible for a doctor to get specialization [in your laboratory]?

Dr. Buteyko: We don't have the time now. I can direct you to one of the centers in the [Soviet] Union, which is closer, so that this doctor can get you qualified. In Kharkov (Ukraine), Doctor Glubenkova already has trained 60 doctors. Practical training using sick patients is directed by doctors who have mastered our technique.

Question: Would you please describe in more detail and show us in practice how to acquire shallow breathing?

Dr. Buteyko: This person is asking to show normal breathing. This is impossible! It is absent! Normal breathing is invisible! One cannot show it! But deep breathing is how asthmatics breathe, deeply, and frequently, and noisily. Did you not understand this? Asthmatics breathe in this manner

particularly during attacks, when breathing is intensified.

Question: Is nasal breathing better?

Dr. Buteyko: During mouth breathing, we exhale too much carbon dioxide; therefore it is necessary to breathe only through the nose! And to inhale and exhale by mouth during meals, but the nose—for breathing! [\[52\]](#)

Question: Physical exercise and sports intensify breathing...

Dr. Buteyko: Well, the person missed the part where I explained everything about this.

All questions have been answered, so I thank you for your attention and wish you all normal breathing!

(Standing ovation)

[\[1\]](#)

This introduction was written by a Soviet bureaucrat who had a poor understanding of the Buteyko method. First of all, Dr. Buteyko never taught others to “train their breath holds.” The CP (control pause or breath holding time after usual exhalation and until the first signs of stress or discomfort) generally cannot be trained directly or by doing breath holds only. Second, the CP test is done only until the first signs of stress, and not for “as long as you can.” This Soviet bureaucrat probably couldn't get a good result in the test (until the first discomfort) and decided that the goal was to get a better number by pushing oneself. He also imagined that the whole idea of the Buteyko method was to do many breath holds or to be “trained in breath holding.” In fact, all manuals, articles, and notes written by Dr. Buteyko clearly state that the MP (maximum pause or breath holding after usual exhalation for as long as you can) test is done only on rare (or special) occasions under the supervision of a medical practitioner trained by Dr. Buteyko. It is the CP (control pause) test that can be safely used by the overwhelming majority of patients since it is done only until the first signs of stress. The MP can be dangerous and detrimental to the health of many groups of patients.

² This lecture took place in the largest auditorium of Moscow State University (named after M. V. Lomonosov). This special event was organized for the staff of the University. It was likely the classified nature of Buteyko's research during the 1960s and the exclusiveness of his discoveries that predetermined the organization of this lecture (there was one more, in 1972). Hence, it was definitely a very large and significant event for the scientific staff of the Moscow State University. Try to imagine: the leading scientists, professors, academicians, and directors of numerous institutes of the most famous Soviet University are gathered together to hear news about medical discoveries.

Regarding the title of the lecture with the phrase “death of Western civilization,” such a huge Soviet educational gathering could not have taken place without elements of Communist Cold War propaganda at the time. Clearly, the historical situation was an important factor that greatly influenced all these details and developments.

³ The end of the 1960s was undoubtedly the pinnacle of Dr. Buteyko's career: he had almost completed the vast project initiated and generously funded by the Ministry of Aviation and Space Research devoted to the study of air, breathing, and human health. (The project was dedicated to the first spaceship launches.) However, he had no idea that in the following decades he was to fight, often surreptitiously, for these ideas with almost no support from Soviet medical authorities.

There is also another, interesting psychological aspect to this lecture that makes it different from other interviews and publications that were done later. In this lecture Dr. Buteyko, when speaking about various discoveries, uses the words “we” and “our laboratory.” He does not care about priority and his authorship. He cares about the business of advancing medical science, physiology, and the treatment of diseases, thereby helping millions of sick people worldwide. During later years, it was definitely the job of the KGB agents to “control” Dr. Buteyko. One of the popular methods of “control” practiced by many security agencies is to create paranoia in the “controlled” subject so as to foster his suspicion, mistrust, anxiety, greed, fantasies, fear, and other negative emotions. This mission is accomplished by using relatives, friends, co-workers and everybody else who is in touch with the person (by teaching them to use dirty tricks in the name of “national security”), apart from manipulating other aspects of their personal environment. Somehow, up to the current day, security agencies consider the generation of these feelings as a kind of “victory” or “fulfilled mission.” The absence of such negative feelings, fantasies, and paranoia in the controlled subject (i.e., having a normal life) is viewed by most national security agencies as a defeat. We will not dwell here on the topic of why states continue to pay money for this nonsense and why the gratification of the basic lowest instincts of secret agents was and still is called “public safety.” Instead, let us focus on the unique feature of this lecture: Dr. Buteyko's original mindset or his easygoing, relaxed attitude

toward the discussed topics and scientific discoveries his laboratory made.

^{4]} These two terms (frequency of breathing and depth of breathing) are translated literally from Russian, as they are used by scientists in the Russian language. The relevant Western physiological terms and international norms are:

/t - Tidal volume (air volume breathed in during a single breath), 500 ml at rest (the normal value)

- Respiratory frequency (number of breathing cycles per minute), 12 breaths/min at rest (the normal value)

Although Dr. Buteyko almost rejected any significance to breathing frequency, this seemingly illogical choice had a deep practical meaning for him. I will try to explain. It will become clearer below that the main danger of deep breathing and the reason why Dr. Buteyko strongly argued against deep breathing alone is the excessive removal of CO₂ from the body. Theoretically, the respiratory frequency is a very important factor that directly participates in the CO₂ removal and, hence, the regulation of chemical balances in the body. Why then did Buteyko declare it unimportant? For any particular person, or in real life, both parameters generally change together in the same direction. For example, when we get sicker or experience acute episodes (like asthma attacks, strokes, etc.), both the depth of breathing and its frequency become greater. Similarly, stress or overeating can produce deep and frequent breathing. When we improve our health, both parameters (tidal volume and respiratory frequency) get reduced. This is the way the breathing center generally works in some 95–98% of cases. Therefore, from a practical viewpoint, only the minute volume is what really matters. Dr. Buteyko will explain this at the end of this lecture.

Dr. Buteyko and his colleagues tried to incorporate and use breathing frequency in the 1960s (there was another attempt in the 1980–90s) as one of the parameters during breathing exercises by patients learning the Buteyko method. However, the addition of respiratory frequency did not simplify matters for them. It was, in fact, more difficult for patients to also pay attention to this factor during breathing exercises. And this is exactly what he meant when he told the audience about the doctor prohibiting patients to think about breathing frequency.

^{5]}

ohn Scott Haldane (1860–1936), a famous Scottish physiologist who is revered for his key advancements in respiratory physiology. He determined the exact reason for carbon monoxide's toxicity (carbon monoxide binds to hemoglobin, which prevents its crucial role in carrying oxygen throughout the body). This discovery would not be appreciated for over a half a century. He clearly showed that, except under extreme conditions (when, for example, inhaling carbon dioxide), the regulation of breathing depends much more on the amount of CO₂ in the air that is inhaled than on the amount of oxygen in the inhaled air. This crucial finding was not applied clinically until after World War II. Haldane developed the method for stage decompression to prevent the development of nitrogen bubbles in tissue spaces upon ascent, which is common among deep-sea diving operations and in underwater construction. Most of Haldane's findings were summarized at his greatest academic accolade, the Silliman lectures at Yale in 1916. This lecture was published as a book in 1922 and, after a revision in 1935, became the standard guide in respiratory physiology.

^{6]} Yandell Henderson (1873–1944), Yale University professor emeritus; honorary medical doctor; leader of US respiratory physiology and resuscitation; chairman of the Section of Physiology and Pathology of the American Medical Association; the recipient of many honors; the father of cardiorespiratory physiology; an author of the first physiological textbooks. During World War I he was appointed chief of the medical section of the US War Gas Investigations, a division of the Bureau of Mines, which developed into the research division of the Chemical Warfare Service of the US Army, and in this capacity he organized the laboratories for studying the physiology of aviation and developed medical tests for aviators.

^{7]} When he states, “Now there are already thousands of such studies”, he means studies about the negative effects of hyperventilation on different systems and organs of animals and humans. In the last sentence, he describes the tragic situation of death, since most chronically ill people die in conditions of severe hyperventilation. Hence, he suggests that, while his first patient hyperventilated voluntarily and was able to regain consciousness naturally, the critically ill people have very heavy breathing just before their death, due to other factors, and are not able to survive.

^{8]} The last sentence clearly describes the fundamental cause of various allergic and immune abnormalities that are normal for people with asthma, sinusitis, hay fever, allergies, and many other autoimmune disorders. This is exactly what happens to millions of people worldwide. When the stress-free breath holding time after a usual exhalation (the result for the CP test) drops below 20 s, the immune system of most people is unable to resist various infections in the sinuses, bronchi, lungs, ears, eyes, GI tract, and other parts of the body. At the same time, the immune system can become oversensitive to many natural or innocent things such as dust mite droppings, pollen, mold, cat dander, proteins, gluten, peanuts, tomatoes, and hundreds of others.

^{9]} Kliment Arkadyevich Timiryazev (1843–1920): a Russian botanist and physiologist; professor of the Moscow State University; founder of the Russian school of plant physiology; Honorary Doctor of Cambridge, Geneva, and Glasgow Universities; discovered and investigated the composition and optical properties of chlorophyll, physical and chemical conditions for photosynthesis (breakdown of carbon dioxide), parameters and spectrum of sunlight that participate in photosynthesis, and qualitative relations between consumed energy and generated work during this process; constructed the first greenhouse in the 1870s.

^{10]} The above-mentioned Yale professor Yandell Henderson suggested the following about CO₂: “Carbon dioxide is, in fact, a more fundamental component of living matter than is oxygen. Life probably existed on Earth for millions of years prior to the carboniferous era, in an atmosphere containing a much larger amount of carbon dioxide than at present. There may even have been a time when there was no free oxygen available in the air...” Henderson Y, *Carbon dioxide*, in *Cyclopedia of Medicine*, ed. by H. H. Young, Philadelphia, FA Davis, 1940.

^{11]} What Dr. Buteyko means by “scissors” are the graphs of CO₂ and O₂ concentrations in the air during the several million years of Earth’s evolution. These graphs were present in numerous Russian sources devoted to the Buteyko method.

^{12]} The math is simple here: If cells require 2% O₂ but our air has 20% O₂, clearly we have 10 times more oxygen in the air than required for our cells. Similarly, if cells require 7% CO₂ but our air has only 0.03% CO₂, the outer air has about 250 times less CO₂ than our cells require.

^{13]} Haeckel claimed that individual biological development, or ontogeny, parallels and summarizes its species’ entire evolutionary development, or phylogeny. Professor Severtsev, the director of the Institute of Biological Development, supported these ideas. While Haeckel’s theory is not completely accepted, it is absolutely obvious that the formation and development of the prototypes of human lungs took place at a time when the O₂ concentration in the air on Earth was less than 1%, while CO₂ was over 7%. Hence, control of breathing by the nervous system was based on a necessity of hyperventilation in cases of higher metabolic requirements or greater oxygen needs. Therefore, any stressful situation, including fight, flight, exercise, and even digestion required more oxygen, and hence deeper breathing, in the past.

It makes sense to conclude, then, that hyperventilation became and remains a fundamental instinct or reflex of the human organism that can be easily triggered by a large variety of internal and external triggers. It remains hidden in the background for healthy people, but it controls many main physiological processes in the sick. When we are born, we immediately start to gasp for air, driven by this primitive conditioning that air has minimal oxygen content. When we are dying from chronic diseases, the same instinct easily takes over the control of the body, which intoxicates us with air that is devoid of CO₂ and too rich in oxygen.

^{14]} It wasn’t only Europe and the East that used swaddling of newborns and infants, until they started to exercise and generate more CO₂. In my view, all tribes, cultures, and societies from all continents had been using swaddling in the past. Those that did not use swaddling died due to infections and diseases within 2–3 generations, similar to ours. This is why we have an unprecedented epidemic of pediatric reports concerning children, only months or years old, who develop severe asthma, diabetes, obesity, cancer, heart disease, etc. Such a pitiful state of today’s children’s health is something that was unknown in the history of medicine, but in agreement with the ideas discussed here.

^{15]} Pyotr Kuzmich Anokhin (1898–1974: academician of the USSR Academy of Medical Sciences, member of the Academy of Sciences of the USSR, Doctor of Medicine, biologist and physiologist who made important contributions to cybernetics and functional systems and elaborated the theory of functional systems which tied together subtle neurophysiological mechanisms and integral activity of an individual, and pupil of the most famous Soviet physiologist Ivan Pavlov.

^{16]} He mentioned the miracles produced by yogis, which have been known to many Soviet and Western people. During the 1950s and '60s, many respectable Western and Soviet journals wrote extensively about the abilities of yogis to do various unusual things with their bodies. For example, they could change and regulate their heart rate in a very wide range (e.g., from 10–20 up to 120 or more beats per minute); change and regulate temperature of, for example, one arm; move a volume of water inside the small and large intestine in both directions; be buried in a sealed coffin for several days and come out alive afterwards; go into a state similar to hibernation of animals with very low heart rate and body temperature for many hours or days (some yogis did not survive the last two endeavors); etc. These miracles were often witnessed and described by Western scientists. In many

cases, these abilities of yogis were measured and confirmed using corresponding devices, such as EKGs, thermometers, X-rays, etc.

^{17]} It is an accepted physiological fact that our breathing does not change if our air gets only 15% O₂ in the surrounding air and not 20%. However, our breathing will be different if the CO₂ in air is increased by 0.1%.

^{18]} Note that a drop in blood pressure is the immediate reaction to breathing more. In the long run, people who are genetically predisposed to high blood pressure and accumulation of cholesterol gradually develop these problems, and this is the next effect.

^{19]} This effect was known to Yale University professor Yandell Henderson (see above). In his article “Carbon Dioxide,” published in *Encyclopedia of Medicine* (ed. by H. H. Young, Philadelphia, F. A. Davis, 1940), he wrote, “...under clinical conditions low oxygen and low carbon dioxide—anoxemia and acapnia—generally occur together. Each of these abnormal states tends to induce and intensify the other.” Hence, Professor Henderson also stated that:

) Heavy breathing reduces body oxygenation.

!) This situation is typical for sick people.

Both physiologists, Professor Henderson and Dr. Buteyko, of course, speak in general terms or in relation to some 80–90% of patients. In certain conditions (severe asthma, emphysema, etc.), when gas exchange in the lungs is not normal (so-called “ventilation-perfusion mismatch”), carbon dioxide in the blood can become much greater than the norm, while blood and tissue oxygenation drastically falls to critically low levels. Such patients are among the first candidates to breathe pure oxygen, which increases the amount of unbound oxygen (freely dissolved) and can provide only temporary relief due to large oxidative stress for the alveoli.

^{20]} Dr. Buteyko is speaking about the Institute of Medico-Biological Problems (Moscow) headed in 1965–1969 by Professor Vasily Vasilyevich Parin, who was the founder of Soviet space medicine.

^{21]} John Scott Haldane (see previous note) worked together with John G. Priestley in the University Laboratory of Physiology at Oxford studying the role of oxygen and in particular carbon dioxide in the control of breathing. Their key paper in 1905 was titled “The regulation of the lung ventilation,” where careful measurements of CO₂ in alveolar gas under a variety of conditions showed its critical role in the control of breathing.

^{22]} There are two ideas here that can be difficult to understand even for people with a knowledge of physiology and medicine. The first idea is about low oxygenation of the venous blood during hyperventilation. One may expect that if tissues get less oxygen, then venous blood, which leaves hypoxic tissues, should have higher oxygen concentrations in comparison with normal breathing, when more oxygen is released in capillaries. The paradox is explained by the greatly reduced blood flow. The ebb and flow of blood is much slower during hyperventilation, but the tissues consume a lesser amount of oxygen than during normal breathing; the losses of oxygen in slow-flow conditions will be much greater simply because of the slowness.

The second idea is in his last sentence about constriction of arteries. He already mentioned vasoconstriction as a reaction to hypocapnia: arteries and arterioles become narrower when CO₂ in the arterial blood is reduced. Here, he has probably suggested another, purely mechanical effect: if veins expand due to hypoxia, redistribution of the blood should lead to further constriction of arteries and arterioles, and this effect is explained by the examples he gives next.

^{23]} Are all these diseases really caused by chronic hyperventilation? While ulcers, for example, can be

triggered by horrible dietary habits, regardless of breathing, physiologically, he is absolutely correct. The inability of the organism to heal the ulcer will be based on poor oxygenation and perfusion and a weak immune system. All are direct and immediate consequences of hyperventilation.

^{24]} This idea can be further developed. One of the central questions in modern genetics is why and how genetic diseases are triggered (or “bad” genes are expressed). The answer is simple. Over-breathing is the trigger.

^{25]} In my view, it is not the disease, but the most fundamental human instinct (hyperventilation) that takes over. Why? Most of the time our lungs were developing and evolving in conditions where the CO₂ content was high (over 7–12% during the first stages of development), with a gradual decline, and low O₂ values (about 1% or less during the first stages). During these stages, the process of control of breathing by the nervous system was also developed. Since this primitive air had very little O₂, our evolutionary predecessors could get more oxygen in tissues by breathing more. Any stressful situation, digestion, search for food, mating, playing, and any other activity required more oxygen, and hyperventilation became the fundamental reflex or instinct that takes control of most people when they are dying from chronic diseases.

^{26]} This was the title of the article about Buteyko’s discoveries published in this very popular *Soviet newspaper* on May 1, 1967.

^{27]} Among recent published studies on epilepsy that confirm this physiological observation are:

Isquivel E., Chaussain M., Plouin P., Ponsot G., Arthuis M., *Physical exercise and voluntary hyperventilation in childhood absence epilepsy*, *Electroencephalogr Clin Neurophysiol* 1991 Aug; 79(2): 127-132. Wirrel C. W., Camfield P. R., Gordon K. E., Camfield C. S., Dooley J. M., and Hanna B. D., *Will a critical level of hypocapnia always induce an absence seizure?* *Epilepsia* 1996; 37(5): 459-462.

^{28]} There are also numerous publications proving that the hyperventilation provocation test is 100% specific for asthma and heart disease. This test has been used by many Western clinical doctors for decades in order to reveal the most vulnerable system of a particular patient.

^{29]} Doctor Buteyko required these doctors to reach 60 s CP in order to teach the method. He found that this requirement greatly enhances the quality of their teaching. This standard was tough, but the existence of this criterion produced a team of doctors probably unsurpassable, by their quality of work and efficiency, in the whole history of medicine.

^{30]} During later decades Doctor Buteyko achieved about 3 min CP and became a spiritual and, in a certain sense, religious man, talking, in his interviews, about philosophy, God, and science.

^{31]} Yuri Sergeevich Nikolayev (1905–1998), Doctor of Medical Sciences, professor, director of the fasting unit at the Moscow Psychiatric Institute, author of the book *Fasting for the Sake of Health*, creator of the method of Reduced Dietary Therapy, probably the leading Soviet expert in fasting.

^{32]} Apart from the dangers after the fast, modern hyperventilating people can easily become deficient in one or more of macro minerals (Na, K, Ca, and Mg) after 1–3 days of fasting. Therefore, extended water fasting (over 3 days) without professional supervision is not advised now by today’s fasting experts. Russian Buteyko doctors often recommended days of reduced eating, with restricted consumption of calories and animal proteins, for improvements in oxygenation, CP, and breathing.

^{33]} Maxim Fedotovitch Guly (1905–2007), famous Ukrainian academician, doctor of biological sciences, and professor; author of more than 600 scientific publications; supervised over 90 Ph.D. researchers; studied effects of CO₂-enriched air on animals.

^{34]} It is not only fixation of carbon dioxide, but also a better utilization of nutrients and more efficient heat exchange (reduced heat losses), which contribute to accelerated weight gain.

^{35]} Anatoly Nikolayevich Zubkov (1924–1997), linguist, polyglot (12 foreign languages, including Hindu), first certified yoga teacher of the highest qualification in the USSR, president of the Soviet Association of Human Development (Eastern Health Practices), honored Soviet representative in the World Yoga Council, in the 1960s lectured, wrote articles and books, and even created a film Indian Yogis “Who Are They?” about traditional hatha yoga, later published books about hatha yoga, organized numerous yoga groups and organizations.

^{36]} Dr. Buteyko implies that we should breathe only through the nose while exercising. When we start to breathe through the mouth, CO₂ content sharply drops, and the main health benefits of exercise will be lost.

^{37]} Dr. Buteyko implies that we should breathe only through the nose while exercising. When we start to breathe through the mouth, CO₂ content sharply drops, and the main health benefits of exercise will be lost.

^{38]} In this and following paragraphs, Buteyko used the term which literally should be translated as “maximum pause,” meaning breath holding time after usual exhalation and until the first signs of stress. Later many Russian sources, including Buteyko’s manuals, started to use the term (again the literal translation from Russian) “control pause.” Then, in all Western sources, this—the most fundamental parameter of the Buteyko method—got the name the CP (control pause). For these reasons, for the sake of simplicity and clarity, I use the term “control pause” throughout this lecture. Note that even now some Russian sources (e.g., the Buteyko Clinic in Moscow) use the literal term “maximum pause,” meaning the Western CP. The “maximum pause” for them is the period of no respiratory sensations after usual exhalation.

^{39]} This idea (about a deliberate suppression of these discoveries) can be found, in much stronger forms, in numerous Russian popular articles, books, websites, and other informal sources about the Buteyko method. It is suggested that there were and are some vicious forces that deliberately undermine the progress of science and the advance of the Buteyko method and related discoveries. Similar ideas are often expressed in Western countries, where formerly sick people successfully learn elements of the Buteyko method (e.g., increase their CPs 2–3 times) and start to claim that Western officials and medical doctors suppress, ignore, undermine, and deny the Buteyko method and his discoveries. I call it the theory of “evilism,” i.e., the presence of some evil forces whose goal is to eliminate, deny, ignore, and suppress the method.

n particular, many Russian sources and, later, Western ones, claimed that there were some Soviet officials who, due to their viciousness and evil nature, closed Buteyko’s laboratory and destroyed the unique physiological complex (see the photo below) at the end of the 1960s in Novosibirsk. Since many people understand how important his discoveries were and are, they can get emotional about these events (Bastards!!! Vandals!!!). Their imagination can picture some blind, stupid, violent forces that were and are against the whole of humanity (so that people die from diseases!). Was the situation this dramatic? Do we have similar evil forces now? What should we do with them?

Doctor Buteyko became the manager of the respiratory laboratory in Novosibirsk due to unusual circumstances. He was a bright medical student (an honors student!) with a keen interest in breathing/respiration when the USSR was developing the unique program of space exploration. He

was luckily chosen to lead this project in Novosibirsk. Moreover, he got unique, best at the time, equipment available and superior funding and support with other needs (staff, their housing, buildings, materials, etc.).

This is a photo of his laboratory. The man in glasses is Doctor Buteyko. Over 30 physiological parameters of the human body were measured in real time 24/7, thousands of numbers every hour, literally with each breath of the person. The information was analyzed by a computer.

Obviously, this research, as with, for example, any similar NASA research, together with people and facilities, was heavily guarded by Soviet state officials, including KGB people. The research was likely to have different components, including the following:

finding optimum air parameters for human functioning during space missions, depending on the stage of the flight and initial parameters of astronauts;

observing the breathing of sick people and the interaction between various diseases and respiration;

observing the effects of various environmental factors (sleep, sleeping postures, exercise, posture, meals, diets, daily activities, temperature, thermoregulation, emotions, etc.) on breathing and health.

Not only did Dr. Buteyko brilliantly conduct and complete these studies, but he also developed and practically confirmed the fundamental role of breathing in the development and treatment of various health conditions, including asthma, bronchitis, primary hypertension, and angina pectoris, as we have read in this lecture.

He obviously wanted to continue this research in the 1970s. His ideas and projects likely were rejected by Soviet officials (who weren't acquainted with the method and never practiced it) due to negative evaluations by medical authorities. The project was not approved for an extension. It was the normal outcome then, that after the start of the first Soviet space flights, the funding was stopped (he had already discovered what was required for space exploration), the laboratory and its staff were dismissed, and their equipment was distributed to others. All these activities looked very sensible and practical from the viewpoint of people who never practiced the method and never understood its implications.

Similar ideas of intrinsic evilism are also spread about medical officials and MDs (or GPs) who also supposedly know about goodness and power of the Buteyko method but do not promote it.

Moreover, many people in the Buteyko movement claim that doctors deliberately poison their patients with useless or toxic drugs.

Let us, first, consider the situation with medication. If a good friend or a relative of a typical medical doctor is sick with a chronic disease, what would this doctor do to deal with the disease? How would the doctor help, for example, his child sick with, for instance, asthma? The doctor will search for the best drugs. The doctors will use the same approach for themselves as well. Hence, most doctors do have a sincere belief that medication is the answer.

Moreover, it is known that, generally, doctors are an overworked, exhausted group of people who are even sicker than the general population and listen only to their peers and other medical authorities in relation to any innovations. Therefore, any attempts to find organized enemies among doctors have nothing to do with reality.

The next fact is that over 99% of doctors have no idea about the basics of the Buteyko method. Since they are hyperventilating and since the normal perception of reality is as difficult for them as for their patients, doctors are excited about using or finding (better) drugs, while, there are no doubts, they treat people according to their best knowledge and experience.

^{40]} This effect of less frequent breathing requires some time, probably hours, before being noticed. Thus, after breathing exercises one's breathing pattern may remain very shallow and frequent, but during the next night, it will automatically become less frequent.

^{41]} Certain health problems, due to local infectious sources, cannot be resolved using breathing retraining. Moreover, body oxygenation growth and health improvements are not possible in such

conditions. These conditions are called “focal infections” by the Russian Buteyko doctors. Dead degenerated tonsils causing chronic tonsillitis are one of the focal infections.

^{42]} Here, when Dr. Buteyko speaks about increased breathing, he means (as during the discussion of exercise effects) lower CO₂ in the lungs, blood, and other body parts. Superficially, breathing gets bigger when inhaling CO₂, as during exercise. However, CO₂ changes in the body alone is what really matters.

^{43]} One may wonder, “If lung capacity in some sick people is reduced, how can they have expanded lungs?” Reduction in lung capacity often means inflammation and accumulation of water and waste products on surfaces, in tissues, and in the lower parts of the lungs. These abnormal formations increase the total weight of the lungs but reduce their functional capacity.

^{44]} There is another reason why breath holding after exhalation is advantageous for sick people. Exhalation means the ability to relax completely during breath holding. If the breath is paused after inhalation, the person will experience more stress in order to prevent air movements. Therefore, the ability to relax is the key to success during reduced breathing.

^{45]} During the following decades Buteyko and his colleagues found and studied useful properties of sea salt. In fact, Doctor Buteyko taught many breathing teachers, doctors, and patients to use up to 1 tablespoon of sea salt per day dissolved in warm water and sipped slowly on an empty stomach, if they find that their organisms function better. Indeed, unless one has severe kidneys problems, it is safe and can provide numerous trace minerals, chloride (disinfectant) for better GI flora, and other benefits.

^{46]} He speaks of these substances in simple chemical terms: they all have hydrogen and carbon atoms as the key elements to be used for energy production when transformed into water and carbon dioxide.

^{47]} Apart from these short-term effects, persistent liver damage and its poor perfusion and oxygenation, due to chronic hyperventilation, result in liver inflammation and cirrhosis—typical for alcoholics. Then chronic hyperventilation becomes the result of extensive tissue damage, and further structural liver damage easily accumulates.

^{48]} All these problems (destruction of the hormonal system, hormonal dependence, and atrophy of the adrenals) do appear in cases of chronic cortisol overdose. Indeed, if the body does not produce enough cortisol, it is sensible to supplement this hormone (or its analogs) so that the body can reduce inflammation and fight infections and stress. However, when cortisol is chronically overdosed, and breathing is not improved, the body shuts down its own cortisol production, causing hormonal dependence.

^{49]} These remarks may seem to be quite outspoken for a celebrity, but one should understand that it was during Soviet authoritarian times and that he was a doctor who came to share his discoveries with a group of, as he saw them, his patients.

^{50]} He definitely means “less negative effects than milk and cottage cheese,” which are absorbed more quickly.

^{51]} Here, Dr. Buteyko means that it is necessary to measure the control pause (stress-free breath holding time after the usual exhalation) and use this number to see the corresponding level of health, according to the above-mentioned table.

^{52]} When Dr. Buteyko says “Only through the nose,” he means during sleep and exercise too. Moreover, nasal breathing when sleeping and exercising are particularly important for our health. During the 1960s and prior years, mouth breathing was not socially acceptable in the USSR and many other countries. However, during later decades, mouth breathing became one of the most destructive factors for many, especially the sick.